



# FIT-FOR-PURPOSE LAND ADMINISTRATION

*GUIDING PRINCIPLES FOR COUNTRY IMPLEMENTATION*

*SECURING LAND AND PROPERTY RIGHTS FOR ALL*

FIT-FOR-PURPOSE LAND ADMINISTRATION  
*Guiding Principles for Country Implementation*

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## ACRONYMS

<b>APIs</b>	Application Programming Interfaces
<b>BRAC</b>	Bangladesh Rehabilitation Assistance Committee
<b>CoFLAS</b>	Costing and Financing Land Administration Services
<b>CORS</b>	Continuously Operating Reference Station
<b>CPD</b>	Continuing Professional Development
<b>CSO</b>	Civil Society Organization
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>FFP</b>	Fit-For-Purpose
<b>FIG</b>	International Federation of Surveyors
<b>FOSS</b>	Free Open-Source Software
<b>GNSS</b>	Global Navigation Satellite System
<b>GPS</b>	Global Positioning System
<b>HRD</b>	Human Resource Development
<b>ICT</b>	Information and Communication Technology
<b>IFAD</b>	International Fund for Agricultural Development
<b>ISO</b>	International Organization for Standardization
<b>LGAF</b>	Land Governance Assessment Framework
<b>LPI</b>	Land Policy Initiative
<b>MAST</b>	Mobile Applications to Secure Tenure
<b>MDGs</b>	Millennium Development Goals
<b>MVP</b>	Minimum Viable Product
<b>NGO</b>	Non-Governmental Organization
<b>NSDI</b>	National Spatial Data Infrastructure
<b>SDGs</b>	Sustainable Development Goals
<b>SOA</b>	Service Oriented Architecture
<b>STDm</b>	Social Tenure Domain Model
<b>UAV</b>	Unmanned Aerial Vehicle
<b>UDHR</b>	Universal Declaration of Human Rights
<b>UN</b>	United Nations
<b>UK</b>	United Kingdom
<b>UNECA</b>	United Nations Economic Commission for Africa
<b>UNECE</b>	United Nations Economic Commission for Europe
<b>UNDP</b>	United Nations Development Programme
<b>UN-GGIM</b>	United Nations Initiative on Global Geospatial Information Management
<b>UN-HABITAT</b>	United Nations Human Settlements Programme
<b>USAID</b>	United States Agency for International Development
<b>VGGTs</b>	Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security
<b>WB</b>	World Bank

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## PREAMBLE

Solutions to the overall global land issues relate to the alleviation of poverty, social inclusion and stability, investments and economic development, and environmental protection and natural resource management. These land matters are now embedded in the Sustainable Development Goals that form a blueprint for a sustainable future agreed to by world leaders.

This new agenda presents a historic and unprecedented opportunity to bring the countries and citizens of the world together to decide and embark on new paths to improve the lives of people everywhere (United Nations, 2015). Also, the Voluntary Guidelines on the Responsible Governance of Tenure set out principles and internationally accepted standards for the responsible governance of tenure: public, private, communal, indigenous, customary and informal (FAO, 2012).

This guide is a response to the challenges of the overall global sustainable development agenda. This agenda cannot be achieved without having good land governance in place, including the operational component of land administration systems. The Fit-For-Purpose concept as presented in this guide should be seen as an enabler for implementing these global standards in developing countries.

Even though security of tenure is now at the top of the global agenda, there is a “security of tenure gap” between countries that have efficient and effective land administration systems in place and those that do not. On a global scale, the distribution is currently about 30 per cent that have and 70 per cent that do not have systems in place.

Attempts have been made for many decades to establish land administration systems in developing countries without much success. Constraints relate to

a range of legal, institutional and political issues, but also to the fact that the implementation of traditional, Western-style land administration systems is simply too costly, time consuming and capacity demanding. It is estimated that with current rates and methods it will take many decades, probably centuries, to achieve global coverage.

This document provides guidance for closing the security of tenure gap that exists in most developing countries, where often up to 90 per cent of the land and the population are outside the formal land administration systems. However, the guide also relates to more developed countries that do not have complete land registration/cadastral coverage or where the maintenance of land information has failed.

The guide focuses on providing security of tenure for all. However, it is recognized that by providing the spatial, legal and institutional frameworks for this purpose, the frameworks also provide the basis for building land valuation and taxation systems, as well as systems for land-use planning and control.

This is not a manual. Instead, it provides guiding principles for building Fit-For-Purpose land administration systems. These principles should not be interpreted as prescriptive, but rather as providing direction and guidance for designing a country specific strategy for implementation.

It is hoped that this guide will be instrumental in paving the way to implementing sustainable and affordable land administration systems in developing countries, enabling security of tenure for all and effective management of land use and natural resources. This, in turn, will facilitate economic growth, social equity and environmental sustainability.





## EXECUTIVE SUMMARY

### Why the focus on land administration?

This guide is a response to the challenges set by the overall global sustainable development agenda. The sustainable development agenda requires good land governance. However, this will only be achieved when effective land administration systems are fully operational. This guide presents the Fit-For-Purpose (FFP) land administration concept as an accelerator and enabler for implementing these global standards in developing countries.

### PURPOSE OF THIS GUIDE

#### Guiding principles

This guide supports developing countries in designing their specific strategy for implementing FFP land administration. It is primarily designed to allow a range of stakeholders in developing countries to understand the overall FFP land administration approach and to recognize the benefits of adopting this approach. It also provides structured guidance on building the spatial, legal and institutional frameworks in support of designing the country specific strategies for implementing FFP land administration. The guide is not an instruction manual. It provides guiding principles since the strategy and methods of implementation will always be country specific.

The FFP approach to land administration has emerged as a game changer for developing countries and offers a viable, practical solution to provide security of tenure for all, quickly and affordably, and to enable control of the use of all land. The FFP approach provides a new, innovative and pragmatic solution to land administration focused on developing countries, where current land administration solutions are not

delivering. The solution is directly aligned with country specific needs, is affordable, is flexible to accommodate different types of land tenure, and can be upgraded when economic opportunities or social requirements arise. It is highly participatory, can be implemented quickly and will provide security of tenure for all. Most importantly, the FFP approach can start quickly using a low-risk entry point that requires minimal preparatory work. It can be applied to all traditions in land tenure across the globe.

### Why do we need to change our current approaches?

Most developing countries are struggling to find remedies for land issues that lead to land conflicts, reduce investments and economic development, and prevent countries reaching their true potential. Existing investments in land administration have been built on a legacy of approaches, have been fragmented and have not delivered the required pervasive changes and improvements at scale. New solutions are required that can deliver security of tenure for all, are affordable and can be quickly developed and incrementally improved over time. The FFP approach to land administration has emerged to meet these simple, but challenging requirements.

### Intended audience

The guide has the following target audience: 1) advocates - politicians, United Nations organizations, the donor community; 2) policy and strategy makers - civil servant decision-makers in the land sector, senior level staff in land administration agencies; and 3) implementers - public and private sector land professionals, Non-Governmental Organizations (NGOs) and Civil Society Organizations (CSOs).

# EXECUTIVE SUMMARY

## Continued

### FIT-FOR-PURPOSE LAND ADMINISTRATION

#### Key characteristics

- **Focus on the purpose.** This new approach is focused mainly on the “what” in terms of the outcome of security of tenure for all and, secondly, it looks at the design of “how” this can be achieved. The “how” should be designed to be the best “fit” for achieving the purpose (“the what”). In this regard, the phrase “As little as possible – as much as necessary” perfectly reflects the FFP approach.
- **Flexibility.** The FFP approach is about flexibility in terms of demands for accuracy, and for shaping the legal and institutional frameworks to best accommodate societal needs. The FFP approach also includes the flexibility to meet the need for securing different kinds of tenure, ranging from more social or customary tenure types to formal types such as private ownership and leasehold.
- **Incremental improvement.** The systems should be designed to initially meet the basic needs of

society today. This will identify the optimal way to achieve this by balancing the costs, accuracy and time involved. This creates what is termed a “Minimum Viable Product”. Incremental upgrading and improvement can then be undertaken over time in response to social and legal needs and emerging economic opportunities.

#### Building blocks

The concept includes three interrelated core components that work together to deliver the FFP approach: the spatial, the legal and the institutional frameworks. The spatial framework supports recording the way land is occupied and used. The scale and accuracy of this representation should be sufficient for securing the various kinds of legal rights and tenure forms recognized through the legal framework. The institutional framework is designed to manage these rights and the use of land and natural resources and to deliver inclusive and accessible services. The FFP approach includes four core principles for each of the three frameworks. See the Table below showing the overview of the “Key Principles of the FFP Approach”.

#### THE KEY PRINCIPLES OF THE FFP APPROACH

KEY PRINCIPLES		
Spatial framework	Legal framework	Institutional framework
<ul style="list-style-type: none"> <li>• Visible (physical) boundaries rather than fixed boundaries.</li> <li>• Aerial/satellite imagery rather than field surveys.</li> <li>• Accuracy relates to the purpose rather than technical standards.</li> <li>• Demands for updating and opportunities for upgrading and ongoing improvement.</li> </ul>	<ul style="list-style-type: none"> <li>• A flexible framework designed along administrative rather than judicial lines.</li> <li>• A continuum of tenure rather than just individual ownership.</li> <li>• Flexible recordation rather than only one register.</li> <li>• Ensuring gender equity for land and property rights.</li> </ul>	<ul style="list-style-type: none"> <li>• Good land governance rather than bureaucratic barriers.</li> <li>• Integrated institutional framework rather than sectorial silos.</li> <li>• Flexible ICT approach rather than high-end technology solutions.</li> <li>• Transparent land information with easy and affordable access for all.</li> </ul>

# EXECUTIVE SUMMARY

Continued



Land use challenges in peri-urban areas. Lagos, Nigeria. Photo © Stig Enemark.

## Difference between conventional cadastral systems and the FFP land administration solution

While conventional cadastral systems use documentation of the surveyed land parcels as a basis for entering rights into a land registry, the FFP approach uses aerial or satellite imagery in the field to identify, delineate, and adjudicate the visible land parcel/spatial unit boundaries, and the rights are determined and entered directly into a register. This is a participatory approach undertaken by locally trained land officers and involves all stakeholders. Furthermore, while conventional cadastral systems are highly standardized, the FFP approach, in contrast, is flexible in terms of accuracy and in relation to the variety of tenure types to be secured. The land administration system can be upgraded and incrementally improved over time.

## BENEFITS

### How do we know the FFP approach to land administration will work?

The FFP approach has been successfully implemented in a number of developing countries and the results provide excellent best practice for other countries to use. New FFP approaches have recently been tested in implementing countrywide land administration solutions in countries such as Rwanda, Ethiopia and Kyrgyzstan.

### How to make FFP land administration work?

The agenda for change needs to be designed to trigger and build significant change on a number of fronts and levels that can potentially develop into a deep-seated change across the global land administration communities. The implementation of the FFP approach involves significant change across all stakeholders in the land sector. As with all cultural and behavioural change, it has to be sensitively managed. There is increasing political pressure for change that can more effectively support the global land agenda and contribute to the global challenges of the twenty-first century. Key elements of this agenda of change are structured testing, knowledge sharing, and especially advocacy

# EXECUTIVE SUMMARY

## Continued

from the global land institutions. Organizations like the World Bank, the Food and Agricultural Organization of the United Nations (UN-FAO), UN-Habitat, United Nations Initiative on Global Geospatial Information Management (UN-GGIM), the International Federation of Surveyors (FIG) and other land-related professional bodies have a key role.

### CHALLENGES

**What are the biggest challenges in adopting the FFP approach?**

Successful behavioural and cultural change across the key stakeholders in the land sector is essential. There are three key challenges confronting countries implementing the FFP approach. The first centres on the adoption of this new FFP paradigm that is not driven by state of the art positioning and surveying technology. This requires a mind-set change across land professionals, recognition of the benefits of change, and an effective change management strategy driven by strong leadership. The second relates to revising the legal framework to provide the required flexibility to accommodate the FFP approach. Changes to laws can be problematic and time consuming and politicians need to be well briefed on the need for change. The final key challenge focuses on the need for capacity development to build scale quickly.

### Capacity development and change management

Land administration is a cross sectoral and multidisciplinary area that includes technical, legal, managerial, political, economic and institutional dimensions. An adequate response in terms of capacity development measures must reflect this basic characteristic. Effective capacity development is fundamental to success. Society must understand,

through well-targeted communication campaigns, that this simpler, less expensive and highly participatory approach is just as effective and secure as conventional surveying methodologies. Formal organizations need to ensure awareness and up-to-date skills of their members and staff. The largest change will be focused on the public sector where this may involve some institutional and organizational reforms. Governments need to implement capacity development measures across their land institutions. Academic institutions should embrace FFP land administration and create a new generation of land professionals.

### EVALUATING SUCCESS

Success will be achieved when effective land administration unlocks the associated social and economic benefits for a country. Initial success will be reflected by the United Nations family endorsing and widely advocating the FFP approach, and the donor community mandating the FFP approach for their support of land administration programmes. Success across developing countries will emerge when politicians understand the benefits of the FFP approach and commit to the adoption of the nationwide FFP approach in their countries. Further success will occur when developing countries have successfully formulated and implemented country specific strategies.

### OUTLINE OF THE GUIDE

The guide is divided into three main parts: 1) Understanding the FFP Approach; 2) Building the FFP Land Administration Frameworks; and 3) Implementing the FFP Approach. Appendices A and B provide more details on how to build sustainable Information and Communication Technology (ICT) solutions and on lessons learned from countries implementing the FFP approach.

# PART I

## UNDERSTANDING FIT-FOR-PURPOSE LAND ADMINISTRATION

### PART 1: UNDERSTANDING FIT-FOR-PURPOSE LAND ADMINISTRATION

This part provides an overview of what the FFP approach to land administration is, its benefits and its role in supporting the global land agenda.

#### 1. INTRODUCTION

Many developed countries have strong land institutions and laws that protect the citizens' relationship with land and provide land administration services to secure and often guarantee land rights. These services directly support land markets that underpin modern economies. Security of tenure is taken for granted.

However, an often cited educated estimate indicates that for 70 per cent of the world's population this is not the case (McLaren, 2015). People are excluded from participating in formal land administration systems and cannot register and safeguard their land rights. The majority of these people are the poor and the most vulnerable in society and without any level of security of tenure they constantly live with the threat of eviction.

This security of tenure gap impacts an estimated four billion land units, mainly concentrated in areas of new and increasing urbanization, which is highly dynamic and puts immense pressure on land and natural resources. Insecurity of tenure often leads to conflict and land grabbing. Land Matrix has identified 39 million hectares of large-scale land acquisitions globally (Land Matrix, 2015). Within these deals, case studies have shown how little the local communities have benefited, except perhaps in the generation of employment in some cases. They have also found some evidence of negative impacts on the stock of natural resources (FAO, 2013). This lack of secure tenure also creates significant instabilities

and inequalities and severely limits citizens' ability to participate in economic development. It also undermines better environmental stewardship and deters responsible private investment due to the associated land risk.

*A land administration system provides a government with an infrastructure for securing land tenure rights, determining valuation and taxation of land, and managing the use of land and land development. It sits within the principles of responsible land governance and the overall framework of national land policies.*

Attempts to introduce conventional (Western style) land administration solutions to close the security of tenure gap have not been successful due to weak institutions, inappropriate laws and regulations, high costs, complexity, lack of capacity, inadequate maintenance, long implementation time frames and to a great extent inappropriate for the local context and conditions. New and innovative solutions are required to build affordable, pro-poor, scalable and sustainable systems to identify the way all land is occupied and used. The Fit-For-Purpose (FFP) approach to land administration has emerged as a game changer and offers a practical solution to provide security of tenure and to control the use of land.

#### What is Fit-For-Purpose Land Administration?

New approaches have been tested in implementing countrywide land administration solutions in countries such as Rwanda (Sagashya and English, 2009), Ethiopia (Abza et al., 2015), in Europe and Central Asia (Suha et al., 2014), in south-east Asia (Bell, 2009), and in many Eastern European Countries in the 1990s when undergoing a transition from centrally planned to market based economies (Adlington et al., 2009). See also, more globally (Burns, 2007), (Williamson et al., 2010) and (Zevenbergen et al., 2015).

In Rwanda, nationwide systematic land registration started after piloting in 2009 and was completed in only four years. Boundaries of spatial units (plots of land) were identified on prints of orthophotos in a highly participatory approach using locally trained land officers acting as trusted intermediaries. This reduced the need for conventional surveying techniques to a minimum. The highly efficient approach resulted in 10.4 million parcels being registered and 8.8 million land lease certificates being issued. The average unit cost was around USD 7 per spatial unit (see case study on land tenure regulation in Rwanda at the end of Chapter 3). This radical approach required considerable political commitment to achieve in the timeframe. Benefits are already being accrued, especially in social stability and economic development, and the national framework of land rights is providing opportunities for raising property-based taxes, improved state land management, greater inward investment and better stewardship of land. Prior to this initiative, only 40,000 of Rwanda's spatial units had been registered.

**This new approach has the following characteristics:**

- The solution is directly shaped by the country's requirements for managing current land issues and is not biased towards the latest technology and costly, time-consuming field survey procedures.
- A countrywide solution encompassing all tenure types and all land is attainable within a reasonable timeframe, depending on size of country, and is affordable.
- The "Minimal Viable Product" (MVP) philosophy is adopted to create an entry point solution that is initially suitable for the stakeholders' needs. The outcome can then be upgraded in terms of the quality and scope of evidence of land rights information when relevant and required according to societal development.

- The solution can be adapted to different regional needs within a country.
- The creation and maintenance of the solution is sustainable through the use of a network of locally trained land officers that expands the outreach of the limited number of land professionals.

This approach is now labelled as Fit-For-Purpose (FFP). It has been recognized and supported by FIG and the World Bank and described in a joint publication (FIG and WB, 2014).

The process of adopting the FFP approach to create countrywide land administration solutions is not only focused on technical issues, but also involves a series of changes to the institutional and legal and regulatory frameworks. A typical change process would initially create an enabling environment with the flexibility necessary for FFP approaches and would require the eventual removal of any legacy barriers and constraints. This is illustrated in the transition process examples in Table 1.1.



**Urban settlement in Zacatecas, Mexico.**  
Photo © Stig Enemark.

**TABLE 1.1: FFP TRANSITION PROCESS.**

Before	After
Limited range of tenure types supported.	A continuum of land rights is supported rather than exclusively focusing on individual land titling.
Specifications for high accuracy surveys mandated in regulations.	Regulations are flexible to accommodate a range of methods to measure and record spatial unit boundaries, including identifying visible boundaries on imagery.
Licenses restricting operators in the land sector.	A range of stakeholders can legally operate in the land sector, including locally trained land officers acting as trusted intermediaries.
Predominantly judicial only processes.	The majority of land transaction processes are administrative.
Gender inequality.	The legal framework and associated tenure types are gender sensitive.
Fragmented land institutions limiting the integrated management of land.	Land administration institutions securing land tenure rights, determining valuation and taxation of land, and managing the use of land and land development are integrated, coordinate and provide harmonized land management.
Lack of information to support accountability and transparency in the delivery of land administration services.	All stakeholders have access to land information, within the constraints of privacy, to provide transparency and accountability of the land administration institutions.
Insufficient capacity to sustain land administration solutions.	Capacity in the public, private and civil society land sectors is enhanced through capacity development programmes and a new professional genre of locally trained land officers is established.
Private sector excluded from participation in the land sector.	Public private partnerships are established to allow the private sector's capacity, know-how and finance to be leveraged in the land sector.

### What is the starting point for the FFP approach?

The starting point for the FFP approach is similar to the MVP in the product development environment; this is the product with the highest return on investment versus risk. This approach is highly pertinent for designing, implementing and improving FFP land administration solutions. The initial FFP land administration solution just needs to meet the basic requirements of customers in delivering the purpose. Then over time, the solution can be enhanced through a number of iterations, as demand for new requirements has to be met.

Each country's starting point can be different and incrementally upgraded as part the country specific FFP land administration strategy.

### What are the benefits of the FFP approach?

FFP solutions provide opportunities for land administration systems to deliver benefits to a wide range of stakeholders much earlier than conventional approaches. Some key benefits are:



## Citizens/Communities

- A pro-poor approach will lead to social inclusion, increased equity and better recognition of human rights.
- All citizens will obtain security of tenure and conflicts over land will be reduced.
- Security of tenure ability to engage in economic development.
- Improved local development through investments in housing, agriculture, environment and infrastructure.
- Participation in an evolving land market.

## Business

- Better ability to assess the land component of environmental, social and governance risk management when evaluating investments.
- Lower risks associated with investments in land and increased opportunities for food production and business development.
- Greater business opportunities since more citizens and communities will have access to collateral.

## Politicians/Decision Makers/Donors

- Previously intractable land issues can be addressed and potentially solved more quickly.
- Countrywide information on land occupation can be used to drive new land policies.
- Security of tenure triggers a multiplier effect of opportunity that can ripple through a nation by stimulating social inclusion, economic stability, and better environmental stewardship.
- More effective management of state land will provide better revenues and protect ecologically sensitive areas.
- Donors' financial support of land programmes will be perceived as better value for money and deliver faster benefits for the recipient countries.

## Land Institutions

- Countrywide land administration systems can be established quickly within much more affordable budgets and benefits accrued much earlier.
- The institutional and technical frameworks are strengthened to address the challenges in delivering security of tenure at scale particularly for the poor.
- Land professionals and locally trained land officers provide a resource large enough to sustainably maintain the land administration systems and deliver quality services to citizens and business.
- The initial land rights established through the FFP approach can be incrementally improved and upgraded when relevant and necessary according to societal and economic development, and also when there is demand for responding quickly to citizens' needs for quality improvement, e.g. in a boundary dispute.

### Land Professionals

- Even if land professionals are initially reluctant to comply with this kind of Fit-For-Purpose approach, it offers a greater range of opportunities.
- A countrywide land administration solution will generate a larger customer base and associated business opportunities, including the need to incrementally upgrade the quality of the evidence of land rights.
- The creation of a network of locally trained land officers acting as trusted intermediaries requires capacity building, training and support services from the land professionals.
- The role of the land professional will be to undertake a more managerial role in building and running the system and the underlying land information infrastructure. This should result in increased revenue generation and improved professional status.

### Why is the Global Land Tool Network (GLTN) supporting FFP?

The GLTN is committed to creating favourable conditions whereby land policies, legislative processes, land administration systems and procedures service the poor. The GLTN Phase 2 Project has three Expected Accomplishments: (1) Strengthened land-related policy, institutional and technical frameworks and tools and approaches to address the challenges in delivering security of tenure at scale particularly for the urban and rural poor; (2) Improved global knowledge and awareness on land-related policies, tools and approaches that are pro-poor, gender appropriate, effective and sustainable towards securing land and property rights for all; and (3) Strengthened capacity of partners, land actors and targeted countries, cities and municipalities to promote and implement appropriate land policies, tools and approaches that are pro-poor, gender appropriate, effective and sustainable.

The FFP land administration approach provides an overall, enabling framework (spatial, legal and institutional) for implementing the GLTN Phase 2 Project at the country level to deliver security of tenure at scale. In fact, the adoption of a FFP land administration solution can be

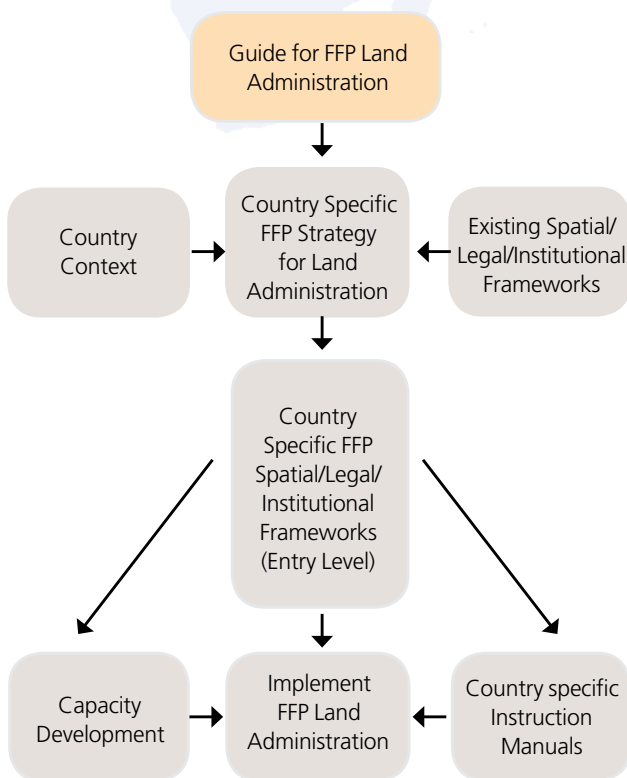
considered a prerequisite for effectively implementing GLTN tools at the country level.

The FFP concept and associated benefits are easy to understand at all levels and will support improved global knowledge and awareness on land-related solutions that are attainable within a shorter time frame, within available resources and upgradeable with incremental improvement over time in response to evolving needs.

### What is the purpose of this guide?

This guide is primarily designed to allow a range of stakeholders in developing countries to make a decision on adopting the overall FFP approach. It also provides guiding principles on building the spatial, legal and institutional frameworks in support of designing the country specific strategies for implementing FFP land administration. It is not an instruction manual for implementing the FFP approach in a country as the strategy and implementation methods will be country specific. It presents the FFP concept and the connected key principles to be applied in developing a country-specific FFP strategy for land administration. It acts as a design guide to ensure that the appropriate spatial, legal and institutional frameworks are specified for

implementing the FFP solution within the country. This process is illustrated in Figure 1.1.



**Figure 1.1: Use of guide in implementing country specific FFP land administration.**

The country specific FFP strategy for land administration will be based on a country context analysis and the baselines of the existing spatial, legal and institutional frameworks. The analysis will involve identifying the conditions and policies within a country that constrain and shape the way that FFP land administration can be implemented. This guide will then be used as a set of guiding principles to create the country specific strategy for building the spatial, legal and institutional framework for implementing FFP Land Administration that will also require provision of capacity development measures as well as country specific manuals.

## Who is the target audience?

The guide is for 1) advocates: United Nations organizations; donor community; politicians; 2) policy and strategy makers: senior civil servant decision makers involved in formulating policies in the land sector; senior level staff in land administration/management agencies; 3) implementers: public and private sector land professionals involved in land administration; NGOs/CSOs.

## How can the success of the guide be judged?

### Success will be:

- The United Nations family endorses and widely advocates the FFP approach;
- The donor community adopts and mandates the FFP approach for their support of land administration programmes;
- Politicians in developing countries understand the benefits of the FFP approach and recommend adoption of the FFP approach in their countries;
- Countries have successfully formulated country specific strategies for FFP land administration;
- Countries are implementing FFP land administration and providing feedback to improve this guide; and
- Countries are realizing benefits in poverty reduction, social inclusion and stability and economic development, including improvements in housing, agriculture, environment and public infrastructure.

## How was the guide developed?

The guide builds on the concept initially described in the joint FIG and WB publication (FIG and WB, 2014). UN-Habitat/GLTN and Kadaster have taken it to the next level and agreed to jointly develop more comprehensive and robust Fit-For-Purpose land administration

guidelines aimed at country implementation. The partners commissioned the three authors (Professor Stig Enemark, Dr. Robin McLaren and Dr. Christiaan Lemmen) to draft and develop the guide with support from a worldwide reference group of land experts (see acknowledgements). The draft guide was reviewed

several times by the following groups: Kadaster and UN-Habitat/GLTN; the reference group of land experts; other key land professionals and professional bodies and institutions involved in the land sector; and finally by key GLTN partners and technical experts at an Expert Group Meeting held in Nairobi, November 2015.

### FREQUENTLY ASKED QUESTIONS

#### 1. Why would politicians be attracted to adopting the FFP approach?

Security of tenure should be a key component of national reform programmes but current land administration systems have not delivered. Politicians are wary about integrating security of tenure components into their political programmes and subsequently not delivering the benefits to their electorate. This is compounded by national tenure security projects that take decades to deliver national solutions outside the election cycle.

The FFP approach to land administration provides politicians with affordable and inclusive solutions that are attainable within a relatively short time. The approach is highly participatory and citizens immediately obtain the benefits.

#### 2. Why should developing countries not use state of the art technology to build highly accurate land administration solutions, as in developed countries?

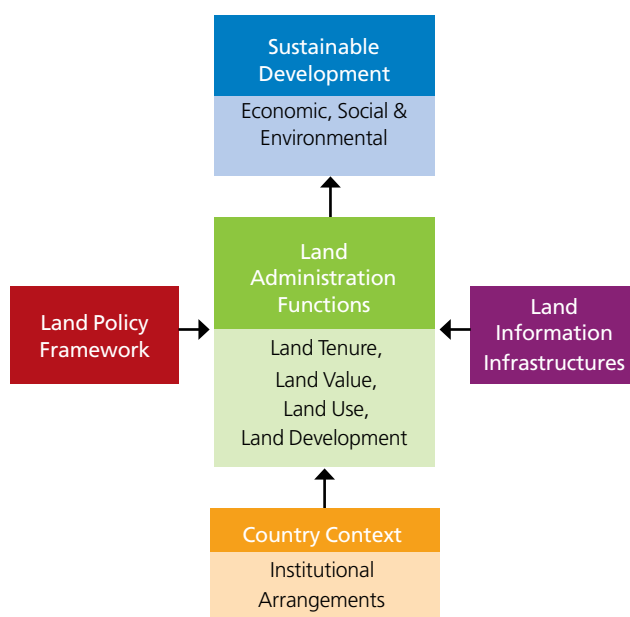
Within the FFP approach, the use of state of the art positioning and surveying technology may be required to support some land administration activities. However, in most developing countries there are insufficient trained personnel and financial resources and, in fact, the majority of properties, especially in rural regions, do not require high accuracy solutions to define boundaries for land rights.

The FFP approach advocates the predominant use of imagery to identify and record visible boundaries. This technique is cost effective, does not need highly trained professionals or expensive equipment and is therefore scalable. These initial FFP boundaries can be upgraded in terms of the quality and scope of evidence of land rights information when required. It should be remembered that this is how most of the land administration solutions in developed countries evolved over several centuries.

## 2. LAND GOVERNANCE AND THE GLOBAL AGENDA

### Land Governance

Land governance is about the policies, processes and institutions by which land, property and natural resources are managed. The organizational structures for land governance and administration differ widely between countries and regions throughout the world and reflect the cultural and judicial setting of the country and jurisdiction. The judicial and institutional arrangements may change over time to better support implementation of land policies and good land governance. Within this country context, the land governance activities may be described by three components: Land Policies, Land Information Infrastructures and Land Administration Functions, in support of Sustainable Development as shown in Figure 2.1.



**Figure 2.1: Land governance and administration.** (Enemark, 2004, Williamson et al., 2010).

Land policy is a part of the national policy on promoting objectives such as economic development, social justice and equity, and political stability. Land policies may be associated with: security of tenure; land transactions and access to credit; sustainable management and control of natural resources and the environment; the provision of land for the poor; ethical minorities and women; land use and physical planning; real property taxation; and measures to prevent land speculation and to manage land disputes.

Sound land governance requires a legal and regulatory framework, operational processes and capacity to implement policies consistently within a jurisdiction or country in sustainable ways. In this regard, land administration systems provide a country with an infrastructure for implementing land policies and land management strategies in support of sustainable development. The operational component of the land governance concept is then the range of land administration functions that include the areas of: land tenure (securing and transferring rights in land and natural resources); land value (valuation and taxation of land and properties); land use (planning and control of the use of land and natural resources); and land development (implementing utilities, infrastructure, construction works, and urban and rural developments). These functions interact to deliver overall policy objectives, and they are facilitated by appropriate land information infrastructures that include cadastral and topographic datasets linking the built and natural environment.

Sound land administration systems deliver a range of benefits to society in terms of: support of governance and the rule of law; alleviation of poverty; security of tenure; support for formal land markets; security for credit; support for land and property taxation; protection of state lands; management of land disputes; and

improvement of land-use planning and implementation. The systems enable the implementation of land policies to fulfil political and social objectives and achieve sustainable development.

Sound land governance and administration requires operational processes to implement land policies in comprehensive, integrated and sustainable ways. Many countries, however, tend to separate land tenure rights from land-use opportunities, thereby undermining their capacity to link planning and land-use controls with land values and the operation of the land market. Poor administrative and management procedures and inappropriate laws and regulations often compound these problems. Investment in new technology will only provide limited solutions in the major task of solving a much deeper problem; namely the failure to treat land and natural resources as a coherent whole.

