

An Evaluation of Fit-For-Purpose Land Administration Initiatives at Kadaster International

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Key words: Fit-for-Purpose Land Administration, Cadastre, Sustainable Development Goals, SWOT.

Story map: <http://arCG.is/vyWSj>

SUMMARY

This paper provides an evaluation of Fit-For-Purpose Land Administration (FFP LA) initiatives implemented by Kadaster International (KI) from January 2015 – June 2017.

According to the United Nations in their Sustainable Development Goals, ownership and control over land by all men and women should be recognised by 2030. This represents an immense challenge. FFP LA is developed to address land issues in a fast and affordable manner, with sufficient quality, in a participatory and inclusive manner.

At KI, the FFP LA approach is used since 2014. KI is involved in many FFP LA initiatives. It is important to gain more insight in the carried-out initiatives and to study how other organisations implement their FFP LA initiatives. Therefore, the main objective of the research presented in this paper is to: Evaluate the key Fit-for-Purpose Land Administration initiatives from KI from January 2015 – June 2017 to get an overview of the undertaken initiatives and to indicate overlap, differences and, if possible, results. This is done by undertaking project document analysis, semi-structured interviews including a SWOT analysis and a FFP LA analysis. Next to this, initiatives from KI are compared with three FFP LA initiatives carried-out at other organisations.

The gathered information is useful for KI to identify their main FFP LA results from January 2015 – June 2017. There were fifteen FFP LA initiatives in different categories. The initiatives mostly focus on identifying needs and providing advice and advocacy, in the future focus will be increasingly on building capacity with FFP LA methods to implement the approach on a larger scale. Experiences from Colombia and Kenya will be used for implementation in other countries as well.

The contribution of KI's initiatives to FFP LA worldwide seems significant. Quite some FFP LA key principles are addressed within the initiatives, mostly within the spatial framework. One can wonder whether the spatial, legal and institutional frameworks should be addressed in a balanced way. However, FFP LA is a method in development. Flexibility is a key component and there is no blueprint available of which issues to address first. Experiences from other organisations must be taken in to account. By discussing one another's lessons learned, knowledge can be shared on promoting, using and implementing FFP LA.

According to the research presented in this paper several recommendations are made. It is advised to continue evaluating FFP LA initiatives on a yearly basis with the methodology developed in this research. It can be extremely helpful to also capture experiences from KI's partners to constructively evaluate cooperation, partnerships and performance continuously. On top of that, other organisations who carry out FFP LA initiatives as well, are urged to evaluate their initiatives by means of this method. This will allow for comparative research and will provide lessons learned from businesses, academia or other governmental organisations.

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1. INTRODUCTION

From 6 March until 28 July 2017 I, Carline Amsing, have carried out an internship at Kadaster International (KI). My internship was supervised by Paula Dijkstra. An important part of my time during the internship was dedicated to research.

For the internship research, I have carried out an evaluation of key Fit-For-Purpose Land Administration (FFP LA) initiatives at KI from January 2015 until June 2017. Some of the initiatives took place within the context of the Land Administration for National Development (LAND) partnership, between KI and the Netherlands Ministry of Foreign Affairs. The aim of the LAND partnership is to ignite FFP LA in various countries.

For the LAND partnership, I have evaluated the FFP LA initiatives carried-out under the partnership in 2016, to provide input for the annual report. The evaluation of the initiatives, inside and outside LAND, come together in this paper and evaluate key FFP LA initiatives at KI from January 2015 – June 2017 (Figure 1).



Figure 1: Internship research at KI

1.1 Context and justification research

‘By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to ... ownership and control over land’

- United Nations, 2015

According to the United Nations (UN) in their Sustainable Development Goals (SDG), ownership and control over land by all men and women should be recognised by 2030. This represents an immense challenge. In many western societies ownership and control over land

