Implementing Fit-For-Purpose Land Administration at Country Level

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Key words: Fit-For-Purpose Land Administration, Strategy for Implementation

SUMMARY

This paper looks at Implementing Fit-For-Purpose (FFP) land administration solutions at county level. Such decisions will of course be political and aiming at solving the specific land related problems of the country. This will require a country specific strategy drawing from the FFP guiding principles as presented in the recent GLTN publication (GLTN, 2016).

The publication is a response to the challenges set by 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 approach to land administration has emerged to meet these global objectives especially in developing countries. New solutions are required that can deliver security of tenure for all, are affordable and can be quickly developed and incrementally improved over time.

However, the Fit-For-Purpose concept is not just a technical fix. It is about applying the spatial, legal and institutional methodologies that are most fit for the purpose of providing secure tenure for all and enabling control of the use of all land within a specific country.

This paper aims to present the first step of implementation by unfolding the contents of this kind of country specific strategies. Arguably, they should include the following steps: 1) Analysis of country context; 2) Analysis of existing spatial / legal / institutional frameworks; 3) Developing a country specific FFP strategy for land administration; 4) Designing the country specific FFP spatial / legal / institutional frameworks; 5) Capacity Development; 6) Country Specific Instruction Manuals; and 7) Economic Benefits Analysis.

Finally, the paper presents some experiences and reflections from a case study on implementing the FFP approach for land registration in the Gresik District, East Java, Indonesia. The district includes about 800.000 land parcels of which only about 260.000 are currently registered.

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1. INTRODUCTION

Solutions to the overall global land issues relate to 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 all the 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 (UN, 2015). Also, the Voluntary Guidelines on Responsible Governance of Tenure set out principles and internationally accepted standards for practices for the responsible governance of tenure: public, private, communal, indigenous, customary, and informal (UN-FAO, 2012).

Even if security of tenure is now placed 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 who do not; at a global scale the distribution is currently about 30 per cent who have and 70 per cent who do not.

Over many decades attempts have been made 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 implementation of traditional, Western style land administration systems is simply too costly, time consuming and capacity demanding. It is estimated that by current rates and methods it will take many decades and probably centuries to achieve anywhere near full global coverage.

The Fit-For-Purpose (FFP) Concept has been developed in reaction to the challenges set by 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 FFP concept should therefore be seen as an enabler for implementing these global standards in developing countries.

This paper presents briefly the role of land governance in support of the global agenda, followed by a short introduction to the FFP concept. The paper then focuses on developing country specific strategies for implementing FFP land administration systems especially in developing countries where often up to 90 percent of the country and population are outside the formal systems. Finally, the paper presents some experiences and reflections from applying the FFP approach to the Indonesian context.

2. SUPPORTING THE 2030 GLOBAL AGENDA

The Millennium Development Goals (MDGs) ended by 2015 and are now replaced by the Sustainable Development Goals (SDGs) with a new, universal set of 17 Goals and 169 target that UN member states are committed to use them to frame their agenda and policies over the next 15 years, see Figure 1. The goals and targets integrate economic, social and environmental aspects and recognise their interlinkages in achieving sustainable development in all its dimensions (UN, 2015). While the MDGs did not mention land directly, the SDGs include a number of goals with a direct reference to the land issues. Land governance is now placed at the very top of the global agenda.

Figure 1. The Sustainable Development Goals (UN, 2015).

Land governance is about the policies, processes and institutions by which land, property and other natural resources are managed. This includes decisions on access to land, land rights, land use, and land development. The operational component of the land governance concept is 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). Land administration systems, this way, provide a country with an infrastructure for implementing land policies and land management strategies in support of sustainable development (Enemark, 2004, Williamson et.al. 2010).