It should be noticed, however, that this guide is focused primarily on the land tenure function in support of security of tenure for all. This is due to the fact that identification of the spatial units and the connected rights (often termed as cadastre) form the basic infrastructure for building and operating the four, interrelated functions of land tenure, land value, land use and land development.

### The Global Agenda

The global agenda as set by the Millennium Development Goals (MDGs) expired at the end of 2015 and has been replaced by the Sustainable Development Goals (SDGs), a new, universal set of 17 goals and 169 targets. United Nations member states are committed to using the goals to frame their agenda and policies over the next 15 years (2016 – 2030). The goals are action oriented, global in nature and universally applicable. Targets are defined as aspirational global targets, with each government

setting its own national targets guided by the global level of ambition, but taking into account national circumstances. The goals and targets integrate economic, social and environmental aspects and recognize their interlinkages in achieving sustainable development in all its dimensions (United Nations, 2014b). For more information, see <https://sustainabledevelopment.un.org/>.

While the MDGs did not mention land directly, the new SDGs include six goals (goals 1, 2, 5, 11, 15 and 16) with a significant land component mentioned in the targets. These goals and targets will never be achieved without having good land governance and well-functioning, countrywide land administration systems in place.

There is a strong request for effective monitoring and assessment of progress in achieving the SDGs. Furthermore, the global agenda includes a range of global issues such as responsible governance of tenure, human rights and equity, climate change and natural disasters, rapid urbanization, and land conflict situations. These issues, and their relevance to good land governance, are briefly presented below (see also Enemark, 2014).

### Monitoring and Assessment

There is a need for reliable and robust data for devising appropriate policies and interventions for the achievement of the SDGs and for holding governments and the international community accountable. Such a monitoring framework is crucial for encouraging progress and enabling achievements at national, regional and global level. This calls for a “data revolution” for sustainable development to empower people with information on the progress towards meeting the SDG targets (United Nations, 2014a) and (United Nations, 2014b).

The United Nations Committee of Experts on Global Geospatial Information Management (United Nations-GGIM) was established in 2011 and is mandated to strengthen national capacity on geospatial information and disseminating best practices. UN-GGIM is looking specifically at the ways and means by which geospatial information and land administration and management can support delivery of the post 2015 SDGs (UN-GGIM, 2014).

The FFP approach to building land administration systems will support this request by enabling the delivery of some of the fundamental data for monitoring the progress in achieving the SDGs. This is further supported by the Global Land Indicators Initiative (GLII), which is developing a list of land indicators that will complement the post-2015 sustainable development agenda (UN-Habitat/GLTN, 2014c) and will contribute to monitoring the Voluntary Guidelines on Responsible Governance of Tenure (see below) and the United Nations Economic Commission for Africa (UNECA) Land Policy Initiative (LPI) on Framework and Guidelines on Land Policy in Africa (UNECA/LPI, 2011).

The World Bank, in conjunction with the United Nations and other partners, has developed another good example of measuring and monitoring. This is the Land Governance Assessment Framework (LGAF) for benchmarking and monitoring the core areas, such as the legal and institutional frameworks (World Bank, 2011). The LGAF provides a holistic diagnostic review of the country or regional level that can inform policy dialogue in a clear and structured manner and identify weaknesses for improvement. Further global examples of monitoring and assessment are the annual World Bank “Doing Business” reports (World Bank, 2015) and the annual “Corruption Perception Index (Transparency International, 2014).

## Responsible Governance of Tenure

Responsible governance of tenure is now part of the global agenda through the Committee on World Food Security’s Voluntary Guidelines on Responsible Governance of Tenure (FAO, 2012). These guidelines are an international “soft law instrument” that represents a global consensus on internationally accepted principles and standards for responsible practices.

The guidelines outline principles and practices that governments can refer to when making laws and administering land, fisheries and forests rights. They recommend that safeguards be put in place to protect tenure rights of local people and they promote secure tenure rights and equitable access to land, thereby placing tenure rights in the context of human rights.

UN-Habitat has developed an innovative approach to addressing land tenure issues through the Social Tenure Domain Model (FIG and GLTN, 2010) and increasingly being adopted and implemented in several countries building from the pilot experience in Uganda (see Antonio et al., 2014). This includes a “scaling up approach” with a range of steps from informal to more formalized land rights. This continuum of land rights does not mean that societies will necessarily develop into freehold tenure systems, but rather that each step in the process can be formalized, providing stronger protection than at earlier stages. This ensures that legitimate rights, such as customary tenure, are recognized.

## Human Rights and Gender Equity

In relation to land and governance, the Universal Declaration of Human Rights (United Nations, 1948) states, in simple words, “that everyone has the right

to possess property (security of tenure) and the right to adequate food, clothing and housing". This is interpreted by the United Nations as merely a social right to "minimal property". However, the right to housing should not be understood in a narrow sense but as the right to live somewhere in security, peace and dignity. The right to adequate housing therefore cannot be viewed in isolation from other human rights contained in the Universal Declaration (Enemark, et al., 2014).

These human rights are fundamental and should be encouraged and promoted through building adequate systems of land administration that are relevant and accessible for poor people and serve their needs in a wider societal context. Obviously, human rights and land governance and administration are closely linked. Therefore, every state needs to ensure that efficient and effective land governance and administration mechanisms are in place to pursue this interaction.

Another side of the human rights issue is gender equity. Women make up half the world's population, but at least two thirds of the world's poor are women. In many places, national laws, social customs and patriarchal tenure systems prevent women from holding rights to land. In sub-Saharan Africa, for example, just 2 to 3 per cent of the land is owned by women. Women's access to land needs first and foremost to be seen as a universal human right, independently of any other arguments in favour of it (UN-Habitat/GLTN, 2012a).

### Climate Change and Natural Disasters

Good land governance is also essential for meeting the challenges of climate change and rapid urbanization that should be seen as part of the global agenda as well.

Climate change mitigation refers to efforts and means for reducing the anthropogenic drivers such as greenhouse gas emissions from human activities – especially by reducing emission related to use of fossil fuel. On the other hand, adaptation to climate change can be achieved to a large extent through building sustainable and spatially enabled land administration systems. Such integrated land administration systems should include the perspective of possible future climate change and any consequent natural disasters. One of the elements in achieving climate-resilient urban development and sustainable rural land use is the degree to which climate change adaptation and risk management are mainstreamed into two major components of land governance, namely: securing and safeguarding of land rights; and planning and control of land use. In this regard, responsible land governance should be underpinned by FFP land administration systems that include security of tenure rights as well as effective land-use planning and control (Mitchell et al., 2015).

### Rapid Urbanization

Rapid urbanization with the continuing concentration of economic activities in cities is another component of the global agenda. It is inevitable and generally desirable. However, the increase in economic density needs to be balanced with environmental safeguarding through sustainable development policies and land policies for connecting megacities and their hinterlands to maximize the significant economic and social benefits across the region. Rapid urbanization challenges the human right of access to land and shelter. It is recognized that over 70 per cent of the growth currently happens outside of the formal planning process and that 30 per cent of urban populations in developing countries are living in slums



or informal settlements (UN-Habitat, 2012). Sound land management, governance and administration are key measures to address these urban challenges.

## Land and Conflict

Land is often a root cause or driver for conflict. This may relate to historical grievance, restricted access to economic and natural resources, intolerance of ethnic groups or religions, national or territorial boundary disputes, organized crime, or geopolitical rivalries. On the other hand, land is also increasingly acknowledged as a critical factor in peace-building processes where fragile states are often characterized by an absence of adequate land administration systems to manage tension between various kinds of land tenure. Experience shows that political sides of a conflict often cannot wait for the technical solutions to solve the land issues. In this regard, the FFP approach offers a promising way forward for building adequate and sustainable land administration systems that are attainable within a short time, are cost-effective, meet the needs of society, and can be incrementally improved. However, dealing with land-related issues eventually requires commitment and political commitment.

## In Summary

There is a consensus that governing the people-to-land relationship is at the heart of the global agenda and that there is an urgent need to build appropriate and basic systems using a flexible and affordable approach to identify the way land is occupied and used by all whether these land rights are legal or locally legitimate. The systems need to be flexible in terms of the legal regulations as well as the institutional arrangements to

meet the actual needs in society today. Seventy per cent of the world's population has no access to formal land administration systems and these people's rights are not secured. When considering the resources and capacities required for building such systems and the connected basic spatial framework in developing countries, the conventional Western concepts may well be seen as the end goal but not as the point of entry. During the assessment of technology and investment choices, the focus should be on a "Fit-For-Purpose approach" that will meet the needs of society today and can be incrementally improved over time (FIG and WB, 2014). Building such spatial, legal and institutional frameworks will establish the link between people and land. This will enable the management and monitoring of improvements to meet the aims and objectives of adopted land policies as well as the global agenda.



**Thousands of people were displaced by floods and conflict near Jowhar, Somalia. Photo © United Nations/Tobin Jones.**

## FREQUENTLY ASKED QUESTIONS

**Is the FFP approach fully in line with the post 2015 global agenda?**

The Sustainable Development Goals as agreed by the United Nations in September 2015 are ambiguous in setting an agenda of 17 goals accompanied by 169 targets that will be further elaborated through indicators focused on monitoring measurable outcomes. About one third of goals relate specifically to land issues, such as poverty reduction and security of tenure, food security and sustainable agriculture, gender equity, cities and human settlements, sustainable ecosystems, and inclusive societies for sustainable development. These goals can only be achieved through having nationwide land administration systems in place for promoting the targets, implementing the policies and monitoring the progress. Furthermore, the FFP approach is sustainable itself by meeting the needs of society today and can be incrementally improved over time.

Attempts to build conventional, Western-style land administration systems in developing countries have generally failed. Instead, a flexible, affordable and incremental approach is proposed. The FFP approach is not only in line with a post-2015 global agenda, it may be the only way this agenda can be successfully implemented.

### 3. UNDERSTANDING THE FIT-FOR-PURPOSE LAND ADMINISTRATION APPROACH

This report describes the key principles for building sustainable and FFP land administration systems, especially in developing countries, where often less than 10 per cent of the land and population is included in formal systems. It is argued that building sustainable and FFP land administration systems is the only viable solution to the global security of tenure divide.

The FFP starts by identifying and analysing the purpose(s) that the systems are intended to serve and systems should then be designed to meet/fit the purpose(s) rather than just following a rigid set of regulations and demands for accuracy. These unnecessary constraints,

often imposed during colonial times, result in systems that are unsustainable and frankly unattainable at a nationwide scale for developing countries. However, not all the blame is related to rigid technical standards and expensive solutions. Of course, political commitment, corruption (Transparency International, 2014), largesse and a range of other factors play in as well.

*In the context of this guide, the term “Fit-For-Purpose” means applying the spatial, legal, and institutional methodologies that are most fit for the purpose of providing secure tenure for all. This approach will enable the building of national land administration systems within a reasonable time and at affordable costs. The systems can then be incrementally improved over time.*

## Best Regulatory Practice

It is clear that the implementation proposed here is significantly different from the more advanced systems embedded in many western economies. This could lead to concerns that developing countries might be wasting precious resources on building systems that will prove to be outdated and ineffective. However, the FFP approach, if properly applied and implemented, is perfectly aligned with modern best regulatory practice as it began to be formulated in the 1990s. This type of regulatory reform is found in the United Kingdom by the “Better Regulation Task Force” (UK Government, 1997 and 2005) and in the United States by “The Regulatory Craft” (Sparrow, 2000).

This best regulatory practice focuses firstly on defining the “what” in terms of the end outcome for society and communities and then, secondly, it looks at the implementation design of “how” this could be achieved. Or to put it another way, the means (the “how”) should be designed to be the most “fit” for achieving the purpose (“the what”). This intended end outcome – the benefits – needs to be clearly articulated for the public, not just the technical experts. The end outcome, as an expression of the “purpose”, should also be enduring because this allows for the specific implementation to be upgradeable over time. This regulatory design framework fits perfectly with the FFP approach as outlined in this guide (Grant, 2015).

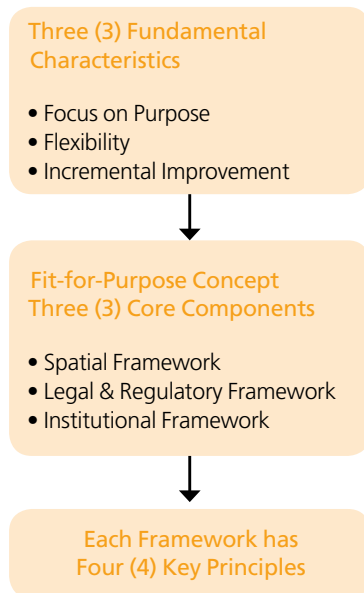
There are many examples of land reform projects that have failed mainly due to focusing too much on the “how” rather than the “what”. This relates to projects where an implementation design, which works well in a developed western economy, is transplanted at huge cost to a developing country with completely different social, cultural and economic needs. But if the purpose(s)

is carefully analysed by people who understand the social, cultural, legal and institutional dynamics of their own communities, the resulting implementation design should be closely aligned with the costs and the benefits that will emerge by moving towards the desired end outcome.

What is usually forgotten in this discussion is that the advanced land administration systems of developed economies did not suddenly appear fully formed in those countries. In most developed countries, the initial cadastral and registration systems were implemented very roughly and quickly – even by the standards of the day. These methods were fit for the purpose of the society at that time and the result was a quickly developing and vibrant society and economy. As those societies and economies developed, the methods that had once been fit for the purpose were, several decades later, no longer so. Governments undertook formal reviews, reports were written, the old ways were condemned as inadequate and new FFP system upgrades were designed. What was easily forgotten was how well those rough and ready methods had helped to quickly build and advance the societies that outgrew them.

## Understanding the FFP Approach

The guide is primarily structured around the design of the FFP concept as illustrated in Figure 3.1. The concept has three fundamental characteristics: focus on the purpose; flexibility; and incremental improvement. The concept is supported by three core components: the spatial, legal and regulatory, and institutional frameworks; see Figure 3.2 below. Each of the three frameworks has four corresponding key principles (see Table 3.1 on the next page) that also form the structure of chapters 4 to 6 on the spatial, legal and institutional frameworks respectively.



**Figure 3.1: Structure of FFP land administration concept.**

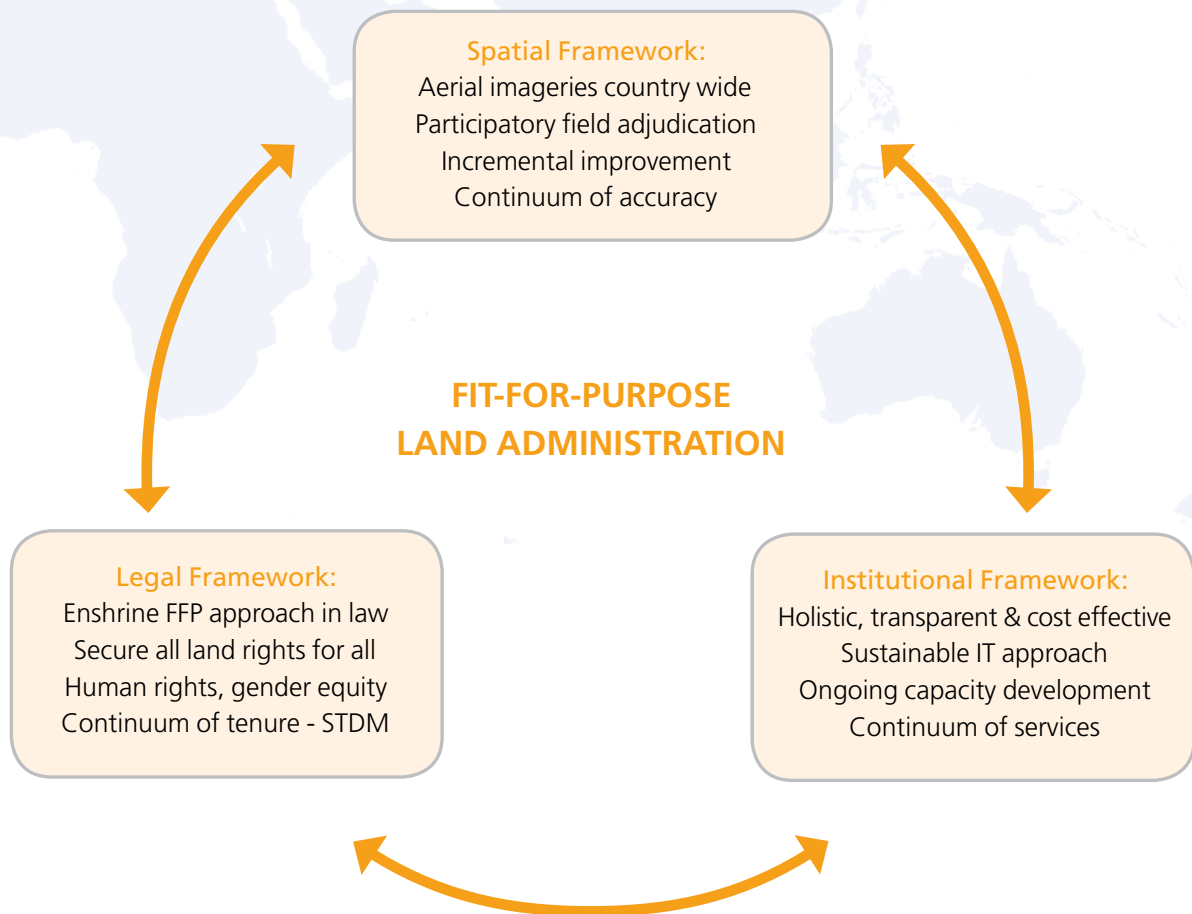
### Three Key Characteristics

The FFP approach includes three fundamental characteristics. Firstly, there is a focus on the purpose and then how to design the means for achieving it; secondly, the FFP approach requires flexibility in designing the means to meet the current constraints; and, thirdly, it emphasizes the perspective of incremental improvement to provide continuity:

- **Focus on the purpose.** This is applying best regulatory practice (as explained above) focusing firstly on the “what” in terms of the end outcome and then designing the “how” to be the best “fit” for achieving the purpose. The main purposes of land administration systems are normally identified as providing security of tenure for all - but also enabling access to credit and investments, facilitating valuation and taxation land and property, planning and control of the use of land and natural resources, supporting the process of land development, and providing land

information to support decision making on land policy. The systems therefore need a spatial framework (land parcel mapping) to operate, which should identify and delineate the occupancy and use of the individual land parcels/spatial units. This framework should again be established according to the purposes. For example, security of land tenure only needs sufficient identification of the land object (e.g. on a map) and does not need accurate boundary surveys per se. This also goes for the purpose of valuation and taxation; and planning and land use control merely need the combination of topographic and land plot mapping for identifying existing land use and managing future land development opportunities.

- **Flexibility.** The FFP approach includes being adaptable to meet actual needs for specific functions and locations. It is about flexibility in terms of demands for accuracy, demands for interoperable spatial information and recording of a range of different tenure types, and for shaping the legal and institutional framework to best accommodate societal needs. The FFP approach is pro-poor and supports the “continuum of land rights” ranging from more social or customary tenure types to formal types such private ownership and leasehold, see Figure 5.2 on page 52. The flexibility relates to supporting this diversity of land rights – whether de facto or de jure – that can eventually be recognized by a state authority such as local government or confirmed by a social authority such as traditional chiefs. Also, the recording itself requires flexibility not only with regard to the “what” (the tenure type) but also in relation to the “who” that can be a natural or legal person, but could also be a family, tribe, community, village or a farmers’ cooperative; and the “where” may not only be a land parcel/spatial unit but can vary according to where to right and social relationships apply, The FFP approach provides a conceptual way forward to solve these land right issues in an orderly and legitimate way that can be implemented at scale.



**Figure 3.2: The Fit-For-Purpose concept.**

- Incremental improvement.** The systems should be designed for initially meeting the fundamental needs of society today and have the ability to be incrementally improved over time in response to social and legal needs of economic development, investments and also financial opportunities that may emerge over the longer term. Using a FFP approach does not limit ambitions for an ultimate solution, e.g. solutions in line with some advanced systems used predominantly in developed countries. This also relates to the “minimum viable product” (MVP). When focusing on the purpose – such as providing secure tenure for all – the MVP is about identifying the optimal way of achieving this by balancing the costs, accuracy, and time. For example: by using accurate field surveys and doing it quickly the costs will be

enormous. Likewise, and this is the FFP approach, the product can be established quickly and cheaply but it will mean that accuracy will not be as high as possible. However, as the land administration system continues to develop, this balance will change. So once everyone is on the register through the cheap and quick method, more expensive and accurate methodologies can be applied because there is more time.

#### The Fit-For-Purpose Concept

The concept includes three core components: 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. This means that the concept – in itself – represents a continuum. See Figure 3.2 on page 17.

The three framework components are interrelated and form a conceptual nexus underpinned by the necessary means of capacity development. Each of the frameworks must be sufficiently flexible to accommodate and serve the current needs of the country within different geographical, judicial and administrative contexts.

The spatial framework aims to represent the way land is occupied and used. The scale and accuracy of this representation should be sufficient for supporting security of the various kinds of legal rights and tenure forms through the legal framework as well as for managing these rights and the use of land and natural resources through the institutional framework. The FFP approach therefore needs to be enshrined in the land laws, and for administering this regulatory set-up the institutional framework must be designed in an integrated, transparent and user-friendly way. This administration again requires reliable and up to date land information that is provided through the spatial framework.

The FFP concept, this way, encompasses a dynamic interaction of the spatial, legal and institutional framework for achieving the overall land policy objectives and outcomes for society and communities – and each of the frameworks can be incrementally improved over time. These dependencies need to be carefully coordinated to ensure that the frameworks are mutually reinforcing. For example, if legitimate rights are recognized then the legal framework will have to be modified to legally enshrine the tenure type, ICT

solutions will have to be adapted to support overlapping rights and new relationships prevalent in social tenures, and data recording procedures in the spatial framework modified to capture these relationships.

### Key Principles

The FFP approach includes four key principles for each of the three frameworks, see Table 3.1.

*This guide is not a manual. Instead, it provides guiding principles for building country specific land administration systems. Therefore, importantly, these principles should not be interpreted as prescriptive, but should provide direction and structured guidance for building the frameworks.*

The key point is that the systems should enable secure land rights for all and cover all land as a basis for land valuation and land use control. At the outset, the systems may vary from being very simplistic in some (rural) areas of the country while other (densely populated) areas are covered by more accurate and legally complete applications, especially where land is of high value and in short supply. Through updating and upgrading procedures the systems can then, in turn, develop into modern and fully integrated systems for land information and administration, where appropriate. The systems should also allow for recording and securing all types of land rights including informal and social kind of tenures. The legal and institutional frameworks have to be adapted to allow for this kind of flexibility and accessibility for all. This change process necessary for implementing a FFP approach to existing land administration systems can start today.

TABLE 3.1: THE KEY PRINCIPLES OF THE FFP APPROACH.

KEY PRINCIPLES		
Spatial framework	Legal framework	Institutional framework
<ul style="list-style-type: none"> <li>• Visible (physical) boundaries rather than fixed boundaries.</li> <li>• Aerial/satellite imagery rather than field surveys.</li> <li>• Accuracy relates to the purpose rather than technical standards.</li> <li>• Demands for updating and opportunities for upgrading and ongoing improvement.</li> </ul>	<ul style="list-style-type: none"> <li>• A flexible framework designed along administrative rather than judicial lines.</li> <li>• A continuum of tenure rather than just individual ownership.</li> <li>• Flexible recordation rather than only one register.</li> <li>• Ensuring gender equity for land and property rights.</li> </ul>	<ul style="list-style-type: none"> <li>• Good land governance rather than bureaucratic barriers.</li> <li>• Integrated institutional framework rather than sectorial silos.</li> <li>• Flexible ICT approach rather than high-end technology solutions.</li> <li>• Transparent land information with easy and affordable access for all.</li> </ul>

The principles of each of the three components include the following:

**The spatial framework** should predominantly be developed using aerial/satellite imagery for identifying the way land is occupied and used - rather than using field surveys. The imagery will show the actual physical boundaries and, in most cases, these are sufficient for identifying and securing the land rights. By using georeferenced imagery, the identified boundaries can subsequently be vectorised and used as a cadastral index map. Conventional field surveys, handheld Global Positioning System (GPS) or cell phone recording methods may of course be used where relevant, e.g. to identify non-visible boundaries or to capture the situation in dense high value urban areas. The scale and accuracy of the aerial imagery should relate to purpose and will therefore vary according to topography and density of development. The resulting spatial framework can easily be updated and upgraded over time or whenever relevant, e.g. in relation to the implementation of major infrastructure or land development schemes when boundary disputes occur.

**The legal and regulatory framework** should be simple, flexible, and designed for decentralized administration rather than judicial decisions. The legal system must be adapted to accommodate the various kinds of land rights and social tenures that do exist rather than just focusing on land titling, ownership and leasehold. The various tenure systems must be enshrined in the land laws. This should allow for security of tenure within various kinds of communities and thereby enable secure land rights for all. The Social Tenure Domain Model (FIG and 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. Such flexibility also relates to the recordation that should be organized at various levels rather than through one central register. And, of course, the principle of gender equity as a human right should apply.

**The institutional framework** should be designed for administering the rights in land along with issues related to land valuation and taxation, land use and development. The principles of good

land governance (FAO, 2007), and the Principles of Responsible Governance of Tenure (FAO, 2012) should be applied to ensure efficient and transparent administration of land rights and land information with easy access for all. Importantly, administration and management of the land administration activities should be organized with a holistic perspective aiming to treat land and natural resources as a coherent whole rather than in isolated sectorial silos. Fundamental to this is the early formulation of a national land policy that provides a coherent administration of land issues across sectors and benefits to society, businesses and citizens. The institutions should be underpinned by a flexible ICT-infrastructure.

### Key Demands for Implementation

The FFP approach aims to build countrywide land administration systems providing secure tenure. However, within the country context, some areas may

be difficult to cover and there may be some specific legal or institutional issues to consider. Implementation of the FFP approach should not be held back when most of the country, say 80 per cent, can be covered straight forwardly using this approach. The remaining area can be completed once the specific issues are solved.

A key demand for implementation, of course, relates to developing the necessary capacity for building and maintaining the systems (see Chapter 7). It is critical to ensure that the systems, once they are built, can be properly and immediately maintained so that they are complete and reliable at any time. Therefore, a capacity development strategy should be adopted before starting the project. Another demand is about assessing the costs and establishing the budgetary base for building the systems and, most importantly, there is a fundamental requirement for strong political commitment and leadership for adopting the project and keeping it on track

#### Land Tenure Regularization in Rwanda

Rwanda implemented a well-functioning Land Information System through a programme called Land Tenure Regularization. Nationwide systematic land registration started after piloting in 2009. The goal was to provide legally valid land documents to all rightful landholders and the programme was completed in 2013. A general/visible boundaries approach was used and data were collected in a highly participatory manner. For provision of geospatial data, high-resolution orthophotos and satellite imagery was used. Teams of locally recruited and specially trained local staff outlined the parcel boundaries on the imagery printouts that were scanned, geo-referenced and digitized. By May 2013, about 10.4 million parcels were registered and 8.8 million of printed land lease certificates had been issued. The unit costs were about USD 6 per parcel (that is of course subject to specific country conditions).

The expected achievements for Rwanda are social harmony arising from reduced land conflicts and secure tenure, increased investment in land, greater land productivity and an increased contribution of land as an economic resource towards national development. There were not many qualified surveyors in the country. However, a land surveying programme to train Geomatics engineers is underway.

Implementation was shared between a wide range of stakeholders.

Source: E. Nkurunziza and D. Sagashya, Rwanda Natural Resources Authority.



## FREQUENTLY ASKED QUESTIONS

### 1. What are the biggest challenges in adopting the FFP approach?

There are three key challenges confronting countries implementing the FFP approach. The first centres on the adoption of a new paradigm that is not driven by state-of-the-art positioning and surveying technology and the seduction of higher and higher accuracy. This requires a mind-set change across a very conservative set of land professionals and an effective change management strategy. The second relates to revising the legal and regulatory framework to provide the required flexibility to accommodate the FFP approach. Changes to laws can be problematic and time consuming, and politicians need to be well briefed on the need for change. The final key challenge focuses on the need to build scale quickly through effective capacity building. The FFP approach is dependent upon building a network of locally trained land officers to create a critical mass of resources to quickly build and maintain national land administration systems.

### 2. What is the difference between conventional cadastral systems and the FFP land administration solution – and what are the benefits?

While conventional cadastral systems use high accuracy field surveys of the individual land parcels based on standards and regulations, the FFP approach uses large-scale aerial or satellite imagery showing the way land is divided into spatial units (parcels and plots) for specific use and occupancy. While conventional cadastral systems use documentation of the surveyed parcel as a basis for entering rights into a land registry, the FFP approach uses the aerial or satellite imagery in the field to identify, delineate and adjudicate the visible parcel boundaries, and the rights (whether legal or legitimate) are determined and entered directly into a register. This is a participatory approach undertaken by locally trained land officers and involves all stakeholders. Furthermore, while conventional cadastral systems are highly standardized, the FFP approach is flexible in terms of accuracy and also in relation to the variety of tenure types to be secured.

The FFP approach focuses on the purpose of the systems, such as providing security of tenure for all and managing the use of all land. The land administration system can then be upgraded and incrementally improved over time in response to social and legal needs and emerging economic opportunities. Benefits arise by achieving a functional system encompassing all land and people within a short time, for relatively low cost, and supporting incremental improvement when relevant and required. This will enable the achievement of political aims and objectives in relation to economic growth, social and gender equity, and environmental sustainability.

The process and principles for building the spatial, legal and institutional framework are presented in the following Part 2, Chapters 4 to 6.

# PART II



## BUILDING THE FIT-FOR-PURPOSE LAND ADMINISTRATION FRAMEWORKS

## PART 2: BUILDING THE FIT-FOR-PURPOSE LAND ADMINISTRATION FRAMEWORKS

This part explains how to incrementally build the three inter-related frameworks - **the Spatial Framework**, **the Legal & Regulatory Framework** and **the Institutional Framework** – using the FFP approach.

### 4. BUILDING THE SPATIAL FRAMEWORK

To significantly accelerate the process of recording land rights, the FFP approach advocates the use of a range of scales of satellite/aerial imagery as the spatial framework to identify and record visible boundaries. This fast, affordable and highly participatory approach is appropriate for the majority of land rights boundaries. High accuracy and costly conventional field surveying techniques can then be restricted to high value land and properties, and non-visible or contested boundaries when appropriate.

This approach allows less skilled people from communities to be trained and used in the field. Importantly, this lets the FFP approach be highly scalable and supports the aim of secure land rights for all in much shorter timeframes; Rwanda is an excellent example. The FFP approach directly supports pro-poor recordation and the continuum of rights to ensure a fully inclusive methodology. The boundaries of the spatial units can be digitized from the marked-up imagery to create a digital land information infrastructure.

Using imagery also allows the spatial framework to be used by many other land administration and management activities and generate wider benefits. The building of the spatial framework is not a one-off process. It should be upgraded when opportunities and needs arise through land development and



**Participatory land use planning process, Nepal.**  
Photo © UN-Habitat.

infrastructure activities and improved land and natural resource management, for example. Upgrading strategies will allow incremental improvements towards a spatial framework in line with modern and fully integrated land information systems when they are needed and can be sustained.

#### The role of a spatial framework

The spatial framework is the basic, large-scale map showing the way land is divided into spatial units (such as parcels and plots) for specific use and occupancy. It provides the basis for dealing with land administration functions such as: recordation and management of legal and social tenure; assessment of land and property value and taxation; identification and management of current land use; planning for future land use and land development; delivery of utility services; and administration and protection of natural resources (see Figure 2.1).

The land administration functions mentioned above have different requirements of accuracy and this may vary depending on the context of geography and density of the land use. Security of tenure does not require accurate surveys of the boundaries. The important aspect is identification of the land object in relation to the connected legal or social right. The accuracy required for the purpose of planning and management of the use of land also varies considerably for different kinds of rural land uses versus the higher density of built up urban areas, and the same is the case for valuation and taxation of high value building sites versus marginally used rural areas.

