



Fit-For-Purpose Land Administration for All

A guide for surveyors on adoption and adaptation of Fit-For-Purpose Land Administration

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Executive summary

Over the last decade, Fit-For-Purpose Land Administration (FFPLA¹) has developed into a viable philosophy with accompanying methodologies and tools for delivering land tenure security on a large scale. It does this by encouraging participatory approaches, simple legal procedures, streamlining institutional processes, and making use of innovative frontrunners and leading-edge technologies. The benefits of the approach have been proven in many country contexts, including Rwanda, Ethiopia, and Indonesia, to name a few.

The FFPLA methodology emerged due to the problems with existing land administration approaches. Cadastral mapping and land registration activities are often slow, expensive, and reliant on a few skilled professionals. In many countries the result has been that as little as 1% of land rights being formally recorded. This increases disputes over land, land nonproductivity, uncontrolled development, and may mean little or no government investment into land and infrastructure.

Whilst the benefits of FFPLA are now clear, it is still not mainstreamed in many of the countries that need it most. FFPLA success stories are often from those countries where cadastral surveying is completed by the public sector. However, in many countries it is the role of the private sector to complete cadastral work. Although the need for FFPLA is appreciated, surveyors, lawyers, notaries, conveyancers and other land administration professionals rightly ask questions about the impact on job security and survey quality. In some FFPLA applications, private surveyors were not involved, and this highlighted the issue of stakeholder acceptance. For FFPLA to work in these countries, private surveyors also need to be on board. They must play a significant role in awareness raising, adoption, implementation, and maintenance of FFPLA. The private sector is seen as essential for any level of scaled land administration in the developing world. Governments often lack the resources and technical capacity to sustain the land administration effort.

The work behind this document shows that FFPLA should be recognised as a once in a generation opportunity for private surveyors. For those in the profession, it can mean more work and income, not less, and will offer the opportunity to broaden professional horizons with the adoption of new technologies, new training and the need for high-level leadership. Concerns over accuracy and quality are a myth. Citizens confidence does not drop with the use of FFPLA, instead with the widespread adoption, it increases surveyor status and recognition. Surveyors can play a role in awareness raising and helping to overcome legal and organisational blockers. In many countries numerous ingredients needed to make FFPLA a success are already in place, all that is needed is a willing, supportive, and frontrunning surveying profession.

The document also shows how, through the adoption of FFPLA, surveying professionals will be playing a direct and meaningful role in responding to major societal concerns. This includes direct support to climate change response, disaster risk management, women's access to land, mass urban migration, overcoming conflicts and disputes, and the overall achievement of the 2030 Agenda and its Sustainable Development Goals (SDGs). In each case, the surveyor is a crucial community actor, delivering benefit to her or his community, raising the esteem of the profession, and all that whilst doing business.

Real stories and experiences of the challenges and opportunities for the private sector in helping to deliver FFPLA are provided. They show the very hands-on and direct role private surveyors can play. FFPLA can be a source of inspiration and support for those just setting out on the journey.

Finally, guidance on pathways forward and support mechanisms are provided, including exposure to the global scene, key policies, agencies, resources, and materials. A simple country self-assessment helps to show land administration professionals and related associations where their country stands in terms of FFPLA uptake, and what actions are needed. These actions start from self-education and awareness raising, through to instigating pilots and financing, and beyond those, undertaking FFPLA work in the field, educating the next generation of surveyors, and advocating across domains regionally and globally.

¹ FFPLA means that land administration systems should be designed to meet the need of tenure security for all in a relatively short time and at a relatively low cost, adapting relevant legal, spatial and institutional frameworks accordingly. The aim is to achieve complete coverage and a complete overview first, and then improve incrementally over time, via enhancing spatial accuracy, legal requirements, and institutional processes.

Acronyms

CBO	Community Based Organisation
CSO	Civil Society Organisation
DRM	Disaster Risk Management
FAO	Food and Agriculture Organisation of the United Nations
FAQ	Frequently Asked Questions
FELA	Framework for Effective Land Administration
FFPLA	Fit-For-Purpose Land Administration
FIG	International Federation of Surveyors
GLTN	Global Land Tool Network
GNSS	Global Navigation Satellite Systems
GPS	Global Positioning System
GEC	Gender Evaluation Criteria
IGIF	Integrated Geospatial Information Framework
ITC	Faculty of Geo-Information Science and Earth Observation, University of Twente
LA	Land Administration
LADM	Land Administration Domain Model
LAND	Land Administration for National Development (Partnership of the Netherlands Ministry of Foreign Affairs and Kadaster)
LAS	Land Administration System
LGAF	Land Governance Assessment Framework
NGO	Non-Governmental Organisation
NUA	New Urban Agenda
OGC	Open Geospatial Consortium
PPP	Public-Private-Partnership
SDGs	Sustainable Development Goals
SLAS	School for Land Administration Studies
STDM	Social Tenure Domain Model
UN-Habitat	United Nations Human Settlements Programme
UN-GGIM	United Nations Committee of Experts on Global Geospatial Information Management
VGGT	Food and Agriculture Organisations of the United Nations (FAO) and Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security

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1. INTRODUCTION

The Fit-For-Purpose Land Administration (FFPLA) concept and guidelines were published in 2014² and 2015³. Since then, actions aimed at igniting and implementing FFPLA at country level have shown the global land administration community that FFPLA can directly support the achievement of the Sustainable Development Goals (SDGs)⁴. FFPLA enables fast tracking of land rights recording, at national scale, and contributes to poverty reduction, gender equality, food security, better urban development, and climate change response.



Why this report?

Despite the success, one significant barrier still needs to be overcome: the better inclusion of national private sector surveyors, and broader private sector community, including lawyers, conveyancers and notaries. FFPLA has been driven at the global level, with the support of donor countries and central governments of developing countries, national and grassroots CSOs and NGOs, and even tech start-ups. These land sector stakeholders are increasingly 'on-board'. Private sector stakeholders are more sceptical⁵. There is a sense that FFPLA will by-pass long-standing good practices, de-skill the profession, disrupt businesses, and ultimately deliver neither increased amounts of recordation nor tenure security.

² Enemark, S., Bell, K. C., Lemmen, C. H. J., & McLaren, R. (2014). *Fit-For-Purpose Land Administration*. FIG/Worldbank Publication, International Federation of Surveyors (FIG), Copenhagen, Denmark).

³ Enemark, S., McLaren, R., & Lemmen, C. (2015). *Fit-For-Purpose Land Administration guiding principles*. United Nations Human Settlements Programme, Nairobi, Kenya *Global Land Tool Network (GLTN): Copenhagen, Denmark*.

⁴ <https://sdgs.un.org/goals>

⁵ It is acknowledged that part of this scepticism is that many land administration developments have been funded 'projects' without any reasonable sustaining mechanism. That is, local professionals may see many aid recipients come and go and just 'wait it out' and everything will return to normal.

To truly deliver the benefits of FFPLA at national scale, it is important to present evidence to the existing private sector providers that FFPLA represents an opportunity rather than a threat⁶ to existing business models, and the overall sustainable development of the country.

What is the contribution?

Therefore, this report speaks directly to the concerns and claims of the private surveying profession. It presents counter claims and evidence from the growing body of documented applications, pilots, lessons and success stories. It seeks to confirm the importance of the private surveyor community in delivering FFPLA, to show that FFPLA actually means sustainable business, and provides entry points for how private sector, at global, national, and local levels, can all get involved and are needed if FFPLA initiatives are to support the achievement of the SDGs.



Who is it for?

The initial FFPLA guidelines and documents, coupled with the LAND partnership⁷ initiatives, have ignited interest, but more work is needed to create inspiration and champions amongst the private sector for scaling up its effects. The good news is that the lessons and opportunities are already proven. There are already good examples of private sector actors, CSOs and NGOs, participating in, positively contributing to, and benefiting from FFPLA initiatives. What is needed is a way for other leaders in these sectors to access and partner through these success stories in an easy and understandable way.

⁶ Technology is a major contributor to the sense of threat. Low cost, high accurate GNSS devices, easy to use apps, and so on, are seen to contribute to paranoia.

⁷ See Section 6 for more details.

The report is directly targeted at private sector organisations, operating at global, national, and local levels, but, is also intended as a resource for donors, governments, CSOs, NGOs, and academia as a guidance tool for understanding and advocating FFPLA for and with the private sector.