The SDGs include six goals with a significant land component mentioned in the targets. For example, in Goal 1, that calls for ending poverty in all its forms everywhere, target 4 states that by 2030 all men and women will have equal rights to ownership and control over land and other forms of property. This calls for closing the security of tenure gap that exists in most developing countries. Similarly, the land component is referred to in target 3 of Goal 2 on ending hunger, and more generally in Goal 5 on gender equity, Goal 11 on sustainable cities, Goal 13 on climate action, Goal 15 on life on land, and Goal 16 on peace, justice and strong institutions. These goals and targets will never be achieved without having good land governance and well-functioning country wide land administration systems in place.

There is a strong request for effective monitoring and assessing progress in achieving the SDGs. 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 and evaluation framework is crucial for encouraging progress and enabling achievements at national, regional and global level. Therefore, about 240 indicators are developed to enable measuring the progress of achieving the targets. This progress will be presented in an annual progress report from the UN. Also, the World Bank, in conjunction with UN and other partners, has developed the Land Governance Assessment Framework (World Bank, 2011) for benchmarking and monitoring the core areas, such as the legal and institutional frameworks. The wider global agenda includes a range of land related issues as briefly presented below and illustrated Figure 2.

Figure 2. The wider global agenda includes a range of land related issues.

Responsible governance of tenure is now incorporated as part of the global agenda through the Committee on World Food Security's Voluntary Guidelines on Responsible Governance of Tenure (UN-FAO, 2012) placing tenure rights (whether legal or legitimate) in the context of human rights. They are an international "soft law instrument" that represents a global consensus on accepted principles and standards for responsible practices.

The Social Tenure Domain Model as developed by GLTN / UN-HABITAT (FIG / GLTN, 2010) includes a "scaling up approach" with a range of steps from informal to more formalised land rights. This aims to ensure that legitimate rights, such as occupancy and customary tenure, are recognised.

The Human Rights Declaration (UN, 1948) is stating the universal rights of human beings based on the principle of respect for the individual. In relation to land governance, the declaration states "that everyone has the right to possess property (security of tenure) and the right to adequate food, clothing and housing". Land Administration encompasses a human rights dimension that should be seen and unfolded as more than just political rhetoric (Enemark, et.al., 2014).

Climate Change and Disasters is a defining challenge of our times (IPCC, 2014). This relates to the degree to which climate change adaptation and disaster 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 (Mitchell et al., 2015).

Rapid Urbanisation causes severe ecological, economic and social problems (UNDESA, 2015). It is recognised that over 70% of the urban growth currently happens outside of the formal planning process and that 30% of urban populations in developing countries are living in slums or informal settlements. In Sub-Sahara Africa, 90% of all new urban settlements are taking the form of slums (FIG / WB, 2010).

Solutions to the overall global land issues relate to 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 SDGs and the land professionals are the custodians of the systems dealing with these land issues and responsible for delivering appropriate land administration services.

3. THE FIT-FOR-PURPOSE CONCEPT

Most developing countries are struggling to find remedies for their many land problems that are causing land conflicts, reducing economic development and preventing their countries reaching their true potential. Existing investments in land administration and management solutions have been piecemeal and have not delivered the required changes and improvements at scale. The solutions have not helped the neediest; the poor and disadvantaged with no security of tenure. In fact, the beneficiaries of this unsustainable management of land have been the rich, elite and organisations involved in land grabbing. It is time to rethink the approaches. Solutions are required that can deliver security of tenure for all, can be quickly developed and are scalable. Such a solution was introduced by (FIG/World Bank, 2014) and further unfolded in the recent GLTN publication on Fit-For-Purpose Land Administration – Guiding Principles for Country Implementation (GLTN / UN-HABITAT, 2016).