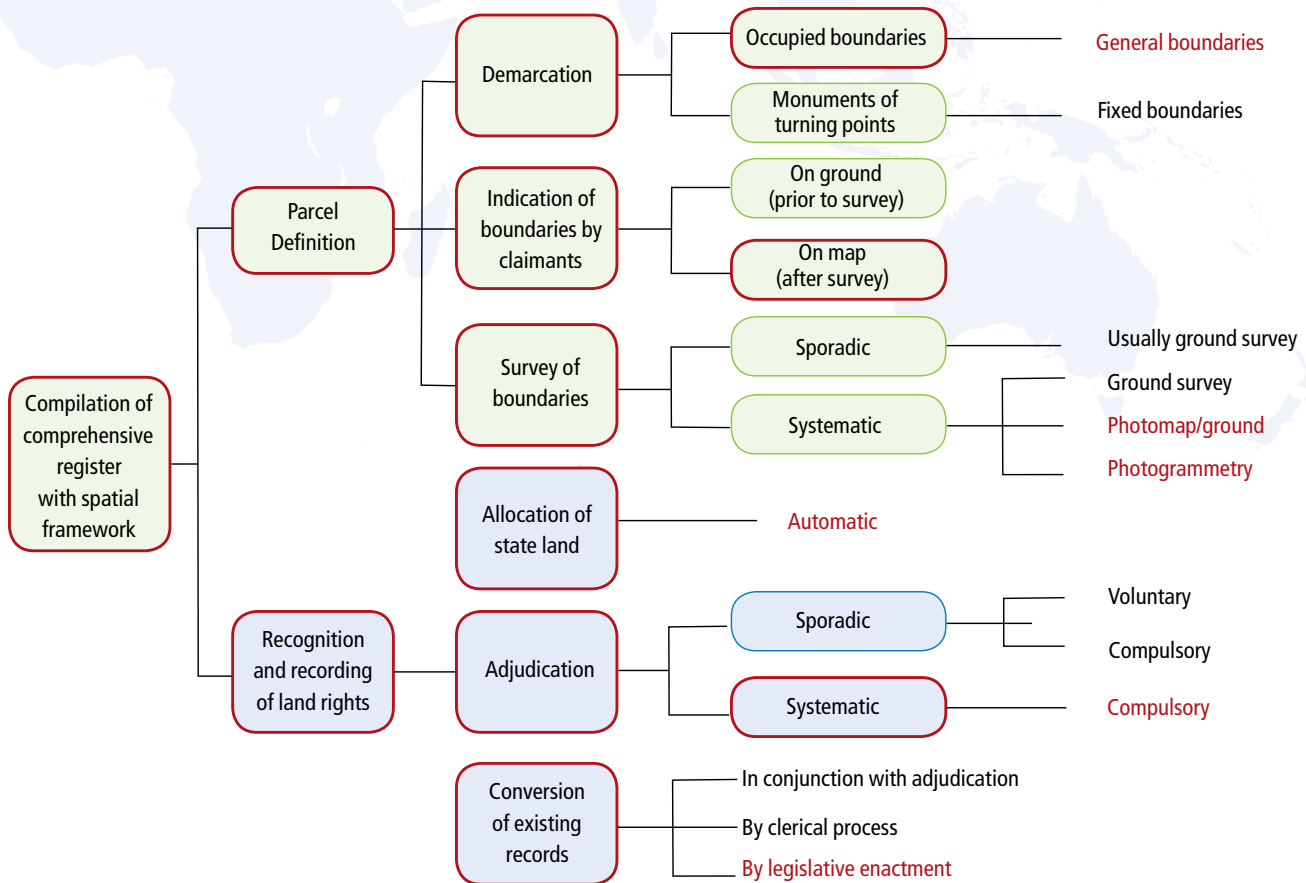
In many developed regions of the world, this countrywide spatial framework has been developed as large-scale cadastral mapping over about two centuries and maintained through property boundary surveys conducted to a high degree of accuracy according to long-standing regulations and procedures. When considering the resources and capacities required for building spatial frameworks in developing countries, the concepts predominantly used in developed countries should be seen as the end target, but not as the point of entry. Using such advanced technical standards may well be fit-for-purpose in many developed countries, but applying such standards of adjudication, boundary marking and field surveys in developing countries is far too costly, too time consuming and capacity demanding, and in most cases, simply not relevant for providing an initial, suitable and fit-for-purpose spatial framework. The focus should therefore be on methods that are fast, cheap, complete and reliable. The spatial framework can then be upgraded and updated whenever necessary or relevant (FIG and WB 2014).

The overall implementation process relates to first identifying the mapping technology and scales to be used for various areas according to topography, land

use and building density. The imagery can then be used directly in field to determine the visible boundaries according to the actual occupancy and use. This is a participatory process that involves all local stakeholders. The results can be drawn directly on the imagery and the parcels numbered for reference to the connected legal or legitimate rights as explained in more details in chapter 5. The resulting boundary framework can then be digitized and used as a basic layer in the national land information system. This overall process may, of course, vary according to any specific local context.

It should be noted, though, that some tenure systems around the world do not require a spatial framework as a basis for identifying the land plots and recording the connected rights. These systems, as found for example in the United States and most of Latin America, are based on recording the transaction evidenced by a deed with a description of the land plot using a “metes and bounds” description that indicates the boundaries of a tract of land as identified by natural landmarks, or by a sketch with indication of bearings and distances and boundary monuments. This recordation often refers to a separate index map or Geographic Information System (GIS). In contrast, the FFP approach includes a spatial framework with indication of the land plots as identified in the field and used for allocation of the connected land rights. The spatial framework then becomes the basic layer in the land administration system and can be used for a range of purposes.

Looking at the various options for compilation of a comprehensive land register with a connected spatial framework, reference is made to a diagram adapted from (Simpson, 1976; p.219) – see Figure 4.1. The recommended FFP approach is marked by the red frames. However, this should not be seen as prescriptive as countries have different contexts and are in various stages of development, but this should be seen as a guide.



**Figure 4.1: Different approaches to first registration of land rights. (Simpson, 1976:219, adapted by UN-Habitat/GLTN, 2015). The FFP approach is marked by the red frames and text.**

Solutions should be aimed at a national scale of implementation. There is a need for a complete coverage that includes private individual as well as communal and public land. This will allow for politicians to better understand the nature and location of the land issues and to create a range of land-related solutions over time. Even if such complete coverage is desirable it is not essential. As mentioned in chapter 3 above, it is advised that an 80/20 approach be applied where 80 per cent of the information of the coverage of the country is captured quickly and not stopped or delayed by a small number of difficult issues in the remaining 20 per cent that may need special attention and consideration.

With regard to building the spatial framework, the minimum viable product relates to the choice of surveying/mapping methodology for in terms of identifying the minimum standard that fits the purpose of the mapping in a specific area context. The recommended approach as outlined below is the use aerial imagery for identifying the visible boundaries of the land parcels/spatial units through a participatory process. However, this approach does not exclude the use of conventional field surveys where this may be the best solution, e.g. where there are no visible boundaries or they cannot be identified on imagery due to trees or cloud.

Importantly, prior to building the spatial framework and issuing any certificates of land rights, it must be ensured that the regulations and institutions for maintaining and updating the FFP land administration system are in place. Without the institutional capacity and incentives for the parties to update the system in relation to the transfer of land rights and land transfers, it will quickly be outdated and unreliable and lead to waste of investments for building the system in the first place. On the other hand, in some cases, land recordation and safeguarding of land rights can be justified as a means in itself just to avoid potential land grabbing.

This chapter will describe the key principles supporting a FFP approach to building the nation-wide spatial framework that could be termed “a continuum of accuracy”. This relates to the opportunity for continuous updating and upgrading of the system to a continuously improved accuracy. It must be noted, however, that quality is not just about spatial accuracy, there are other quality dimensions to be taken into account; especially with regard to ensuring that the accuracy relates to the purpose and is balanced against the costs, time and capacity needed for providing this quality.

The chapter is structured around application of the four key FFP principles for building the spatial framework:

- Visible (physical) boundaries rather than fixed boundaries.
- Aerial/satellite imagery rather than field surveys.
- Accuracy relates to the purpose rather than technical standards.
- Demands for updating and opportunities for upgrading and ongoing improvement.

#### 4.1 VISIBLE (PHYSICAL) BOUNDARIES RATHER THAN FIXED BOUNDARIES

The term “boundary” is used to describe either the physical objects marking the limits of a property or an imaginary line or surface marking the division between two legal estates. Boundary is also used to describe the division between features with different administration, legal, land use and topographical characteristics (Dale and McLaughlin, 1999, Williamson et al., 2010).

Boundaries may be specific (often termed as “fixed” boundaries) in which case the precise line of the boundary can be determined based on field surveys or descriptions. Another category of boundary is termed as “general” in which case the precise line has not been determined and the register only show the approximate line of the boundary, such as physical features in the field shown on large-scale mapping. The parcel is then situated in relation to certain clearly visible physical features, even though the precise relationship between those physical features and the exact boundary is not defined (Simpson, 1976). In the context of this guide, such general boundaries are referred to as “visible” boundaries, see (Lemmen et al., 2015a) since they can be identified on aerial/satellite imagery see Map 4.1 on page 29.

In developing countries, where less than 30 per cent, and often only 10 per cent, of the land and population is included in the formal systems, it is argued that the design should enable the systems to be built within a short timeframe, within affordable financial resources, and being fit for the purpose of securing land rights for all and controlling the use of all land. In this regard, the use of field surveys and boundary monuments is simply too costly, too time consuming and also too capacity demanding. Furthermore, when land is long occupied with well established, community accepted,



**Bagong Silang informal settlement. Quezon City, Philippines. Photo © UN-Habitat/ John Gitau.**

physical boundaries such as fences, hedges, walls and ditches, a system based on fixed boundaries will hold little value in relation to the costs. Instead, it is argued, the accepted physical demarcation of the boundaries should provide sufficient evidence of the occupation and the connected rights.

Countrywide implementation of effective land administration can introduce the benefits that eliminate the existing shortcomings and disadvantages. Effective administration requires a flexible legal and regulatory framework supporting an adaptable tenure system with a compliant land recordation system. Existing formal systems originate in many cases from colonial systems and are often not well maintained. Also, communal lands (with customary tenure) can be included in the formal system by demarcating the outer boundaries

while retaining the community institutions that allocate and manage individual and household plots, with the option to register these land rights as the need arises (Byamugisha, 2013). Any sales to outsiders or foreign investors should require national government or community approval to safeguard community members against land grabbing activities. These kinds of legacies can be integrated into FFP approaches as described in more detail in Chapter 5 with regard to building the legal and regulatory framework.

### Visible boundaries

When adopting a “visible boundaries” approach, the boundaries are easily identified in aerial/satellite imagery by their physical appearance and the connected land

rights can be identified directly in the field through a participatory process that involves all local stakeholders. This relates to the “real life situation” where the boundary is represented by the physical object that divides neighbouring plots of land and guards the individual plots against intrusion. Once these physical boundaries are agreed to by the parties and identified on the aerial/satellite imagery, they can be described as the boundary, although the precise legal line is not determined. This visible boundary approach is then just a variant of the general boundary concept as described above.

*Obviously, not all boundaries will be visible in the imagery. Such non-visible boundaries need to be captured by complementary field surveys. Also, in dense and high value urban areas, a fixed boundary approach may be justified. So the principle should rather be understood as a predominant use of visible rather than fixed boundaries.*

In cases where there is a specific need or wish to determine the exact boundary line using a fixed boundary approach then this can be met by using field surveys to be paid for by the parties. The boundary will then be recorded as “fixed” and the surveys will be filed in the system as evidence of the exact location.

In forestry areas, for example, the boundaries may not be seen from the air even if they appear as physical features in the field. Other boundaries may not have any physical appearance at all, even though they are well understood and accepted by the parties. Such non-visible boundaries can be captured by simple field surveys e.g. measurements in relation to visible physical features, or by hand held GPS, or positioning using cell phones with imagery and standard templates

for reporting. This way, the FFP approach will include visible (general) boundaries as well as fixed boundaries where this is most fit for the purpose of identifying the land plot/spatial unit. Other kind of rights, such as pastoralists’ grazing, are fuzzy and their spatial extent can only be indicated on the map as estimations through a participatory process. This approach also applies for indication of some easements, such as rights of way as well as a number of secondary and overlapping land rights. See chapter 5 for more details.

The deriving graphical map can be updated and maintained using a variety of methods, such as field surveys or Unmanned Aerial Vehicle (UAV) mapping for larger subdivisions.



**Visible boundary. Tenjo area, North West of Bogota, Colombia. Photo © Christiaan Lemmen.**



#### 4.2 AERIAL/SATELLITE IMAGERY RATHER THAN FIELD SURVEYS

The use of aerial/satellite imagery for providing the spatial framework will be sufficient for most land administration purposes. Evidence shows that this approach is three to five times cheaper than field surveys and much less time and capacity demanding. The required scale of the mapping depends on topography and density of development and may vary from large-

scale orthophotos (1:500 – 1:1,000) in dense urban areas to smaller scale imagery (1:2,000 – 1:10,000) in rural areas and remote regions. Boundaries can easily be identified on the imagery in most cases, depending on the visibility of the physical features. Experiences in Rwanda and Ethiopia, for example, show that citizens have good spatial cognizance (Lemmen, et al., 2009). They can normally easily interpret the imagery, and a participatory approach to boundary determination can then be easily applied. See Map 4.1.



**Map 4.1: Example from Rwanda showing aerial imagery (left) from which the parcel boundaries are easily identified (right). Source: Didier Sagashya, Rwanda.**



**Identification of parcel boundaries on an aerial imagery. Ethiopia. Photo © Christiaan Lemmen.**

The use of imagery (including using UAVs) are considerably cheaper than field surveys and mapping methods do not require the capacity of experienced professionals to undertake the field work. Also, it should be noted that the mapping methodology using aerial/satellite imagery not only provides the spatial framework of spatial units, but also the general topography of land use, buildings and infrastructure that is fundamental for the planning and land development functions included in land administration systems. The use of UAVs should of course consider the potential constraints such as invasion of privacy, security risks, and interference with navigation systems.

As mentioned above, not all boundaries will be visible in imagery. The predominant use of aerial imagery will have to be supplemented with suitable methods of field surveys for capturing non-visible boundaries where relevant and needed.

### Building the spatial framework

The process for providing the spatial framework will include the following steps:

- (I) **Producing the aerial/satellite imagery.** The choice of mapping technology and scale will vary according to topography, land use, and building density, e.g. large scale orthophotos may be used for covering urban areas while small scale satellite imagery will be sufficient for rural areas and supplemented with using UAVs for mapping villages, informal settlements etc.
- (II) **Identification and delineation of boundaries.** A print of aerial/satellite imagery – or a digital image on a tablet or a mobile phone - can be used directly in the field to identify and delineate the parcel boundaries using the visible boundary approach as explained above. By including the local community, the boundaries can be identified and drawn directly on the imagery and the parcels numbered for reference to the connected land rights (see Photo above and Map 4.2). An aerial/satellite imagery is easily understood by local community and by identifying the boundaries on the map they can be agreed to by all relevant stakeholders before issuing certificates of the connected land rights. Where no official identity documents are available,

identification will be by community leaders (see chapter 5 for details). 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. As mentioned above, any non-visible boundaries can be added using hand held GPS or field survey measurements. Linking non spatial data can be organized in the field.

### III) Producing the map of land parcels/spatial units.

The field map with the identified boundaries and parcel numbers can be digitized from the orthophoto/satellite imagery to create a digital cadastral map that can be used as a basic layer in the land information system or in combination with the aerial/satellite imagery for a range of land administration activities. This digital cadastral map can be created directly in the field using digital tablets or by scanning the analogue field map with the delineated boundaries and then digitizing the boundary points from the map, or by using the field map to identify the boundaries and then digitizing the boundary points from the natural features as

they appear on the original aerial /satellite imagery. The latter process will be more accurate, but takes more skill and more sophisticated software, e.g. for enabling an automatic digitization of the identified physical features.

Any disputes in relation to the boundaries and the connected land rights can be resolved during the delineation process with all stakeholders present – or a special administrative body (rather than judicial) may be established for this purpose when needed. In this regard, the demarcated boundaries are typically put up for a period of public display where community members can dispute or contest the information as part of the process of gaining community acceptance of the field investigation of boundaries and rights.

In the longer term, boundary disputes will relate to the way the boundary was determined when established in the system. Therefore, it is important to store the original field map in the land agency archives. Future boundary disputes can then start by identifying the position of the boundary as it was originally established in the system. This also goes for ongoing updating and maintenance of the system. See Section 4.4 on page 36.



**Map 4.2: Building the spatial framework. Left: Aerial imagery used as a field work map sheet with a georeferenced grid. The map shows the delineated parcel boundaries and parcel identification numbers. Right: A vectorised field map showing the resulting cadastral map with parcel boundaries. Source: Zerfu Hailu, Ethiopia.**

The full legal process of recognizing, recording and reviewing land rights at national level is described in Section 5.1 below. The FFP approach is pro-poor and also supports locally based recordation that can eventually be integrated in the national register (Zevenbergen, et al., 2013). This is described in Section 5.3 on page 56.

### Geodetic reference frame and positioning systems

In developed countries, property boundaries are often identified by measurements linked to a national geodetic reference frame – often termed a national coordinate system. Historically, these systems were established by permanent survey marks (granite poles or iron pipes) and surveyed to a high absolute accuracy within this national grid.

Today, this grid is largely replaced by Continuously Operating Reference Stations (CORS) and conventional field surveys are replaced by a Global Navigation Satellite System (GNSS). However, modern CORS serve a much wider range of applications than just geodetic and cadastral surveys and provide a reference frame for the implementation of major construction works and infrastructure developments as well as control of mining and automatic machinery for precision agriculture purposes. CORS systems also provide the basic reference frame for building interactive land information systems combining a variety of georeferenced data and their attributes.

Conventional field surveys linked into a national geodetic reference frame aim to produce high-level absolute accuracy. This is important for a range of technical surveys related to construction and engineering activities. This kind of absolute accuracy may also be relevant for boundary surveys, but for the purpose of cadastral mapping, mainly aiming to provide security of tenure, the relative accuracy of the position of boundaries is more important, and this is provided by the visible boundary features as shown in the aerial

imagery. These features can be digitized to provide a digital cadastral map as explained above. Positioning of gaps in individual boundaries (non-visible) may then be supplemented by terrestrial surveys when needed for any specific purposes.

The FFP approach to building the spatial framework does not require a national geodetic reference frame to be in place. The collection of boundary data can start once the imagery is available. The imagery itself serves as the spatial reference and it is always possible to geo-reference the image, and the collected data, to a national geodetic reference frame in a post processing process at a later stage.

By using orthophotos to produce spatial frameworks the imagery is typically linked to the national geodetic reference frame through GNSS systems on the space/ aircraft and on the ground. This also applies to using UAVs where the geo-referencing is similar to that of a full-size aircraft.

By using satellite imagery, some systematic shifts between points in the image and the same points on the ground may occur; see evidence (Lemmen, et al., 2009). Such positioning uncertainty will depend on many factors, such as the amount of good ground control available, the amount of ortho-rectification undertaken, and the amount of slopes etc. in the topography itself. This relate to differences in geodetic datum and uncertainty in the transformation from the geocentric data used for GNSS and a local geodetic datum. However, the relative accuracy will be fully acceptable for the purpose of identifying the land parcels/spatial units and securing the connected land rights. The absolute accuracy can then be improved at a later stage – even after many years – by using ground control and post processing for rectification. At this stage, it is more important to get the agreements with neighbours with some support from witnesses and government authorities.

The discussion around relative versus absolute accuracy is important also in the case of reinstating boundaries for dispute resolutions. It must be noted that the legal position of the boundary relates to the way the boundary was established and recorded in the first place – as a visible physical feature on the ground identified on an aerial imagery. The resulting coordinates of boundary points then represent the position of the points in the map and may not correspond to the absolute coordinates in the field. In any case, documentation from the original fieldwork should always be used for reconstruction of boundaries and a participatory approach should be applied.

## Mapping techniques

When producing the spatial framework, the requirements for scale and resolution of the mapping will vary according

the topography and density of development. An overview is shown in Table 4.1 (adapted from Byamugisha et al., 2012). It must be noted, though, that decisions will always depend on local circumstances. It is recommended that a national atlas is produced to show the various types of mapping and scales used in the different topographic areas with different kinds of land use.

The table below is by no means prescriptive with regard to the use of mapping methodologies for areas of certain topography or building density. Instead it illustrates the flexible choices when focusing on the purposes of the mapping such as identification of land parcels/spatial units for security of tenure and provision of basic spatial and topographic information for land use control and management. Furthermore, the choice of mapping methodology may refer to the participatory aspects of identifying the spatial units.

**TABLE 4.1: MAPPING APPLICATIONS FOR URBAN AND RURAL LAND (ADAPTED FROM BYAMUGISHA ET AL., 2012).**

Area	Mapping applications
<b>Urban central</b> High density, high value	Dense development and very high land values require large-scale mapping to be performed by conventional terrestrial surveys or large-scale image maps with a preferred scale of 1:500 – 1:2,000.
<b>Residential urban</b> Medium density, high value	In residential areas, the dwellings and parcels are normally easily identified in image maps imagery to a scale of 1:1,000 – 1:2,000.
<b>Peri-urban</b> Mixed density, good value	Peri-urban areas include a mix of land uses that will require image maps to a scale of 1:2000 – 1:5000 depending on the density and complexity of developments.
<b>Informal/slum</b> Very high density	Slum areas can be mapped for many purposes. An option is use UAVs for mapping to a preferred scale of say 1:500 – 1:2,000. Individual housing structures can then be identified for administration and service delivery.
<b>Small towns, villages</b> High density, low value	Rural villages may be mapped separately e.g. using UAV to a scales of 1:2,000, or they may be mapped as part of a major rural area
<b>Rural agricultural</b> Medium density, good agricultural value	In rural agricultural areas, the individual parcels will normally be visible on satellite image maps to a scale of 1:2,000 – 1:5,000.
<b>Rural remote, forest</b> Low density, low value	Mapping more remote rural areas may serve various purposes, such as land rights, natural resource management, water catchment, etc. Satellite image maps to a scale of 1:5,000 – 1:10,000 will normally be sufficient.
<b>Rural mountainous</b>	Mountainous areas can be covered by satellite image maps to a scale of 1:5,000 – 1:50,000 depending on the topography and settlement activity.

#### Mobile Application to Secure Tenure Pilot Project in Tanzania

In Tanzania, USAID has completed the innovative Mobile Applications to Secure Tenure (MAST) pilot project. This is an easy-to-use, open-source mobile application that can capture the information needed to issue formal documentation of land rights. Coupled with a cloud-based data management system to store geospatial and demographic information, the project is designed to lower costs and time involved in registering land rights and, importantly, to make the process more transparent and accessible. The project in rural Tanzania worked directly with villagers to map and record individual land rights, strengthen local governance institutions, and build government capacity.

Following best practices, the MAST team provided training on land laws to raise awareness of women and men's legal rights and worked with community institutions to strengthen capacity to implement these laws. The team also conducted outreach efforts to ensure that mapping and registration processes were participatory. Local people were trained in data collection and verification and the results of mapping activities were presented to community-wide gatherings for validation. The Ministry of Lands then had the information necessary to issue MAST beneficiaries with official Certificates of Customary Right of Occupancy.

Source: <http://usaidlandtenure.net/project/mobile-application-secure-tenure-tanzania>.



#### Crowdsourcing techniques

Crowdsourcing uses the Internet and on-line tools to obtain input and stimulating action from volunteers. It is used to support scientific evidence gathering and record events in disaster management. New applications are emerging in the land administration domain where citizens, usually with help from locally trained land officers, directly capture and maintain information about their land and natural resource rights (McLaren, 2011).

In developing countries, mobile phones have become a development tool. The technology is progressively integrating satellite positioning, digital cameras and video capabilities, providing citizens with the opportunity to directly participate in the full range of land administration processes from accessing land information services, recording property boundaries through to secure payment of land administration fees using "mobile" banking.

A key challenge in this innovative approach is how to ensure authenticity of the crowdsourced land rights information. Initial applications are using locally trained land officers, e.g. NGOs and CSOs, to provide a good level of authenticity and trust in the crowdsourced information. This fits very well with the FFP approach.

An example is the Mobile Applications to Secure Tenure (MAST) project in Tanzania where USAID is working with the Ministry of Lands to issue Certificates of Customary Right of Occupancy (see box below). GLTN is working in several countries (especially in sub-Saharan Africa) with CSOs, poor communities and governmental authorities to improve tenure security, inclusive planning and access to basic services through the use and application of the Social Tenure Domain Model (STDM), see sections 5.2 and 5.3 on pages 52 and 56 respectively. Rainforest Foundation UK is supporting indigenous people in the Congo to secure their land and natural resource rights and involve them in overall forest governance arrangements. Cadasta Foundation is implementing a global platform to manage crowdsourced land rights information.

### 4.3 ACCURACY RELATES TO THE PURPOSE RATHER THAN TECHNICAL STANDARDS

Accuracy of the land information should be understood as a relative issue related to the use of this information, rather than being driven by technical standards that are often inflexible and “over the top” for the purpose.

In general, the need for accuracy is clearly lower in rural areas than in densely built up and high value urban regions, where accurate field surveys may sometimes be justified. Technology development has provided a range of very useful and affordable opportunities for producing the spatial framework in various scales and suitable for various purposes. These opportunities and techniques for providing the spatial framework with different levels of accuracy are discussed in more details in the sub-section on mapping techniques above.

Furthermore, the need for accuracy of the various features should be considered and determined by assessing the purpose of using this information for supporting the various land administration functions of land tenure, land value, land use and land development (see Figure 2.1 on page 9)

**Land tenure.** The registration of legal and social tenure rights requires identification of objects but the process does not call for high accuracy per se. The identification through visible boundaries will be sufficient for securing and recording the legal and social land rights. Non-visible boundaries can be captured by supplementary measurement in the field with sufficient accuracy to allocate the non-visible boundary on the map. If parties want the exact boundary determined for a specific purpose then it can be measured and registered at their cost.

**Land value.** The function of valuation and taxation needs a map with identification (cadastral numbers)

of the individual parcels and properties. Valuation does not need measurements or exact identification of boundaries. The scale of the mapping needs to be sufficient to identify objects in the field and to calculate the area of the object. A benefit of using aerial/satellite imagery for valuation purposes relates to the combination of the legal objects (land parcels and properties) with the physical objects (topography, buildings) and land-use arrangements.

**Land use.** Activities related to planning and control of the use of land require a spatial framework for identifying the land parcels and the physical and spatial objects on the ground. The scale of the mapping will depend on the activity of planning and control, but the activities do not require high accuracy per se. Of course detailed spatial planning in dense urban areas will require a higher scale of mapping than district planning covering a wider area or land-use planning for rural areas. In general, the scales of mapping as indicated in the section above on mapping technologies (see Table 4.1) will provide a sufficient basis for activities related to managing the land use.

**Land development.** In general, the land development activities will require the same mapping base as related to land use management. However, some activities, e.g. related to major infrastructures and construction works, will often require specific high accuracy measurement prior to construction planning and implantation. This should be provided as part of the design and construction process and paid for by the project budget. It may also be relevant to upgrade the cadastral (land parcel) mapping to a higher accuracy to ensure proper application with land use restrictions and for determining compensation for any land that is acquired for the development.



**Mapping of plot boundaries by local women in Mungule, Zambia. Photo © UN-Habitat/Cyprian Selebalo.**

#### 4.4 DEMANDS FOR UPDATING AND OPPORTUNITIES FOR UPGRADING AND ON-GOING IMPROVEMENT

Building the spatial framework is not a one-off process – it should be seen in the context of opportunities for on-going 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 through a positioning infrastructure based on the Global Navigation Satellite System (GNSS).

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. These issues are explained in some detail below.

##### Updating and maintenance.

The requirement for on-going, updating procedures is essential in order to ensure that all data are complete and reliable. The importance of this is often neglected, and once titles are issued there is often little pressure

to keep the registry information up to date. These demands and procedures for updating must be stated in the regulatory framework (see Chapter 5 below) to ensure that all land transactions and changes of legal and social tenure rights are included in the land register and identified in the spatial framework. These demands for updating are often neglected by people due to issues such as costs, lack of awareness, difficult process and difficult access to land offices, etc. Awareness of the benefits of a reliable register and incentives for updating should be promoted. The demand for updating and maintenance also includes inheritance, marriage and divorce, which is often overlooked. For instance, a landowner might die and his or her heirs inherit the land in accordance with custom, which is known to all local people and there is therefore little encouragement to notify the authorities on what has happened. The net effect is that over time, the land records will have no correlation with the rights on the ground. For that reason, jurisdictions may offer a reduced fee for the registration of succession.

Updating and maintenance refers to the principle that the registers must reflect what is currently on the ground – and this applies as much to who as to what. Without such procedures, investments in building the system are wasted over a relatively short period so it must be ensured that the institutions and procedures for updating and maintenance are in place prior to issuing any titles and recording any land rights. Furthermore, it may be practical to consider incentives to ensure that the registration is up to date, e.g. some sort of land tax abatement for a year or two for a property having followed the updating procedures.

The processes of updating also relate to the formation of new properties through the subdivision and alteration of boundaries. The procedures should ensure that any new boundaries or changes of existing boundaries are recorded either through simple measurements related to the existing boundaries so that the new boundaries can be inserted in the spatial framework, or through



provision of new imagery, e.g. by using UAVs once the subdivision boundaries are established in the field.

### Upgrading and improvement.

The opportunity for upgrading should be adopted wherever relevant and allow for providing an improved map-base whenever needed for specific purposes, such as land development activities, major construction works and implementation of major infrastructure. Upgrading may also be considered for specific areas

as a basis for detailed land-use regulations or building more detailed information systems in support of utility supply or implementation of renewal schemes.

Upgrading may also be done as part of a strategy for a more general improvement of information with regard to land and the natural environment. Depending on the budget, such strategies will allow for dynamic and incremental improvement that, in turn, will establish a spatial framework in line with modern and fully integrated land information systems.

**TABLE 4.2: PRINCIPLES, ACTION AND OUTCOME FOR BUILDING THE SPATIAL FRAMEWORK.**

Building the Spatial Framework		
Principles	Action	Outcome
1. Visible boundaries rather than fixed boundaries	1.1 Adopt a visible boundary approach to determining the land parcels/spatial units as demarcated by physical features in the field that can be identified on aerial/satellite imagery.	Agreed field procedures for building the spatial framework showing the individual spatial units.
	1.2 Allow for non-visible boundaries to be captured by simple field surveys	Agreed field procedures for when and how to use simple field surveys.
	1.3 Allow for boundaries to be recorded as fixed when relevant and paid for by the parties.	Regulations to create fixed boundaries.
2. Aerial /satellite imagery rather than field surveys	2.1 Use aerial/satellite imagery to produce the mapping of the land parcels/spatial units	A nationwide imagery coverage at various scales.
	2.2 Use a community participatory process to identify the physical parcel boundaries on the on a print of the imagery.	Field procedures for adjudication to determine land rights connected to the individual spatial units.
	2.3 Digitize the identified boundaries from the field map to produce a vectorised cadastral map.	Digitized spatial units managed in a land information infrastructure.
	2.4 Store the original field map to be used as evidence in case of future land conflicts.	Archive containing the original field maps.
3. Accuracy relates to the purpose rather than technical standards	3.1 Adopt adequate level of accuracy for variations in density of settlements and topography.	Appropriate scale of imagery for regions of the country.
	3.2 Adopt adequate levels of accuracy for the functions of land tenure, land value, land use and land development.	Appropriate scales of imagery for managing the land administration functions.
4. Demands for updating and opportunities for upgrading and ongoing improvement	4.1 Adopt a capacity development strategy upfront to ensure that the necessary capacity is available for maintaining the system.	National capacity development strategy for land administration
	4.2 Adopt measures for updating and maintenance of the system related to transfer, inheritance, etc.	Set of regulations to ensure and support maintenance of the system.
	4.3 Adopt procedures for upgrading and on-going improvement of the spatial framework.	Set of regulations for upgrading the spatial framework.

## FREQUENTLY ASKED QUESTIONS

**1. Will citizens accept visible boundaries identified on an aerial/satellite imagery as a definition of their land unit boundaries rather than a surveyed boundary?**

What is important is the physical appearance of the parcel as it is represented by its natural features. Evidence shows that the incidents of boundary and ownership conflicts relate mainly to inheritance, fraud and eviction rather than boundary issues (Zevenbergen and Bennett 2015). In terms of registration, enquiries could determine dimensions and boundaries of the parcel, but in general, these are not necessary for providing security of tenure. What is necessary is that each parcel is identifiable in relation to neighbouring parcels and preferably also geo-referenced.