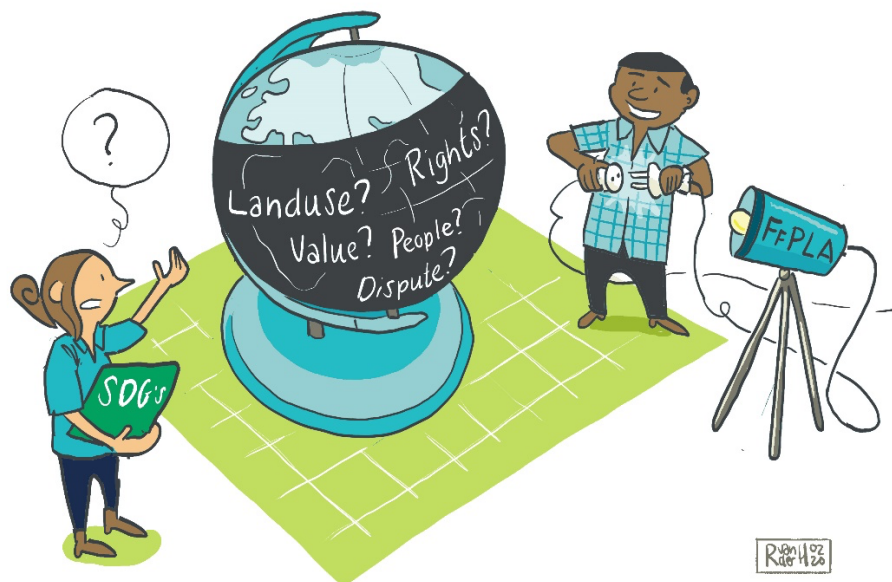
How is it structured?

The document is organised in an accessible Q&A format. These questions are the most common encountered when dealing with FFPLA and stem from activities in the LAND partnership, various discussions, expert groups, workshops, lectures, and key responses, backed with evidence, on claims and opportunities surrounding FFPLA. The publication showcases the impacts and benefits of the FFPLA approach, specifically for decision-makers and leaders across private sectors, governments, NGOs and CSOs. To do this, it draws upon the lessons, pitfalls, and opportunities identified throughout various LAND initiatives, and links those directly to the key interests of leaders in those sectors: the SDGs, New Urban Agenda, VGGTs, LGAF, sustainable business models and public-private partnerships (PPP).

2. BACKGROUND AND BASICS

What is the problem?

The highly quoted but very approximated repeated statistic that estimated 70-75% of land tenure rights remain either unrecorded, unlinked, not updated, or not recognised by governments⁸ puts starkly the challenge confronting the surveying profession in the 21st century. The lack of accurate and available information impedes citizens and government alike when it comes to enhancing social, economic, and environmental development. Without secure rights, and information about those rights – access to credit, easier land dealings, land dispute resolution, land value capture and fair taxation, and sustainable land management activities are all made more difficult⁹. The achievement of large numbers of SDG indicators hinge on land issues: identifying land rights, recognizing land users, and putting in place sustainable land practices – are considered to underpin no less than 70% of the indicators¹⁰: without establishing or enhancing supportive land administration systems leaving no one behind, the SDGs cannot be achieved.



What has been the LA response?

The surveying community has already been active for well over a decade on initiatives to fast track the recordation of all people-to-land relationships and hence the development of a complete land administration system, in responsible ways: the UN-Habitat Global Land Tool Network (GLTN)¹¹ develops a suite of tools and guidelines to support cheaper and more flexible land recordation, as compared to conventional approaches. Perhaps most importantly, FFPLA as both a concept and toolkit, has emerged as a key pillar. In this regard, exemplary cases such as those found in Rwanda, Ethiopia, Indonesia, amongst many others, provide useful lessons and inspiration¹².

⁸ Zevenbergen, J., Augustinus, C., Antonio, D., & Bennett, R. (2013). Pro-poor land administration: Principles for recording the land rights of the underrepresented. *Land use policy*, 31, 595-604.

⁹ Henssen, J. (2010). *Land registration and cadastre systems: principles and related issues*. Technische Universität München.

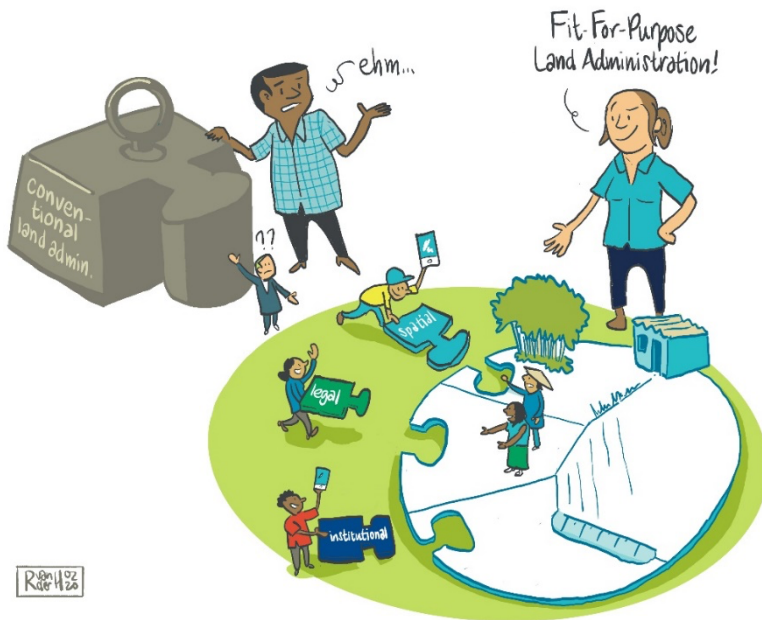
¹⁰ <https://www.gim-international.com/content/article/supporting-the-profession-with-expertise-proposals-solutions-and-platforms>

¹¹ <https://gltn.net>

¹² Zevenbergen, J., De Vries, W., & Bennett, R. M. (Eds.). (2015). *Advances in responsible land administration*. CRC Press.

What is FFPLA?

FFPLA is an approach originally jointly developed by FIG and the World Bank and means that land administration should be designed to meet the need of tenure security for all in a relatively short time and at a relatively low cost applied at the legal, spatial and institutional framework.



The aim is to achieve complete coverage and overview as a first pass. It is not about focusing on solely on accurate measurements. It is about getting a complete documentation and identification of all land and improving over time, via legal requirements, enhancing spatial accuracy, and institutional processes.

The **legal framework** should consist of rules and regulations enabling various data collection sources and should not be restrictive.

The **spatial framework** should allow for a simple indication of properties and boundaries that is adequate to meet basic land administration needs to provide tenure security.

The **institutional framework** should provide services to all people via the government (either through e-services or local offices).

What does FFPLA need now?

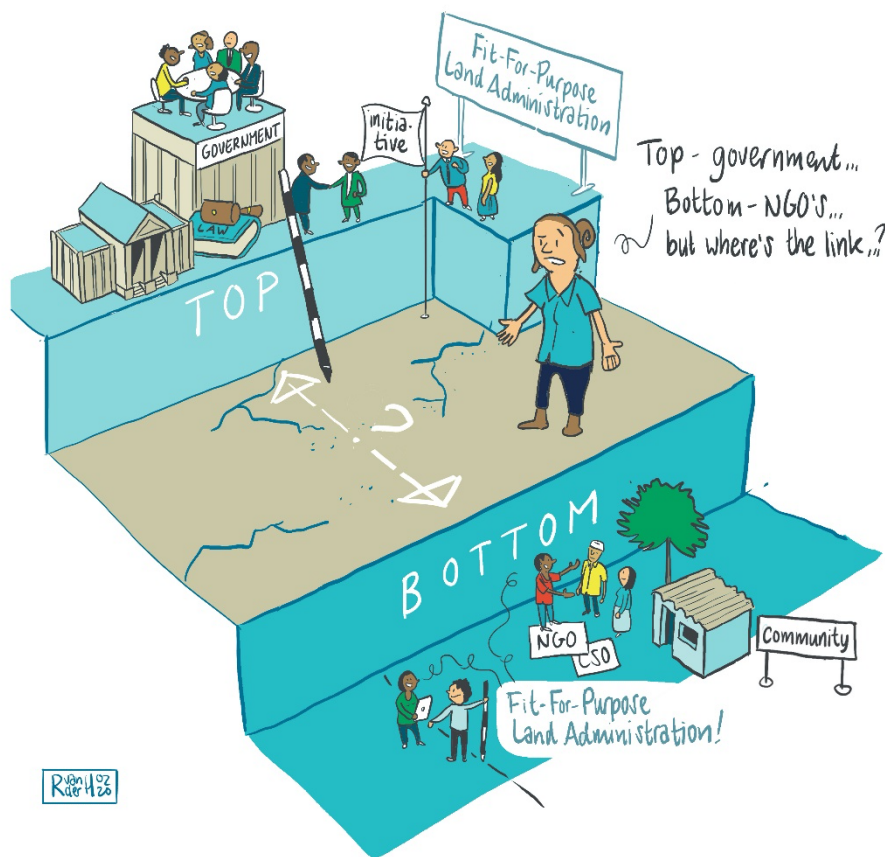
In many cases, FFPLA initiatives are often at the level of pilot or demonstrator and involve a limited number of stakeholders, finance, and strict timelines. Even if these pilots succeed, scaling these initiatives to regional or country level is a major challenge. The complexity of policy, legal, capacity, and technical issues grow exponentially and so do the timelines and finances required. It seems that whilst the surveying community has already developed the necessary technical and administrative tools (e.g. FFPLA) to rapidly increase delivery of land documentation and formalised records, the key challenge is to enable 'scaling' and 'sustaining and maintaining' of these innovative approaches.