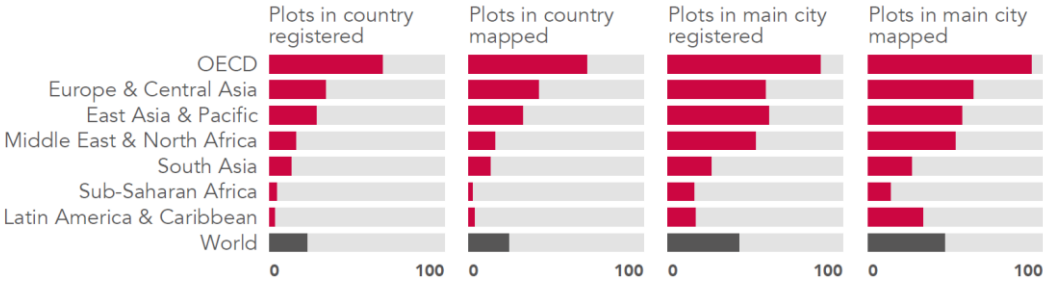
is ensured. However, it is estimated that 70 percent of the world’s people-to-land relationships are not documented and fall outside the formal land administration (GLTN, 2015).

Land administration can be defined as the processes of recording and disseminating information about the ownership, value and use of land and its associated resources (UNECE, 1996). A land administration system should include a form of land registration in which ownership of land is recorded and in some countries guaranteed.

Figure 2 shows mapping and registering private plots countrywide is less likely in Latin America, the Caribbean and Sub-Saharan Africa. OECD (Organisation for Economic Co-operation and Development) countries register most private plots across the country (around 65 percent). However, less than 5 percent of countries in Latin America and the Caribbean and Sub-Saharan Africa do. The registration of plots in main cities is higher across all regions (World Bank, 2017).

1g Mapping and registering private plots countrywide are less likely in Latin America and the Caribbean and Sub-Saharan Africa

Share of countries that have the majority of private plots in the country (or main city) registered or mapped, 2016 (%)



Note: Regional data exclude OECD member countries.

Source: World Bank Doing Business 2016.

Figure 2: Share of countries that have the majority of private plots in the country (or city) registered or mapped, 2016 (%).

When comparing land administration systems all over the world there seems to be a clear ‘cadastral divide’ between more and less developed land administration systems, which should be diminished (Bennett, van Gils, Zevenbergen, Lemmen, & Wallace, 2013). The absence of a well-functioning land administration system, prevents a safe and certain foundation for the acquisition, enjoyment and disposal of land rights (UNECE, 1996, p. 11). Land tenure insecurity impedes sustainable development, since there will be little willingness to make long-term investments when land is not legally owned (UNECE, 1996).

1.2 Related research

An example of such an inclusive and pro-poor approach is FFP LA, developed to address land

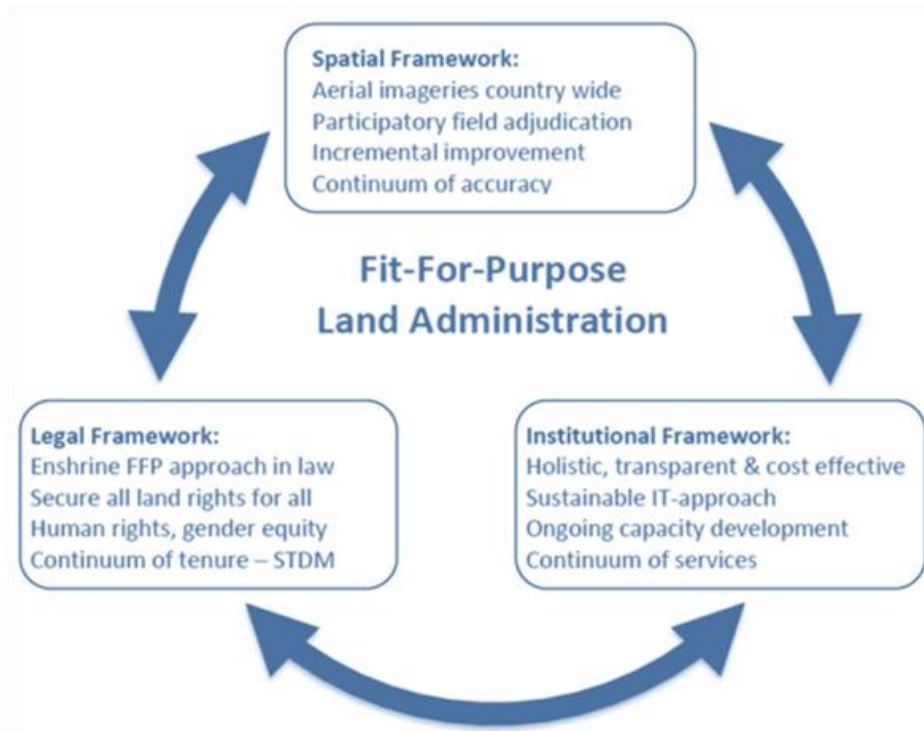


Figure 3: Key Principles FFP LA. Source: Enemark, et al., 2015.