**2. Is a geodetic framework provided by a network of Continuously Operating Reference Stations (CORS) not a prerequisite for FFP?**

National geodetic reference frames are the prerequisite for positioning, geo-referencing, and application of geo-spatial technologies, which are essential for supporting the land-based production of goods and services as well as the planning and development of physical infrastructures. They are also the foundation on which a national spatial data infrastructure is built. However, a network of CORS is not a direct prerequisite for applying a FFP approach to building a national land administration system. In the FFP approach, the spatial framework is built by using aerial/satellite imagery for identifying the individual spatial units, and the production of such a spatial framework does not require a network of CORS as a prerequisite. High geodetic accuracy may well be seen as the end target – but not as the point of entry.

**3. Can the FFP spatial framework be used for other land administration functions apart from the recordation of land rights?**

The FFP spatial framework is built using aerial/satellite imagery rather than field surveys. The spatial framework shows the way land is divided into spatial units for specific use and occupancy and thereby combines the legal rights to lands with the general topography. This provides the basis for dealing with not only recordation and management of legal and social tenure, but also: valuation and taxation of land and properties; planning and control of current and future use of land, implementation of development schemes; delivery of utility services; and administration and protection of natural resources. The FFP spatial framework therefore provides the basis for management of the four land administration functions: land tenure, land value, land use, and land development.

## 5 BUILDING THE LEGAL AND REGULATORY FRAMEWORK

### Characteristics of Current Legal and Regulatory Frameworks

*Land administration is about people. It is about the relationship between people, places and rights, and the policies, institutions and legal regulations that govern this relationship.*

In most developing countries, the legal framework for land administration reflects colonial administration and often serves only the elite. The processes for land registration are complex, costly and time consuming, with high demands for accuracy of boundary surveys and often unnecessary legal interventions by notaries, lawyers and courts. The existing legal framework is often a significant barrier for implementing a flexible approach to building land administration systems, so, as well as the spatial framework, the legal and regulatory framework should be flexible and designed along administrative rather than judicial lines. Furthermore, the legal and regulatory framework and its institutions must support both legal and social tenure, ensure that flexible regulations are enshrined in the laws and support a FFP approach (FIG and WB, 2014).

The legal and regulatory framework will normally include a comprehensive land law or real property law as well as legislation that govern the conduct of land registration, such as the regulations that control the operation of the land registry and cadastral management. Other relevant laws relate to valuation and taxation of land and properties and also spatial planning and land-use control in relation to urban and rural development. In this chapter, the focus will be on the legal and regulatory framework for securing land rights for all.

In the majority of developing countries, around 80 per cent of the land is held under some form of customary tenure. This land is managed by traditional authorities and is generally outside the jurisdiction of formal land registration institutions. As a first step, the legitimate holding of land in customary areas of the country should be recognized in the formal system, with the option of subsequently being recorded and eventually upgraded to a legal status. This process should be managed through co-management between the traditional authorities and the formal governmental institutions, wherever possible.

The legal and regulatory framework defines how rights, restrictions and responsibilities in land are established and managed, taking into account the actual (de jure and de facto) land tenure arrangements within the country. By adopting a FFP approach to building this framework, it should include the following: types of land (such as public, private, customary, etc.); types of tenure recognized (such as formal, legitimate, informal, social); procedures for recognition and recordation of the various forms of land rights; procedures for land transfers through sales, inheritance, divorce, marriage, etc.; and procedures for maintenance and updating.

The regulations on operationalization of the land registry and cadastre include: principles of registration and the establishment of legal rights and legally recognized interests in land; the contents and maintenance of the registry and cadastre; the management changes in this legal situation, such as land transfers; the definition of spatial units of land; in some jurisdictions the identification and survey of boundaries; and the roles of the involved professionals and other stakeholders.

Some countries operate a deeds registration, while others operate a title registration. A deeds registration system is registration of deeds of transfer and is

typically not evidence of its legality. A title registration is a registration of the legal consequence of a transaction and is evidence of the title. Many systems are a mix of the two systems. Some systems are centralized, and others are decentralized. Some systems are based on a general or physical boundaries approach, others on fixed boundaries approach. Some systems are developed for fiscal purposes as an aid for taxation while others aim to record legal ownership. Some systems serve several purposes.

### The Need for Change

*The FFP approach aims to provide security of tenure through recognition of legitimate rights and recording the corresponding evidence of rights on a national register that is publically accessible.*

The benefits of land administration are widely recognized. Effective systems provide security of tenure, a basis for land and property valuation and taxation, improved access to credit investments, sustainable land use, minimization of land conflicts, and better management of land, including state land and natural resources. Also, women's land rights can be claimed in the case of a proper land administration system, and forced evictions can be avoided and fair compensation can be granted.

However, especially in developing countries, the laws and processes that support land administration systems are ineffective. Shortcomings relate to the very high institutional and financial costs of establishing and maintaining the systems. Also, in many cases, the land registers and cadastral maps are incomplete, inconsistent and out of date and therefore not reliable. Processes for recording land transactions are often distributed over many organizations. Transactions follow many steps and are managed by multiple organizations; backlogs create an environment that



**Children in an informal settlement in Kampala, Uganda.**  
Photo © UN-Habitat/Danilo Antonio.

may be susceptible to motivation fees. Such systems are often misused by the powerful and elites. Furthermore, in many countries, poor and vulnerable people suffer the impact of the activities of slumlords and the threat of forced eviction without proper compensation. Divorced women often lose their land rights, even if they have a legal entitlement. The need for substantial change in land administration is clear.

Countrywide implementation of effective land administration can eliminate shortcomings and disadvantages. Effective administration requires a flexible legal and regulatory framework supporting an adaptable tenure system with a compliant land recordation system.

Conventional land administration systems in developing countries are technically unable to go

to scale and the systems ignore types of social tenure common among their populations. Customary and communal areas have a long history of tenure security and well-protected land rights for community members. Today, this tenure does not provide sufficient security as demand for land in general and also for communal land has surged in response to increased investments. Land grabbing by private interests and expropriation without adequate compensation have been widely reported (Deininger et al., 2011). Globally, over 30 per cent of urban areas are informal and in Africa over 60 per cent. Scaling up policies and investments in the registration of customary and communal lands helps to protect the rights of local communities while reducing investment risks. Informal settlement residents need to be brought into the formal system.

### Flexible Approaches

*While many tenure rights are defined in formal law, there are often other rights that are not similarly defined, yet people use them every day because they are recognized by the local community and others. These rights have a social legitimacy even if they lack legal recognition; for example, customary rights that have not yet been given legal recognition by the state (FAO, 2015). The Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGTs) state: "Based on an examination of tenure rights in line with national law, states should provide legal recognition for legitimate tenure rights not currently protected by law." Therefore, this guide recommends that countries should define the categories of rights that are considered legitimate within the FFP legal and regulatory framework. The country specific strategy for FFP land administration should support the legal recognition of these categories of legitimate rights. A good example of such a flexible legal and regulatory framework is the Flexible Land Tenure Act in Namibia. See box on page 44.*

Since the middle of the last century, there has been a debate, particularly within the African context, about whether these communities should be individualized or whether it is better to strengthen communal tenure. Historically, this debate did not consider a mix of both individual and communal rights within a community landholding, but subsequently this has become more nuanced (see Mexico case study under Section 5.1). To provide land rights for all, there is an urgent need to provide written records of land rights to rural and urban people: male, female, social and administrative authorities. Often the state authority is in conflict with traditional authorities since, in many cases, the state has - de facto - no authority in these areas. Therefore, legitimate tenure rights need to be recognized in formal laws. The traditional authorities may be integrated into decentralized land registration systems and support the recording and registration of these legitimate rights. This approach requires co-management by the traditional/community and state authorities, with governments managing land use, or environmental protection, for example.

Further, it should not be forgotten that there is an "urban – rural interface". Many people living in urban slums still have their land rights in rural areas with customary traditions. This means that there is an occupation in the urban environment and a membership in a community or communal right in the rural environment. Both tenure types are normally considered to be legitimate.

The FFP approach is very well aligned to the continuum of land rights, see Figure 5.2, and can be implemented by applying the Social Tenure Domain Model (STDM) in the design of the legal and regulatory framework. This is explained in Section 5.2 on page 52. The security of tenure of people in non-registered areas relies on forms of tenure different from conventional forms. Most off-register rights and claims are based on social tenures.

The continuum of land rights includes rights that are documented as well as undocumented, formal as well as informal, accommodates individuals and groups, and is inclusive of pastoralists, slums and settlements that are legal as well as not legal (UN-Habitat/GLTN, 2008a). The continuum of land rights approach implies that a new, streamlined, affordable form of land recordings must be developed to record these different types of rights and link them to existing deeds and title systems. This linkage between pro-poor land recordation, deed-based registries or title registration is explained in Section 5.3.

#### Minimum Viable Product for the legal and regulatory framework

The MVP is a scrutiny and adaption of the existing legal and regulatory framework to support the recording of land rights using a spatial framework as detailed in Chapter 4, to recognize the range of legitimate rights occurring across the country and empower institutions to carry out these functions. This will clear many of the fundamental constraints for progress. It should be noted, though, that this does not exclude the possibility of recording legitimate rights locally in a way that will allow the recorded rights to be reviewed and integrated into the national records at a later stage.

The recognition of legitimate land rights is best expressed by inclusion in the national land policy and supported by provisions in the constitution and/or land-related legislation. However, FFP takes into account both undocumented tenure types for which a legal framework already exists, as well as undocumented tenure types, which can be brought into the formal system after the revision of legislation. This is explained in Section 5.1.

#### Land Administration Functions

A country's full legal and regulatory framework should cover all the land administration functions of land tenure, land value, land use and development as presented in Figure 2.1 on page 9.

**Land tenure** includes three key aspects to be supported by the legal and regulatory framework namely to recognize, record and review land rights:

- *"Recognize"* 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. The result of this process can be published in a National Tenure Atlas.
- *"Record"* means collecting data on evidence of land rights based on FFP approaches in land administration following the principles for building the spatial framework as presented in Chapter 4 above.
- *"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.

**Land value** is about the processes for valuation and taxation of land and properties. The systems for valuation and taxation vary throughout the world. In developed countries the value normally refers to the price most likely to be concluded by well-informed buyers and sellers of a property when it is available for purchase (UNECE, 2005). This means that value is not a fact, but an estimate of the likely price to be paid for land and property at a given time, and it depends on



Customary tenure areas, here in Mozambique, are often left outside the formal land administration system.  
Photo © Stig Enemark.

the type of market transaction and the motives and interests of the parties involved. The estimated values can then be used for taxation as a basis for financing of public services. Importantly, introduction of effective valuation and taxation systems requires sufficient and reliable land information – it requires a spatial framework to operate as explained in Chapter 4 above.

**Land-use planning** (“physical planning”) is the process whereby changes in the environment can be brought through formal processes of allocating resources, particularly land, in order to achieve maximum efficiency while respecting the nature of the environment and the welfare of community (UNECE, 1996). This process operates under a legal and institutional framework and follows defined steps, such as: reviewing and

understanding the existing environment; defining the problem that needs to be solved; determining alternative courses of action; evaluating the options for change; selecting an appropriate strategy after consultation with those affected; and implementing that strategy and monitoring its consequences. This implies that rights can be upgraded (converted) after review. Information is needed about land resources, infrastructure, population, and land rights, such as legal and traditional ownership; use rights for land, trees, grazing, forests, national parks, etc. Land information is needed during planning (together with other information, e.g. environment, infrastructure, population), implementation (interventions in private rights to dispose) and maintenance stages (as a basis for control of the use of land).

**Land development** usually implies land acquisition that can be organized in different ways. A private development entity may acquire land in the land market and making application to develop this land to appropriate authorities. Also, the government can behave as a private buyer or pre-emptive rights can be applied. Expropriation is also an option, but only under fair compensation. Land readjustment is a good alternative, possibly combined with land banking providing it is participatory, includes tenants and an appropriate financial model which relies on value sharing not just value capture. Enforcement during maintenance can be based on zoning and orders. Control options can be based on building and construction permits, land-use regulations permits, environmental permits, subsidy policies and fiscal measures. The land administration system provides: information to citizens on the legal status of land, including public orders; basic data for monitoring,

control and enforcement procedures; and information in the process of public acquisition of land, ultimately for expropriation purposes.

*While recognizing the importance of all four land administration functions, the primary focus of this chapter is on developing the legal and regulatory framework for supporting the recognition, recordation and protection of land rights (meaning tenure security and certainty) for all.*

This framework is founded on the following key principles:

- A flexible framework designed along administrative rather than judicial lines.
- A continuum of tenure rather than just individual ownership.
- Flexible recordation rather than only one register.
- Ensuring gender equity for land and property rights.

#### A Flexible Legal and Regulatory Framework in Namibia

A well-known example of a flexible legal and regulatory framework is the Flexible Land Tenure Act in Namibia. By 2030 the country wants to achieve integrated rural and urban development in which living conditions and social and economic opportunities are adequate for all. It is envisaged that 70 per cent of the population will be urbanized at that time. In social and economic developments the urban-rural linkage will be maintained (investments, retirement, holidays, cultural practices, inheritance). In the land reform agenda urban informality is not seen as an obstacle to development. A just and modern land registration system was created that contributes to economic growth and improves household welfare for the urban poor.

A 'starter title' is related to an area where only the outside boundary is defined; this can be part of an informal settlement, for example. Those areas are drawn on a community map and right holders are registered in the land registry office. A 'starter' title can be transferred and is devisable, but there is no legal connection to a specified spatial unit and the 'starter' title cannot be used as collateral. A 'landhold' title is based on individual boundaries, is adjudicated has a planning approval and is registered in the Land Registry Office. It can be transferred, is devisable and can be used as collateral. A 'freehold' title is based on a diagram prepared by a professional surveyor and deeds of transfer are recorded in the main deeds registers. Spatial planning results in 'starter' or freehold' titles. Given the advantages of the Flexible Land Tenure Act there are still some challenges in its implementation including further consideration on its related costs.

Source: Mandimika and Matthaei, 2014.



### 5.1 A FLEXIBLE FRAMEWORK DESIGNED ALONG ADMINISTRATIVE RATHER THAN JUDICIAL LINES

In most countries, the processes of securing land rights are organized in a distributed or decentralized environment. In many cases, the processes are judicial in nature and significant court time is involved. This has the impact of making the recording and registering of rights slow, non-transparent, cumbersome and expensive. This is a non-inclusive process and does not normally deliver adequate results as performance is low and security of tenure for all cannot be achieved.

The FFP land administration approach recommends that the activities of recording and registering rights should be conducted by administrative institutions under delegated authority, wherever possible. This will allow the amount of court time involved in recording and registering rights to be minimized, freeing up court time to focus on resolving land disputes.

#### FFP Process for Recognizing, Recording and Reviewing Land Rights

The processes of recording and registering land rights under the FFP approach is illustrated in Figure 5.1 and the predominantly administrative activities are described below.

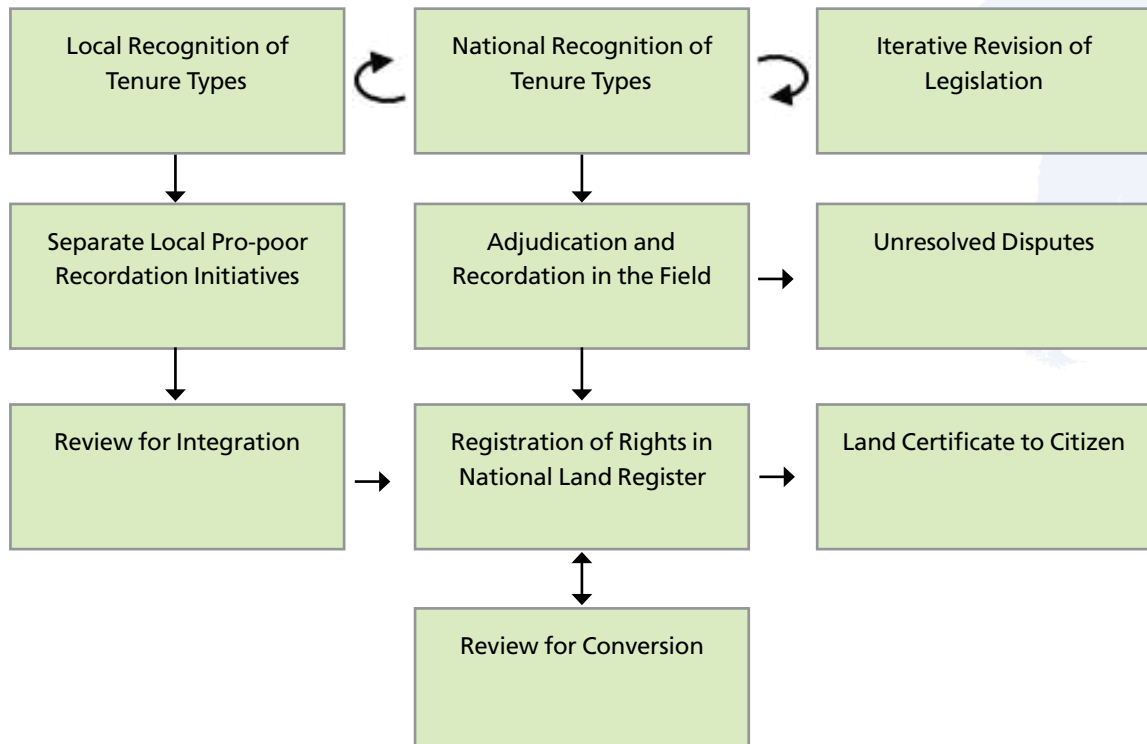
The FFP approach to land administration is aimed primarily at implementing national programmes at scale to deliver security of tenure for all. It is a pro-poor approach that recognizes and legalizes all legitimate rights. This requires political commitment, as witnessed in Rwanda, Ethiopia and other countries, to roll out these national programmes in short timeframes and at affordable costs. However, countries where this political

commitment lacks support may well build incrementally through the influence of local pro-poor recordation initiatives, which recognize and record legitimate rights in communities. These local initiatives may gain sufficient momentum and acknowledgement to trigger wider incremental change and eventually lead to national recognition with corresponding changes to the legal and regulatory framework. The local pro-poor recordation initiatives can therefore work in parallel with and be a supportive component of the national recordation process or act as a driver for change to help countries adopt the FFP land administration approach. The local pro-poor recordation process is explained in more details in Section 5.2 and 5.3 on pages 52 and 56 respectively while the FFP process is explained here in relation to Figure 5.1 by taking a national approach at the outset.

**National Recognition of Tenure Types.** Tenure rights are the means by which people are able to use and enjoy land, fisheries, forests and other natural resources. Societies have developed rules of tenure that regulate these rights (FAO, 2015).

A wide range of people, organizations and governments can hold tenure rights. People can hold rights as individuals, as married couples and as extended families. Organizations can include condominium and neighbourhood associations, communities, religious associations and business enterprises. Governments at central, regional and local levels can also hold rights.

A number of different types of rights can apply to a single spatial unit or to a portion of such a spatial unit. These rights can be an ownership right or a use right or where a usufruct applies. This spatial unit is where the owner or usufruct holder can exercise his or her right. A spatial unit can include the natural resources as well as buildings or other construction within the spatial unit.



**Figure 5.1: FFP process for recognizing, recording and reviewing land rights.**

Rights other than ownership can also include the rights to enter the spatial unit for a specific purpose, e.g. to install and maintain an electrical transmission line, to travel across the spatial unit, to use water from a well, to place communication infrastructure, etc.; and rights to take something from the spatial unit, e.g. firewood, gravel, sand or peat. These secondary rights are sometimes referred to as easements or servitudes.

Some types of rights are defined in formal law, with examples being public tenure rights (which are held by the state) and private tenure rights (which are held by private individuals and others). However, many legitimate rights have no legal status under a country's law. For example, customary tenure rights, where the collective and occasionally individual rights are created by custom, are usually not recognized in formal law, but

legal recognition is becoming more common. Informal tenure rights are often created spontaneously in informal settlements and are not recognized by formal law. However, the informal rights can be used as the basis for the creation of legally recognized rights where the law allows.

The objective of the FFP approach is to ensure security of tenure for all. Therefore, types of rights that are legally recognized within a country need to be increased to ensure complete coverage of the country. This process of including legitimate tenure types in the formal system through the revision of legislation is called national "recognition". For example, where communities with customary tenure are recognized as the legal owners of the land and other natural resources on behalf of their members, the areas owned collectively by such

a community can be identified as a spatial unit(s). The identification of the spatial units under the ownership of the communities can help them to protect their rights against encroachment by others. Also new forms of evidence on who holds the rights need to be recognized where the focus is on the necessary proofs of individuals, families or groups, rather than complete evidence.

Countries need to establish a consultative and participatory process for identifying which rights are legitimate. The VGGTs (paragraph 4.4) provide guidance on this process:

*Based on an examination of tenure rights in line with national law, states should provide legal recognition for legitimate tenure rights not currently protected by law. Policies and laws that ensure tenure rights should be non-discriminatory and gender sensitive. Consistent with the principles of consultation and participation of these guidelines, states should define, through widely publicized rules, the categories of rights that are considered legitimate. All forms of tenure should provide all persons with a degree of tenure security, which guarantees legal protection against forced evictions that are inconsistent with states' existing obligations under national and international law, and against harassment and other threats.*

The end result of this recognition process is a set of categories of legitimate rights officially agreed to within the country, which are legitimate under current legislation or proposed revised legislation. This will ensure that the FFP approach can record and register all rights across a country and create a truly national land administration solution. This process could be tied to the creation of a national digital atlas of tenure types (see Section 5.2 on page 52).

**Revision of Legislation to support Legitimate Rights.** Once the recognition process has been successfully completed through a consultative and participatory approach, the government agreed categories of legitimate rights will need to be protected by law. This will require changes to be made to the corresponding laws and regulations, and possibly the constitution, of the country. Furthermore, the introduction of FFP recordation approaches for the boundaries of spatial units and just necessary rather than complete proof about persons may well require that modifications be made to the corresponding laws and regulations. For example, in some countries the regulations mandate the use of specific surveying equipment, data quality specifications and complete evidence on persons such as citizenship, marriage, death and divorce certificates. These unnecessary constraints will have to be removed to accommodate flexibility under the FFP approach.



**Understanding the impact of tenure security on farm productivity. Kalangala District, Uganda. Photo © UN-Habitat/ John Gitau.**

Where these legal changes take a long time to implement then countries can still push ahead with the national FFP programme. There are a number of options:

- Pass an overarching law to provide legal status to legitimate rights covered the FFP land administration programme. The detailed land laws can then be updated at a later stage.
- The programme can schedule the recording of the legitimate rights to be recorded and legalized later in the programme;
- Issue provisional land certificates in areas of legitimate rights; or
- Incrementally provide legal status for legitimate rights through experience with bottom-up pro-poor recordation initiatives.

**Adjudication and recordation in the field.** The process of recording evidence of land rights in the field should follow recognized pro-poor recordation, participatory approaches and comprises three main elements of information: the **location** where the right can be enjoyed; the **nature of the right** such as the right to do what, when and how – including associated responsibilities and constraints; and the **person(s)** or body who holds the right.

Section 4.2 of the guide has described the FFP approach to recording the boundaries of the spatial units as well as the persons linked to these spatial units. At the end of this process, the owner or occupier of the spatial unit will receive a “piece of paper” with the unique identifier number of the spatial unit. This is taken to the land officer and the unique identifier number will link all information about the spatial unit using standardized forms. In countries where citizens’ official IDs are available, government will have completed the

identification of individuals and there is no need to integrate the process of person identification into this recording process. Otherwise, identification of people will be through the witness of community leaders.

Section 5.2 describes the Social Tenure Domain Model (STDM) recommended to model the complex social tenure relationships between people and land found within legitimate rights. These rights may overlap. Informal rights such as occupancy, adverse possession, tenancy, use rights (this can be formal as well), customary rights, indigenous tenure, etc. and the formal ones are recognized and managed in the FFP land administration system. This then enables the state to assess whether and to what extent these rights are legal or can be made legal over time.

Identification and adjudication is a vital part of this process and opportunities should be available for the local community to check and agree on the evidence of land rights collected – if possible on the same day as collection. The community normally “sits around the map”. In this social process, people determine that their own rights are correct and that there are no conflicting claims. Locally trained land officers guide this activity. This process of should be co-managed through the Traditional Authorities and community leaders and the formal governmental land institutions, wherever possible.

Early guidance should also be given on appropriate planning interventions linked to tenure security. These different interventions should not block tenure security but instead facilitate it, while strengthening the planning framework and detail over time (UN-Habitat/GLTN, 2015). This may also include issues such as the provision of service corridors for infrastructure facilities or allocation of state assets.

The adjudication and recordation process should, of course, take into account any existing local recordation initiatives, and these should form the start of the process and will enable the identification of any spatial or legal conflicts to be solved using the locally trained land officer as mediator.

The FFP approach should ensure that effective, local dispute resolution mechanisms attempt to resolve as many conflicting claims as possible. However, inevitably, there will be disputes that cannot be resolved locally and these will have to be considered through other mechanisms, and potentially the courts.

#### Registration of Rights in National Land Register.

Once the recorded and adjudicated rights are completed and have no known outstanding conflicting claims then rights can be registered in the National Land Register. The land administration authority can then issue evidence of registration to the citizens in the form of a certificate. This can take many forms, e.g. title or certificate of occupancy, depending on the right, its status and the underlying legal framework. This is the stage when the initial FFP approach process to register a right is complete. However, under the principles of the FFP approach, the right can be incrementally upgraded over time.

**Review for Conversion.** This activity is a due diligence process to determine whether an existing right in the national register meets a set of conditions to allow its security to be increased. The review process, for example, will investigate the procedure followed to create the right and determine if it is legal, extra-legal, legitimate or non-legitimate. The following Table 5.1 is used to explain this.

**TABLE 5.1: CONVERSION BETWEEN DIFFERENT KINDS OF TENURE (LAARAKKER, ET AL., 2014).**

	Legitimate	Non-legitimate
Legal	Law followed in letter and spirit; usually documented via titles	Law followed in letter but not in spirit; titles gotten via unethical processes
Extra legal	Societal and/or historical accepted access to land; no (official) documents	Criminal land access

Any outstanding claims by third parties may also be identified and investigated. New evidence may be available to strengthen the right or the accuracy of the boundary may be increased. If the review process concludes that the agreed conditions for change are met then the security of the right will be changed along the continuum of rights.

Another example of this review conversion process could involve an upgrade from a provisional to a full legal right. Some countries may initially only issue a provisional title until say 10 years have passed, allowing other possible claims on the rights to be made by third parties. At this stage, and with no conflicting claims, then full title can be granted.

#### Local Pro-Poor Recordation Initiatives

Although the objective of the FFP land administration approach is to have a country specific national FFP strategy that encompasses all land administration activities and all tenure types, the FFP approach also supports local pro-poor recordation activities that can be integrated into the FFP national land register.



Community mapping workshop in Ciudadela Sucre settlement in Soacha, Colombia. Photo © UN-Habitat/John Gitau.

Pro-poor recordation initiatives have a significant role in countries where there is a lack of political commitment or other constraints to recognize all legitimate rights. As well as providing local forms of security of tenure, the initiatives may also raise the profile of legitimate right holders and trigger incremental change at the national level. Wherever possible, local initiatives should coordinate with the national level to plan for future national recognition of the legitimate rights – and national government should provide guidance.

**Review for Integration.** This activity is to determine whether legitimate rights, recorded under local pro-poor recordation initiatives, meet a set of conditions that will allow their integration into the national land register.

This process may also trigger a review for change of legislation to accommodate and recognize the various local and social tenure types in the national register. This mutual interaction between the local recordation initiatives and the national approach for registration of tenure rights may act as a key driver for enabling consistent policies on change of legislation. The national recognition of tenure types is thus an ongoing journey

towards incorporating all legitimate tenure rights in the national register.

#### Experience from Practice on Integrating Communities and Individual Land Rights

Kenyan laws provide opportunities for communities to register as an official community. This allows the community to register their communal rights. In countries where often 80 per cent of the land is community owned and where the state has no authority, the question about the role of the state appears to be relevant. In Kenya, the option of co-management by customary and state authorities has been successfully implemented.

Similarly, in Mexico, the *ejido* system demonstrates that individual and communal rights can co-exist, in support of the implementation of the continuum of rights approach. The titles issued to the group of *ejidatarios* during the land reform era provided a shell to protect against external claims. Interestingly, most of the remaining forests in Mexico are located in *ejidos* providing ecological services to urban areas, most notably clean water and air.

### Mexico's Ejido System

Mexico's *ejido* system of land tenure has matured and endured for almost a century and is a good example of a system with mixed individual and community rights (Barnes et al., 2015). It emerged as part of the massive land reform programme following the Mexican revolution in 1920. Community land titles were issued in the name of peasant and indigenous community leaders and recorded in a special agrarian registry. The titles came with several restrictions: *ejido* land was inalienable (no land sales to outsiders); unencumberable (no mortgages); and not subject to adverse possession or prescription. By 1992, at the end of the land reform, over 30,000 *ejido* communities had been titled and registered. Today, more than half the area of Mexico is still held under *ejido* or community land tenure. The typical *ejido* has three types of land tenure: individual use rights; undivided shares for common-use areas; and private individual titles within the perimeter of the *ejido* - see figure below.

Subsequent constitutional and legal reforms of 1992 changed the *ejido* system to allow conversion to private individual property should the majority of the *ejidatarios* be in favour of this. Recent data indicates that only between 6 and 9 per cent of *ejidos* have opted for this conversion, mostly close to urban or tourist areas.

Major decisions are approved in a Community Assembly, comprised of all *ejidatarios*. The Ejidal Council acts as the executive arm of the *ejido* and a 3-person Vigilance Council ensures that the Ejidal Council and Assembly are carrying out their duties and obligations in accordance with the Agrarian Law. The Council maintains a written registry book containing all transactions. The National Agrarian Registry formally registers all land use rights transactions as well as certifying certain decisions made in the Assembly. Most transactions are free of charge to *ejidatarios*.



Source: Grenville Barnes.

## 5.2 A CONTINUUM OF TENURE RATHER THAN JUST INDIVIDUAL OWNERSHIP

Many legal systems in developing countries only focus on specific types of rights, for example, (private) ownership or a strong land-use right like leasehold. This is an impact of colonial history and legislation. Global land policy and national trends now focus on recognition and protection of social, customary and more informal land tenures.

The continuum of land rights (Figure 5.2) refers to the diversity of tenure arrangements in practice, encompassing both de facto (in fact) and de jure (in law) rights. While the rights in this range may not all enjoy the benefits of a country's formal administrative or legal recognition, social recognition might be high, providing the de facto rights of local legitimacy. A continuum of land rights can function when a land administration system includes information that caters for the whole spectrum of formal, informal and customary rights.

Each land right on the continuum provides different sets of rights and degrees of security and responsibility and enables different degrees of enforcement (UN-Habitat/GLTN, 2008a; FIG and GLTN, 2010). The continuum of land rights does not imply that all societies will or should necessarily develop into tenure systems based on individual ownership (freehold). Importantly, the continuum of land rights indicates that each step in the process can be formalized, with registered individual ownership (freehold) offering stronger protection, than at earlier stages, see also (Barry and Augustinus, 2015).

STDM is a pro-poor, participatory and affordable land tool for representing people to land relationships along the continuum of land rights. STDM can be implemented as a participatory enumeration. This is a survey method to gain better knowledge of the needs and priorities of a community, see (UN-Habitat/GLTN, 2010). This is about involving and engaging poor communities in one of the first steps of any participatory planning or upgrading initiative.