3. PRIVATE SECTOR IMPERATIVE

Has the private sector been forgotten in FFPLA?

For scaling and sustaining FFPLA initiatives there is one set of actors, already the subject of much discussion in FFPLA, that appears essential: private sector surveyors and related associations. To explain why, it is worth considering the approaches underlining many existing FFPLA initiatives. For simplicity, these can be placed into two major categories¹³: 'Top Down' versus 'Bottom Up'. 'Top-Down' refers to those projects that are collaborations between large-scale donors (i.e. global and national) and recipient country governments. These often focus on building relationships, establishing initiatives, and building capacity within governmental ranks. Meanwhile, the private sector is less involved, and even less prominent are those private sector actors from within the target country. 'Bottom-Up' refers to those initiatives driven by NGO networks, or CSOs, and tend to work at the grass-roots level with specific communities and problem cases. Whilst collaboration is sometimes evident, as witnessed through GLTN since the mid-2000s, and LANDac¹⁴ in the Netherlands; the two approaches often operate independently in the field. In terms of the global land sector 'community' or 'dialogue' – the actors sitting in each camp are active players when it comes to lobbying for global initiatives and developments within the sector (e.g. see SDGs development process, and/or UN-GGIM framework development¹⁵), but, more often than not, they do not work closely together.



¹³ Bennett, R., Gerke, M., Cromptvoets, J., Ho, S., Schwering, et al. (2017, March). Building Third Generation Land Tools: Its4land, Smart Sketchmaps, UAVs, Automatic Feature Extraction, and the GeoCloud. In Annual World Bank Conference on Land and Poverty. World Bank.

¹⁴ <http://www.landgovernance.org>

¹⁵ <https://ggim.un.org/Expert-Group-LAM.cshtml/>

Can there be a middle way?

Private sector entrepreneurs are arguably less visible in FFPLA initiatives – sitting somewhere between the ‘Top-Down’ and the ‘Bottom-up’. This is despite the FFPLA Guiding Principles clearly calling for the interaction¹⁶. In both cases, private sector actors from the recipient country, whilst potentially involved, often play more of a subcontractor role, being less involved in the design and development of projects. They might play some limited role in delivery and implementation. These actors, including start-ups and entrepreneurs, seem to be given less attention. There are many reasons for this, not the least being that in many contexts it remains the role of government to exclusively survey and map land rights. However, especially where a country or jurisdiction makes use of market forces, it is a duty for the government to responsibly pass on work to the private sector. In the era of new public management, it is the role of government to set policies, standards and legal frameworks, whilst private sector actors tend to complete the work¹⁷. That being said, in many contexts, the private sector (and associated middle-class), may not yet have the size, capacity, and scale to ensure high enough levels of competition. These are essential attributes for ensuring a healthy market-based system where the middle class pays taxes in return for government accountability¹⁸. Undeniably, in numerous contexts, it is argued that it is the private sector surveyors that actually scuttle innovation, progress, and competition through maintaining high barriers to entry¹⁹ and rent seeking²⁰ in the land surveying sector.



¹⁶ See FFPLA Guiding Principles Section 5.1 “mutual interaction between the local recordation initiatives ...”.

¹⁷ Ferlie, E., Fitzgerald, L., & Pettigrew, A. (1996). The new public management in action. OUP Oxford.

¹⁸ Moyo, D., (2010). Dead Aid – Why aid is not working and how there is another way for Africa. Penguin Books.

¹⁹ Often viewing it as work protection and ensuring high servicing fees.

²⁰ McLaren, R., (2011). Crowdsourcing support of land administration: a new, collaborative partnership between citizens and land professionals. Royal Institution of Chartered Surveyors (RICS) Report November.

If these practices continue, other professions and entities will enter the domain of the surveying profession²¹. All that said, both 'Top-Down' and 'Bottom-Up' approaches could potentially benefit from more comprehensively incorporating local entrepreneurial mindsets and entrepreneurs into initiatives and projects. They can provide a different point of view and set of skills for tackling the 'scaling' and 'sustaining' challenges of land administration. Perhaps adding 'the middle way' or 'from the centre' could be a useful addition to FFPLA.

What are the arguments for private sector involvement in FFPLA?

First, population changes and demographics are key²²: many countries with poor functioning land administration systems are demographically young, with large percentages of the population being under 30, or even 20 years of age. These youth are increasingly well educated and technically savvy, with mobile device proliferation and internet access at relatively high levels. Second, the changing nature of work²³ – as influenced by technology – represents another opportunity. A look across other sectors, including IT, finance (i.e. mobile money), professional services, and the creative industries, shows that workers are increasingly mobile and independent. These trends coincide and enforces another trend: that of outsourcing, offshoring and downsizing being undertaken in both government and established large-scale enterprises. These trends are being replicated in developed and developing contexts alike – and also the land administration community. Third, looking beyond the global forces above, and looking historically, examination of the highly economically performed OCED countries, shows cadastral entrepreneurs worked collectively (via a licensed profession) with (and sometimes against) the governments of the day to ensure the cadastral fabric was constructed and maintained with integrity, and at an appropriate cost. So the converging forces of youthful and business savvy demographics; the changing nature of work; low-cost digital and spatial tools and technologies; all coupled with FFPLA, suggest an opportunity to support the scaling and maintaining in a sustainable way – through entrepreneurialism – the challenge of recording, reviewing and upgrading (and updating in the future) the unrecognised land rights globally. However, as a disclaimer, it is worth recognizing that not all contexts that might benefit from or be equipped for this entrepreneurialism.

What does FFPLA private sector involvement look like?

Existing 'Top Down' and 'Bottom Up' approaches to FFPLA may include some private sector involvement, however, this is usually limited to fieldwork. Whilst this is important and beneficial work, there exists more opportunities. When entrepreneurial opportunities are released to the private sector, it will figure out a fast and cheap way to scale and maintain FFPLA and how to make a living out of it. FFPLA initiatives could better incorporate the private sector into FFPLA design and conceptualisation activities. The private sector could play a central role with the design of legal, spatial, and institutional aspects. Likewise, they could lobby and support partnership development, embedding innovation into processes, assist in the selection of standards, and be involved in business model identification. Outside these initial activities, private surveyors could continue to be heavily involved in implementation in the field, through design of reference frameworks, the collection of data, maintenance of that data, and further storage and dissemination. They can be involved in awareness raising campaigns, and work with educational institutions and NGOs to prepare and deliver FFPLA training and capacity development.

²¹ See Meridia in Ghana, for example.