issues in a participatory and inclusive manner (Enemark, Bell, Lemmen, & McLaren, 2014). This approach contains a spatial, legal and institutional framework that are most fit for providing secure tenure for all (Figure 4). Providing tenure security for all is the fundamental purpose of this approach. The frameworks each have four core principles which altogether aim to support a country's land policy objectives (Table 1). In the next chapters of this paper this framework will be linked to the internship research.

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

Table 1: FFP LA Key Principles. Source: Enemark et al., 2015.

Initially, the ‘what’ of a land administration system is more important than the ‘how’, the (societal) needs are the main focus. Flexibility is needed in accuracy, recordation of different tenure types and in the legal and institutional framework. (Enemark et al., 2015). To provide an example: In many rural areas people find it important to register their tenure relationship with their land. However, often it is not necessary to measure the land with a high accuracy. Physical objects, such as a river or a road can function as boundary. The purpose of this undertaking is to register ownership, not to produce a highly accurate cadastral map. Herewith, the method of registering can be carried-out simpler, faster and with the available evidence.

FFP LA will enable the building of flexible national land administration systems within a reasonable timeframe and at affordable cost. The systems can then be incrementally improved over time, in line with economic development (Enemark et al., 2015, p. 31). KI contributed to the development of this approach and uses it as foundation for many of their initiatives. For more elaborate information on the FFP LA approach other literature sources can be consulted.

1.3 Added value of this research

At KI, the FFP LA approach is used since 2014. The main aim is to strive for pro-poor and inclusive land administration approaches. Some key principles were already partly embedded in initiatives from KI before that time. However, not the complete FFP LA approach as presented in the previous paragraph. Since the approach itself is only used since a few years, it is still mainly in the awareness phase. In many initiatives and countries, the approach is starting to gain ground. There are not yet many implementations or results to be seen since these are expected on the longer term. For KI, it is currently favourable to gain more insight in the carried-out initiatives. To get an overview of the undertaken initiatives and to indicate

overlap, differences and possibly already some results. It is also be useful to study how other organisations carry-out their FFP LA initiatives.

1.4 Main objective and research question

Currently, KI is busy with many FFP LA initiatives and has had limited time and capacity for in depth evaluation of those initiatives. However, it is important to gain more insight in the carried-out initiatives and to study how other organisations carry-out their FFP LA initiatives. Therefore, the main objective of this internship research is to: **Evaluate the key Fit-for-Purpose Land Administration initiatives from Kadaster International from January 2015 – June 2017 to get an overview of the undertaken initiatives and to indicate overlap, differences and, if possible, results.**

Main Research Question	Sub-questions
How can the key Fit-For-Purpose Land Administration initiatives from Kadaster International be evaluated from January 2015 – June 2017?	1. Which Fit-For-Purpose Land Administration initiatives can be identified?
	2. How did the key initiatives contribute to Fit-for-Purpose Land Administration worldwide?
	3. How can the initiatives be evaluated in relation to other Fit-for-Purpose Land Administration initiatives?

With respect to the research objective the following research questions are drafted in the above table.

2. METHODOLOGY

This chapter elaborates on the justification of the methodological approach, who were involved, how the activities are carried out and how data is collected.

2.1 Type of scientific procedures

This research is qualitative in nature. Qualitative research is a broad concept which consists of many different methods which aim to research people’s experiences in detail. To identify and understand a specific issue from the perspective of the research participant (Hennink, Hutter, & Bailey, 2010). The deployed methods in this research are project document analysis and semi-structured interviews. The project document analysis was conducted in order to find the already available information on the initiatives and prepare the interviews. The available Terms of References and Reports of the initiatives were analysed and a summary was provided for each initiative to create an overview. Subsequently, the semi-structured interviews use a topic list with questions that were to be covered. The questions are standardised to gather reliable and comparable information (Harrell & Bradley, 2009)

During the semi-structured interviews a SWOT analysis was conducted for the initiatives in relation to FFP LA.