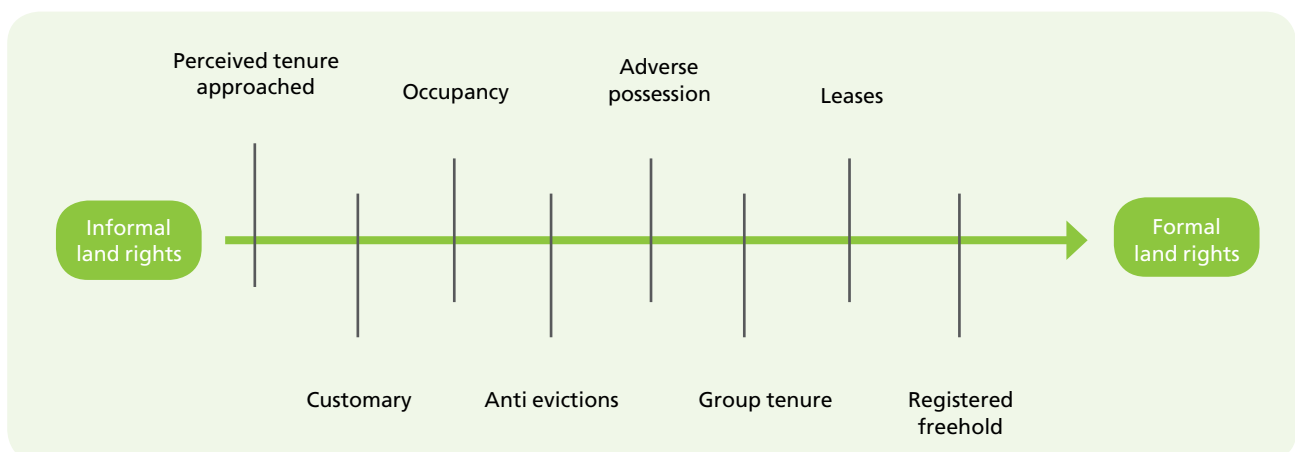
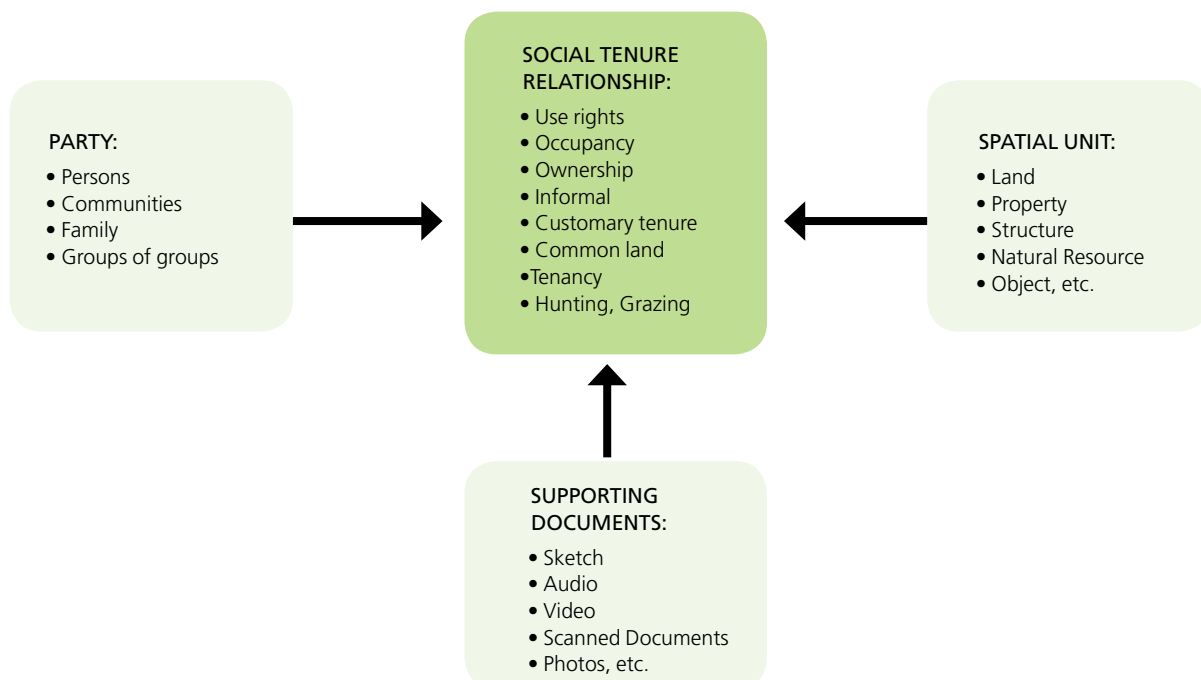


Figure 5.2: The continuum of land rights. (UN-Habitat/GLTN, 2008a).



The STDM (see Figure 5.3) is a concept that makes it possible to bring the social element into land administration (Augustinus and Lemmen, 2011):

- Recognizing informal tenure arrangements based on the continuum of land rights;
- Unpacking existing social tenures, by means of classifications and coding of land rights and inclusion of those tenure types in data collection and maintenance;
- Opening options for innovative and incremental approaches to improving tenure security by means of conversions;
- Bridging the gap between informal systems and formal systems that emphasize titles by means of standardized approaches allowing legal and technical interoperability between basic land recordation and formal registrations;
- Giving a snap-shot of the 'people-land' relationships at any given time; and
- Informing the land administration activities about the actual situation on the ground.



**Figure 5.3: The STDM conceptual model. This explains the interrelationship between parties, social tenure, and the spatial units supported by relevant documents. (UN-Habitat/GLTN, 2014b).**

### STDM Community Empowerment in Mashimoni, Nairobi

The Mashimoni informal settlement covers 9.5 ha and is located in the east of Nairobi. The site owned by the State was a former quarry and people have been squatting there since 1975. The densely populated slum faced serious problems such as fire, inadequate infrastructure and health issues. People were also threatened by eviction due to close proximity to a business centre with high associated land values. The community formed a Resident-Association in 2010 with the main focus on solving the land issue.

A first enumeration was organized in 2010 and the community then negotiated for the national government to hand over the land to the residents. The land was subsequently safeguarded through a cabinet resolution.

Community leaders helped to introduce STDM in 2011 and they use this tool for mapping and enumerations towards tenure regularization under the Kenya Informal Settlement Improvement Project (KISIP). Data on 'structures' ('slum houses') and 'users' was collected, linked, verified and digitized.

STDM has gathered evidence on land tenure and on the legitimacy of people to land relations in litigation and negotiation and helped to avoid evictions. Conflicts in cases of double or triple selling of structures have been reduced. Data has also been collected on utilities, sanitation and facilities to demonstrate the scale of problems. This has led to the installation of 75 toilets and supported negotiations to remove an open sewer.

STDM has empowered and enabled the community to have a say in planning issues and participation and transparency is encouraged. Electricity is now available across the slum and the community has a five-year improvement/development plan. This STDM project has been sustainable and has successfully built and empowered a slum community to significantly improve their environment and security of tenure. The Mashimoni experience has resulted in the broader usage of STDM under KISIP.

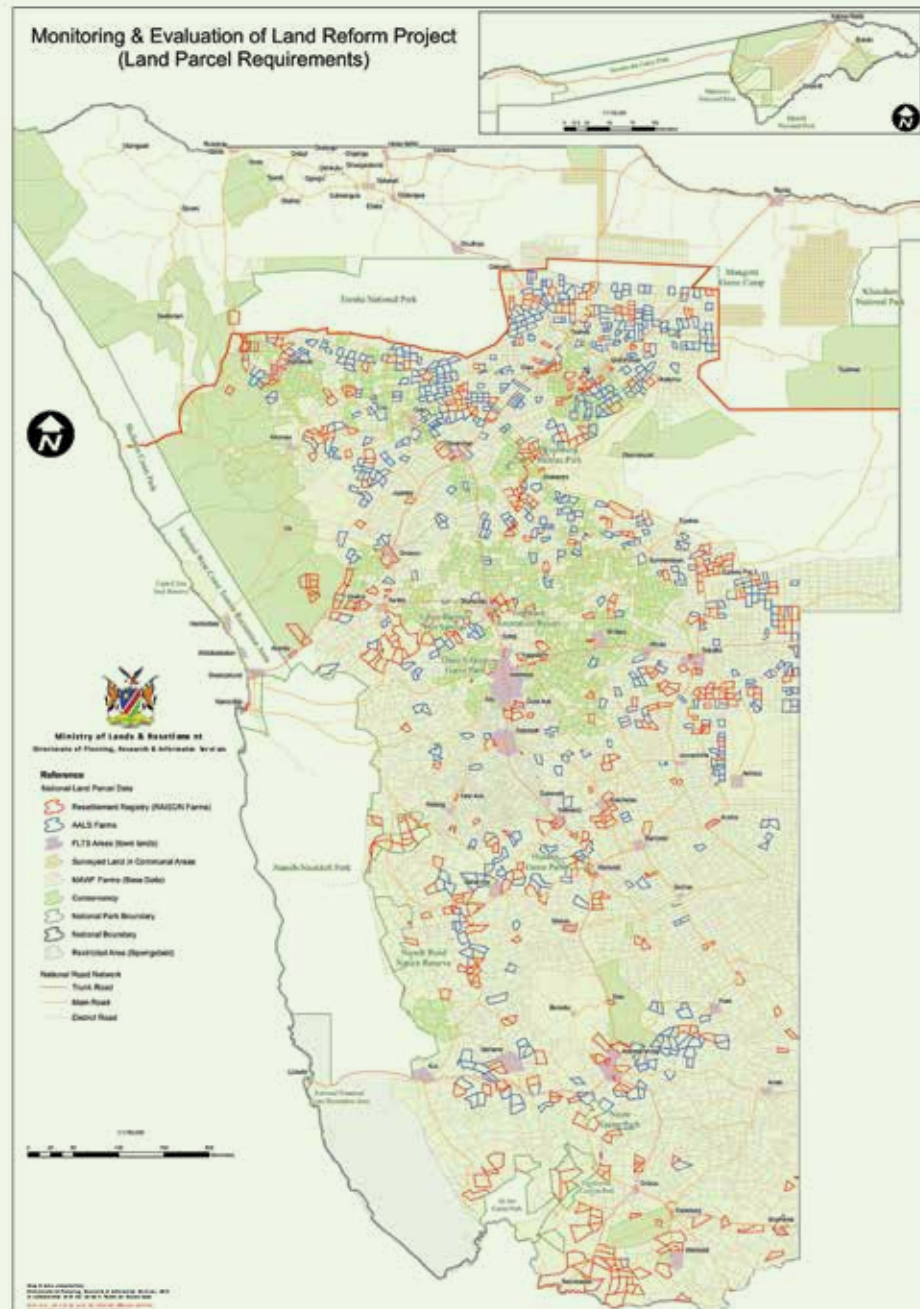


Source: Joseph Arthur, STDM Co-ordinator, Muungano Mashimoni Number Ten; Cyprian Seleballo and John Gitau, UN-Habitat/GLTN.

### A National Tenure Atlas

Implementation of the continuum approach at a national level requires a detailed typology (a complete categorization) of the various forms of tenures and their mapping. A complete overview is required of the tenure systems and land rights related to the areas affected. All formal and informal tenure categories and sub-categories should be identified and related to location. Also, land-use planning or other planning processes may apply restrictions or responsibilities to certain areas.

Different authorities have different responsibilities in the process of recognition, recording, registering and managing the various tenure types within different areas such as urban and rural. Therefore, at national level coordination is needed (Lemmen et al., 2015b; Saers et al., 2015). For this purpose, it is recommended that a National (digital) Tenure Atlas be developed 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 identify where land rights documentation needs to be undertaken, define zoning for



better management of natural resources, identify where a land management can exist and enable administration and coordination between state and customary authorities through co-

management. The boundaries of a territory of a tenure system can be labelled as fuzzy, visible or fixed. Those boundary labels should be included in the National Tenure Atlas.

Source: Ministry of Lands and Resettlement, Namibia.

### 5.3 FLEXIBLE RECORDATION RATHER THAN ONLY ONE REGISTER

The objective of the FFP approach is to develop a nationwide land administration system with special emphasis on providing security of tenure for all. The FFP approach, however, is pro-poor and also supports the building of locally based land recordation systems that can run in parallel with the nationwide strategy or as separate activities in support of local needs. The resulting recorded rights will then be managed in a local solution, but normally with no national legal standing. However, these recorded legitimate rights can subsequently be reviewed and integrated into the national register as explained in Figure 5.1 above. Land administration authorities should then provide guidance to stakeholders performing local recordation on what information and evidence is gathered during local recordation to ensure that the data can be easily reviewed and subsequently integrated into the national register.

Existing conventional land administration systems only take into account conventional legal forms of evidence and are parcel based. This means that they only cover a sub-set of all forms of land tenure. Globally there are many examples of informal settlement residents whose land use rights are not able to be integrated into a conventional land administration system. Therefore, a flexible approach is needed to include integration and interoperability of different kinds of land recordation of tenure types in the design to support of conversion of rights from one step on the tenure ladder to another.

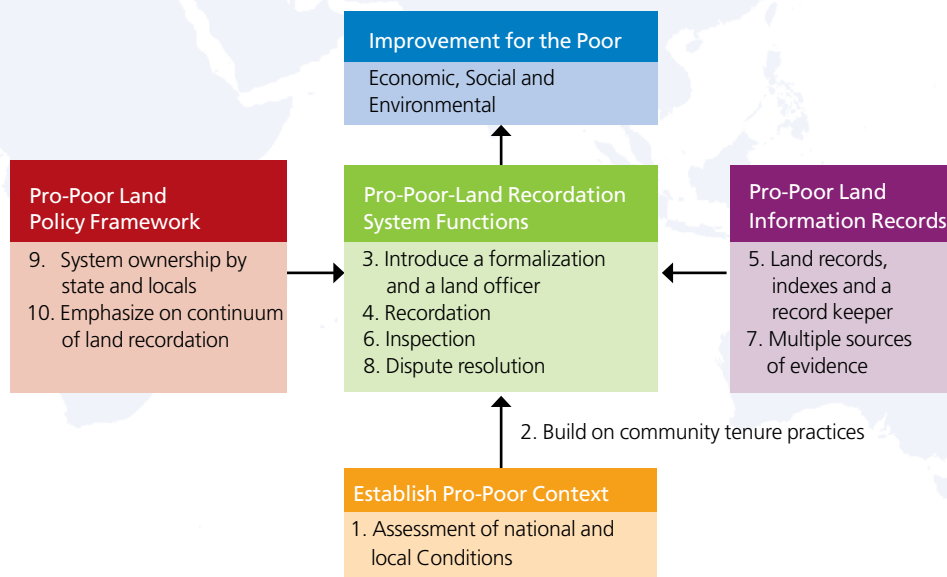
UN-Habitat/GLTN (2012b) has provided guidance for designing such a flexible approach. Designing a Land Records System for the Poor is the first attempt to fill the gaps in development of new forms of land recordation to assist the implementation of a continuum of land rights approach at scale. The system should build on

existing local approaches, where, in many situations, the social land tenure system includes elements that would form an integral part of a pro-poor system.

Land administration systems support tenure security, and deliver the information required to make land management work at scale. Without this land information then management of urban and rural development is simply not possible. This technical gap of information impacts access to safe water, sanitation, community facilities by the poor and contributes to unequal access to land, conflicts over land, land grabbing and the destruction of the environment. It also negatively affects quality of life and livelihoods. A land information system is essential to address these issues and contribute to increase security of tenure, particularly for the poor, for overall land management, and to make it possible for the system of land administration to extend to scale and cover the majority of a country. Therefore, a pro poor land recordation system is needed. In this regard, the UN-Habitat/GLTN approach as presented above is illustrated in Figure 5.4.

The pro-poor land recordation system can be seen as a subset of Williamson et al.'s (2010) more generic vision "The Land Management Paradigm" (see Figure 2.1). The same core elements are used as a basis for articulating the design elements of the pro-poor land recordation system. The paradigm reflects currently accepted global norms in land administration system design. Its generic nature provides a familiar, but flexible conceptual basis for developing a pro-poor design.

The paradigm suggests a country or community context should also be used to inform the design of an agreed land policy, subsequent land administration functions, and a supporting land information infrastructure. Strong relationships between these components should support the delivery of sustainability within a



**Figure 5.4: Ten design elements of the pro-poor land recordation system. (Zevenbergen et al., 2012).**

#### Ten Design Elements for a Pro Poor Land Recordation System (Adapted from Zevenbergen et al., 2012)

1. **Assessment of national and local conditions.** This concerns ascertaining government buy-in to the idea of a pro-poor land recordation system; assessment and with regard to accommodating a pro-poor approach to tenure security.
2. **Building on community social tenure practices.** Community rules for identifying leaders should be followed; leaders have knowledge and can act as witness. Not all communities have stable leaders.
3. **Introduction of a formalization process and a land officer.** The use of standardized forms should accommodate diversity and overlap in tenure arrangements and family relations. The land officer could also act as the land secretary to the communities' leaders.
4. **Recordation.** This is only possible if standardized forms are used by a land officer. The filled-in forms would be presented to the local records office at community level.
5. **Land recording, indexing and assigning a record keeper.** The record keeper will keep indexes of the forms and store them in an orderly fashion.
6. **Inspection.** The system should have buy-in from both the community and the state. The state should have regional or national inspection mobile units which travel to all the pro-poor systems to make inspections;
7. **Use of multiple sources of evidence.** Over time, recorded information is perceived as more credible relative to verbal information, and if earlier recorded information has priority over information that is recorded later.
8. **Dispute resolution.** Dispute-resolution mechanisms need to be put in place. Many communities have traditional, local or alternative dispute resolution mechanisms;
9. **System ownership by state and local community.** It is essential that the land recordation system be owned both by the local community and by the state through a co-management arrangement;
10. **Emphasize on a continuum of land recording.** There are links and overlaps between these elements – indeed many are sequential in implementation.

Adapted from Zevenbergen et al., 2012.

jurisdiction. This is important to ensure that the pro-poor system design lays a foundation for movement along the continuum of land rights, without having to jump out of one system into another – a common problem in the design of new forms of land tenure. The 10 special design elements or principles are considered necessary in the pro-poor recordation context. There are links and overlaps between these elements – indeed many are sequential in implementation.

The recordation system should be affordable for the state and its citizens, particularly the poor to enable the country to scale up the system. It also needs to be transparent, accessible and equitable to ensure delivery to the poor. The system has to deal with complex, layered rights. Next to formal tenures, it needs to take care of customary and informal systems, as well as secondary rights. The system should build on social tenures rather than strict paper trails. It is important that the system is simple, quick and inexpensive and avoids costly experts and fees. The STDM conceptual model meets those criteria.

The land recordation system should be physically close to the people to improve record accuracy (updating, conversion), to ensure ease of access and to improve land management and planning. The pro-poor land records' office should not be a totally independent entity, but ideally should be embedded in the larger public administration structure. The system has to deliver preventative justice by having land records that contain objective information that clarifies the rights and contractual relations, and limits the need to go court. The system should build on co-management of pro-poor land records, including identifying witnesses, creating evidence, building the currency and legitimacy of land records. Strong checks and balances are needed to protect vulnerable groups.

New supporting roles can be introduced in order to organize participatory approaches. The community leader brings knowledge in the categorization of rights and the area where those rights apply. The filling of standard forms for administrative attributes can be supported by trained local staff while maintaining a neutral position. It is important that mechanisms be in place to guarantee proper link between the non-spatial attributes (names, rights) and the spatial units where those attributes apply; this is a task for the trained local staff – also responsible for drawing the boundaries on the orthophoto or aerial imagery. An appointed local record keeper takes care of recordation and publication and a social authority should act as classifier and manager of the data collection process and maintenance of the records.

As mentioned above, the land administration authorities should provide guidance for undertaking the local recordation in order to facilitate easy integration into the national register at a later stage. This should also facilitate the use of locally collected data and other forms of geospatial information as means for reporting on the progress in relation to achieving the SDGs as presented in chapter 2 above.

### Safeguarding existing rights

Security of tenure can only be fully enjoyed when the land rights are protected and safeguarded by the state. This can be seen in the light of Article 17 in the Universal Declaration of Human Rights (UDHR) saying “Everyone has the right to own property alone as well as in association with others” and, additionally, “No one shall be arbitrarily deprived of his property”. With regard to immovable (land) property, this global norm can be operationalized in various ways. In many countries throughout the world, such safeguarding is protected in the constitution.

Safeguarding of property and land rights relates especially to situations of land acquisition whether carried out through voluntary agreements or through compulsory means (expropriation) to secure land delivery for development. In this regard, there is a need for consistent, transparent and efficient legislation and procedures, and clear rules for inclusion of the parties involved and for determination of adequate compensation, which ensures that those displaced are able to re-establish their lives and livelihoods in a proper manner. Good governance principles should always be applied to undertaking the processes of land acquisition whether they are based on compulsory means or voluntary agreements. Processes must be efficient, fair and legitimate, and ensure that all rights are addressed, including informal rights and the rights of the poor and vulnerable (FIG, 2010).

#### 5.4 ENSURING GENDER EQUITY FOR LAND AND PROPERTY RIGHTS

Despite progress on women's rights, rights to land and secure tenure are not enjoyed equally in many parts of the world. This goes against international human rights and impacts negatively on households and the economy.



Garden preparation on communal land in Luhonga, North Kivu Province, DRC. Photo © UN-Habitat/Christol Paluku.

However, gender issues related to land are complicated, involving sensitive social and cultural territories and challenging deeply rooted power structures. At the same time, we know that for a land tool to be effective, it needs to go beyond a technical lens and consider social dimensions (UN-Habitat/GLTN, 2008b).

Gender equity is a universal issue. The VGGTs (paragraph 3B.4) provide guidance on this issue related to governance of tenure:

*Ensure the equal right of women and men to the enjoyment of human rights, while acknowledging differences between women and men and taking specific measures aimed at accelerating de facto equality when necessary. States should ensure that women and girls have equal rights and access to land, fisheries and forests independent of their civil and marital status.*

Many women are disadvantaged: by both poverty and by gender. Despite being half the world's population, two thirds of the world's poor are women. In many places, national laws, social customs and patriarchal tenure systems prevent many from holding rights to land. Women often rely on their male relatives for access to land. If their relationship with the man breaks down, if they get divorced, if their husband dies, or if the male landowner decides to use the land in another way, women find themselves with no land, and no way to support themselves. Women's access to land needs first and foremost to be seen as a universal human right, independent of any other arguments in favour of it (UN-Habitat/GLTN, 2012a).

Land tools should not just benefit the poor; they must also improve the situation of women. To make sure that land tools do not suffer from gender-blindness, GLTN developed a set of gender evaluation criteria (UN-Habitat/GLTN, 2008b).

Capacity development, organization and empowerment of women and men to use, access and benefit from the tool	Is the information clear to and does it empower both women and men to utilize the tool, and to know their rights related to thos tool?	Information is available in at least x different forms (such as written, radio, etc.) and in local languages for different stakeholders
Legal and institutional considerations in regard to women and men's access to land	Does the tool provide gender responsive dispute resolution?	Land administration and management systems have dispute resolution mechanisms built in that are available to both women and men
Social and cultural considerations in regard to women and men's access to land.	Does the tool take into consideration statutory and customary laws and practices affecting women's land rights?	Consultations to provide (x%) attendance from agreed (representative) groups

**Figure 5.5: The Gender Evaluation Criteria. (UN-Habitat/GLTN, 2008b).**

These can be used to check whether land tools incorporate gender issues, and to show how they can be changed. They form a flexible framework that can be adapted to a wide range of different situations. Meeting criteria can be visualized in the National Tenure Atlas - see Section 5.2 above.

Improving the rights to land of women and other marginalized groups has many other benefits, just as it has for men. Land rights enable women to invest in improvements such as better housing or irrigation) without fear of losing them. Land rights may also enable women to use the land to get credit, giving them more money to invest in land, property and businesses. Women become less dependent on men, and their social and economic status improves. As landholders, they are empowered to take part in making decisions in the household and the community. They become recognized as active agents in the development of their communities rather than as passive recipients of such programmes.

Women's access to land can be organized by registration or recordation of shares in rights. Women shares in land rights or land use rights should always be recorded in the land register, e.g. by using the STDM tool.

#### Other types of inequality and vulnerable groups

Inequality between men and women is a major form of discrimination, but it is not the only one. Inequality in land rights also relates to discrimination against Indigenous Peoples and against younger and older people. These vulnerable groups face a range of challenges with regard to rights in land.

Lands, territories and resources are of spiritual, social, cultural, economic, and political significance to Indigenous Peoples and communities are inextricably linked to their identity and continued survival. Indigenous peoples have advocated for recognition of the right to self-determination and rights to own, conserve and manage their territories, lands and resources (UN-Habitat/GLTN, 2011).



With regard to younger and older people they face considerable obstacles in accessing land in both formal and customary systems. Land laws, policies and tools focus almost exclusively on adults and tend to ignore the rights of and development needs of the majority of the world's population – children and young people, as well the elderly (UN-Habitat/GLTN, 2012a).

These issues are increasingly addressed by providing guidance for policymakers at national, regional and local level who are responsible for promoting access to land and security of tenure for vulnerable groups within a human rights framework.

**TABLE 5.2: PRINCIPLES, ACTION AND OUTCOME FOR BUILDING THE LEGAL AND REGULATORY FRAMEWORK.**

Building the legal and regulatory framework		
Principles	Action	Outcome
<b>1. A framework designed along administrative rather than judicial lines</b>	1.1 Enshrine the FFP approach in law to allow for flexible recordation of land tenure.	A structure for new legal & regulatory framework.
	1.2 Introduce the process of recognition of various kinds of tenure.	Agreed tenure types to be recognized in legalization.
	1.3 Introduce the process of data recording.	Set of regulations to guide data recording.
	1.4. Introduce the process of reviewing for conversion of tenure types.	Set of regulations to manage conversion and recognition of agreed tenure types.
<b>2. A continuum of tenure rather than just individual ownership</b>	2.1 Accept the Continuum of land rights.	Enable recordation of legal as well as social tenures.
	2.2 Adopt the STDN Conceptual Model.	Set of regulations to capture and record the various people to land relationships.
	2.3 Establish a National Tenure Atlas.	National Tenure Atlas showing the areas of different tenure types.
<b>3. Flexible recordation rather than only one register</b>	3.1 Adopt a flexible approach to land recordation.	Enable national as well as local recordation of the various tenure types.
	3.2 Introduce a pro-poor land recordation system.	A set of regulations for the pro-poor land recordation functions.
	3.3 Ensure safeguarding of existing land rights.	A set of regulations to safeguard land rights against losses.
<b>4. Ensuring gender equity for rights in land</b>	4.1 Adopt a gender equity approach to land rights.	Gender sensitive legal and regulatory framework.
	4.2 Ensure that gender equity principles are considered throughout the land tenure field.	All land tenure domain processes reflect gender equity.

### FREQUENTLY ASKED QUESTIONS

#### **1. Will it be possible to manage the variety of tenure types under the continuum of land rights?**

In Namibia, a new community tenure type was created to provide security of tenure for a community without the requirement to record the individual spatial units within the community boundary. Each country will have a finite set of tenure types to be supported by the FFP land administration approach and the STDM model used with the FFP approach can accommodate these tenure types. However, due to the dynamics that characterize social tenure, it is recommended that the Namibian approach be initially adopted to secure the boundary of the communities that have a social tenure regime. If required, then individual spatial units can be recorded incrementally over time.

#### **2. What is the use of pro-poor recordation systems if they do not have any legal basis?**

The FFP approach is designed to include integration and interoperability of different land registers in the design to support the conversion of rights from one step on the tenure ladder to another. This allows FFP land administration systems to go to scale and include types of social tenure common among their populations. Therefore, a pro-poor land recordation system is needed to support the recording of these social tenure types and integration into the FFP land administration system.

#### **3. Is gender equity sufficiently embedded in the FFP approach?**

Policy makers need to recognize that legal pluralism creates complexities in land reforms and administrations as well as discrepancies between constitutional, statutory and customary law. These will be addressed when reforming the legal and regulatory framework to support the FFP land administration approach to ensure that women's rights to land are protected and access improved. Gender equality is a fundamental principle of FFP land administration.

## 6. BUILDING THE INSTITUTIONAL FRAMEWORK

### Current Institutional Arrangements

The institutional framework in support of the FFP approach relates to good land governance, policy frameworks, institutional arrangements, organizational structures, deploying resources locally, partnerships, distribution of responsibilities, and establishing efficient, accountable government workflows for making the systems operational. The scope of the institutional framework covers functions for land information management, land tenure, land value, land use control and development supporting efficient land markets, based on spatial planning and land-use planning. In addition, these land institutions need to coordinate with other related institutions.

Government institutions in the land sector have evolved incrementally over many years. This has typically resulted in a highly fragmented set of land institutions where overlaps in responsibilities and inconsistencies in their associated legal and regulatory frameworks are common. The land tenure system adopted in a country also shapes the institutions. Legal based systems, for example, will inevitably involve the legal institutions in many core functions. However, politics ultimately dictates the institutional arrangements.

This fragmentation of institutions causes problems in the delivery of integrated services to customers. For example, the separation of land registration and cadastral services across two institutions makes the engagement with the citizen complex and can lead to inconsistencies in land information if data maintenance is not managed effectively and synchronized. Many countries also tend to separate land tenure rights from land-use opportunities, thereby undermining their



**A view of Medellín's slums and the innovative cable car on the Aburrá valley in Colombia. Photo © UN-Habitat/A.Padrós.**

capacity to link planning and land-use controls with land values and the operation of the land market. These distributed responsibilities also lead to inefficiencies and high costs since each institution has considerable overheads in core functions, such as finances, human resources and ICT, which cannot be shared easily across separate institutions.

Effective engagement with customers is at the heart of success for these service-oriented land institutions. Experience indicates that where access to the land administration institutions is difficult then citizens are less likely to notify the authorities of change, e.g. inheritance, and the land information quickly becomes out-of-date. Photo 6.1 illustrates the difficulties associated with poorly managed paper based systems.

Institutions have to be sustainable and capable of delivering and maintaining FFP solutions that are quickly scalable to the national level. Many institutions have not forged partnerships, especially with the private sector, to accelerate the implementation.

The journey to a modern land administration institutional framework involves considerable cultural change. This has to be sensitively managed and should be incrementally introduced to provide time for the institutions and customers to absorb significant change. The guide recommends that the country specific strategy for FFP land administration should identify and define a starting point for the institutional framework to initially support the FFP approach. This is the Minimum Viable Product principle that runs across the FFP approach. Over time, the institutional framework can be strengthened through a number of iterations, as new demands are placed on the institutions as the national FFP land administration solution rolls out. Each country's starting point will be different. For some countries, institutional reform would be considered too onerous and difficult to achieve at the start. So an approach to join-up institutions through information sharing and the delivery of integrated services may be more appropriate. Other countries may be in the process of formulating their National Land Policies and would prefer to complete this policy framework before starting the FFP approach. Other countries will see a national land policy as aspirational and longer term.

The institutional framework is not just about government. The FFP approach needs an inclusive set of partners to achieve security of tenure for all. This will include the private sector, civil society and importantly the customary authorities that can govern significant areas in developing countries.

The chapter presents a range of approaches to improving institutional frameworks and making the institutions more capable of supporting the FFP approach. These recommendations have been derived from best practice in improving land administration

institutions over the past two decades. They can be considered institutional building blocks to support countries in determining their institutional framework starting point and on-going roadmap of improvements.

The chapter is structured around the application of the four key FFP principles for building the institutional framework as outlined in chapter 3 above:

- Good land governance rather than bureaucratic barriers
- Integrated institutional framework rather than sectorial silos
- Flexible ICT approach rather than high-end technology solutions
- Transparent land information with easy and affordable access for all

These four principles are elaborated below while keeping in mind that the three framework (spatial, legal and institutional) are interrelated and mutually reinforcing.

### 6.1 GOOD LAND GOVERNANCE RATHER THAN BUREAUCRATIC BARRIERS

Features of good governance include accountability, political stability, government effectiveness, regulatory quality and rule of law, as well as control of corruption. Good governance means that government is well managed, inclusive, and results in desirable outcomes. The principles of good governance can be made operational through equity, efficiency, transparency, accountability, sustainability, subsidiarity, civic engagement and security. Governance can be poor if government is incorruptible but tyrannical, or is democratic yet incompetent and ineffective.

Land governance cannot be separated from governance of other sectors. Working to achieve higher standards of land administration is one way in which a dysfunctional society can improve its governance. Improvements in land governance can help realize a society's commitment to democracy, the rule of law and human rights.

Features of good land governance include (FAO, 2007):

- The legitimacy of land institutions and land administrators is widely recognized by citizens;
- Land institutions serve all citizens, including the weak as well as the strong;
- Land institutions provide services that respond to the needs of their customers, e.g. in the nature of the services and accessibility to them;
- The results of the services are consistent, predictable and impartial;
- The services are provided efficiently, effectively and competently;
- The services are provided with integrity, transparency and accountability; and
- The services are sustainable and locally responsive.