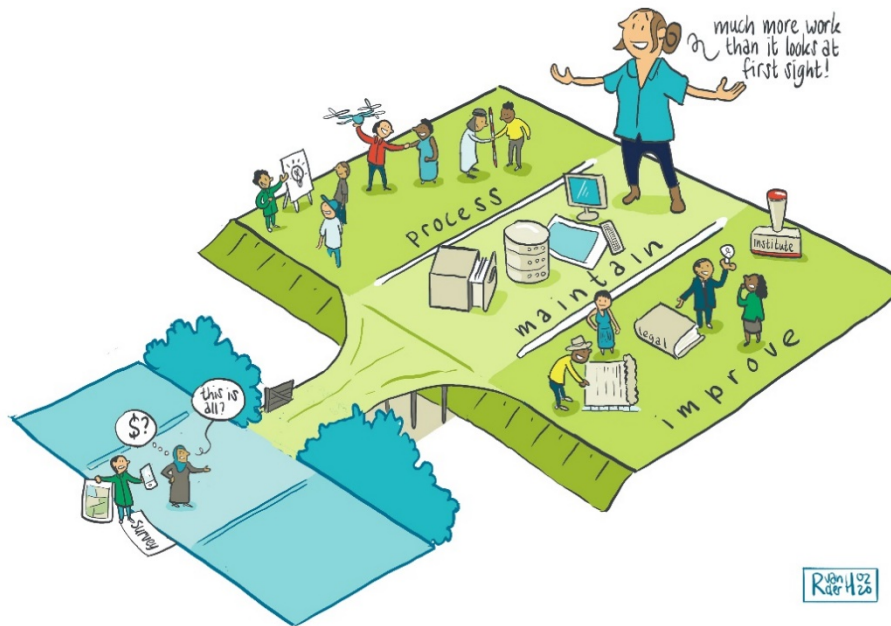
²² <https://www.unfpa.org/swop-2018>.

²³ <https://www.weforum.org/reports/the-future-of-jobs-report-2018>.

4. BUSTING THE MYTHS

Will FFPLA mean less work and income for private surveyors?

A key claim from detractors of FFPLA is that it will undercut the work of existing surveyors. It is said that less well-trained data collectors will consume the majority of the work in the field, completing it free of charge, or at very little cost. This would have a negative impact on the income and livelihoods of existing surveyors. There are three counterclaims here. First, whilst FFPLA does advocate for the basic skilling of a large temporary workforce to complete data collection and recordation work, that workforce requires training, supervision, and management. In Mozambique, private service providers contract, train, and supervise a large number of survey technicians to complete the whole-of-country mapping programme. Second, beyond the completion of a whole-of-country FFPLA initiative, there is the need to maintain the new repository of land records and maps, and this role is also to be completed by already existing private surveyors. Third, FFPLA is about incremental improvement of spatial accuracy, institutions, and legal requirements. This incremental improvement will be led by existing surveyors. In many contexts, if not all, these three counterclaims mean more short, medium and long-term work for private surveyors, not less.



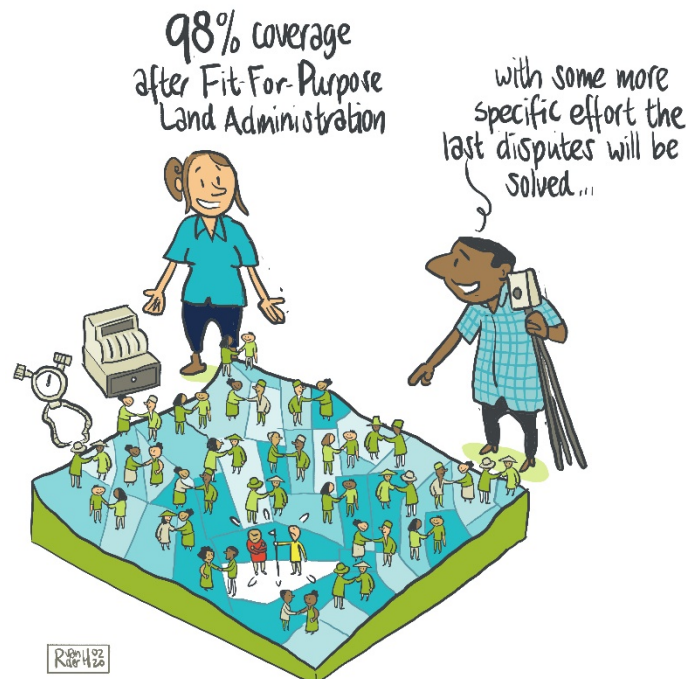
Won't FFPLA end up in de-skilling the surveying profession?

Another concern from FFPLA detractors is that the existing surveying profession will be diluted with inferior skills and knowledge, and ultimately overrun by a lower quality workforce. The counterclaim, in many country contexts, is that the existing profession is failing in its duty to the public anyway, as it is constrained by its own laws, institutions, and lack of a collective mindset for innovation. It is not delivering a service at the appropriate cost or in a timely fashion. In terms of supply and demand, too much control sits with the supply side. Simply put, it doesn't matter if the existing profession is highly skilled if it is not delivering to the public. Another argument is that whilst FFPLA does create a larger and lower skilled workforce during the initial whole-of-country registration and mapping activities, once complete, these temporary workers can move into other emerging land sector jobs (e.g. real estate and property management; mapping; land use planning). A portion of those trained will stay on, gaining higher training and entering into the surveyor profession, that in most cases, will need more

professionals, at varying educational levels, in order to maintain the system. Experience from Rwanda's Land Tenure Regularisation programme has shown this to be exactly the case. FFPLA provides the opportunity for the private surveying sector to lead in the recruitment, shaping, and growth of a renewed and professional surveying workforce. There will always be a need for surveys that go beyond FFPLA surveys for a higher level of assurance and accuracy, i.e. costly commercial developments.

Isn't FFPLA going to undermine data quality and citizen confidence?

Detractors of FFPLA claim that sacrificing spatial accuracy at the expense of speed and cost is fraught with danger. An often-repeated argument in many contexts, from professional surveyors, is that 'in my country, citizens fight over centimeters and millimeters' and so anything less than survey-precision will only exacerbate disputes. Moreover, the resultant cadastral database would be full of 'errors' and 'inaccuracies'. It is argued that it would be a terrible idea to integrate these lower quality FFPLA data into an existing cadastre. The above claim raises several counter points. First, it is often the case that the roots of boundary disputes have nothing to do with the placement of a boundary and are actually longer running social disputes. The process of creating a complete overview should not be side-tracked by these disputes. That is, don't let the 2% of potential dispute cases, undermine the 98% of cases where there is no dispute²⁴. Second, the principle of 'idealisation precision' from



Baarda²⁵ demonstrates that it is not appropriate to prescribe certain boundaries down to centimeters. Consider, for example, tree lines, canals, fence posts or even narrative boundary descriptions: should or can these boundaries really be defined with such precision? Seeking more precision than can be physically attributed shows how large amounts can be spent and wasted, for very little public and private gain. On this point, many minor disputes disappear when the threat of not obtaining documentation is a result of a boundary dispute. Third, in many country contexts some form or record is preferable to none, and that upgrading of quality, as called for by FFPLA, is often the better solution. Fourth, high precision and accuracies are increasingly available at lower cost and speed from emerging geospatial technologies, and the reality is that boundary data collected using GNSS enabled mobile devices and via remotely sensed data is actually going to be of higher accuracy than earlier field-

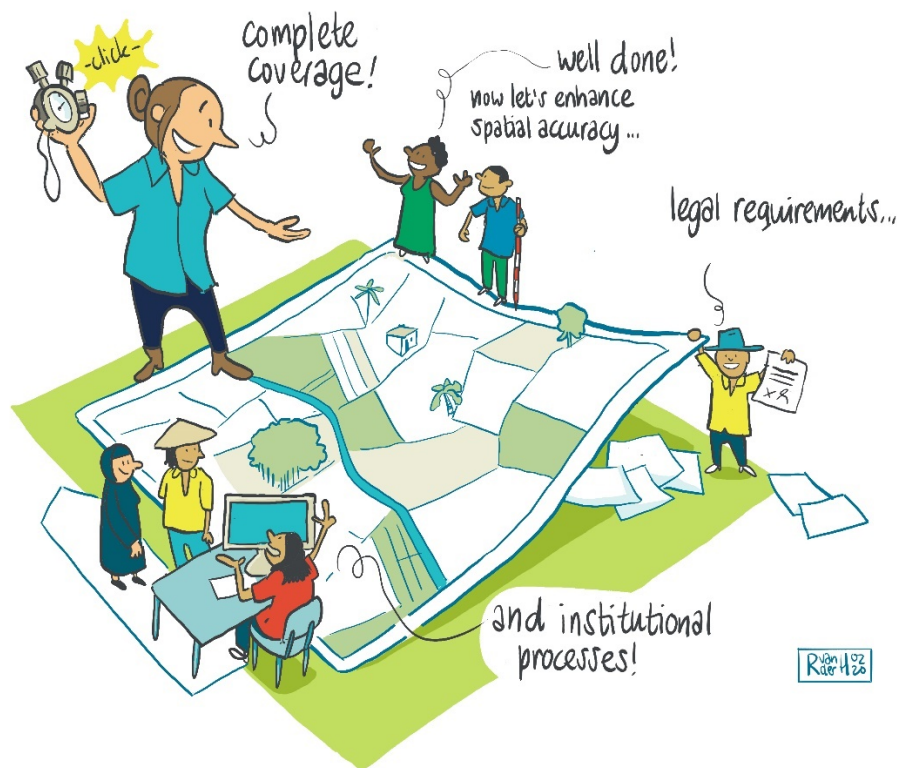
²⁴ Henssen, J. (2010). Land registration and cadastre systems: principles and related issues. Technische Universität München.