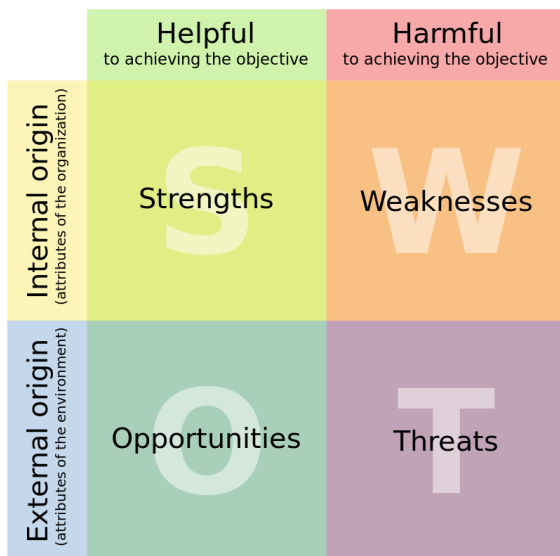


Figure 4: SWOT Analysis. Source: Xhienne, (2007).

As can be seen in Figure 4, often the strengths and opportunities are perceived helpful for achieving a certain objective. Weaknesses and threats are perceived harmful (Panagiotou, 2003). Strategies can subsequently be formulated, often by using the strengths to overcome weaknesses and make use of opportunities to remove threats (Chan, 2011).

Another procedure was added to the semi-structured interviews. A FFP LA analysis was developed. The three-interrelated spatial-, legal-, and institutional frameworks are used to check which key principles of FFP LA are addressed in the initiative. The interviewee was simply asked to tick the box when a key principle was addressed in the initiative. Obviously, these data are not meant to be used as strict quantification of FFP LA. On top of that, due to the subjectivity of this ‘tick-method’, the results are not provided per initiative but aggregated altogether to show the average score. This method provides an overview of the focus within the KI initiatives and the principles which might need additional attention in the future.

2.2 Procedures followed

The described methodology for this internship research is summarised in the research matrix in Table 2.

Objective	Research Question	How (Methods)	Result
Evaluate the key Fit-for-Purpose Land Administration initiatives from Kadaster International from January 2015 – June 2017 to get an overview of the undertaken initiatives and to indicate overlap, differences and, if possible, results.	Which Fit-For-Purpose Land Administration initiatives can be identified?	<ul style="list-style-type: none"> • Project document analysis 	<ul style="list-style-type: none"> • Summary of carried-out FFP LA initiatives of KI
	How did the key initiatives contribute to Fit-for-Purpose Land Administration worldwide?	<ul style="list-style-type: none"> • Semi-structured interviews including a SWOT analysis and FFP LA analysis according to key principles 	<ul style="list-style-type: none"> • Analysis of carried-out FFP LA initiatives of KI
	How can the initiatives be evaluated in relation to other Fit-for-Purpose Land Administration initiatives?	<ul style="list-style-type: none"> • Study and visit paper presentations and workshops during FIG WW and request people to fill in the FFP LA key principles table for their own initiative 	<ul style="list-style-type: none"> • Analysis of carried-out FFP LA initiatives in relation to other FFP LA initiatives.

Table 2: Research Matrix.

3. RESULTS

This chapter describes the findings of this research. To shortly recap the employed methodology; this internship research is carried out firstly by conducting project document analysis. Secondly, per semi-structured interviews, including a SWOT analysis and a specific FFP LA analysis per the spatial-, legal- and institutional framework and the accompanying key principles as described in Chapter 1 and 2. Figure 5 presents the geographical distribution of the fifteen FFP LA initiatives carried-out between January 2015 – June 2017.



Figure 5: Fit-For-Purpose Land Administration Initiatives at KI from January 2015 – June 2017 in Colombia, Mozambique, Uganda, Indonesia, Benin, Nepal, Kenya, Brazil, Colombia, DR Congo, New York and four other initiatives in The Netherlands.

Altogether, twenty-one semi-structured interviews have been held concerning fifteen unique initiatives. Eleven of these initiatives are part of the LAND partnership and were researched to provide input for the LAND annual report 2016. The LAND Initiatives are structured into four categories depending on the focus: (1) identification of needs, (2) advice and advocacy, (3) capacity development and (4) networking and events.