Efficient land administration requires input from of a number of professional services. Some professionals, such as lawyers and accountants, are found in other areas of an economy; others such as surveyors and valuers are specialists who operate exclusively within land administration. Professionalism means considerable discretion and judgment. For example, valuers have discretion as to which land parcels are selected as comparables for determining market prices and what adjustments should be made. Close supervision of their work is difficult and costly. Therefore, reliance has normally been placed on professionals conforming to a code of ethics and being self-regulated.

Good land governance is not an absolute condition. Rather, there is a continuum between weak and good governance. This implies that it should be possible to devise ways to measure the governance of a country and to compare it to that of other countries. Evaluation frameworks and indicators, such as the World Bank's Land Governance Assessment Framework, allow the trends in governance within a country to be observed over time.

## Responsible Governance of Tenure

The Committee on World Food Security formally endorsed the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGTs) (FAO, 2012). The Committee on World Food Security's VGGTs are the result of an unprecedented negotiation process, chaired by the United States that featured broad consultation and participation by 96 national governments, more than 25 civil society organizations, the private sector, non-profits and farmers' associations over almost three years.

The VGGTs are an international "soft law instrument" that represent a global consensus on internationally accepted principles and standards for responsible practices that can assist countries in establishing laws and policies that better govern land, fisheries and forests tenure rights. The VGGTs aim to secure tenure rights and equitable access to land as a means of eradicating hunger and poverty, supporting sustainable development and enhancing the environment. The VGGTs thereby place tenure rights in the context of human rights, such as the right to adequate food and housing. With the help of the VGGTs a variety of actors can determine whether their proposed actions and the actions of others constitute acceptable practices. The impact of the VGGTs is across society.



Women gathering firewood in a forest. Kenya. Photo © UN-Habitat/ Danilo Antonio.

In accordance with the general principles of the VGGTs, states should:

- **Recognize and respect** all legitimate tenure rights and the people who hold them;
- **Safeguard** legitimate tenure rights against threats;
- **Promote and facilitate** the enjoyment of legitimate tenure rights;
- **Provide access** to justice when tenure rights are infringed upon; and
- **Prevent** tenure disputes, violent conflicts and opportunities for corruption.

Non-state actors (including businesses) have a responsibility to respect human rights and legitimate tenure rights. The principles of implementation include: human dignity; non-discrimination; equity and justice; gender equity; holistic and sustainable approaches; consultation and participation; rule of law; transparency; accountability; and continuous improvement. The VGGTs

recognize that women, who are already socially and economically marginalized, are particularly vulnerable when tenure governance is weak. One of the principles the VGGTs are founded on is gender equality and gender issues are mainstreamed and addressed throughout the VGGTs. It is also to be noted that VGGTs do not only apply to rural areas, the VGGTs' principles also apply to urban and peri-urban areas (Wehrmann and Antonio, 2015).

#### Good Land Governance

It is recommended that countries assess and baseline their current land governance practices to identify and prioritize areas for improvement. World Bank's Land Governance Assessment Framework provides an excellent process of evaluation. The quality of land governance should be regularly monitored to measure the transition from weak to good land governance and to update priorities within the land governance improvement programme.

The national land policy of a country determines the political priorities on land and natural resources. The result of the assessment of land governance should be compared with the national land policy to determine priorities for improvement to land governance. A land governance improvement programme can then be formulated.

## 6.2 INTEGRATED INSTITUTIONAL FRAMEWORK RATHER THAN SECTORIAL SILOS

Governments typically manage their land and natural resource assets in silos with limited interaction and coordination across these silos. Much greater coordination and collaboration is required across the land sector to integrate the management of land and implement more effective FFP land administration.

### Integrated Land Management

**Sound land management.** This requires operational processes for implementing land policies in comprehensive and sustainable ways. The four functions of land tenure, land value, land use and land development interact to ensure proper management of rights, restrictions and responsibilities of property, land and natural resources.

In order to implement the rules and prescriptions promulgated in the land laws, the government assigns mandates within the public administration with regard to the tasks to be carried out. This includes policies on centralization/decentralization, public/private sector roles, customer orientation, public participation, accountability, liability and good governance in general. In order to exert the given mandate, the organizations have to define their business objectives, work processes, ICT policy, quality management procedures and their relationships with other organizations. This allocation of

mandates should reflect the integrated and sustainable approach argued above.

Clear descriptions of work processes, in terms of activities, requirements and responsibilities are important for having good control of the organization's performance. This is the basis for monitoring and accountability. At the same time, a clear description offers opportunities to identify and remove inefficiencies, especially when introducing major change in business processes around the FFP approach. Collaboration across institutions is essential to deliver joined-up services to the customer and this must be supported by a shared information infrastructure and associated agreements – a National Spatial Data Infrastructure (NSDI).

**State and public land management.** The implementation of land administration solutions is conventionally driven by the need to support land markets and therefore normally has an initial focus on administering private land and properties. However, land and natural resources need to be managed as a whole and this requires the usually considerable state and public land holdings to be effectively managed.

The administration and management of state and public land within a country are usually assigned to ministries to support the delivery of government programmes. These organizations are commonly referred to as "custodians" and should be regulated by an oversight body to ensure that land is managed throughout its life cycle in a sustainable and financially responsible manner. This will underpin more cost-effective and efficient delivery of government programmes. The regulatory oversight body should be responsible for creating and managing a national state and public land inventory that is used to keep the government and citizens informed about the size and major components of its land inventory. The body should also ensure that

each of the custodian ministries introduces monitoring and reporting on issues such as adherence to policy and standards; performance relative to obligations; coherent management framework; information managed effectively and made available; and availability of organizational capacity to manage land transactions and the establishment of other land rights, restrictions and responsibilities.

A good international example of such an oversight body is the Treasury Board in Canada (<http://www.tbs-sct.gc.ca/dfrp-rbif/home-accueil-eng.aspx>) that manages the real property system for the federal government. This integrates data from 68 custodian organizations and includes over 20,000 owned and leased properties and around 40 million hectares of land. This inventory of federal real property can be freely accessed online using a variety of search criteria.

**Land-use management & development control.** Rights to land and property also include the right of use. However, the right to use may be limited through public land-use regulations and restrictions, sectoral land-use provisions, and various kinds of private land-use regulations such as easements, covenants, etc. Many land-use rights are in fact restrictions that control the possible future use of the land (Enemark and McLaren, 2008).

Land-use planning and restrictions are increasingly important as a means to ensure the effective management of land-use, to provide infrastructure and services, to protect and improve the urban and rural environment, to prevent pollution, to safeguard natural resources and to pursue sustainable development. Planning and regulation of land activities cut cross tenures and the land rights they support.

Planning systems also vary considerably throughout the world. They are based on geographical conditions and administrative and cultural development. However, an effective planning system should be able to implement current land-use policies through efficient means of land-use control. This also involves public participation that should serve as a means to create a broader awareness and understanding of the need for planning regulations and enable a dialogue between government and citizens around the management of natural resources and the total urban and rural environment. Eventually, this dialogue should legitimize the local political decision making.

Specific land policies are laid down in the sectoral land laws within areas such as agriculture, forestry, housing, natural resources, environmental protection, water supply, heritage, etc. These laws identify the objectives within the various areas and the institutional arrangements to achieve them through permit procedures etc. The various areas produce sectoral programmes that include the collection of relevant information for decision making. These programmes feed into the comprehensive spatial planning carried out at national, state/regional and local level.

The FFP spatial framework is a combination of spatial units and imagery and provides an excellent, multi-purpose framework to be used across all land administration functions, including land-use management & development control. This facilitates greater coordination across the land administration functions.

### A National Land Policy

Land policies in most developing countries are currently fragmented across a range of land management sub-sectors, such as property rights, tourism, agriculture





**One-Stop-Shop land transactions in Ulaanbaatar, Mongolia. Photo @ Stig Enemark.**

and forestry, and each minister believes that they have responsibility for land policy. Consequently, there is no overarching national land policy that provides a framework to guide and add cohesion to the underlying sub-sector policies. A national land policy is considered important and needs to be considered and formulated at some stage along the journey of change in implementing FFP land administration; it is not considered a prerequisite. It identifies what a government wishes to achieve using land as a resource and what access and rights people will have. The policy coordinates and aligns the various existing and future policies relating to land to more fully achieve the government's overall policy objectives.

Formulating a national land policy is inherently a highly collaborative and transparent process and must include the private sector and civil society. It can also be very politically sensitive and this can cause delays, as has happened in Kenya. The process will require access to comprehensive information about land and must consider input from a wide range of land management sectors and associated issues.

The African Land Policy Initiative (LPI) provides excellent guidelines for formulating national land policies (UNECA/LPI, 2011), and good examples can be found in sub-Saharan African countries such as: Kenya, Uganda, Tanzania, Ghana, and others. Once the policy has been formulated, the policies and land management strategies for land sub-sectors, such as forestry, agriculture and water management will have to be created/updated to ensure alignment with the overall land policy framework. The outcome should be a comprehensive policy document clarifying the legal, organizational and technological frameworks, and providing, guidance and support for the governance and management of land issues.

### Organizational Structure

**Institutional coordination.** Land administration and management in most countries is characterized by the fragmentation of responsibilities across a wide range of land institutions with little monitoring and regulation of their land activities. This laissez faire approach is contrary to international good practice

that is increasingly integrating land administration and management activities to achieve a more harmonized approach to managing land. This approach has resulted in more integrated services, reduced overheads through shared services, more sustainable organizations and has delivered much improved services to their customers.

However, full institutional integration is usually time consuming and is not always possible due to different political economies. And it is not necessary in the creation of one-stop-shops and joined-up services – see Photo 6.2. All that is required is to co-locate offices of the various land agencies, link their information systems, design integrated business processes and sign service level agreements. Therefore, institutional reform may be best achieved incrementally through a series of transition steps while transparency and accountability must be ensured throughout. Shared, collaborative working helps political change to permeate to the operational level.

**Decentralization.** The process of decentralization is defined broadly as the transfer of public authority, responsibility, resources, and personnel from the national level to sub-national jurisdictions; intermediate and local governments. Decentralization can be distinguished from “deconcentration”, which is defined as the mere relocation of executing agencies to the local level with responsibility and power remaining at the centre. There is no standard model of decentralization and its implementation varies considerably from country to country. However, there are three distinct aspects to decentralization: the transfer of political, administrative and fiscal responsibilities. From a citizen perspective, the main benefits of implementing decentralization are:

- Decisions taken closest to a local constituency normally reflect the preferences of citizens, especially the poor. As a result, local governments are more

likely to implement a poverty policy, for example, through community participation and social inclusion;

- A better match of government expenditures against local priorities, and local/community based tenure systems as discussed in chapter 5.
- Greater political participation and government accountability; more responsiveness of public policies and service delivery to local needs; and
- Potentially greater social involvement in decision making that is linked to accountability for financial, social and environmental consequences, leading to more effective sustainable development.

A key characteristic of the FFP approach to implementing land administration is flexibility to adapt to local conditions. Therefore, institutions delivering these services need to understand and be sensitive to local conditions and build local partnerships (UN-Habitat, 2004). This is best achieved through the decentralization of the land administration institution or devolving responsibilities to institutions that are represented locally, e.g. local government or private sector.

To make decentralization work effectively, a coherent set of rules must regulate the responsibilities, functions, quality of services, resources and relationships of the different levels of government. Decentralization requires a strong central entity to monitor and regulate, to provide an overall framework, to manage the re-allocation of responsibilities and resources in a predictable and transparent way, and to assist local institutions build capacity, especially in the early stages. Therefore, national governments and central line ministries must retain important policy, regulatory and supervisory roles. See the case study on Indonesia for an example where decentralization of land affairs was transferred to the local government level.

## Decentralization in Indonesia

The BPN (the national land agency) has offices in all the local government areas. It is organized through a national law and corresponding regulations, but operation of offices is often more localized than according to these national protocols. The capacity of the national government in national affairs has always reflected the political controls. Up until 1998, under General Suharto, control of land affairs was under the president, with strong Jakarta centralization. In this regime, the land included in the register was only a tiny proportion. Under the next president, B.J. Habibie, decentralization was started with the devolution of centralist power towards local governments. This process has continued and now even land affairs are increasingly decentralized. Mobile offices provide good outreach to clients.

The presidential and centralist focus in the last decade was based on rewriting the Basic Land Law, especially to take it from its agrarian focus towards recognition that high value land and national needs required the law to service industrial, commercial, public and other uses. The country also needed to tackle the mass conversion of small individual farms to industrialized agricultural production.

Despite this devolution of land affairs, there are still a number of challenges, including: indigenous land uses are outside the formal system despite their "recognition" by the law; the tenures relate both to the particular land use and the type of owner, requiring land transactions to involve bureaucratic approvals of change of use and owner type; and the concept of land is rather unclear since it is derived from use of land surface for survival crops. The law and administrative systems are permeated by a strong nationalism that is leading Indonesia towards embedding local uniqueness rather than moving with global trends, such as protection of indigenous land, open and transparent land markets, and release of land capital for development. The weakness of land rights also allows massive resource stripping; forest tenures cover 70 per cent of the land and no land rights under the land administration system can exist in these areas.



Source: Jude Wallace.

**Partnerships.** Scalability of the FFP approach is essential to accelerate the provision of secure tenure for all. This will be achieved by land administration institutions working with a range of partners to support the recording and maintenance of evidence of land rights in the field. New networks of locally trained land officers will be required to work directly with communities to record and maintain this information (UN-Habitat, 2004). The training, support and supervision of these local staff will require new strong partnerships to be forged with land profession associations, NGOs, CSOs and the private sector. The land administration institution needs to introduce strong supervision of these partners with an associated quality monitoring programme.

FFP land administration systems must be affordable so that all citizens, rich and poor, can have access to it. Such a system must provide value for money for the users and be open to public scrutiny. This will necessitate capacity building in both the public and private sectors and civil society to provide new skills necessary to support the FFP approach and to ensure that the public understand how it operates. Public private partnerships can work successfully to provide value-for-money services, although the ultimate control must lie with the state when related to the public good. A strategic engagement with professional bodies should be encouraged to obtain the support of the private sector to implement FFP approaches.

**Traditional Authorities.** In many developing countries, especially in sub-Saharan Africa, around 80 per cent of the land is held under customary tenure. This land is managed by tribal chiefs or councils, for example, and is currently outside the jurisdiction of formal land institutions. The legitimate holding of land in customary areas of the country should be recognized in the formal system with the option of subsequently being recorded and eventually upgraded to a legal status. This process

should be co-managed through arrangements between the tribal chiefs and the formal governmental land institutions, wherever possible. A good example of the structure of traditional authorities is outlined in the Mexico case study presented in Chapter 5.

**Sustainable Business Plan.** The land administration institutions need to be financially secure and sustainable. A number of different business models can be adopted to achieve this; ranging from being financed entirely from the public purse through to self-financing with revenue being generated by charging for transactions and data. One of the most popular options is to use service/transaction fees to raise sufficient levels of self-financing to cover the institutions' investment needs and create a stable operating environment. This has proved to be a highly successful model applied to property registration in, for example, the Netherlands, Lithuania, Moldova, UK, etc., where the fully or partially self-financing land administration agencies have become a contributor rather than an expense to the public budget. This approach provides quality services and retains a skilled labour force. Therefore, the institutional framework needs to include a business plan and associated marketing plan that are agreed with government. The GLTN's Framework for Costing and Financing Land Administration Services (CoFLAS) tool provides a resource for supporting the business planning exercise, see (UN-Habitat/GLTN, 2015).

### Information Management

Information on land and natural resource rights needs to be effectively managed to ensure the appropriate security and privacy of this sensitive information. Organizations as custodians need to have policies and procedures in place for the capture, storage and distribution of the information.



**Community members, students and land officers are being trained on STDM tool during the piloting of the Flexible Land Tenure Act, Gobabis Municipality, Namibia. Photo © UN-Habitat/John Gitau.**

**Managing Registers.** Key registers underpin government services and will eventually support integrated e-services within e-government. Key registers are definitive, national datasets on persons, businesses, vehicles, income, location, addresses, for example, maintained by a designed custodian organization and accessed and shared by government, citizens and businesses. They provide common references across datasets needed to create data interoperability across the land information infrastructure.

It is essential that the quality of these key registers is very high, the data are effectively maintained, the data are easily accessible preferably via web services, there are minimal licensing restrictions and the use of key registers is mandated across government. Custodians need to be appointed and data quality improvement programmes will have to be designed and implemented to ensure that the key registers are fit-for-purpose.

The process of creating an infrastructure of spatial units of land rights for land administration will allocate unique identifiers to each spatial unit. However, there is also the opportunity of simultaneously allocating unique addresses to the spatial units, where appropriate. An

address is not a nice-to-have. Without it, people struggle to take out low-interest credit, run a successful business or simply become an active consumer. Addressing also supports postal deliveries, emergency and security services, improves navigation and also provides financial services with an essential address of lenders. Allocating addresses in the FFP approach may make most sense in urban and peri-urban areas where delivery of services to citizens will be increasingly important.

Addressing solutions normally adopt the conventional postal address (using ISO 11180:1993). However, a new innovative approach that uses a global location referencing system based on a grid of 57 trillion 3m x 3m squares has recently emerged. Each square has been allocated a unique, fixed three-word address and a person's ability to remember these words long enough to write them down is near perfect. The use of words means non-technical people can find any location accurately and communicate it quicker, easier and with less ambiguity than any other system. The "what3words" solution (what3words, 2015) is already available in over nine languages and is quicker and cheaper to implement than a new, conventional addressing system.

**Managing Geospatial Information.** The spatial framework and the associated spatial units should be an integral part of the National Spatial Data Infrastructure (NSDI). A NSDI Steering Committee should be created to ensure that technical, data and business standards can be mandated and adopted across the government institutions involved with managing geospatial information. This governance accelerates the implementation of the NSDI. The NSDI Steering Committee will be responsible for formulating a NSDI Strategy and associated implementation plan, and providing guidance and coordination to the stakeholders in implementing the strategy. A good example of a NSDI strategy is the UK Location Strategy (UK Government, 2008). The coordination of geospatial information services from the public sector is best centralized under one authority to ensure consistency, quality and to leverage efficiencies.

### Service Delivery

**Customer focus.** Many land institutions are inward looking and do not pay enough attention to their customers. This disconnect leads to a lack of understanding of customer needs and inevitably results in poor customer service. For the FFP approach to be successful, it is essential that organizations know their customers and their requirements for security of tenure solutions. This can be achieved by open communication channels with customers through focus groups, feedback from service provision, customer support hotlines and customer satisfaction surveys. Customer thinking needs to be engrained into the organization's decision making process,

From a customer perspective this will result in: simpler forms being easier to use; registration is quicker because the processes are more efficient; services are made available at times and places that are convenient

for customers; registration has become a more pleasant experience with helpful and courteous staff; offices are designed for customers; and processes have become more transparent, decreasing opportunities for extortion.

**Accessible to all.** Although the outreach of e-services and the use of mobile phones to communicate with customers are significantly increasing, the digital divide still excludes many customers from these communication channels. Therefore, to provide security of tenure for all, more conventional channels, such as distributed offices and mobile offices, should be provided. This ease of access to services must remain in place nationwide to support the on-going maintenance of land rights and not just be transient through the first registration phase.

**Support for communities.** The provision of land rights to citizens and communities must build capacity and support communities to establish systems for transparent, just and equitable administration of those lands. If not then mismanagement, corruption and local elite capture will occur. They may also further weaken women's land rights by inadvertently entrenching discriminatory norms that exclude women from land governance and undermine their inclusion in community decision-making.

Therefore, organizations must accompany FFP land administration services with genuine governance changes that support communities to establish intra-community mechanisms to ensure good governance, intra-community equity and sustainable natural resource use. Authentic community approval must be obtained for all transactions with outside investors. This community capacity building and monitoring must be an integral component of these land administration services.



**For FFP land administration approach to work, stakeholders' engagement particularly with women and vulnerable groups is essential. Uganda. Photo © UN-Habitat/Danilo Antonio.**

**Quality management.** Land administration is currently driven and controlled by a standard set of national regulations and technical specifications that are relatively easy to monitor and quality control. However, the FFP approach introduces a higher degree of complexity to the quality control process caused by: the range of land rights and scope of information being provided under the continuum of rights; regional and possibly local variations in the approach; and the significant number and types of stakeholders involved in capturing the evidence of land rights. This is further complicated by the introduction of non-homogeneity during the on-going maintenance when upgrading of land rights will cause local variations in the types of land rights being recorded.

It is recommended that organizations introduce a range of fixed options (tenure types) along the continuum of rights to be supported under the FFP approach. This portfolio of services will be easier for citizens

to understand and will enforce standardization of capturing evidence of land rights for each of the options. Quality control systems can then be built more straightforwardly around these standard options.

**Engagement and communication.** The introduction of the FFP approach in a country will involve considerable change to land administration services and the concept of what constitutes security of tenure. Different types of certificates may be issued by the land administration organization depending on what options along the continuum of rights are being supported under the FFP approach. This will have to be clearly understood by citizens and other key stakeholders. Therefore, a robust engagement/communications strategy must be created as part of the change management process.

The objective of the engagement/communications strategy is twofold: to ensure the best possible FFP approach is determined by soliciting the views of the

key stakeholders; and the highest chance of successful outcomes by engaging proactively with the key stakeholders as early as possible in the change process. However, an engagement/communications strategy alone is purely conceptual. The strategy needs to be supported by a tactical plan that catalogues the specific activities to be undertaken, each with an owner and a metric. This then enables the plan to be measurable and achievable.

### 6.3 FLEXIBLE ICT APPROACH RATHER THAN HIGH-END TECHNOLOGY SOLUTIONS

The Principles for Digital Development (<http://digitalprinciples.org/>) are “living” guidelines and designed to help development practitioners integrate established best practices into technology-enabled programmes. They are written by and for international development donors, multilateral organizations, and implementing partners, and they are freely available for use by all. The principles are intended to serve as guidance rather than edict, and are updated and refined over time.

The principles find their roots in the efforts of individuals, development organizations, and donors alike who have called for a more concerted effort by donors and implementing partners to institutionalise the many hard lessons learned in the use of ICTs in development projects. The following principles support the FFP approach and a more detailed set of ICT guidelines are contained in Appendix A.

**A sustainable user-driven design.** Too often in the field of international development, technology tools are created, or tech-enabled projects are designed, without sufficient input from the stakeholders whose engagement and ownership are critical to long-term

success. To avoid this common pitfall develop context appropriate solutions informed by user needs and include all user groups in planning, development, implementation and assessment. Also, ensure that solutions are sensitive to, and useful for, the most marginalised populations.

**Design for scale.** Many projects fail to move beyond the pilot stage, or to reach anticipated scale. In some cases, scale is not a necessary criterion for success. However, in most, careful consideration of the necessary inputs will help projects reach their full potential. To design a project for maximum impact, it is recommended to design for scale from the start, and to assess and mitigate dependencies that might limit the ability to scale. All technology choices need to be analysed through the lens of national and regional scale solutions. The expected impacts need to be demonstrated before scaling a solution.

**Build for sustainability.** Projects often fail to factor in the physical, human, and financial resources that are necessary for long-term sustainability. The longevity of projects will best be achieved through planning for sustainability from the start, including planning for long-term financial health, e.g. assessing total cost of ownership. The use and investment in local communities and developers by default will help to catalyse their growth. The engagement with local governments will ensure integration into national strategies and identify and trigger high-level government advocates.

**Open standards.** International development projects regularly spend scarce, public resources in investing in code, tools and innovations that are either locked away behind proprietary, fee-based firewalls, or created in a bespoke way for use in sector-specific silos. Projects should consider supporting a framework based on an



“open” approach to technology-enabled international development adopting and expanding existing open standards. Open data and functionalities are exposed in documented APIs (Application Programming Interfaces) that supports use by a larger community. Software can then be invested as a public good and develop software can be open source by default with the code made available in public repositories and supported through developer communities. This “open” approach to development is called Free Open Source Software (FOSS). It will only be feasible if there are appropriate and sustainable IT programming resources available locally within projects.

Some software solution providers, although providing proprietary solutions, support more flexible and cost effective licensing agreements for large organizations and often include satellite imagery services. In addition, they also provide a more “open” approach to platforms, supporting documented APIs, delivering simpler solutions than in the past and providing local support. In some countries where these circumstances arise, then this may be an appropriate technology solution option to choose over the FOSS approach. Currently, technical solutions are more usually a hybrid of FOSS and proprietary solutions.

**Reuse and improve.** As the use of ICT in international development has matured, so too has a base of methods, standards, software, platforms and other technology tools. Yet, too often scarce resources are being invested to develop new tools when instead existing tools could be adapted and improved, leading to higher quality resources being made available to the wider community of international development practitioners. It is recommended that existing tools, platforms and frameworks are used, modified and extended whenever possible.

**Information is power.** Information is power, as the old adage states. This is certainly true in the context of technology-enabled global development interventions. How information is collected, stored, analysed, shared, and used has serious implications for both the populations about whom data are being transmitted, and the organizations transmitting the data. User privacy must be protected and the security of data, devices and tools ensured through assessing and mitigating risks to the security of users and their data. The context and needs for privacy of personally identifiable information needs to be paramount when designing solutions.

**Be collaborative.** The saying: “If you want to go fast, go alone. If you want to go far, go together” could be a mantra for technology-enabled development projects. Strategies should be adopted for leveraging and contributing to a commons of resource, action and knowledge. This will extend the impact of development interventions through engaging diverse expertise across disciplines and industries at all stages. Working across sector silos will create more coordinated and harmonized approaches and the documentation of work, results, processes and best practices will allow them to be shared widely. For example, the e-services being developed for land administration services can utilise generic tools being developed by wider e-government initiatives.

#### 6.4 TRANSPARENT LAND INFORMATION WITH EASY AND AFFORDABLE ACCESS FOR ALL

One of the key principles underlying the FFP approach is the provision of open, transparent access to land information, subject to the protection of privacy. For example, land register information can be freely accessed, prices paid for properties are available

from the land registry, land tax assessments can be inspected so that taxpayers can challenge the fairness of assessments, decisions on changes to land use are made in meetings that are open to the public, an appeal system is available in the case of disputed information and citizens can present arguments to the decision-makers. This is essential to ensure accountability, build trust with citizens and encourage them to participate in FFP land administration. Transparent land information is key to tenure security.

### Safeguarding Privacy for Citizens

Transparency and ease of access to land information is key to increasing the security of tenure of citizens and communities, building trust with citizens and reducing corruption. However, land administration institutions need to be extremely sensitive to citizens' privacy needs as information can potentially empower the wrong people. The disclosure of natural resources associated with Indigenous People, for example, may precipitate unwanted exploitation. The exposure of weak tenure rights may lead to exploitation and land grabbing.

Therefore, governments need to formulate a robust policy on privacy that is sensitive to citizens' concerns about openness, but still provides sufficient transparency to support openness and trust. This policy has to be enshrined in law, which will normally cover broader information privacy issues.

### Access to Land Information for All

**Open data policy.** "... open data are a catalyst for innovation in the private sector, supporting the creation of new markets, businesses, and jobs. Beyond government, these benefits can multiply as more

businesses adopt open data practices modelled by government and share their own data with the public." G8 Summit, June 2013 - Extract from the Open Data Charter.

Improved access to public sector information is being enhanced by the increasing adoption of Open Government policies across the world. The USA and the UK were the first and launched their Open Government initiatives in 2009. These Open Government initiatives normally have three main strands:

- **Open data:** offering government data in a more useful format to enable citizens, the private sector, non-government organizations and civil society to leverage it in innovative and value-added ways
- **Open information:** proactively releasing information, including information on government activities, e.g. civil servant salaries and budgets, to citizens on an on-going basis to increase transparency; and
- **Open dialogue:** giving citizens a stronger say in government policies and priorities, and expanding engagement through Web 2.0 technologies.

The opening up of governmental data, free for re-use, has been justified on economic grounds since access to this data has major benefits for citizens, businesses, society and for the governments themselves. Data are an essential raw material and can be integrated into a wide range of new information products and services. These build on new possibilities to analyse and visualize data from different sources. New businesses can then be created on the back of this data. Open Data policies need to balance the common good against commercial sustainability of organizations. Funds are required to continually maintain and improve land information.

**TABLE 6.1: PRINCIPLES, ACTION AND OUTCOME FOR BUILDING THE INSTITUTIONAL FRAMEWORK.**

Building the Institutional Framework		
Principles	Action	Outcome
1. Good land governance rather than bureaucratic barriers	1.1 Assess current land governance practices	An assessment of the quality of country land governance, e.g. using the LGAF methodology, and identification of potential improvements.
	1.2 Apply general principles of good land governance	Land governance will meet global standards of good practice.
	1.3 Apply the principles as outlined in the Voluntary Guidelines on Responsible Governance of Tenure	Governance of tenure will apply to international standards.
2. Integrated institutional framework rather than sectorial silos	2.1 Introduce integrated management of land	Clear and unambiguous remits and efficient workflows for the land institutions in managing private as well as state and public land.
	2.2 Formulate and agree national land policy	A comprehensive land policy with consistent operational policies for the land institutions and a framework to create or revise strategies for land sub-sectors.
	2.3 Establish a sustainable organizational structure	Institutional coordination and clear division of responsibilities at various levels of government.
	2.4 Establish coordinated information management	High quality registers forming a National Spatial Data Infrastructure.
	2.5 Ensure customer oriented and accessible service delivery	Serving customers' needs in the land sector at all levels in society.
3. Flexible ICT approach rather than high end technology solutions	3.1 Apply a sustainable user driven design	ICT solutions are useful and encouraging for all stakeholders, including local communities, women and vulnerable people.
	3.2 Adopt open source solutions as complementary to market based products where appropriate	A flexible ICT platform based on needs assessments and development opportunities.
	3.3 Be aware that information is power	A collaborative ICT-approach that ensures equity and fairness and protects the interests of the end users.
4. Transparent land information with access for all	4.1. Ensure transparency and build trust with citizens.	An accountable and reliable, land information system with equal and easy access for all.
	4.2 Consider privacy aspects	A privacy policy sensitive to citizens' concerns but supporting openness and trust.
	4.3 Adopt an open data policy	Serving all customers and closing the digital divide.

### FREQUENTLY ASKED QUESTIONS

#### **1. Does the FFP approach require institutional reform to harmonize the management of land?**

The impact of the fragmentation of land institutions across a country's land sector is that land management is not integrated. Ideally, land institutions should be reformed to incrementally integrate land administration and management into a single national land authority with decentralized functions to best achieve integrated and sustainable land management. However, this can take time and political constraints may inhibit such change. Therefore, interim institutional arrangements can be created to join-up the functions of the land institutions, share information and deliver joint services through a "one-stop-shop". This can be achieved through more integrated governance arrangements, co-location of offices of the various land institutions, linked information systems through mutual ICT and data standards, redesign of business process and service level agreements amongst the institutions. Once the benefits of joined-up land administration and management are understood then a more integrated institutional arrangement can be achieved incrementally through a series of transition steps, while transparency and accountability must be ensured throughout. Shared, collaborative working helps political change to permeate to the operational level.

#### **2. Is open and transparent access to information a prerequisite for supporting the FFP approach?**

One of the key principles underpinning good governance is transparency and this is one of the fundamental initiatives being advocated by the G8. Some governments are responding to this challenge by implementing open government and open data policies that create wide-ranging transparency and accountability. Other governments still lack transparency of public sector information using reasons related to security and privacy; the level of openness is a cultural issue. For example, the price paid for property is in the public domain in Scotland, but is not available in the Netherlands. Although transparency and ease of access to land information is key to increasing the security of tenure of people and communities, building trust and reducing corruption, the land administration institutions require to be extremely sensitive to people's privacy needs as open land rights information can potentially empower the wrong people.

# PART III



## IMPLEMENTING THE FIT-FOR-PURPOSE APPROACH

### PART 3: IMPLEMENTING THE FIT-FOR-PURPOSE APPROACH

This part of the guide provides the reader with guidance on how to implement the FFP approach to land administration.

#### 7. DEVELOPING CAPACITY AND MANAGING CHANGE

The proposed change model is anchored on a participatory approach for strengthening capacity of land sector stakeholders to promote and implement FFP land administration policies, tools and approaches that are pro-poor, gender responsive, effective and sustainable. The model accommodates change interventions that are non-linear, dynamic and iterative and allows touch and entry points for change to be

at several levels across the land sector. An assessment framework is used to monitor and evaluate the effectiveness of capacity building and change interventions and provide feedback for improvements. Catalytic support to invoke change is required and this is provided through identified change agents. The overall change process is supported by a context review, land sector assessment and an engagement/communications strategy that are an integral part of the Country Specific FFP Strategy for Land Administration. An overview of the change model is illustrated in Figure 7.1.