There are three fundamental characteristics to the FFP approach. First, there is a focus on the purpose and how best to achieve it; second, FFP requires flexible design to work within constraints; and third, it emphasises the perspective of incremental improvements to provide continuity and applicability:

- **The purpose**. The FFP approach is focused mainly on the purpose of providing secure tenure for all. The means to achieve this should then be designed to be the most "fit" for achieving this purpose rather than blindly being guided by rigid standards for accuracy and top-end technological solutions. The phrase "As little as possible – as much as necessary" reflects the FFP approach.
- **Flexibility.** FFP is about flexibility in terms of varying demands for spatial accuracy and for shaping the legal and institutional frameworks to accommodate societal needs as best as possible. FFP also includes the flexibility for different kinds of tenure, ranging from social or customary tenure to more formal kinds, such as private ownership and leasehold.
- **Incremental improvement.** The solutions should be designed to meet basic societal needs by balancing the costs, accuracy and time involved. This creates a "minimum viable product". Incremental upgrading and improvement can be undertaken in response to societal and legal needs and emerging economic opportunities.

The concept of FFP includes three core components: the spatial, legal and institutional frameworks, see Figure 3. Each is flexible and can be improved in response societal needs and financial resources.

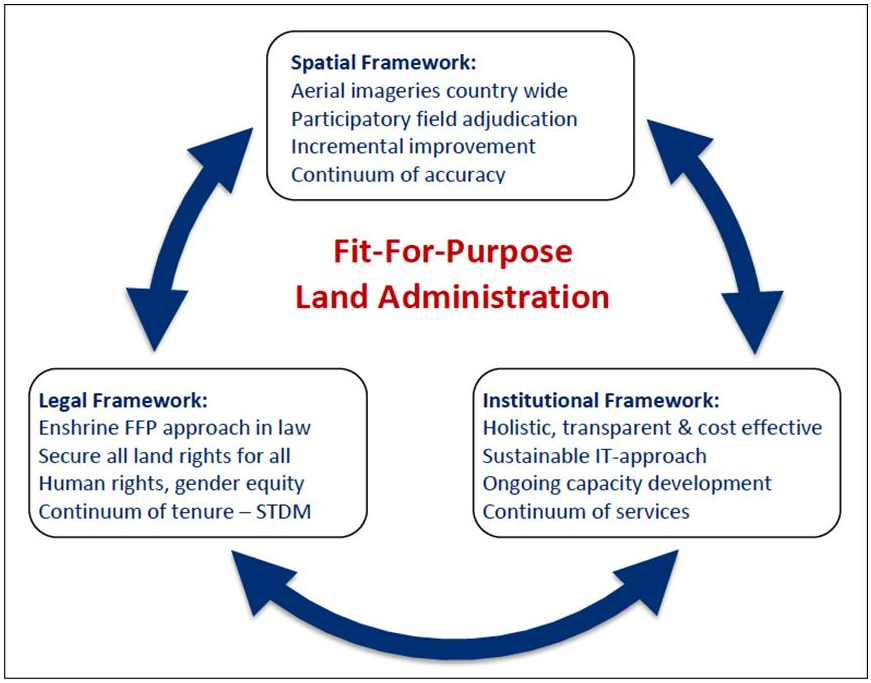

Figure 3. The FFP concept (GLTN/UN-HABITAT, 2016, p. 17)

The spatial framework aims to represent the way that land is occupied and used. The scale and accuracy should support security of legal rights and tenure, as well as managing these rights and the use of land and natural resources through the institutional framework. FFP therefore needs to be enshrined in the legal framework, and the institutional framework must be designed in an integrated, transparent and user-friendly way to administer this regulatory set-up. This administration again requires reliable and up-to-date land information, provided through the spatial framework. The FFP approach includes four key principles for each of the three frameworks as outlined in Table 1.

KEY PRINCIPLES		
Spatial framework	**Legal framework**	**Institutional 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	▪ 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	▪ 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

and ongoing improvement	land and property rights.	access for all

Table 1. The key principles of the Fit-for-Purpose approach.
(GLTN/UN-HABITAT, 2016) 19).