The first category ‘Identify Needs’, was carried-out in DR Congo, Mozambique, Nepal and Indonesia. The second category ‘Advice and Advocacy’, was carried-out at the UN General

Assembly in New York, in Benin and Uganda. The third category ‘Capacity Building’ was carried-out in Kenya and Colombia. The fourth category ‘Networking and Events’, was carried-out within FFP for Latin Cadastres (Colombia), in Brazil, with the United Nations Initiative on Global Geospatial Information (UN-GGIM) and three movies.

A higher quality of the (interactive) world map can be found in the story map (<http://arcg.is/2siEsEP>).

3.1 Involved Partners

For the fifteen different initiatives the involved partners can be found in the chart below (Figure 6). From January 2015 – June 2017 KI worked with a variety of partners. Mostly governments (22), and international organisations (16). Businesses (11) and universities (10) were involved as well, and only few Non-Governmental Organisations (NGOs; 4).

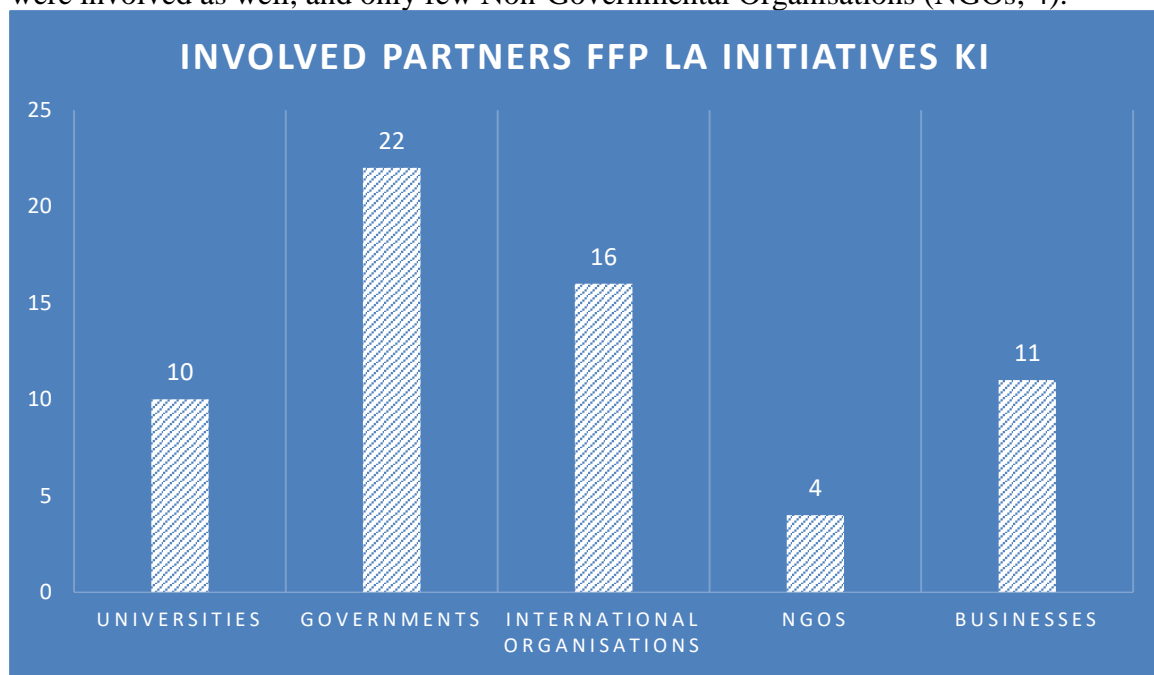


Figure 6: Universities (TU Delft, ITC, KU Leuven, RMIT, Nothern-Kivu), Governmental Organisations (Embassies, RVO, Ministries of Land and affiliated departments, VNG-international), International Organisations (The World Bank, European Union, MCA, OGC, RICS, FIG, GLTN, UN-Habitat), NGOs (AMAN, JKPP, Oxfam Novib, Giz), Businesses (ESRI, Trimble, EXI, Verde Asul, Fugro, Studio Fungi, Bord&Stift).