##### 7.1 CAPACITY DEVELOPMENT

Implementing a FFP land administration system at a countrywide scale is demanding in terms of both financial and human resources. In developing countries, the budgetary basis can often be established through

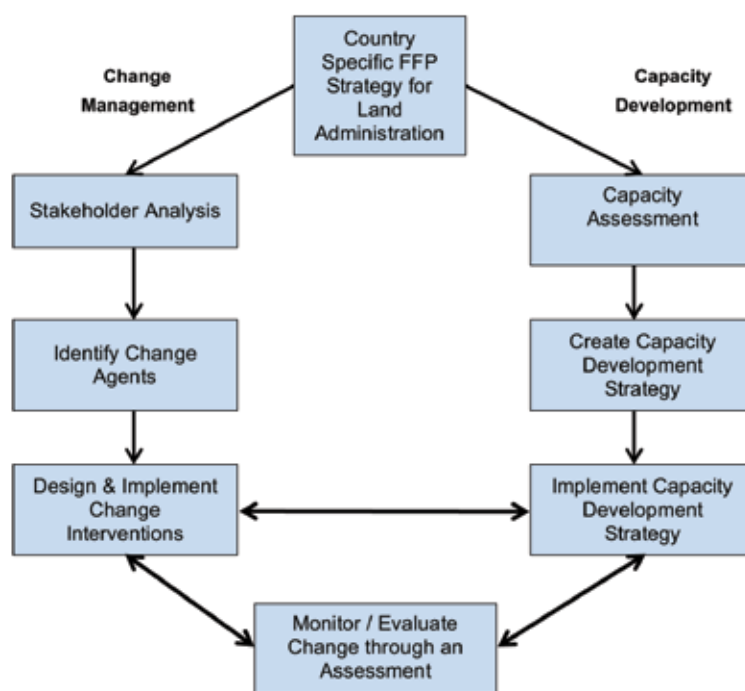


Figure 7.1: Change model for FFP land administration.

international donor support from the World Bank and aid agencies who will also assist in designing the project and ensuring the interrelationship amongst goals and objectives, and inputs, processes and outputs. Furthermore, the need for human resources and skills must be assessed up front with regard to developing the various aspects of the land administration system and also with regard to the capacity for running and maintaining the system. Therefore, a strategy for capacity development is critical: “Don’t start what you can’t sustain”.

Capacity can be defined as “the ability of individuals and organizations or organizational units to perform functions effectively, efficiently and sustainably” (UNDP, 1998). This section presents an overview and understanding of capacity development at societal, institutional and individual levels, and provides advice for capacity development activities in support of implementing a FFP approach in the land sector. Capacity development, as illustrated in Figure 7.1, has three stages: capacity assessment, create capacity development strategy and implement capacity development strategy. These stages are described below.

## Capacity Assessment

Capacity Assessment or diagnosis is an essential basis for the formulation of coherent strategies for capacity development. This is a structured and analytical process whereby the various dimensions of capacity are assessed within a broader systems context, as well as being evaluated for specific entities and individuals within the system. The publication *Capacity Assessment in Land Administration* (FIG, 2008) provides a methodology for such in-country self-assessment of capacity needs for example in relation to donor projects or land reform programmes.

Capacity assessment provides a baseline of current capabilities across the land sector stakeholders, e.g. public sector land institutions, private sector, professional associations and NGOs, for example. The baseline is then compared to the capacity requirements stated in the country specific FFP land administration strategy and gaps identified that have to be filled to support FFP land administration. This information is then used to create the capacity development strategy.

## Create Capacity Development Strategy

Capacity development is a concept that is broader than Human Resource Development (HRD) since it includes an emphasize on the overall system, environment and context within which individuals, organizations and societies operate and interact. Even if the focus of concern may be on a specific capacity within an organization to perform a particular function, there should always be a consideration of the overall policy environment. Capacity development does not, of course, imply that there is no capacity in existence; it includes retaining and strengthening existing capacities of people and organizations to perform their tasks. Capacity development in society can be addressed at three levels:

- **The societal level:** This is the highest level within which capacity initiatives may be cast and can be seen as the enabling environment level with an emphasize on imparting knowledge of key issues as well as skills for policy formulation and implementation. Capacity development at this level focuses on advocacy, awareness creation, and knowledge sharing and dissemination.

- **The organizational level:** This level includes formal and informal organizations. For the public sector, capacity development may include institutional and organizational reforms of mandates, processes and procedures, and awareness in terms of incentives and accountability. Professional bodies may use various means to ensure the awareness and up-to-date skills of their members, e.g. through licensing requirements and means of Continuing Professional Development (CPD). Community based organizations may learn advocacy skills to improve awareness, creation, knowledge sharing, and citizen empowerment.
- **The individual level:** This level addresses the need for individuals and groups of people to function efficiently and effectively within the organization and within the broader system. Such HRD is about addressing the capacity needs through adequate measures of education and training. This should include technical skills as well as operational and adaptive capacities to perform the relevant tasks. This will mainly take the form of short-duration good practice training, activities of CPD, as well as more formal training leading to academic certificates, diplomas, degrees and postgraduate qualifications, and other skills acquisition and research.



Community mobilization process. Manila, Philippines. Photo © UN-Habitat/ Danilo Antonio.



Land administration is a cross sectoral and multidisciplinary area that includes technical, legal, managerial, political, economic and institutional dimensions. An adequate response in terms of capacity development measures must reflect this basic characteristic that includes assessment and development at all three levels: societal, organizational and individual. Often capacity issues are first addressed at the organizational level. Organizational capacity – such as the capacity of the national cadastral agency or the cadastral infrastructure and processes – is influenced by not only the internal structures and procedures of the agency, but also by the collective capabilities of the staff on the one hand and a number of external factors on the other.

Such external factors may be political, economic or cultural issues that may constrain or support performance, efficiency, and legitimacy as well as the whole level of awareness of the values of land administration systems. By taking this approach, capacity measures can be addressed in a more comprehensive societal context.

A key feature of the FFP approach is the use of a network of locally trained land officers acting as trusted intermediaries and working with communities to support the identification and adjudication process. This approach builds trust with the communities and allows the process to be highly scalable. The training, support and supervision of these local land officers will require new strong partnerships to be forged with land profession associations, NGOs, CSOs and the private sector. The land administration institution needs to introduce strong supervision of these partners with an associated quality monitoring programme. The recruitment process for these local land officers can

be very simple: those who apply have to demonstrate that they can understand the aerial images, find their position on an image and have the attention to detail to draw boundaries. This approach was successfully implemented in the land registration project in Rwanda, see box end of chapter 3.

Beyond the initial recording of land rights, the FFP approach to land administration needs to leave a sustainable resource behind to provide on-going maintenance of the land information. A good example of this approach is the “Property Rights Initiative” of the Bangladesh Rehabilitation Assistance Committee (BRAC) in Bangladesh (BRAC, 2014). A key component of this programme was the creation of a new class of government-certified BRAC amins or land entrepreneurs. These entrepreneurs were trained by BRAC to measure land and certify property rights, as well as deliver a range of other services and human rights monitoring for their local communities. Land entrepreneurs have the opportunity to earn an income from their survey work while also carrying an obligation to provide free surveys and services to the local poor.

Another good example of a training programme to consider the immediate short-term needs for trained land clerks and technicians as well as the longer terms needs for qualified professionals was implemented in Malawi - see case study at the end of this chapter (Enemark and Ahene, 2002). A special one-year certificate programme for land clerks was developed to staff each of the about 250 traditional authorities with one clerk to undertake the everyday land-related matters. Even although this example is from the early 2000s, the situation described is still valid for many developing countries in relation to implementing land reform programmes.

## Implement Capacity Development Strategy

There is an increased awareness of the limits of conventional training and that developing capacity in complex systems and organizations requires a long-term strategic approach where shorter initiatives should be seen as stepping stones to achieving longer-term strategic goals. In line with this thinking, and drawing on the UN-Habitat experience in training and capacity development, an improved approach to training and learning has emerged. Figure 7.2 shows this “best practice learning cycle” where the principles illustrated apply equally well to many other types of capacity development interventions.

The capacity development strategy identifies a long-term capacity development goal. However, the implementation of the strategy has to be incremental with intermediate goals and strategic objectives that will contribute to achieving the long-term goal. This is illustrated in Table 7.1.

## 7.2 CHANGE MANAGEMENT

The implementation of change across the land sector to achieve FFP land administration will involve triggering change interventions simultaneously at a number of entry points across the land sector. These interventions need to be synchronized with the corresponding capacity development activities to ensure the appropriate skills and knowledge are in the right place, and they need to be closely monitored and assessed to ensure they are delivering the agreed objectives. If the interventions are not delivering the expected change and associated benefits then the interventions need to be changed by increasing capacity or redesigning the intervention or closing it down. When initially introducing FFP land administration, the interventions will be dynamic and the “sweet spots” of change will have to be found quickly for maximum effect.

### Good practice training cycle

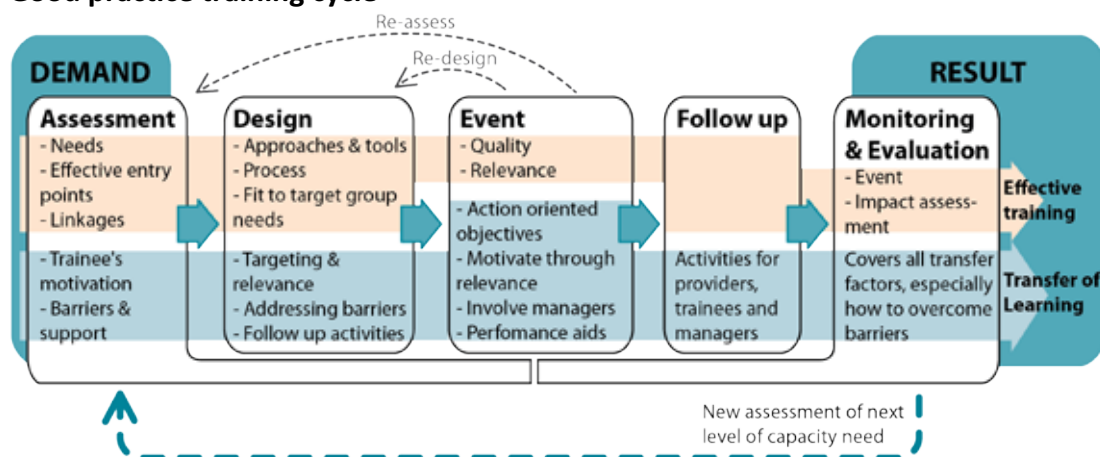


Figure 7.2: Good Practice Learning Cycle. (UN-Habitat/GLTN, 2014a).

**TABLE 7.1: THE GLTN CAPACITY DEVELOPMENT STRATEGY (UN-Habitat/GLTN, 2014a).**

Ultimate goal	Intermediate goal	Strategic objectives
Sufficient capacity among all the key actors (including governments, non-state actors, GLTN partners, capacity developers, multi/bilateral agencies) to promote and implement secure land and property rights for women and men, for poverty reduction and economic growth	Strategic partners have the capacity to develop, promote and implement priority pro-poor, gender-responsive land policies, tools and approaches for specific countries as drivers of national, regional and global change towards secure land rights for all. .	<ul style="list-style-type: none"> <li>• Key capacity developers on land (national and international universities, training institutions and others) have moved from conventional technical training curricula to also include pro-poor, gender responsive, multi-disciplinary approaches.</li> <li>• Within each country, the relevant group of partners has the capacity to adapt, pilot, evaluate, use and disseminate each tool</li> </ul>

### Stakeholder Analysis

The formulation of the country specific strategy for FFP land administration will have identified the stakeholders in the land sector. The next step is a process to assess each stakeholder as to how important they are to the FFP land administration initiative vs. how well they are currently engaged. This is best represented in a 2x2 matrix with the axes of engagement and importance. See Figure 7.3 below.

Those with the lowest priority and the least amount of engagement to date will be situated in the lower left of the matrix. Those with the highest importance and the highest level of engagement will be in the top right hand corner. An individual person or organization is placed precisely on the grid to allow different stakeholders in the same quadrant to be differentiated.

Generally, those in the lower left and upper right can be left where they are as they are either already recognized for their importance and well engaged, in which case this needs to be maintained, or they are of little importance and so the fact that they are not that well engaged is not significant and can be placed on the “back burner”.

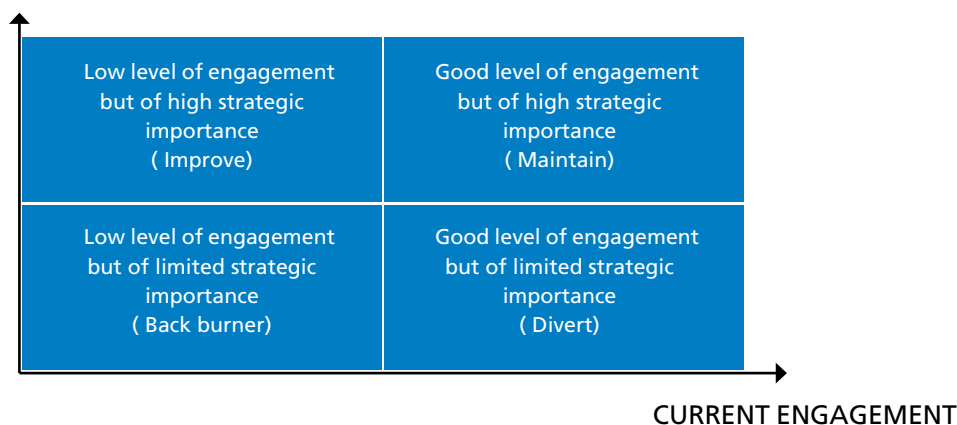
Stakeholders in the lower right quadrant where they are more engaged than their importance signifies, indicates that a stakeholder is keen to be involved, but has probably taken up more time than their importance would justify. Attention can therefore be diverted from them to more important stakeholders.

The real gap in engagement comes from those that are deemed important, but who lack effective engagement to date. This is the most important category in the upper left quadrant of the matrix and these key stakeholders need to be more engaged by the FFP land administration initiative.

### Identify and Assess Change Agents

Following prioritization of the stakeholders, the next step is to identify the best change agents across the land sector. Catalytic support to invoke change is required and this is provided through identified change agents. Understanding the complexity of the country's land sector requires an in-depth analysis of the various stakeholders, including individuals, organizations and initiatives. This includes their capacities and potential to influence power relations, their potential to create and share new knowledge and develop shared messages

## STRATEGIC IMPORTANCE



**Figure 7.3: Stakeholder prioritization matrix. (Developed from Mitchell, R. K. et al., 1997).**

as well as sustaining relationships in land and other related sectors. Different stakeholders have different interests and motivations, which have to be analysed to determine how they can contribute to change resulting in the adoption and implementation of FFP land administration.

One of the most important tasks to be undertaken at the country level is to assess and choose entry points of projects and champions. A stakeholder assessment framework needs to be built from the change model that can be applied to assess the land champions, institutions and initiatives in the country.

#### Design and Implement Change Interventions

Once the entry points of projects and champions have been identified and prioritized, the change initiative needs to be designed, resourced and implemented. Managing and monitoring these change interventions is essential to ensure that the interventions are delivering the expected change. Feedback on lower than expected performance should trigger a re-assessment, a re-design or closing down of the intervention.

### 7.3 MONITORING AND EVALUATION

An assessment framework is used to monitor and evaluate the effectiveness of capacity building activities and change interventions and to provide feedback for improvements. This also relates to instigation of a self-monitoring culture.

The learning points from reviewing and reflecting the change management programme should be used to improve approaches for future change. Change agents should be assessed, for example, on their ability to communicate, present, influence, negotiate, reach a wide number of stakeholders, focus on stakeholders with most influence, maintain momentum of change, provide feedback on the wider change programme approach and deliver agreed outcomes and benefits.

Once the first major change programme has been implemented successfully, future change programmes need to build on the knowledge gained from and the relationships and groundwork established in that first one. This should translate into future changes becoming easier and faster. It is necessary to establish and monitor processes to facilitate on-going change and identify new needs and trends (Angehrn and Atherton, 1999).

## Capacity Development for Land Reform in Malawi

Land policy reform requires a long-term vision and commitment for implementation. In the case of Malawi, the process was started mid 1990s and was expected to take between 15 and 20 years to complete. The project represents a milestone in the history of Malawi's post-independence development: to create a modern environment for protection of property rights, to facilitate equitable access to land for all and to encourage land based investment.

The project included a number of subcomponents such as drafting a new land law and formalization of customary land law, pilot district land registration including mapping and demarcation, rural/urban land-use planning and development controls, and land resettlement project.

The implementation was initiated in 2001 with capacity development a priority. At that stage, Malawi had only 26 qualified physical planners, 20 land valuation professionals and 12 licensed land surveyors. The total deficit was around 400 professionals and 800 technicians just to fill the vacant position in the public sector. By further including the private sector, the long-term needs were more than double.

An aggressive programme to train qualified personnel initiated by merging a diploma programme with the first half of the bachelor programme and thereby allowing existing personnel to be updated and upgraded to fulfil the overall aims of the new land policy. A special one-year certificate programme for land clerks was developed to staff each of the about 250 traditional authorities with one clerk to undertake the everyday land related matters.



Source: Enemark and Ahene, 2002.

### FREQUENTLY ASKED QUESTIONS

#### **1. How can a countrywide system be maintained from day one when there are so few land professionals to support it?**

In recent decades, there have been numerous examples of investments in first registrations in land administration systems around the world where the initial investment has been wasted due to lack of subsequent maintenance of the land rights – Albania and Malawi, for example. Do not start something you cannot finish and sustain. Land sectors in developing countries are significantly under-resourced and a key success factor of the FFP land administration approach is forward planning of capacity development. This needs to take place within the public and private sectors since Public Private Partnerships as well as the use of civil society will be essential to national solutions. It takes time to produce a new generation of land professionals who have this wider understanding of the holistic and sustainable management of land. The aim is to have resources and processes in place to support all types of transactions at the start of the initiative.

#### **2. How will a network of local land officers be established, trained and sustained?**

A new and crucial element in the FFP land administration approach is the use of a network of locally trained land officers that will work with citizens and communities to record and maintain their evidence of land rights. This will provide the essential scalability to the FFP approach by expanding the outreach of the limited number of land professionals and creating a critical mass of resources to quickly build and maintain national land administration systems. The training, support and supervision of these locally trained land officers will require new strong partnerships with surveying profession associations, NGOs, CSOs and the private sector. The land administration institution needs to introduce strong supervision of these partners with an associated quality-monitoring programme. Recent experience in Rwanda indicates that locally trained staff require very simple training to be operational. Over time, these officers will organize themselves into a self-sustaining network to directly provide their training, to deliver support services and to obtain qualifications (as with BRAC's Land Entrepreneurs in Bangladesh) that will build trust. This cadre of surveying should be acknowledged by FIG.

## 8. ADOPTING THE FIT-FOR-PURPOSE APPROACH

Most developing countries are struggling to find remedies for their many land issues that cause conflicts, reduce economic development and prevent their countries reaching their potential. Existing investments in land administration and management solutions have been piecemeal and have not delivered the required changes and improvements at scale. The beneficiaries of this unsustainable management of land have been the rich, elite and organizations involved in land grabbing. Current solutions are not effective and it is time to rethink the approaches. Solutions are required that can deliver security of tenure, are quickly developed and are scalable.

This guide has outlined a pragmatic and realistic FFP approach for developing countries that can provide security of tenure for all across a country within a generation. This brave new thinking has evolved out of successful, innovative projects in Rwanda, Ethiopia and Kyrgyzstan, for example. Strong political leadership and land professionals willing to adopt serious change have underpinned these successful projects. The lessons learned from these projects have informed and shaped this guide.

This guide for FFP land administration has presented the concept, provided the connected key principles and a generic set of guidelines to be applied in developing a country-specific FFP strategy for land administration. It has also provided detailed guidance on how to build the corresponding FFP spatial, legal, and institutional frameworks, essential in delivering this approach. The guide is designed to be used to: formulate country specific FFP strategies; identify changes necessary

in the corresponding spatial, legal and institutional frameworks; and produce country specific instruction manuals to support the implementation of the FFP land administration solution in local circumstances. These practical applications of the FFP approach will provide feedback and knowledge sharing to improve this guide and to generate best practice in implementing this approach.

The FFP approach provides developing countries with a new, innovative and pragmatic solution to land administration. The country specific solution is directly aligned with immediate needs, is affordable, is flexible to accommodate different types of land tenure and can be upgraded when economic or social requirements and opportunities arise. It is highly participatory, can be implemented quickly and will provide security of tenure for all. Most importantly, the FFP approach uses a low risk entry point that requires minimal preparatory work.

The implementation of the FFP approach involves significant change across all stakeholders in the land sector: politicians will have to challenge senior civil servants to adopt radical, new approaches that are politically more attractive and expedient; senior civil servants will have to convince land professionals to change their roles; citizens and communities will have to be activated to accept this highly participatory approach; the legal profession will have to be more flexible in accepting new forms of security of tenure; and all stakeholders will have to accept an initial solution that is not seeking perfection, but can be improved over time.

As with all cultural and behavioural change, it has to be sensitively managed otherwise opposition to change will either stop this FFP paradigm shift from happening



**Women's group meeting. Pakistan. Photo © Muhibuddin Usamah.**

or render it ineffective. There is increasing political pressure for change that can more effectively support the global land agenda and contribute to the global challenges of the twenty-first century. This urgency must be reflected in the way forward and an agenda to quickly build momentum behind this FFP movement. A key part of this agenda of change is advocacy from the global land institutions. Ensuring advocacy and providing support to change management is a key role for organizations like the World Bank, FAO, UN-Habitat, UN-GGIM, FIG and other land-related professional bodies.

This section proposes a number advocacy and knowledge sharing activities required around key stakeholders and identifies a range of projects to test the guide. These activities are designed to trigger and build significant change on a number of fronts and levels that can potentially develop into a radical and sweeping change across the global land administration communities.

### Advocacy

The politicians and decision makers in the land sector are key in this change process and need to become advocates of change through understanding the social, environmental and economic benefits of this journey of change. This top-level support for change will then allow any barriers to changes in the legal framework and the professions to be dismantled. However, in many developing countries, land issues are highly political and controversial. Therefore, drivers for change cannot just be designed at the highest levels, but will have to be initiated through influencers at other entry points in the network of stakeholders across the land sector; and written in a language that they can understand.

The United Nations family of organizations has a significant role to play in this advocacy for change. GLTN will have a pivotal role in disseminating the messaging for change and providing tools to support change. The



World Bank, UN-GGIM, UN-Habitat and FAO should ensure that the land administration projects they support are designed around FFP by default. The FFP approach for land administration directly supports the implementation of the VGGTs. There are opportunities for the FFP approach for land administration to be used innovatively in areas of priority for the United Nations, such as post-conflict situations. Support of these high profile applications of FFP will help to promote the importance and gain support for the FFP approach.

UN-GGIM is mandated to “provide a platform for the development of effective strategies on how to build and strengthen national capacity on geospatial information...” UN-GGIM has included land administration activities into their remit of global information management. UN-GGIM is gaining influence in the geospatial domain and is increasing the amount of standards, e.g. geodetic framework, and guidance to the geospatial user community. For example, UN-GGIM has published *A Guide to the Role of Standards in Geospatial Information Management* (UN-GGIM, 2014) that provides good background to the range of standards available and examples of their use. UN-GGIM will have an important role in promoting the FFP approach to land administration.

## Support of Professions

The hearts and minds of land professionals need to be turned to fully understand and embrace the FFP approach. This will require the benefits of such a move to be clearly articulated so that any perceived threats are dissipated. Lawyers have a major role in land administration; setting the legal and regulatory frameworks and delivering land administration services in countries where the judicial system supports land registration. Land surveyors normally enjoy a monopoly

on boundary determination within their countries, but in the majority of developing countries there are insufficient surveyors to meet demand. For example, Uganda only had 38 licensed surveyors in 2012.

The FFP approach will create even greater demand for land professionals as the need for services will increase significantly. For example, new services will be required to upgrade the evidence of land rights along the continuum of rights, to provide training and supervision of local land officers and to effectively manage and quality assure land information. This is a great opportunity for land professionals. Organizations such as FIG and their member associations need to actively promote the adoption of the FFP approach to land administration across their membership and enable experience and best practice to be shared across the land professionals.

Furthermore, valuers provide information and services to support property-based tax and support the land market. The financial services sector provides mortgages and provides opportunities for investment opportunities in property. Planners are an integral part of land use and land development lifecycles. Outreach to these associated professional bodies is essential to obtain and build their support for change.

## Capacity Building

Effective capacity building is fundamental to success. Society must understand that these simpler, less expensive and participatory methods are just as effective and secure as conventional surveying methodologies. Formal organizations such as government agencies, the private sector and informal organizations need to ensure their members and staff are aware and their skills are up to date skills.

The largest change will be focused on the public sector where this may involve institutional and organizational reforms. This will include modifications to the legal framework, processes and procedures, and raised awareness in terms of incentives and accountability. Governments need to implement significant capacity building programmes across their land institutions.

Although there are short-term training needs to effect FFP approaches in land administration, there is a longer-term capacity building initiative required to create a new generation of land professionals who have deep understanding of the FFP approach to land administration and the ICT management of land. Academic institutions worldwide will have to embrace FFP land administration and create a new generation of land professionals. See chapter 7 for more details.

### Early Adopter Implementation

This guide provides a set of principles and frameworks to enable countries to implement FFP land administration. The actual implementation will require a series of steps, including:

- Obtaining a commitment from politicians that the country should adopt the FFP approach, develop a country specific FFP strategy for land administration and an engagement/communication strategy;
- Building capacity across public sector, private sector, NGOs, CSOs and civil society, and design and implement an ICT solution for FFP land administration;
- Introducing reforms to the legal and regulatory framework to ensure legal support of the FFP approach, as well as institutional reforms to improve

coordination and to build the appropriate FFP institutional framework;

- Designing a data acquisition programme to continuously deliver and update imagery to support the FFP spatial framework, based on country specific instruction manuals;
- Testing through pilot projects across a range of regions within the country with varying tenure types, land use, topography and density of buildings/parcels. This will include the first recordation as well as the maintenance of the land records;
- Training local land officers for acting as trusted intermediaries;
- Rolling out the minimum viable product implementation of national FFP land administration programme across the country that is scalable. This will be campaign driven and will leave a sustainable land administration solution that provides effective maintenance of records; and
- Evaluating, monitoring and incrementally improving the national FFP land administration programme.

Support needs to be provided by GLTN partners to early adopters of the FFP approach. Initially this will be help in the formulation of country specific FFP strategies for land administration. The country specific FFP strategy with associated implementation costs and timeframes can then be compared with their current land administration strategy to highlight the benefits of adopting the FFP approach.

Support should also be provided to early adopter countries implementing FFP pilot projects. This will be similar to the USAID Mobile Application to Secure Tenure project in Tanzania (see Chapter 4). Support should include:

- Design of pilot project;
- Advise on technology and infrastructure;
- Support in selecting local partners;
- Training programme;
- Design of engagement/communication strategy;
- Independent monitoring and evaluation framework.

### Knowledge Sharing across a FFP Ecosystem

Sharing of knowledge, experiences, good practice and open source tools will be encouraged and enabled through the GLTN ecosystem. The ultimate success of FFP will depend on engaging and evolving a series of motivated communities into the overall FFP ecosystem to share knowledge, experiences, good practice and open source tools. The range of communities will include: citizens, NGOs/CSOs, academia, open source software developers, professional bodies, locally trained land officers and donors. Each of these communities will require different forms of engagement under an overall FFP Community Engagement Strategy. GLTN will act as a facilitator to evolve these vibrant communities into the overall FFP ecosystem. Here are some examples of engagement/outreach approaches that will be used:

- An early activity will be to promote the FFP approach. This will include press releases, articles in the geospatial media, conference attendance and presentations at related international conferences.
- A GLTN website will provide information on how to actively participate in the FFP initiative.
- A regular newsletter to registered subscribers will provide up-to-date information and would be supplemented by a social media presence, e.g. LinkedIn, Facebook and Twitter, alerting users to the latest developments.

- Open source software developers will be engaged through “hackathons” and special sessions at conferences such as FOSS. This engagement will be strengthened through technical advisers who are active in the geo open source community.
- Training material available on the GLTN website will help promote and encourage uptake of FFP. E-learning, taking the form of short videos (of 5 – 7 minutes in length), in multiple languages with closed captions will explain the FFP concept for decision makers. More extensive training material, user guides, Software Development Kits, etc. will be developed in partnership with technology providers and developers.
- Videos of actual uptake and use of FFP approaches will be developed with adopters and implementers and disseminated via YouTube, etc. The GLTN website provides a natural forum to establish a network of practitioners, connecting technology partners with users, etc. to share ideas and experiences.
- As new training, learning content and material is made available on the GLTN website, subscribers will be alerted by social media.
- FFP adoption can be further promoted by engaging with universities and higher education institutions. Material for instructors could be developed to encourage institutions to include a FFP Land Administration module. This academic community will be essential in building FFP capacity.

It is hoped that this publication will pave the way forward towards implementing sustainable and affordable land administration systems enabling security of tenure for all and effective management of land use and natural resources. This, in turn, will facilitate economic growth, social equity and environmental sustainability.

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# APPENDICES

## A. DEVELOPING ICT INFRASTRUCTURE

This appendix provides guidelines on defining an ICT strategy for FFP land administration.

Although the ultimate ICT solution will be sophisticated, nationally scalable and support features such as e-signatures, e-conveyancing and cloud based services, for example, it should be emphasized that the initial ICT solutions will have to be rather simple to accommodate limitations in the telecommunications infrastructure and ICT skills in many developing countries. However, the ICT solution can be enhanced over time, an approach that is more sustainable than more ambitious, faster implementations.

There is a tendency in national land administration system programmes in developing countries to invest in expensive, sophisticated ICT solutions at the start of programmes. This rarely proves successful. Instead, the initial ICT solutions should model the overall Minimum Viable Product approach being advocated for FFP land administration. This will initially focus on a set of tools to capture the land rights as outlined in Section 4.2. A simpler, lower cost ICT solution at the start of the programme will provide flexibility to accommodate changes in business processes, customer requirements and resource availability identified through assessing initial operations. However, incremental improvement does not mean fragmentation. ICT improvements need to be managed within an agreed ICT strategy that is directly informed by the business strategy defined in the country specific FFP land administration strategy.

### Principles of ICT Strategy

An ICT strategy has to be formulated for the Land Administration organization that provides support to the business for FFP land administration, delivers scalable solutions for national coverage and is sustainable. The following principles should underpin the ICT strategy:

- **Policy and service delivery programmes should use the most appropriate engagement channels.** Conventional engagement channels to customers, including mobile offices, should be supported to avoid the digital divide caused by the limited telecommunications infrastructure in developing countries. However, as the telecommunications infrastructure matures, especially the mobile phone coverage then the strategy should make provision for information and services to be accessed and used through e-services and digital channels, wherever appropriate.
- **Policy and service delivery programmes should be increasingly co-designed and co-produced.** Citizens and businesses should be consulted and involved in the design and production of policy and service delivery programmes, where appropriate. This is critical to long-term success and solutions need to be sensitive to marginalised populations.
- **Information should be shared, open and managed within the constraints of security and privacy.** Information and data should be shared across government and with citizens, within the constraints of privacy, to support integrated service delivery, better decision-making and innovation.

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This interoperability should be enabled through the adoption of technical, data and business standards. Information sharing should be subject to privacy, security and other statutory obligations. Data should be made available in open, machine-readable formats and managed as an asset of the state, with clear accountabilities.