While conventional cadastral systems use documentation of the surveyed land parcels as a basis for entering rights into a land registry, FFP uses aerial or satellite imagery, wherever possible or appropriate, to identify, delineate and adjudicate the visible parcel boundaries, and the rights are determined and entered into a register. This is essentially a participatory approach undertaken by locally trained land officers and involving all stakeholders. Furthermore, while conventional cadastral systems are highly standardised, the FFP approach is flexible in terms of the accuracy demanded (and associated measurement approaches) and also in relation to tenure types to be secured. The land administration system can be upgraded and incrementally improved. The FFP approach can be shaped by a country's requirements and does not always need the latest technology or costly, time-consuming conventional field surveys. Furthermore, it can be adapted to different regional topographies and development densities and accommodate variations in tenure type. A nationwide approach encompassing all tenure types and land, is then affordable and can be achieved in a reasonable timeframe, depending on the size of the country. The approach can be sustained by a network of locally trained land officers, who expand the capacities of the limited number of land professionals.

4. DEVELOPING COUNTRY SPECIFIC STARTEGIES FOR IMPLEMENTATION

FFP will involve significant change from all stakeholders in the land sector and 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 21st century.

This Guide as presented above 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 should provide direction and guidance on building the spatial, legal and institutional frameworks in support of designing the country specific strategies for implementing FFP land administration. This process is illustrated in Figure 1 below.

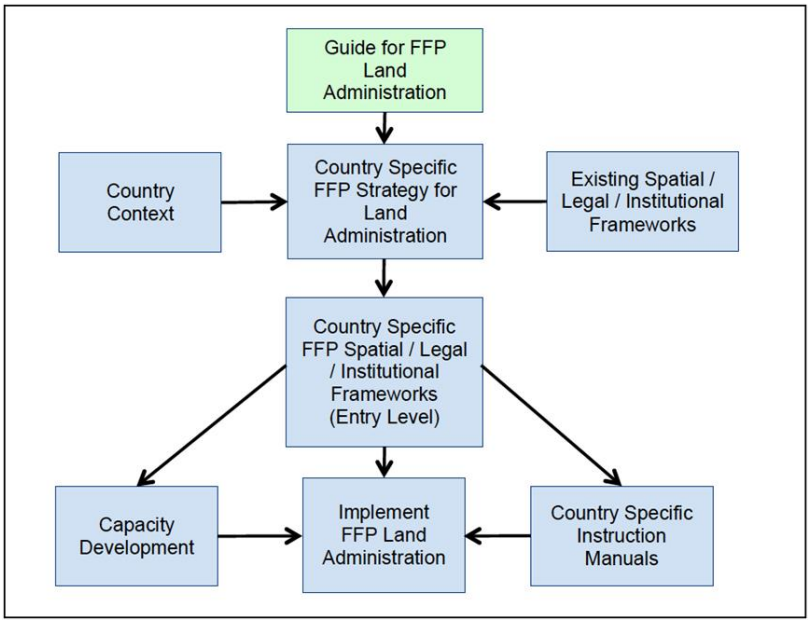

Figure 4. The use of the Guide for implementing country specific FFP land administration. (GLTN/UN-HABITAT, 2016 p. 7).

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 country context analysis will involve identifying the culture, conditions and policies prevalent within a country that constrain and shape the way that FFP land administration can be implemented within the country. An analysis of the existing spatial / legal / institutional frameworks will define the current approaches and identify any constraints for change. These analyses may follow the frameworks as outlined in the World Bank Land Governance Assessment Framework (LGAF) (World Bank, 2011). The FFP Guiding Principles will then be used 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. The process is described in more detail below and will include the following steps:

1. **Analysis of country context**. This will involve identifying and baselining the conditions and policies prevalent within the country that constrain and shape the way that FFP land administration can be implemented within the country. In many developing countries a National Land Policy does not exist and policies, where they exist, are fragmented across sub-sectors of land administration and management. The analysis will involve identifying and baselining the conditions and policies prevalent within country that constrain and shape the way that FFP land administration can be implemented within the country.