Since providing all the gathered information out of the twenty-one interviews in this paper would be too extensive, five key initiatives are identified which are analysed in-depth. In accordance with the internship supervisor five initiatives in the following countries are chosen with respect to the type of initiative, use of FFP LA and geographical variance: Nepal (Identify Needs), Indonesia and Benin (Advice and Advocacy), Colombia and Kenya (Capacity Building). No initiative on ‘Networking and Events’ is analysed in-depth since FFP LA is promoted in those activities, however not actually used or implemented in a practical case at the time of research. In total eight semi-structured interviews have been held for the

five key initiatives which are analysed in-depth. For every of the five analysed initiatives the following issues are addressed:

- A short introduction to the country is provided of the initiative;
- The request within the project is provided followed by a description of the initiative;
- The initiatives' results are described ;
- The SWOT analysis of the contribution of the initiative to FFP is provided;
- The lessons learned and follow-up actions are described. The results of these analyses per project are not adopted in this paper and can be requested separately.

The FFP LA analysis with respect to the FFP LA spatial-, legal- and institutional framework and the accompanying key principles is described in the following paragraph. The utilised project documents, used for the first analysis, are not publicly available, the documents used to analyse the five initiatives in-depth are listed in Appendix C.

3.2 FFP LA Analysis according to the key principles

This paragraph presents the outcomes of the FFP LA key principles analysis, carried-out during the semi-structured interviews. Figure 7 shows the scores for the five analysed initiatives. The key principles can be found on page 4 of this paper and in additional literature. When a key principle was addressed in the initiative that box was ticked by the interviewee. When multiple people were interviewed on a certain initiative the average score is used to assure every initiative has the same weight. For every framework, the highest score is 20 (five initiatives times four key principles).

The spatial framework is addressed mostly according to KI staff in the analysed initiatives. The spatial frameworks' accompanying principles are addressed 17 out of 20 times. Therefore, the spatial framework has a green score. The second and third principle 'aerial imagery rather than field surveys' and 'accuracy relates to the purpose rather than technical standards' score highest. The fourth principle 'demands for updating and opportunities for upgrading and ongoing improvement' scores lowest within that framework for the analysed initiatives.

The legal framework is addressed the least in the analysed initiatives. The legal frameworks' accompanying principles are addressed 10 out of 20 times. Therefore, the legal framework has a red score. The first principle 'a flexible framework designed along administrative rather than judicial lines' has the highest score. The fourth principle 'ensuring gender equity for land and property rights' is identified as most lacking principle.

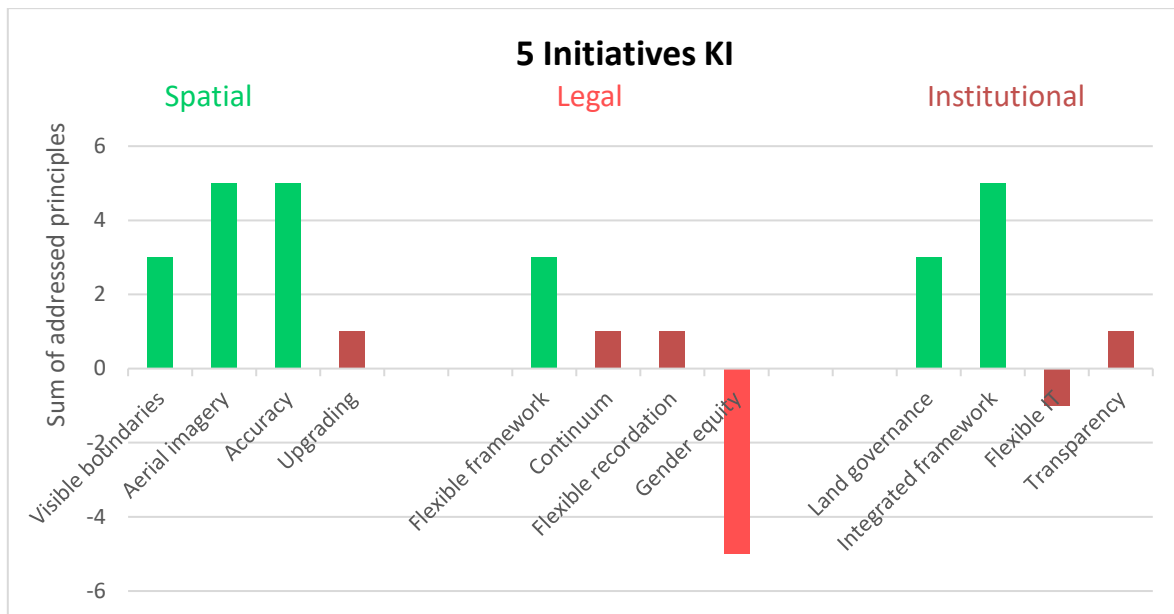


Figure 7: FFP LA Key principles of 5 key initiatives at KI. Green indicates a positive score higher than +1, orange indicates a moderate score of +1 or -1, red indicates a negative score lower than -1.