²⁵ See inside: Bennett, R. M., Molen, P. V. D., & Zevenbergen, J. A. (2012). Fitted, Green, and Volunteered: Legal and Survey Complexities of Future Boundary Systems. *Geomatica*, 66(3), 181-193.

based survey techniques. Finally, it should always be remembered that accuracy should always be dependent on the purpose of the system, which is closely linked to the value of land, and of the realistic achievement of that accuracy. In those contexts where a FFPLA mindset is most relevant, there is very little basis for suggesting the existing system would be undermined by lower accuracy survey requirements. Survey data is often either non-existent, or already at low accuracy (be it spatial, attribute, topological, temporal, or feature related) and a country-wide renewal of boundary mapping, if well implemented, would serve to grow confidence in surveying and mapping.

How can FFPLA be used if existing policies and laws don't allow it?

Another claim against FFPLA is that existing land policies and laws do not allow the approach. Changing policies and laws take a great amount of time! Whilst there is some truth in this, and it does take time to convince politicians on new policies and implement new laws, in the context of long-term country development, the length of time is insignificant. In recent times, Nepal and Indonesia, amongst many others, have shown the speed at which new land policies and laws can be passed, and how those laws can be swiftly converted into real action on the ground. Over the last decade many countries, with the support of donors, have engaged in meaningful dialogue and development of new land policies. These important parts of the FFPLA legal and institutional frameworks are often already in place, or on the track to being so. Achievement of SDGs and access to associated donor funding demands these FFPLA supported land policies are drafted and enacted. Further the involvement of local CSOs and NGOs in land policy development leads to greater acceptance in the public. The private surveying community cannot rely on legal and policy frameworks as obstructions. As professionals, it is incumbent on national survey associations and leaders, to support the drafting and enacting of those modern land policies and laws that support FFPLA.



Even if I agree with FFPLA, how can I overcome organisational barriers?

Long-standing organisational inertia is another barrier presented by FFPLA detractors. This usually happens after successful FFPLA pilots have been conducted. It is suggested that the pilots are easy to conduct. The results are neither ‘real’ nor at scale, and therefore do not tread on the turf of the existing empire. The argument is that the existing organisational processes, of both public and private surveyors, are not setup to handle the new FFPLA approach. Making such a transformation would cost much time and money. There is much truth in this claim: FFPLA initiatives often do struggle to go beyond the level of pilot studies. This is where organisations need professional leaders, at both technical and managerial levels; ones who adhere to the principles of their profession. FFPLA needs change agents, across the land sector, both in the public and private sector. In all the cases where FFPLA initiatives have succeeded, it has been in no small part due to the efforts and sometimes sacrifices of such leaders, particularly in the private sector. Towards high level government, to the broader community, and to the profession, they must play the role of advocate, advisor, actioner, and hold others to account. Accountability is at the core of FFPLA. This is often a lonely path to follow, but such leaders can look to the global level for support and backing: FFPLA is increasingly supported at the highest levels of donor organisations, professional bodies, and relevant international agencies. There are opportunities for partnership and advocacy at these levels. There is also the possibility to reach out to aligned organisations within the country or region: the not-for-profit sector, supportive NGOs, and community groups. Organisational barriers are a key challenge for FFPLA, but, the global land sector and other sectors within country level can be seen as allies for economic and professional support – and private surveyors should make use of the resources and alliances available.

Where are the standards and guidance for FFPLA?

A less well-made claim against FFPLA is that the standards for implementation do not exist. That is, the pilots that have been completed did so without using rigorous standards for data collection, following legal procedures, ensuring ethical field conduct, and so on. This claim is quickly debunked. The body of globally recognised tools for implementing FFPLA is growing and increasingly well recognised. There exists the FIG FFPLA principles from 2014, the FFPLA Implementation Guide (2015, the full suite of supportive GLTN tools, including those relating to gender equality and support for vulnerable groups), and global standards such as ISO 19152 LADM and other OGC relevant geospatial standards. Examples of implementation, and lessons stemming from those are increasingly available, as are supportive user communities. The range of supportive tools for FFPLA design and implementation is substantial and it is encumbrance on private sector actors to be aware of the developments and where necessary, retrain for their use. In addition, after collecting field experiences they too should share the lessons to further improve guidelines.

Won’t FFPLA mean there needs to be a lot of retraining?

It is claimed by FFPLA detractors that the scale and size of training needed for implementation is unrealistic and that capacity does not exist to deliver training at such a scale. This claim is also quickly debunked. Experiences from Rwanda, Ethiopia, and Mozambique show that data collection technicians, with a defined task set, can be effectively trained in as little as a few days. Moreover, field managers or existing skilled survey staff may need as little as a 1- or 2-week training to understand and support the implementation of an FFPLA initiative. Additionally, the mindset behind this argument would result in a ‘do nothing’ response. That is, no training, no action. This is, looking at the global development, simply not an option. Private surveyors can have a leading role in designing and delivering training for survey technicians – and can also play a role in developing and delivering the training for existing survey professionals. They can also support academia in developing and embedding FFPLA concepts and tools into existing survey training courses at technician and tertiary levels: the programmes demand it. This represents a significant opportunity for the private surveying profession.

FFPLA is just a high-level donor driven idea, isn't it?

Another spurious claim against FFPLA is that it is a Western concept, developed by richer donors and donor countries, seeking to prescribe its application in developing contexts that neither understand, need nor want it. The counterclaim, at least on the 'want' and 'need' aspects, is that there is good evidence that many citizens in those same countries would indeed like better representation, recognition, and recordation, and that some of that could be provided via land surveying and documentation. Moreover, FFPLA wouldn't exist as a concept if the levels of recorded land interests in countries were not so low. Meanwhile, on the issue of 'understanding' FFPLA, this again is a shared responsibility, both for donors, but also survey professionals. It is the duty of the local surveyor profession to keep up professional training and use the most appropriate tools to map and record land rights, in the general interest of the public. In addition, it should be noted that FFPLA tools and principles were developed not out of theory, but, out of successful cases across a range of developing countries: developing countries created FFPLA. It is not a donor driven construct, rather a donor supported one. Finally, the globally pervasive influence of technological development has to be acknowledged. Easy access to high resolution satellite imagery is a contributor as many property boundaries are visible aerially. Other technologies have also contributed to FFPLA thinking: GNSS, GIS, drones, and so on.

Is there anything really new with FFPLA anyway?

Finally, some FFPLA detractors suggest there is nothing new with FFPLA. The modern drive to map and record land rights goes back decades – being linked to dozens of development cooperation initiatives driven by World Bank, and other prominent donors. The detractors argue that hints of FFPLA can even be seen in cadastral and land registration projects dating back to the early 20th century, as per Egypt²⁶, or even earlier. A counterclaim here is hardly necessary. FFPLA thinking can be seen throughout the history of successful cadastral and land registration work. Indeed, the pragmatism in FFPLA should be at the cornerstone of all engineering and surveying training. The modern idea of low-cost and faster approaches to data capture and record dissemination finds its origins at least in the early 1990s (c.f. Fourie & Nino-Fluck, 2000). The question of why it has taken so long to complete the task of mapping and recording land interests – across so many disparate country contexts – has been asked and answered repeatedly. FFPLA detractors are right, there is nothing new with the fundamental FFPLA philosophy, however, this only serves to remind private surveyors, that the ideas in FFPLA are central to the discipline and need to be reembraced. Finally, whilst there might be nothing new here, FFPLA does offer private surveyors, with entrepreneurial mindsets, to create something new, for example, via staged parcel measurement products, delivered over time (e.g. 1USD = basic sketch; 300 = survey accuracy²⁷).