   This will include, for example, level of political commitment, results of key stakeholder analysis, any existing national and sectoral land policies and associated land management strategies, capacity assessment of the land sector (public and private sectors), donor policies, lessons learned from existing approaches to land administration, extent and quality of existing land information, role of private sector and other partners in delivering land administration services, ICT solutions for land administration and business model to support land administration. This analysis will also identify the fundamental purpose of

land administration within the country and processes of operation, and it will ensure that the solution for FFP land administration is feasible within the country.

The result of the country context analysis may conclude that there is no political will to change the formal land administration system within the country. Therefore, the introduction of FFP land administration should be delayed until an engagement strategy has been successfully implemented to obtain political commitment. This situation raises the importance of local initiatives, e.g. using STDM system and crowdsourcing evidence of land rights, to recognise and record legitimate rights. These local initiatives will potentially act as change agents and increasingly apply pressure on the politicians to change the formal land administration system and implement the FFP approach.

2. **Analysis of existing spatial / legal / institutional frameworks.** This process will baseline the current approaches to the spatial, legal, and institutional frameworks and their functions, capacity, and effectiveness, and also identify any constraints and inefficiencies in the approaches. For example: the spatial framework is based on monumented boundaries established with land surveying approaches, there is no satellite imagery available for the country; there is no National Spatial Data Infrastructure (NSDI) strategy and there has been limited maintenance of the spatial information; the legal & regulatory framework does not recognise legitimate and customary rights; regulations restrict the identification and recording of the spatial units to licensed surveyors; no public access to land information is allowed and only the courts can register land rights; the institutional framework is heavily centralised and fragmented across central government; there is no partnership with the private sector to deliver services; and institutional capacity is limited to the central administration.

3. **Developing a country specific FFP strategy for land administration.** Using the results of the country context analysis and the baselines of the existing spatial, legal & regulatory and institutional frameworks, the FFP Guiding Principles will be used to create the country specific FFP strategy for land administration. The strategic components may include, for example:
    - **strategic vision and purpose:** stating the aim, objectives, purpose and priorities of building a countrywide land administration system using the FFP approach.
    - **land governance arrangements:** setting standards for good land governance and applying the Voluntary Guidelines for Responsible Governance of Tenure (VGGTs) (UN-FAO, 2012).
    - **entry level set of components for designing the spatial, legal & regulatory and institutional frameworks:** describing the fundamental / minimum level of contents for each of the three frameworks that just needs to meet the basic requirements of customers in delivering the purpose. The three components are inter-related and need to be integrated into an overall design. Then over time, the solutions can be enhanced through a number of iterations, as demand for new requirements has to be met.
    - **ICT and information management:** identifying the basic ICT requirements for building and maintaining the system. The design should be user-driven, scalable, and built for sustainability. This is likely to be a hybrid of Free Open Source

Software (FOSS) and proprietary solutions. An associated ICT capacity development strategy is a key success factor.

- **maintenance arrangements:** setting the basic standards for maintenance of the system in terms of updating information and upgrading technology, and allocation of mandates / responsibilities for the tasks to be carried out. This also relates to capacity development initiatives in order to ensure that sufficient capacity is available for maintaining the system once it is put into force.
- **institutional arrangements:** stating the (re)arrangements of governmental responsibilities at various levels of administration and describing the overall work processes, in terms of activities, requirements and responsibilities. This may involve new partnerships with other parts of government, e.g. local governments to support decentralization and outreach to communities. This is also an opportunity to rationalize any existing institutional fragmentation in the land sector.
- **partnership arrangements:** stating the aim of forging strong partnerships with land profession associations, NGOs, CSOs and the private sector to achieve the overall vision and purpose, e.g. public private partnerships (PPPs) can work successfully to provide value-for-money services, although the ultimate control must lie with the state when related to the public good. Partnerships will also have to be established to manage the network of new, locally trained land officers.
- **change management:** describing the process of change management in relation to implementing the FFP approach. This will include a stakeholder analysis, identification and assessment of change agents, and implementation of change interventions. The adoption of the FFP approach is primarily a change management project and will be supported through effective capacity development.
- **capacity development:** designing a capacity development approach that can deliver the overall aim and objectives for implementing a FFP approach. This will include three stages: assessing the current capacity at societal, institutional and individual levels, creating a capacity development strategy, and implementing capacity development strategy.
- **risk management:** identifying, assessing and managing the risks and uncertainties, and allocating the means and resources to address and mitigate such risks.
- **business model:** assessing the costs and benefits of implementation and identifying ways of financially, sustainably supporting the FFP approach. This may vary from central government budget support through to cost recovery from associated revenues from services.
- **financial plan:** accounting the costs and allocating the financial resources associated with the agreed implementation plan. This should be for a five-year window rather than just annual plans.
- **implementation plan:** designing the timeline for implementation of the various components. This will reflect the priorities agreed for geographical coverage, urban vs. rural, types of tenure, etc., to achieve national coverage. A country may decide to prioritize areas where there are high levels of insecurity of tenure