- **ICT-enabled projects should be staged and focused on managing risks and delivering business benefits earlier.** FFP projects have significant ICT requirements and should be designed, delivered and measured based on clearly articulated business benefits with accountability, clearly defined and allocated at appropriate management levels. Large projects should be broken into smaller, more manageable stages to improve delivery timelines and reduce the risk of failure. The starting point should be the Minimum Viable Product.
- **Competition should be promoted to drive efficiency and innovation in ICT systems and services.** Market mechanisms should be used to drive efficiency and innovation in ICT systems and services. Shorter contract terms and open standards should be favoured to increase competition and guard against technology lock-in or single vendors securing a disproportionately high share of business.
- **ICT services should take advantage of industry capabilities.** The market's capability to deliver value for money and innovative solutions that improve the delivery of government services should be analysed. When outsourcing services then commercial off-the-shelf software (COTS) should be adopted where possible. Components should be re-used through open APIs. Stakeholders and industry should be engaged early, focusing on business outcomes and adapting processes to avoid customization.
- **ICT systems should be interoperable, modular and reusable.** ICT systems should be designed and upgraded to encourage reuse and interoperability. Solutions should be re-used and shared, and joint procurement projects across government adopted where requirements are closely aligned. For example, FFP valuation and spatial planning.
- **Technology should be trialled and adopted to promote better outcomes.** Technology should be trialled to explore options and take advantage of new technologies at lower risk. Trials should use COTS or hybrid solutions, wherever possible. This will allow service design and delivery to be innovative.
- **Build trust and confidence.** Public trust and confidence should be built through maintaining the privacy and security of information. This will underpin the ability to use digital channels.
- **Simplify by design.** Complexity, fragmentation and duplication should be removed and business processes re-engineered end-to-end.
- **Guided by the overall government policy in ICT.** The ICT strategy for FFP land administration cannot be developed in isolation from the rest of government. The ICT strategy should be guided by the overall government policy in ICT. This will most likely be informed by the government's strategy for digital society, e-governance and adopted principles of Open Government. The government may also have mandated ICT standards and ICT infrastructure, e.g. data centres with disaster recovery capabilities, for use across government to encourage use of shared resources.

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### Governance & Management of ICT

**Governance Arrangements.** The profile and governance of the ICT department should be at the highest level within the land administration institution to ensure the maximum benefits of ICT to the business. Therefore, it is recommended that the Chief Information Officer (CIO) should sit on the board of the institution.

There must be clear responsibilities for managing the ICT components across the organization. The ICT department should be responsible for the ICT systems and corresponding infrastructure, including the telecommunications infrastructure. The business must be responsible for the data and the associated business processes. However, where e-government services involve intra-government co-operation then ownership of these business processes may well be with other parts of government.

**Support and Maintenance Management.** The ICT department needs to establish end user support with each of the ICT suppliers. The technical support procedures should be built into the Service Level Agreements with the ICT suppliers. A help desk will also need to be established to support external customers using information services. Over time, there may be a requirement for a 24/7 support service. Maintenance of hardware, software and network services need to be established with the suppliers through Service Level Agreements with strict performance criteria that can be monitored.

**Share ICT Investments through Interagency Collaboration, e.g. One-Stop-Shop.**

Too often, investments in ICT are isolated within projects and do not consider the possibility of the wider sharing

and re-use of the resources. This narrow perspective has led, for example, to multiple purchases of the same remote sensing imagery by different agencies and the generation of multiple base maps with varying specifications. Apart from the simple collaboration approach, the adoption of interoperability standards and web services is promoting the implementation of shared services leading to the creation of National Spatial Data Infrastructures (NSDI) – see Figure A.1. An NSDI connects people to geospatial information services to make better-informed decisions. This approach allows different agencies to access and use the same geospatial information, reducing the initial and continuing maintenance costs. For example, base maps and imagery used for land administration can also be used for infrastructure planning and management, environmental management, fiscal management, and a range of other activities.

**ICT Human Resource Management.** ICT skill and workforce needs are constantly changing. The trend in new government operating models establishes communities of practice, centres of expertise and service centres to provide agencies with consistent access to expertise in high-demand functions such as security, information management, architecture and standards, supplier and contract management, and mobility. These capabilities will take various forms depending on need and may focus on the whole of government, on sectors, or on the requirements of other clusters of agencies. This will build cohesive and shared capabilities at a system level. When designing the organizational structure and capacity of the ICT department, the government's operating model should be accessed. It is much better to access specialist ICT resources when needed rather than directly employing them, which is normally problematic due to salary differentials between the public and private sectors.

## THE INFRASTRUCTURE MODEL



Figure A.1: Illustration of a National Spatial Data Infrastructure (NSDI).

Source: [http://www.lmi.is/wp-content/uploads/2012/05/INSPIRE\\_Iceland\\_March2012.pdf](http://www.lmi.is/wp-content/uploads/2012/05/INSPIRE_Iceland_March2012.pdf)

This approach will reduce the problems of hiring and retaining ICT specialists that have high market value.

**Sustainable User-Driven Solutions.** End users should to be involved in the entire lifecycle of specifying, designing, implementing and testing ICT solutions. This will ensure that ICT solutions are fit-for-purpose and that end users will fully accept the solutions when delivered. This should include citizens and professionals when external information services are provided. System development methodologies that adopt this end user paradigm in a highly flexible and interactive manner should be adopted for developing all ICT solution investments. End user satisfaction surveys should be carried out annually to obtain feedback on user experiences with the ICT solutions and to identify areas of improvements for the solutions.

**Legal Framework to Support ICT.** The implementation of ICT solutions to support FFP land administration will require extensions to the legal & regulatory framework to accommodate e-signatures, e-conveyancing, and information privacy, for example.

**Monitoring & Evaluation.** The ICT Department's performance should be monitored and evaluated through a number of Key Performance Indicators (KPIs). These KPIs, e.g. percentage time availability of services, response times of support desks, and customer satisfaction, should be encapsulated into a Service Level Agreement between the ICT Department and the ICT business users.



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### Technical Platforms and Standards

Interoperability Enabled by Open Standards. In order to assure an easy and adaptable interoperability layer with other stakeholders, the data model chosen for the FFP Land Administration system should be based on (ISO 19152:2012) - Land Administration Domain Model (LADM) and the derived Social Tenure Domain Model (STDM).

The ICT systems should also be built towards a Web 2.0 user experience. To simplify the user experience in accessing services, technologies like single sign-on (SSO) should be adopted. With this property, a user logs in once and gains access to all systems without being prompted to log in again at each of them.

Over time, as the FFP land administration solution matures, the ICT department should also support a move towards a complete e-government institution and as such, provide the whole range of G2G (government to government), G2B (government to business), G2C (government to citizens) and C2G (citizens to government) services. To achieve this e-government vision, a Service Oriented Architecture (SOA) should be implemented. SOA - is a software design and software architecture design pattern based on distinct components of software providing application functionality as services to other applications.

**Infrastructure & Platforms.** Cloud computing is a set of services or resources offered by different providers through the Internet and you connect to these services through Internet. Cloud computing is about putting more of an enterprise's computing systems, data and services on the cloud and less on personal computers or servers that the enterprise runs for itself. Characteristics of the cloud are: (i) the cloud provides storage space for your data; (ii) the cloud provides

software to process your data (word processor, photo editing, email, contact management, calendar, etc.); (iii) the cloud automatically backs up your data; copies of your data are stored in different geographical areas; and (iv) data can be accessed by multiple users at the discretion of the creator of the data. Within the land administration context, an agency could place its entire land information infrastructure, including data, on the cloud and directly manage and maintain it over the Internet through web services. Customers would also access it over the Internet and be unaware that it was on the cloud.

The main advantages of this approach are that clients can: outsource the burden of maintaining servers and applications; scale systems up or down on demand; access their data and services from anywhere with an Internet connection; and substitute regular, predictable operational expenditures for occasional heavy expenditures on ICT (for servers, for example). Cloud computing requires a robust, high-bandwidth broadband connection to the Internet. It has real benefits, but there are also reasons for caution. Risks include loss of service and data if the provider has downtime or goes out of business; regulatory problems when personal data are stored internationally; security concerns when users lose control of how their data are protected; one-sided service agreements that give users little redress in the event of a calamity; and lock-in dependency on proprietary cloud applications (Thompson and Waller 2011). An incremental implementation may be appropriate where a hybrid cloud is initially created and data may be replicated locally for security.

Within a decentralized organization, it is essential to have an effective telecommunications network. Increasingly, telecommunications capabilities are being sourced "as-a-service", replacing historic

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bespoke (organization specific) and fragmented telecommunications capabilities.

The ways in which people access the Internet and digital services are changing, with mobile device use now commonplace. People should expect to be able to access services any time, from anywhere. Delivery of services to the public and professionals through mobile platforms must be supported.

The technology trend to use cloud-based platforms with Service Oriented Architectures to deliver web services for land administration solutions will simply not work in many developing countries where there are no appropriate telecommunication infrastructures. Simpler, more disconnected solutions will have to be adopted in the interim until high bandwidth telecommunication infrastructures arrive, preferably through shared infrastructures across government. The designs and architectures selected for these simpler, starting solutions need incorporate key design elements to allow effective migration to new platforms.

**Enterprise Architecture.** The target enterprise architecture to be adopted should be the Service Oriented Architecture (SOA). SOA is a software design and software architecture design pattern based on distinct pieces of software providing application functionality as services to other applications. This is known as service-orientation. It is independent of any vendor, product or technology. A typical SOA is illustrated in Figure A.2.

A service is a self-contained unit of functionality, such as retrieving a land transaction statement. Services can be combined by other software applications to provide the complete functionality of a large software application. SOA makes it easy for computers connected over a network to cooperate. Every computer can run an

arbitrary number of services, and each service is built in a way that ensures that the service can exchange information with any other service in the network without human interaction and without the need to make changes to the underlying programme itself. This architecture allows the ICT solutions to more easily adapt to changes in the business processes.

**Information Management.** All existing paper (scanned) and electronic records should be archived using international standard on records management under a clear archiving strategy. It is recommended that new paper-based applications should be scanned upon receipt so that many users can access the applications simultaneously to speed up processing. The Open Archival Information System (or OAIS) reference model, ISO 14721:2003 for structuring and operating archives, is an International Standard and should be adopted.

Data custodians should continuously monitor and assess data quality, to support the creation and implementation of a strategy for data quality improvement, where appropriate.

Business continuity and data resilience must be robustly supported. This will include the use of a business continuity centre and a disaster recovery centre that can be ideally shared across government.

**Privacy.** Although transparency and ease of access to the evidence of land rights data is a key principle of the FFP approach, solutions need to be extremely sensitive to privacy needs of their users. Access to open land information prior to receiving security of tenure can potentially empower the wrong people, leading to land grabbing and corruption. The disclosure of natural resources associated with indigenous people, for example, may precipitate unwanted exploitation.

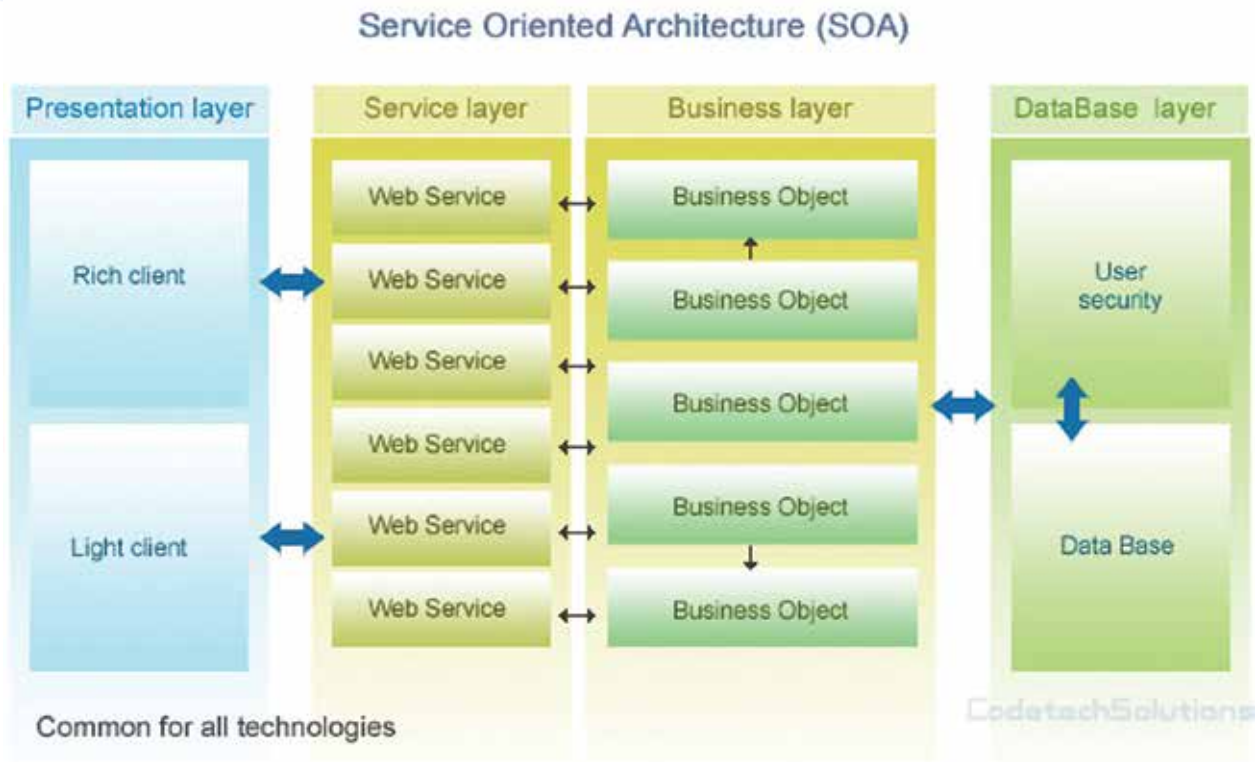


Figure A.2: Typical Service Oriented Architecture. Source: <http://www.codetechsolutions.com/SiteAssets/soa.jpg>.

Privacy and associated trust are key success factors and robust security management must be put in place.

### Key Strategic Decisions

**Free Open Source Software or Proprietary Software Solutions?** International development regularly spend scarce, public resources in investing in code, tools and innovations that are either locked away behind proprietary, fee-based firewalls, or created in a bespoke way for use in sector-specific silos. Projects should increasingly consider the use of an "open" approach to technology-enabled international development, adopting and expanding existing open standards. This exposes open data and functionalities in documented

APIs (Application Programming Interfaces), where use by a larger community is possible. Software is considered as a public good with the code being made available in public repositories and supported through developer communities. In Zanzibar, for example, an initial ICT land administration solution was designed and implemented in one year using Free Open Source Software (FOSS) and local ICT resources. In Columbia, a trial mobile phone based data capture solution was built in two weeks.

Some software solution providers, although providing proprietary solutions, are supporting more flexible and cost effective licensing agreements for large organizations. In addition, they are also supporting

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open platforms using technology standards and industry standards, supporting documented APIs, delivering simpler solutions than in the past, providing geo-spatial information services, e.g. satellite imagery, and providing local support. In some countries where these circumstances arise then this may be a more appropriate technology solution option to choose over the FOSS approach.

Ultimately the choice is about the sustainability, especially total cost of ownership, of the solution and the ability of the solution to meet the initial and future features and capabilities required. In reality, it is not an either/or decision as most solutions in the land sector are hybrids and use a combination. Eventually, it is the standards, industry formats and open software together that enables data and system interoperability. These are keys to success, not whether a specific application is FOSS or proprietary.

*In-house Development vs. Outsourcing?* The decision to adopt a strategy to develop ICT solutions in-house, rather than outsource to the private sector, must consider the total cost of ownership and sustainability of the ICT solutions. Countries like Albania and Zanzibar have successfully developed ICT solutions for land administration using in-house resources. However, the challenge is to retain highly skilled ICT staff that can often demand higher wages than other staff and are highly marketable in the private sector.

Under the conventional process for investing in ICT to support land administration, the client assumes all of the risk: The client issues a tender for ICT and selects the best value proposition; the chosen supplier then delivers and provides support for the ICT solution. If the delivered solution defined by the client is delivered satisfactorily to specification, but is subsequently found to be inappropriate or ineffective in operation then

the fault lies solely with the client. Under a number of new partnership arrangements, however, risk is shared more equitably. For example, the Government of the Philippines is engaging the private sector under public-private partnerships and outsourced service provision models to build computerized land information infrastructure, applications, and land-related e-services. A private consortium is delivering a build/own/operate system that government will fully own after an agreed “concession” (payback) period is concluded (Warnest and Bell 2009).

If the provision and maintenance of ICT is outsourced then the organization still needs to retain enough ICT skills and knowledge in-house to be able to procure the solutions and provide effective contract management.

### B. DELIVERING FFP LAND ADMINISTRATION PROGRAMMES

Although the approach to implementing FFP land administration will vary across country contexts and be driven by country specific strategies, this appendix provides an operational view of implementation. The appendix details a set of operational guidance that has been derived from good practice in FFP land administration projects, in Rwanda (Edwards, 2014) and Ethiopia, for example, to help shape the more practical aspects of implementation. The appendix is structured around the implementation lifecycle and highlights approaches and issues to consider when formulating and implementing a country's specific strategy for FFP land administration.

#### Identify and take advantage of key drivers for change

The imperative to invest in improved land administration services for all in a country is primarily driven by

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politics. The drivers for change can include, for example, constitutional change, need for improved access to economic development, improved economic landscape to attract inward investment, reduce poverty or a requirement to reduce land conflicts and improve social stability. The FFP land administration initiative must directly support these political policies and gain political support and associated funding. This political alignment will clearly define the purpose of FFP land administration.

### Obtain commitment from politicians that the country should adopt the FFP approach

Strong political support is essential for the successful implementation of FFP land administration programmes and this should come from the highest level, with sign-off from the cabinet of the country. The commitment at the very top of government sets the agenda for the rest of the public service and the commitment should filter right down to the local level where significant contributions are required for success. This top-level support will also send a clear signal of intent to the potential development partners to trigger investment in the country.

### Create country specific FFP strategy and roadmap for Land Administration

A fully costed strategy and corresponding implementation roadmap are essential to convince government and development partners to invest. Government targets will primarily shape the programme. For example, in Rwanda, the remit provided to the programme team was that the programme had to demarcate all parcels, be as cost effective as possible, the entire process had to be completed within four and half years (this was a promise made to the public) and the collected data needed to be as accurate as possible.

Therefore, it is important that governments consider and decide upon four key conditions before implementation occurs: scale, accuracy, cost and speed of delivery. The flexible FFP approach allows costs to be significantly reduced (Rwanda was USD 6 per parcel), speed to be increased through simple participatory processes and accuracy set at a level that is appropriate for purpose. These parameters then allow the project to be truly national in scale and deliver land rights for all.

To lower the risk associated with implementing a large-scale programme of systematic land registration, a one off process, it is normally recommended that governments should establish a support team, with help from development partners, to manage the logistics and implementation of the programme team and process on behalf of the government. As capacity is built locally then government resources can incrementally take over responsibilities for managing the programme.

Before a strategy for FFP land administration can be agreed and signed off by the politicians, key elements of the strategy need to be tested on the ground to ensure that it is feasible and effective within the country context. This will be achieved through a series of trials or pilot projects across a range of regions within the country with varying tenure types, land-use types, topography and density of buildings/parcels. Testing should include, for example, various methods of communicating with stakeholders, programme management tools, procurement systems, financial management, monitoring systems, adjudicating and verifying information, demarcation, digitally entering and storing the data. An early, broad review of legislation should also be conducted. This testing will ensure that most of the legal and the majority of process considerations are made and tested so that the programme can commence as early as possible with little hindrance.

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Rather than conducting trials and pilot projects that can be quite costly and time consuming, another approach could be considered that is similar to rapid prototyping methodology for software development. This approach would minimize the upfront trials and initiate the operational phase as soon as possible (Edwards, 2014). The management and monitoring of the initial phase would allow a high degree of experimentation and learning to take place. This would involve a series of iterations of fast learning and solution improvement until the solution had stabilized and can go to scale. This approach requires excellent programme management, associated monitoring and evaluation tool, and staff that are capable of working in this dynamic environment.

### Financial sustainability

The land administration institutions need to be financially secure and sustainable. A number of different business models can be adopted to achieve this; ranging from being financed entirely from the public purse through to self-financing with revenue being generated by charging for transactions and data. One of the most popular options is to use service/transaction fees to raise sufficient levels of self-financing to cover the institutions' investment needs and create a stable operating environment. This approach provides quality services and retains a skilled labour force. Therefore, the institutional framework needs to include a business plan and associated marketing plan that are agreed with government. The GLTN's Framework for Costing and Financing Land Administration Services (CoFLAS) tool is an excellent resource for supporting the business planning exercise. Capacity has to be developed in financial management to strengthen the fiduciary aspects of programmes.

### Create country specific instruction manuals

During the piloting phase of the programme, it is essential that detailed instruction manuals be created to support all the processes involved in the FFP approach. These will form an integral part of the training programmes and will ensure consistency of approach in a national rollout. It is essential that these manuals are dynamic and updated to reflect lessons learned during implementation. This requires a specific change management process that incorporates training updates.

### Start building capacity early

Quickly developed, highly participatory land registration programmes involve a lot of resources. A strategy for recruiting and training para-professionals (locally trained land officers) is crucial for success. In Rwanda, for example, over 100,000 people were employed over the lifecycle of their programme and a community driven process of demarcation meant that someone who was known in the community was responsible for defining the boundaries and not someone from outside the village. Given the scale of the number of field teams operating, around 800 local land officers were employed by the programme at any one time. Once local districts were completed, the local land officers from completed districts were recruited to train the new land officers in the new districts.

The recruitment process for local land officers can be very simple: those who apply have to demonstrate that they can understand the aerial images, find their position on an image and have the attention to detail to draw boundaries.



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A wide range of new skills is required, including procurement and contract management, quality assurance, information management, ICT and Human Resource Management, for example. A resource and associated capacity building plan is a key element of this programme planning stage.

To build sustainability into the programme it is essential to plan at this early stage for on-going maintenance of the land administration solution. As soon as the first land rights are secured then the resources and processes for maintenance, e.g. sales, inheritance and leases, should be fully operational. Human and physical resources will be needed to support at least 5 per cent change to the records annually.

As the land administration scales, it is recommended that institutional assessments be carried out to ensure that the institutional arrangements are appropriate for the range of services being provided and the maturity of the land administration solution.

### Build scalable ICT solutions that can grow with the programme

One of the usual high fixed costs in FFP land administration programmes is the cost of software licences and other costs in purchasing commercial packages. This impacts one of the key targets of keeping the FFP approach as cost effective as possible. Several programmes have found that adopting a mixture of commercial and Free and Open Source Software (FOSS) solutions can provide cost effective alternatives. Over time, confidence in FOSS solutions can be gained and more commercial solutions replaced by FOSS solutions. However, organizations need to ensure that there are good technical/developer skills available to support the FOSS solution.

Simple, cost effective FOSS tools can be built to support demarcation and digitizing of the spatial units, for example. However, the programme needs to establish a National Land Information System to manage all the records and all subsequent transactions in land. This needs to be carefully architected and database driven in order to achieve as secure and resilient, industrial strength enterprise system which is capable of managing the millions of records and transactions in a fully operational environment. However, many programmes fail to reach anticipated scale. It is recommended to design for scale from the start, and assess and mitigate dependencies that might limit ability to scale. Analyse all technology choices through the lens of national and regional scale and demonstrate impact before scaling a solution.

The ICT constraints of a country must be evaluated and understood, as the ICT solution needs to operate within these constraints. Many ICT solutions in developing countries have failed through not understanding the technical capabilities and context of the country.

### Focus on public consultation and awareness raising

One of the most important elements in implementing a FFP land administration programme is to ensure that the public are fully informed of their rights, their obligations under those rights and what the land rights means for them. The programme deals with one of the most important assets that people have: land. People will naturally be wary and cautious of any change in regards to their land, especially if they do not fully understand what is happening and why.

Another reason for increasing understanding is to assist the implementation process of the programme so that it occurs quickly. If the claimants are unaware

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why the process was occurring, they may choose not to participate or to raise many queries and objections before participating. The FFP processes are highly participatory to encourage significant ownership of the processes by the public. If the public do not understand why it is occurring then the process will be at risk of suffering from a lack of ownership and stall. It also raises awareness of how to lodge a dispute and the process required to reach a resolution. If the public do not buy into the formal land administration system then they will simply use an informal system. Therefore, an on-going marketing campaign must be designed to continually inform and convince the public to continue to use the formal land administration system. This will build trust with the public, and the continued use of the formal system will generate the revenues necessary for its sustainability.

Many channels to communicate and inform the public can be used, such as public meetings, radio spots, television adverts, posters, leaflets and picture flipcharts. However, the types of channels used will vary depending on the location and culture of the communities. For example, in rural areas public meetings and word of mouth may well be the form of communication that most people are used to and comfortable with. Meetings allow participants to raise questions whereas radio spots or posters are simply instructive.

### Do not underestimate resources required for back office processes

A key part of the programme that is often overlooked in designing FFP land administration programmes is the office-based activities and workflow: data entry, digitization and certificate production, especially non-technical activities such as checking data and employing a suitably sized workforce to stamp and issue the certificates. Understanding how edits/updates

will be committed, connected (online) or disconnected (offline), to the database is essential as that will determine the architectural requirements and inform costs and complexity. This is a key area for cost savings when managed effectively. All programmes need to consider these apparently menial tasks and the effort that is required to carry them out to an appropriate level. It is essential from a quality assurance point of view that these teams are in place otherwise the targets will never be met.

### Set targets, continually monitor progress and improve the programme

At the macro level, governments should ensure that the goals for the FFP land administration programme are included in various related performance targets for the country as a whole, e.g. economic development and poverty reduction strategy. This will demonstrate the commitment of the government at the national level. Targets should also be agreed at the local level and set in performance contracts, e.g. with local government at the district level of administration. All of these targets set across the entire framework of government demonstrate the overall commitment to the outcome of the FFP land administration programme. A regular external review/audit of the monitoring system should be conducted to ensure that the targets are still appropriate, easy to understand and not too complex.

These targets form the basis of the Monitoring and Evaluation framework for the programme and the corresponding data need to be managed within a Management Information System; this can initially be a set of spreadsheets that users complete on a regular basis.

The FFP land administration programme relies upon the constant monitoring of data to track whether the



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programme is on the estimated programme plan or not. This not only assists in programme control, but also allows for the setting of more realistic targets as the programme management team learn what is achievable and not for each activity. The more realistic and achievable the targets the better the performance as targets are normally set to push implementation teams, whilst remaining achievable.

Collecting performance data on digital inputs is straight forward as this can be built into the data entry software to count the number of entries. However, field performance data is intrinsically more difficult to gather since the programme operates all over the country and can employ thousands of people at any one time. Therefore, reporting needs to be decentralized along the same lines as the programme team, with data being aggregated up the organization's hierarchy. Each level of reporting should have its own quality check to ensure data are precise.

FFP land administration programmes need to ensure that every customer receives the same high standards of service. Various tools can be used, such as mystery client surveys and customer satisfaction surveys as well as carrying out baseline and indicator tracking reports. The data from these reports provide management and major stakeholders with a more in-depth study of the customers' response to the programme.

The entire programme needs to have a robust Total Quality Management solution to ensure that processes are delivering the required quality within the FFP land administration approach. For example, once the information collected in the field has been assimilated and digitized then the digital data needs to be taken back to the field for a process of verification to ensure the data are correct and to allow for any further disputes to be raised before the records are finally approved.

### Ensure Equality

For these FFP land administration programmes to be successful it is vital to ensure there is no discrimination and the processes are systematic; the output is land rights for everyone. Ensure that the actual rights of people are being clarified and the rights are not being given to other people.

### Learn quickly from mistakes

Although the FFP land administration strategy was trialled and tested using pilot projects, it is inevitable when scaled up to a national level that mistakes will be made. This means that trial and error will always be apparent, especially in the early stages of a programme when a best fit is sought. It is important to understand that errors will be made at the beginning, but if the government resources and support team are open to lessons learned and innovations based upon reliable management information system data and are committed to adapt then the programme will evolve into an effective solution.

### Decentralize and unlock administrative and community resources at the local level

In countries with a very strong local administrative structure, the FFP approach can be effectively decentralized to the local level. This creates local administrative commitment where citizens have access to services delivered by members of their community and this builds trust in the process of change. However, in more centralized governments this may not be the case, which further demonstrates how FFP land administration needs to adapt to the context in which it is operating.

## APPENDICES

One of the key lessons learned is that citizens have to feel ownership in the process for it to work, especially since it is a countrywide initiative. If communities believe that they are not in control of the process when dealing with land reform then it is far more likely to cause conflict and stress; this is why it is recommended that people from the local area carry out demarcation. It not only means that the person demarcating the land is someone who the customer can relate to, but it also means that someone is in the local area who knows how FFP land administration works and has a basic understanding of why it is necessary, a key public information source.

The use of local people to support the programme can also have significant socio-economic benefits across communities. In Rwanda, for example, the land reform programme provided income through contracting and allowances to over 100,000 Rwandans. Many staff used their earnings to partake in master level courses and many of those used were recruited in government positions at the end of the programme.

### Post-project considerations

**Maintenance of land rights/spatial units.** It is essential in the FFP approach to land administration that processes and resources to maintain the land information is an integral part of the initial programme design. This applies to the spatial component (aerial imagery) as well the textual component (land register). Maintenance is required from the first day of operation. If resources and processes are not in place and validated to provide information maintenance then do not start the programme, see also Section 4.4 above where the demands for updating and maintenance are explained in more details.

**Maintenance of imagery.** Land administrations projects need to better consider the strategy for how future updates will be made to the orthophoto imagery. A number of options exist: a “programme driven” approach whereby the whole country is updated through a rolling programme - typically multi-year; a piecemeal “transaction driven” approach can be employed and simply reacts to changes on the ground.; and UAVs can be used to capture localized areas of imagery quickly and cheaply from which the land information can be updated. In practice, experience shows that a careful combination of “programme driven” and “transaction driven” approaches tend to yield best results. When the imagery is updated, care must be taken to ensure that existing spatial units still fit the new ortho-rectified imagery.

The initial imagery in combination with the defined spatial units forms the legal document for decisions on rights and must be archived for future reference.

It is also important to consider the longer-term strategy for how land administration will remain fit-for-purpose in the future for areas of increasing economic activity, denser development and rising land prices. The FFP approach allows for the gradual upgrading of the land administration system over time. It would be wise to identify where and when this might need to occur and to consider incorporating any such needs into the updating strategy, especially the scale of imagery.

### **Capture and maintenance of topographic features.**

The output from the FFP approach to land administration has been the spatial units of land rights. However, the imagery forming the spatial framework provides the opportunity for other institutions and organizations to digitize infrastructure and other topographic features to build a more complete NSDI when required.



#### UNITED NATIONS HUMAN SETTLEMENTS PROGRAMME (UN-HABITAT)

UN-Habitat helps the urban poor by transforming cities into safer, healthier, greener places with better opportunities and where everyone can live in dignity. UN-Habitat works with organizations at every level, including all spheres of government, civil society and the private sector, to help build, manage, plan and finance sustainable urban development. Our vision is cities without slums that are liveable places for all, which do not pollute the environment or deplete natural resources. More information at [www.unhabitat.org](http://www.unhabitat.org).

#### THE NETHERLANDS' CADASTRE, LAND REGISTRY AND MAPPING AGENCY (KADASTER)

Kadaster is a non-departmental public body, under the political responsibility of the Minister of Infrastructure and the Environment. It collects and registers administrative and spatial data on property and the rights involved. Doing so, it protects legal certainty in the Netherlands. Kadaster believes in its social responsibility to respond to applications of countries that have a need for support on land registration, land consolidation and geographic information. If rights are registered, owners have legal security. A sound land registration is an instrument for economic development and improvement of living conditions. More information at [www.kadaster.nl](http://www.kadaster.nl).

#### THE GLOBAL LAND TOOL NETWORK (GLTN)

GLTN aims to contribute to poverty alleviation and the Millennium Development Goals through land reform, improved land management and security of tenure. The network has developed a global land partnership. Its members include international civil society organizations, international finance institutions, international research and training institutions, donors and professional bodies. It aims to take a more holistic approach to land issues and improve global land coordination in various ways. For further information, visit the GLTN web site at [www.gltn.net](http://www.gltn.net).



## ABOUT THIS PUBLICATION

The publication is primarily designed to allow a range of stakeholders in developing countries to understand the overall Fit-For-Purpose approach and to recognize the benefits of adopting this approach. The Fit-for-Purpose solutions provide opportunities for land administration systems to deliver benefits, including secure tenure rights, to a wide range of stakeholders within a relatively short time and for relatively affordable costs in a flexible manner.

It provides structured guidance on building the spatial, legal and institutional frameworks in support of designing country-specific strategies for implementing FFP land administration. It contains the analysis and operational advisory guidelines to implement the approach.

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