²⁶ Lyons, H. G. (1908). The cadastral survey of Egypt 1892-1907. National Print. United Kingdom

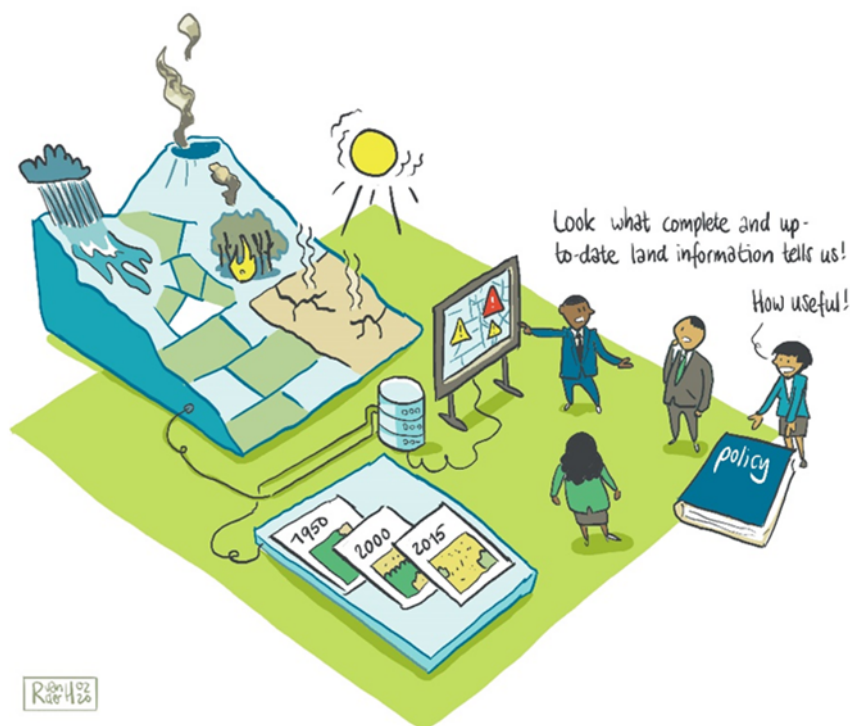
²⁷ See more on this idea at http://www.fig.net/resources/proceedings/fig_proceedings/fig2019/ppt/ps01/PS01_staiger_10214_ppt.pdf

5. UNPACKING THE OPPORTUNITIES

Going beyond arguments that FFPLA represents a prime opportunity for private sector surveyors in the business of land tenure security, it is also important to unpack the crucial and direct role professional surveyors can play in supporting responses to the major societal concerns of the 21st century, and how FFPLA can be a primary tool to support that. All surveyors know too well that land provides the principal basis for human livelihoods and well-being. Land, land administration, and land management are key to supplying food, freshwater and other ecosystem services, as well as preserving biodiversity. The land-use of people directly affects more than 70% of the global ice-free land surface. Current threats including increasing damage caused by natural disasters worldwide, rural to urban migration, rapid urbanisation and further impacts of a changing climate, all generate new vulnerabilities, and an increased marginalisation of already vulnerable people. These challenges provide opportunities not just for the surveying profession itself but also for private businesses taking up FFPLA to support this vulnerable people and the sustainable development agenda. The challenges are creating legitimate fields of business for surveyors: the need for complete and up-to-date information about all people-to-land relationships is needed to address these threats.

Can FFPLA assist disaster risk management?

The increasing occurrence of natural disasters and the demand for land tenure security are crucial global challenges. More and more people are subject to natural disaster risks, hazards, and are increasingly vulnerable – and consequently, efforts to document, record and recognize all people-to-land relationships become more urgent²⁸. Addressing tenure insecurity through FFPLA and disaster risk, in a holistic way, by strengthening the resilience of people and communities – via sound administration and management tools – are necessary for the disaster related SDGs. Further disaster prevention, response and recovery require information about land tenure. However, in many high-risk contexts, such records are non-existent or not up to date. As a result, vulnerable groups are often passed over by the government during DRM activities. If there are no land records, or if the Land Administration system is incomplete, or in case that they are lost after a natural disaster, FFPLA is crucial



²⁸ https://library.itc.utwente.nl/papers_2019/phd/Unger.pdf

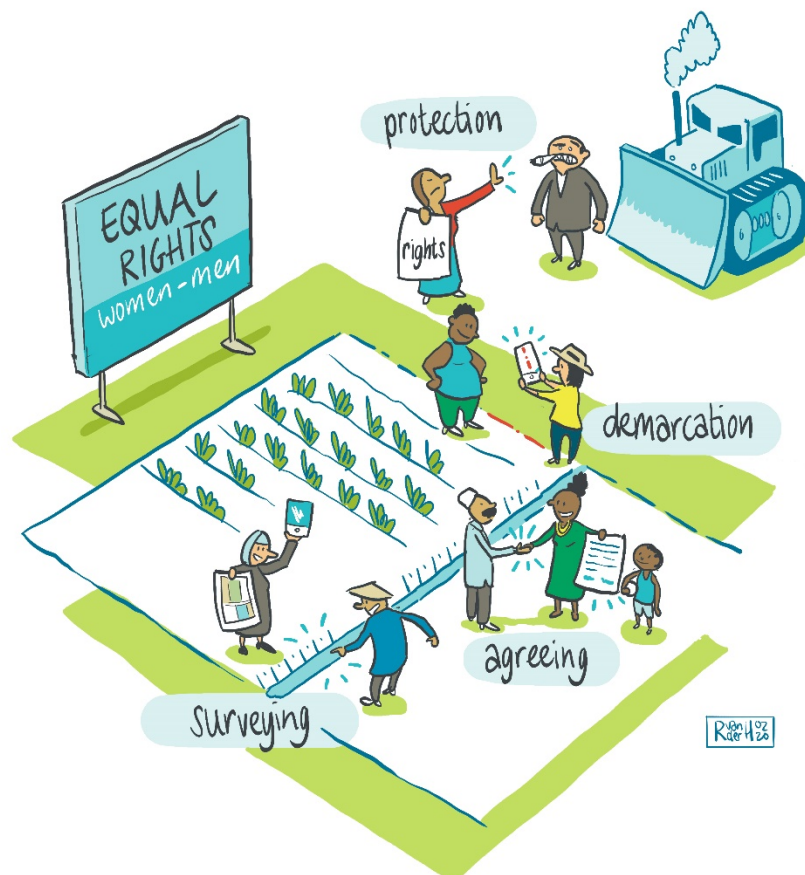
and sufficiently effective for preparation and reconstruction purposes. Incremental improvement is possible later. The pre-disaster preparation and mitigation phase as well as the post-disaster recovery and reconstruction phase have huge challenges, where especially land and geospatial professionals, private as well as governmental, are needed. Focus areas are coordination amongst stakeholders, community participation and public awareness.

Can FFPLA support the climate change response?

Globally, the climate is changing, and land, its use, and even how we value land resources, plays an important role in the climate system²⁹. For this reason there is a need to integrate and extend the systems that are used to record information about how people and land are related; to record and disseminate all the land and climate-related tenures, uses, and values; so as to better support monitoring, mitigation, and adaption to the changing climate. This includes recognition of solar rights, biota rights, carbon rights, atmospheric rights, and so on. FFPLA can support the pragmatic and cost-effective capture and administration of these rights, regardless of whether a country context uses legal controls and targets, market-based instruments, or awareness raising campaigns to respond to climate change. For private surveying businesses this means an increase of work as more up to date information is needed and new stakeholders are entering the market.

Why is FFPLA important for women's access to land?