causing potential conflicts, for example. The implementation plan will be continually revised through feedback from the monitoring and evaluation framework to implement lessons learned and improve efficiency. The corresponding capacity development program and financial capacity will primarily influence the timeframe for rollout.

- **monitoring and evaluation framework:** designing a framework to monitor and evaluate the effectiveness of capacity building activities, change interventions and implementation processes to provide feedback for improvements. This also relates to instigation of a self-monitoring and improvement culture.
- **sign off by politicians:** The strategy will have to be signed off by senior civil servants and the politicians.

4. **Designing the country specific FFP spatial / legal / institutional frameworks.** The implementation of the country specific strategy will result in a new, entry level set of spatial, legal & regulatory and institutional frameworks that can deliver the purpose nationally. The frameworks have to be described in more details using the FFP key principles as a guidance. There are clear dependencies amongst the frameworks. Therefore, the sequence of implementation of the frameworks must be carefully coordinated.

5. **Capacity Development**. The capacity development strategy identifies a long-term capacity development goal. However, the strategy needs to be detailed in relation to the capacity needs for building the country specific spatial, legal and institutional frameworks. Furthermore, implementation of the strategy has to be incremental with intermediate goals and strategic objectives that will contribute to achieving the long-term goal. The capacity development strategy will be implemented within the agreed change model across all stakeholders.

6. **Country Specific Instruction Manuals.** Detailed instruction manuals defining the processes and procedures for implementing FFP land administration must be created to ensure that all stakeholders, at all levels, implement the solution in a consistent way.

7. **Economic Benefits Analysis.** Conducting an analysis of the economic, environmental and social benefits to be realised through implementing the FFP land administration strategy for the country. This should include a cost comparison between the current, traditional method for land administration and the proposed FFP land administration approach. The results of the economic analysis will help to obtain support from the politicians and drive the necessary changes.

The strategy as outlined will ensure, that the FFP concept and the connected principles will be applied within the specific country context. The country specific strategy for implementing a FFP approach, as outlined above, should be seen as a strategic framework where the various corresponding components can be improved and further detailed throughout the implementation process.

5. THE CASE OF INDONESIA

The Republic of Indonesia, located in South East Asia and around Equator. The country is close to 2 mill square kilometers, and with a population of around 260 million people, Indonesia is the world's fourth most populous country. Administratively, Indonesia consists of 34 provinces with its own legislature and governor. The provinces are subdivided into regencies and cities, which are further subdivided into districts and again into administrative villages (Wikipedia). It is estimated (Gresik District Land office, East Java Province) that Indonesia has about 120 million land parcels of which about one third are registered and only about half of these are spatially identified. About 3 million new parcels appear each year.

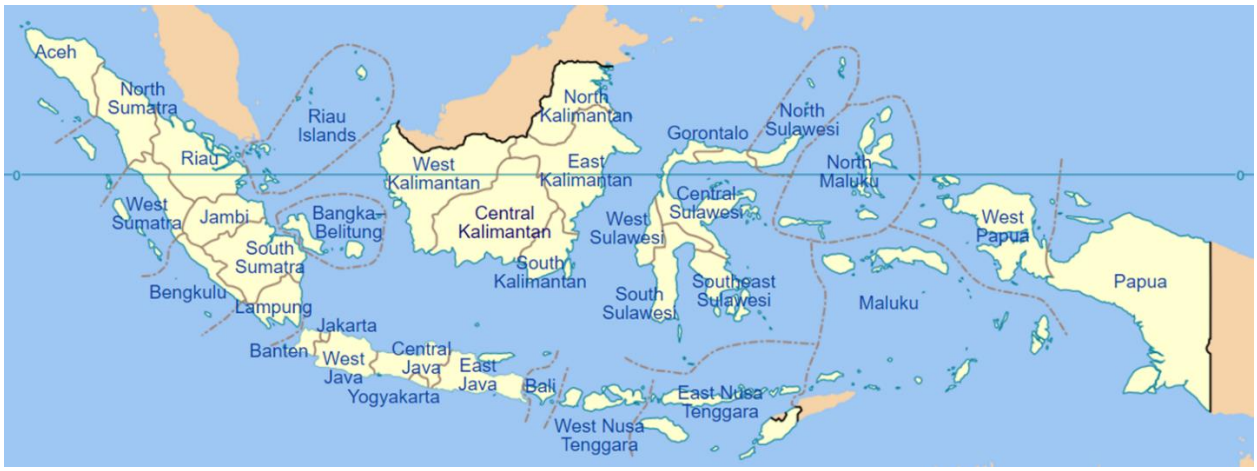

Figure 5. Map of Indonesia with its 34 provinces (Source: Wikipedia).

Indonesia is facing a range of land related problems due to an unclear policy and regulatory framework and a fragmented and incomplete land administration system hinders the management and governance of land and natural resources in Indonesia. Land administration in Indonesia is divided between forest lands administered by the Ministry of Environment and Forestry (MoEF) and non-forest lands administered by the Ministry for Agrarian and Spatial Planning (BPN). This results in duplication of policy, legal and institutional frameworks, unclear tenure arrangements and legal recognition. The dualism also contributes to the slow recognition of customary ("adat") communities' rights on land and hinders the government's ability to optimize land use and protect resources (World Bank, 2016).

In addition to the above issues, there are lack of common base maps, data and coordination, incomplete demarcation of administrative boundaries, and centralized decision making, have led to the spread of overlapping and non-demarcated land allocations. The lack of a unified spatial framework contributes to the insecurity of tenure, which cause disincentives for long term care of lands, forests and other natural resources favouring quick wins and fencing. This uncertainty has created multiple conflicts between communities and other land users (ibid).

In response, the Government of Indonesia (GoI) introduced the One Map Policy (OMP); an effort to establish a unified, agreed-upon base set of geospatial data (i.e., topography, land use, and tenure) that informs decision-making at the national and sub-national levels as the basis of the National Spatial Data Infrastructure (NSDI). Implementation of this OMP will of

course require changes and adjustments of the legal and institutional framework. So Indonesia is a good example of the benefits of implementing the FFP concept at country level.

The current OMP methodology aims to produce 1:50,000 scale maps based on over 80 thematic datasets and with limited or no ground verification. However, in order to reliably identify the land use and occupancy at the district and village levels, the Ministry of Home Affairs has set a policy to support OMP with village boundaries mapping by district governments at a scale of 1: 10,000 or larger upon need, to be implemented by the districts as part of the OMP using accurate geospatial data. Furthermore, The President has set a target for registering 5 million land parcels in 2017, 7 million in 2018 and 9 million in 2019. This target can only be achieved using a FFP approach. Some preliminary piloting has already taken place e.g. in Gresik District, East Java, see Figure 6.