FFPLA supports gender equality. Women's economic empowerment is essential in promoting gender equality. Women's economic empowerment can be achieved through equal access to and control over economic resources, such as land and the elimination of structural and non-structural gender inequalities and hindrances



²⁹ <https://www.ipcc.ch>

in the access to land. Women's unequal access to land and property is a key obstacle to women's empowerment and - hence the country's economy. Women are responsible for an average of 43 percent of the agricultural labour force in developing countries – and hence for food production in developing countries³⁰. Yet they rarely own the land, have tenure security or control over the land they are working on. Women and men's de jure access to land is regulated by the formal legal system, and in many developing countries similarly through customary law. Those two systems can both prevent and promote women's access to land. FFPLA focuses especially on the inclusion of all gender and marginalised as well as vulnerable people. An FFPLA approach which does not specifically address women, and is not making sure that women are aware about their rights and can participate in any recordation, is not inclusive – and is therefore not FFPLA. Further, in order to achieve inclusiveness, female land surveyors and registration officers need to be involved in the recordation as well as in further processes. This is especially relevant for private business and PPP set ups. FFPLA, in connection with PPP, brings chances to overcome any kind of inequality in the surveying profession as well as in the day to day business.

Can FFPLA deliver benefits in urban areas?

Globally, rapid urban growth, megacity³¹ proliferation, and resulting informal settlements present another challenge and opportunity where the elements of FFPLA come to the fore³². Due to their strong development dynamics, rapid high spatial and demographic expansion, as well as infrastructure concentration; the mapping, recording, planning and development of these contexts is highly challenging – particularly because imagery and GNSS have limitations in these contexts³³. FFPLA with its participatory mindset, inclusion of the community, focus on low cost and time can serve to match the highly dynamic demands of these urban areas. Together with newest technological developments, centred upon the use of 3D, Artificial Intelligence (AI) and automated feature extraction (AFE) from imagery, FFPLA brings new innovative possibilities for private business.

Will FFPLA assist conflict resolution?

The mindset of FFPLA can be highly beneficial for conflict resolution. Land conflict duration and intensity is generally on the rise: on average it takes more than 20 years to resolve land conflicts³⁴. There are multiple processes with regard to land conflict where FFPLA can serve, for example, bringing latent conflicts to the surface (and thereby increasing conflict cases in the short term), displacement identification, return of the displaced persons, restitution, land reform, identification of resettlement areas, and acceptance and provision of evidence of the wide range of land rights. Through the recordation of all people to land relationships, FFPLA can contribute to all stages of conflict resolution, including peacebuilding and the protection of civilians. Through the continuum of land rights, new forms of land records resulting through the conflict setting can be considered and recorded. This is not limited to just understanding and addressing the immediate land-related conflict, but also underlying grievances can be addressed through FFPLA. With FFPLA, the private sector, through technical involvement and in monitoring, can assist land conflict resolution.

³⁰ <http://www.fao.org/3/a-i2801e.pdf>

³¹ Cities of more than 10 million in habitants

³² <http://www.fig.net/resources/publications/figpub/pub48/figpub48.pdf>

³³ Although, indoor 3D mapping tools and techniques are quickly advancing

³⁴ <https://gltn.net/download/land-and-conflict-lessons-from-the-field-on-conflict-sensitive-land-governance-and-peacebuilding/>

6. FURTHER SUPPORT AND GUIDANCE

This section seeks to give more background to the bigger global institutional setting within which FFPLA fits. It provides more information on key institutions, acronyms, and definitions – and is intended to act as a support mechanism for those seeking to get more involved and more aware on the FFPLA community of action.

Why are the SDGs, VGGTs, and NUA important for surveyors?

On 1 January 2016, the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development — adopted by world leaders in September 2015 at an historic UN Summit — officially came into force. From 2016 through to 2030, these Goals that universally apply to all countries will mobilise efforts to end all forms of poverty, fight inequalities and tackle climate change, whilst ensuring that no one is left behind. The 17 Goals and 169 targets demonstrate the scale and ambition of this universal agenda. The SDGs are a call for action by all countries to promote prosperity while protecting the planet. They recognize that ending poverty must go hand-in-hand with strategies that build economic growth and address a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection. People to land relationships cut directly and indirectly across all the SDGs. Various global policies were developed over the years which all can be utilised in order to achieve the SDGs by 2030.

The overarching goals of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT) are of equal importance to the global land sector. These aim to achieve food security for all and support the progressive realisation of the right to adequate food in the context of national food security. Endorsed by the Committee on World Food Security on 11 May 2012, the Guidelines on Tenure promote secure tenure rights and equitable access to land, fisheries and forests with respect to all forms of tenure: public, private, communal, indigenous, customary and informal.

Specific to urban environments, the New Urban Agenda (NUA) represents a shared vision for a better and more sustainable future for a well-planned and well-managed urbanisation, for both developing and developed countries. The NUA underscores the importance of land in urban development and the need to monitor land governance in urban areas which was endorsed by Member States during the Habitat III Conference on 20 October 2016.

Meanwhile, equal impetus can be found in United Nations Food and Agriculture Organisation (FAO) and UN-Habitat (United Nations Human Settlement Program), and latterly the Global Land Tool Network (GLTN) under UN-Habitat, all with prominent advocacy and tool development related to land administration and management and reports and recommendations from global donors and development partners such as the World Bank.

Hence all those global policies, guidelines and recommendations influence the approaches, methods and tools used in FFPLA in order to achieve the SDGs and are equally important for all surveyors.

What is UNGGIM?

The United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) aims at playing a leading role in setting the agenda for the development of global geospatial information and to promote its use to address key global challenges. UN-GGIM at its fourth session in August 2014 approved the addition of a new work item, “the application of geospatial information related to land administration and management”

into the provisional agenda for its fifth session. UN-GGIM acknowledged the importance and need for geospatial information as an essential base for an effective and efficient land information system to support the

administration of land policy frameworks, customary rights, security of tenure, property rights, sustainable development and overall environmental, economic and social wellbeing. The Addis Ababa Declaration on Geospatial Information Management Towards Good Land Governance for the 2030 Agenda affirms the importance of good land administration and management as the pillar of good governance and efficient government to address the challenges and opportunities of the 2030 Agenda. The Declaration makes specific reference to the VGGT and supports the development of FFPLA particularly in developing countries. It confirms that up-to-date information that is consistently available and accessible over space and time underpins good land administration and management, leading to good land governance and sustainable development.



What is IGIF and is it important to the surveying profession?³⁵

The Committee of Experts on Global Geospatial Information Management (UN-GGIM) at its eighth session in August 2018 adopted the Integrated Geospatial Information Framework (IGIF) that provide a basis, a reference and a mechanism to establish or improve national geospatial information management arrangements. It can also coordinate activities to achieve alignment between existing national capacities, capabilities and infrastructures, including the land sector. IGIF aims to translate high-level concepts in regard to geospatial information to practical implementation guidance for use by Member States and does this by leveraging seven (7) underpinning principles, eight (8) goals and nine (9) strategic pathways. It comprises three parts (Overarching Strategic Framework, Implementation Guide, Country- level Action Plans) as separate, but connected documents.

³⁵<http://ggim.un.org/meetings/GGIM-committee/8th-Session/documents/Part%201-IGIF-Overarching-Strategic-Framework-24July2018.pdf>

What is FELA?³⁶

The Framework for Effective Land Administration (FELA) was developed by the Expert Group on Land Administration and Management after a call at the sixth session of UN-GGIM. There the Expert Group was encouraged to address the issue of FFPLA and geospatial information required to support effective and efficient land administration and management to address the need to secure land and property rights for all – to leave no one behind. FELA is a reference for developing, renewing, reforming, strengthening or modernizing land administration and management systems. FELA directly relates to the overarching Integrated Geospatial Information Framework³⁷ (IGIF) as adopted by the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) at its eighth session in August 2018 and implements the IGIF for the land sector.

What was the LAND Programme?

The LAND Programme was a partnership between the Netherlands Ministry of Foreign Affairs and Kadaster to implement practical actions to enhance security of rights on land and property worldwide. The advantage of LAND is that the policy, assets and network of the Dutch Ministry of Foreign Affairs are combined with the expertise and network of Kadaster to initiate, guide and enforce activities on land administration. The programme purpose (outcome) was: 'Ignite implementation of Fit-For-Purpose Land Administration in Various Countries'.

What is the 'Land at Scale' Programme³⁸?