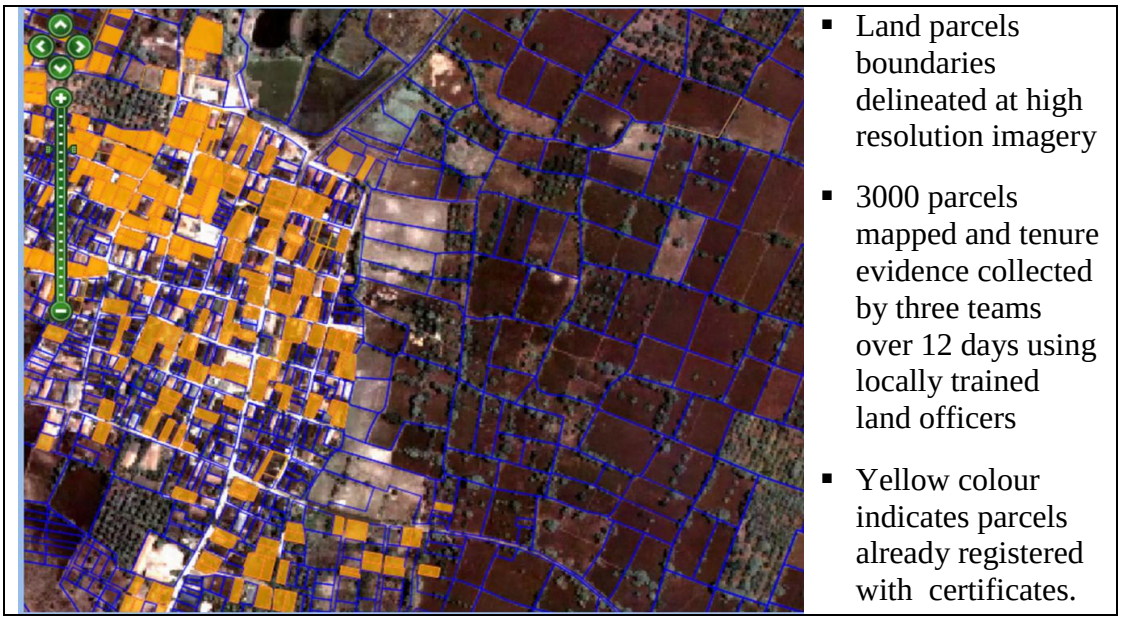

Figure 6. Example of demarcation of land parcels using high resolution imagery. (Source: Gresik District Land Office, East Java province).

Experience from this kind of piloting looks very promising, even though the legal & regulatory framework will have to be adjusted in order to allow for mandatory registration as part of the participatory process of boundary identification. Overall the benefits of implementing the FFP approach can be summarised as shown in Table 2:

Current key issues:	**FFP solutions:**
▪ Sporadic registration with measurement and boundary marking of individual parcels. ▪ Demands for accuracy of measurement and area. ▪ Fragmented sectors for land tenure, land value and land use.	▪ Systematic registration with aerial mapping and participatory land adjudication. ▪ Visual boundaries and areas calculated on the map ▪ Integrated land management based on a one map policy.

▪ Lack of capacity and land professionals.	▪ Use of locally trained land officers acting as trusted intermediaries.

Table 2. FFP transition process in Indonesia.

6. CONCLUDING REMARKS

There is a general consensus that governing the people to land relationship is at the heart of the 2030 global agenda. There is an urgent need to build simple and basic systems using a flexible and affordable approach to identify the way land is occupied and used, whether these land rights are legal or locally legitimate. The systems need to be simple and flexible in terms of spatial identification, legal regulations and institutional arrangements to meet the actual needs in society today and they can then be incrementally improved over time. Building such spatial, legal, and institutional frameworks will establish the link and trust between people and land. This will enable the management and monitoring of improvements in meeting aims and objectives of adopted land policies as well as meeting the global agenda. Land professionals have a key role to play in this regard.

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BIOGRAPHICAL NOTES

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