LAND-at-scale is an initiative of the Dutch government that has an initial implementation budget of € 32 million, was started in 2019 and is open until 2024. The Netherlands Enterprise Agency (RVO) acts as a programme manager and Dutch embassies and agricultural counsellors can submit ideas. LAND-at-scale strives to contribute towards more equal access to land and natural resources, reduced conflicts and competing claims over land and natural resources and more sustainable and efficient use of land and natural resources for food, housing and production. As a result, LAND-at-scale will contribute directly to SDGs: 1, 2, 5, 11, 15 and 17 and may contribute indirectly to SDG 8, 9, 10, 13 and 16.

³⁶http://ggim.un.org/meetings/GGIM-committee/9th-Session/documents/E_C.20_2020_10_Add_1_LAM_background.pdf

³⁷<http://ggim.un.org/meetings/GGIM-committee/8th-Session/documents/Part%201-IGIF-Overarching-Strategic-Framework-24July2018.pdf>

³⁸ <https://english.rvo.nl/subsidies-programmes/land-at-scale>

7. CALL TO ACTION AND OUTLOOK

How can private sector surveyors get active and get involved in FFPLA?

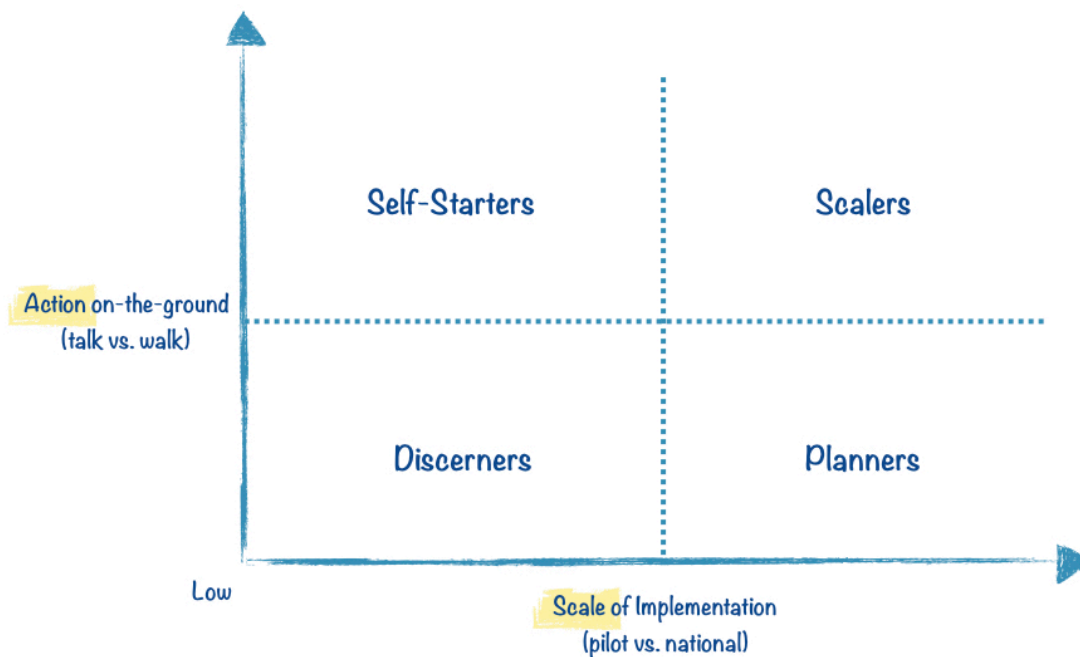
This document has shown that FFPLA is an opportunity ready to be taken. In country contexts where the private sector plays an active role in land administration, FFPLA needs a whole-of-sector approach: the private sector cannot be expected to instigate all on its own; and seeking to do so would be fraught with challenges. For this reason, it is important for private sector actors to be aware what is going on within the country or jurisdiction.

Start asking questions and looking for answers. Is FFPLA known? Is awareness being created? Or, perhaps things are further advanced? Are new policies and laws being creating? Is institutional change foreseen? Perhaps new governance and accountability mechanisms are being introduced? Maybe things are beyond these stages? Are there published or recognisable pilots, data collection, innovation embedding, and a movement towards FFPLA standards? Are educational programmes already being setup to incorporate FFPLA?



What can I do right now at country-level?

Depending on where the jurisdiction is, in answering the questions above, there might be a different role to play. Below a simple grid is provided, to help you plot where you and your jurisdiction might be sitting. We provide two axes: the extent to which the country is still working on policy/conceptual level ('Action on-the-ground'); and the extent to which initiatives are happening at national scale ('Scale of Implementation'). This means we have four quadrants, and there is a different role for the private sector to play in each case.



Discerners:

In these contexts, FFPLA is still unknown or being conceptually explored. No new policies or laws have been enacted and it might be unclear whether it is a path that the country will go down. No pilots or trials are implemented (yet).

What is needed: private sector awareness raising and advocacy, and demonstrations - to high level government, and also prominent and active involvement and participation of community groups. The private sector can collaborate globally for awareness raising programs at national level.

Self-Starters:

In these contexts, FFPLA is known by a few, and even supported – but, is not yet taken up or implemented at national scale. There are no new or supporting laws, policies, or institutional changes. There might be pilots and data being collected, using the FFPLA approaches. There may also be donor sponsored programmes supporting NGOs or academia to teach FFPLA.

What is needed: private sector persistence. Unshackled by law and policy, private sector can be creative in conducting pilots, collaborating globally or with NGOs, and showcasing results, with a view to securing finance to help undertake projects at a larger scale. The private sector can use collective action to push for change nationally.

Planners:

In these contexts, FFPLA is known and accepted as a solution. There may be consultation in progress or much advancement towards the development of new policy and law. It could be that in parallel the need of a reform

of institutions is occurring, and even thoughts around standards and some kind of awareness raising programmes are needed.

What is needed: private sector know-how and expertise. This is a great time for the private sector to be actively engaged, to lead on pilots together with other stakeholders (NGOs/CSOs, public sector); and to lead on input to policies and law - including pushing for reform; and helping to lobby for finance.

Scalers:

In these contexts, FFPLA is accepted nationally and is being implemented – perhaps via national land agencies, in collaboration with donors. Some form of new laws and policies are probably evident. Reform to institutions is also possible and occurring, and finance mechanisms may already be in place. Pilot phase FFPLA initiatives may already be happening, or potentially things have already moved beyond. In parallel, standards and educational programs being developed or adapted.

What is needed: private sector expertise, training, and accountability. When FFPLA is well under way, and most likely the private sector is already actively engaged and supporting, the opportunity for private sector may be laid out in financing plans and laws. Other activities where private sector can play a role might be in standards creation, maintenance, educational programme reform, working with academia/public sector/NGOs on innovation projects, and supporting licensing programs related to accountability.

What else can I do?

Beyond being engaged at local and national levels, private sector actors can also scale up their own activities.

This might involve:

Getting networked internationally, by joining the ongoing debates occurring within congresses, conferences, working weeks, workshops and various networks. Further getting involved in private sector groups; and making connection with leading UN and related organisations. Keeping up to date with developments coming out of organisations (e.g. UN-GGIM, UN-Habitat, GLTN, Worldbank and FAO) such as IGIF, FELA, Continuum of Land Rights, LADM, LGAF, PPPs and more. There is also the opportunity to join the various online networks and seminars, including groups.

Another way to stay engaged is to keep up to date with the latest trends and developments in regard to technology, financing, organisation, and innovation. This can include following and contributing to the discourses on GNSS, satellite imagery, unmanned aerial vehicles (UAVs), mobile mapping, automated feature extraction, AI, Robotics and so on. Key outlets here are various magazines and newsletters as provided for example by (GIM International, Geospatial World and more).

8. KEY MESSAGES

1. FFPLA is now a viable philosophy and set of institutional, legal, and spatial tools for delivering and maintaining land tenure security on a massive scale.
2. FFPLA methodology is flexible and can address many variants, depending on country context and local nuances/needs.
3. FFPLA methodology emerged due to the problems with the existing land administration approaches.
4. FFPLA does not mean lower quality or less work for surveyors.
5. FFPLA has many proven benefits but is still not mainstreamed in many countries that need it.
6. FFPLA needs private surveyors to play a significant role.
7. FFPLA is a large financial and professional opportunity for private surveyors.
8. FFPLA means surveyors are needed for advocacy, awareness, data capture design, field management, capacity development, and more.
9. FFPLA allows surveyors to take direct action with towards government accountability, climate change, women's rights recognition, disaster risk management, and many of society's most pressing concerns.
10. There exists global and national support and resources for FFPLA implementation.