The institutional framework is addressed medium, according to KI staff, in the analysed initiatives. The institutional frameworks' accompanying principles are addressed 14 out of 20 times. Therefore, the institutional framework has an orange score. The second principle 'integrated institutional framework rather than sectorial silos' has the highest score, and the third principle 'flexible ICT approach rather than high-end technology solutions' the lowest.

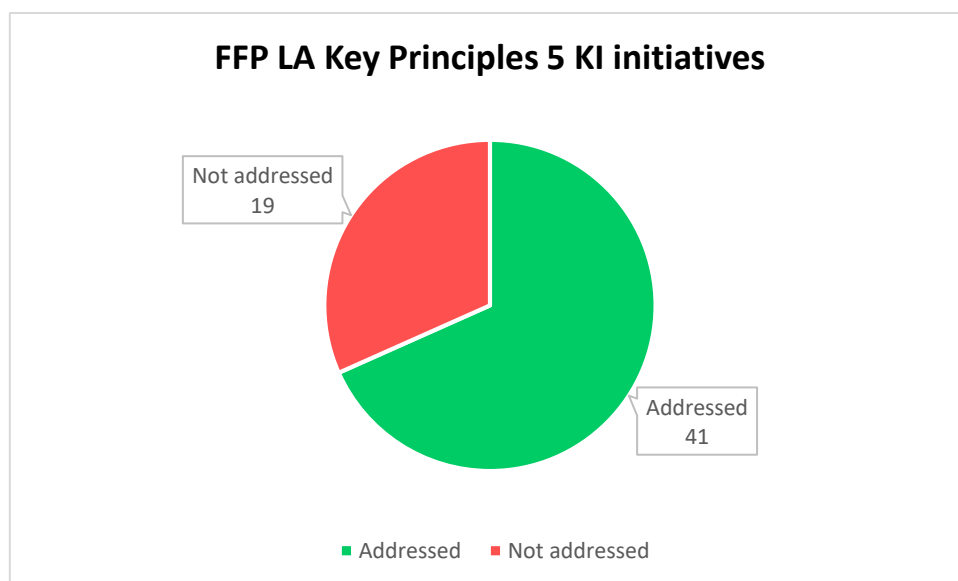


Figure 8: Total of FFP LA Key Principles addressed.

Altogether the FFP LA key principles are addressed 41 out of 60 times (Figure 8).

3.3 Other FFP LA Initiatives

During the FIG Working Week in Helsinki three other initiatives were analysed according to the same method used for the other initiatives (Figure 9). Three initiatives were identified at Trimble, GLTN UN-Habitat and ITC. Within these three initiatives FFP LA is the pursued approach.

1. Stephanie Michaud, Product Applications Engineer at Trimble, was asked to evaluate the USAID/Tetrattech project in Ovejas, Colombia. This was a rural multipurpose-cadastral project which collected census and statistical data for planning. Trimble carried-out field data collection with their Penmap (Michaud, 2017).
2. Monica Lengoiboni, assistant professor at ITC, was asked to evaluate the SEALAN project (Strengthening the Eastern Africa Land Administration Network). The project is funded by the Netherlands Initiative for Capacity development in Higher Education (NICHE) and aims to strengthen the capacity of the Eastern Africa Land Administration Network universities in providing education, short courses and conducting research (Lengoiboni, 2016).
3. Oumar Sylla, Leader Land GLTN, was asked to evaluate the project in Uganda which aims to implement the Social Tenure Domain Model (STDM) in more than 10 municipalities to support the Uganda Support to Municipal Infrastructural Development (USMID), supported by the World Bank and Cities Alliance (GLTN, 2017).

Per framework the scores are quite comparable with the analysed initiatives from KI. Differences can be identified within the key principles.

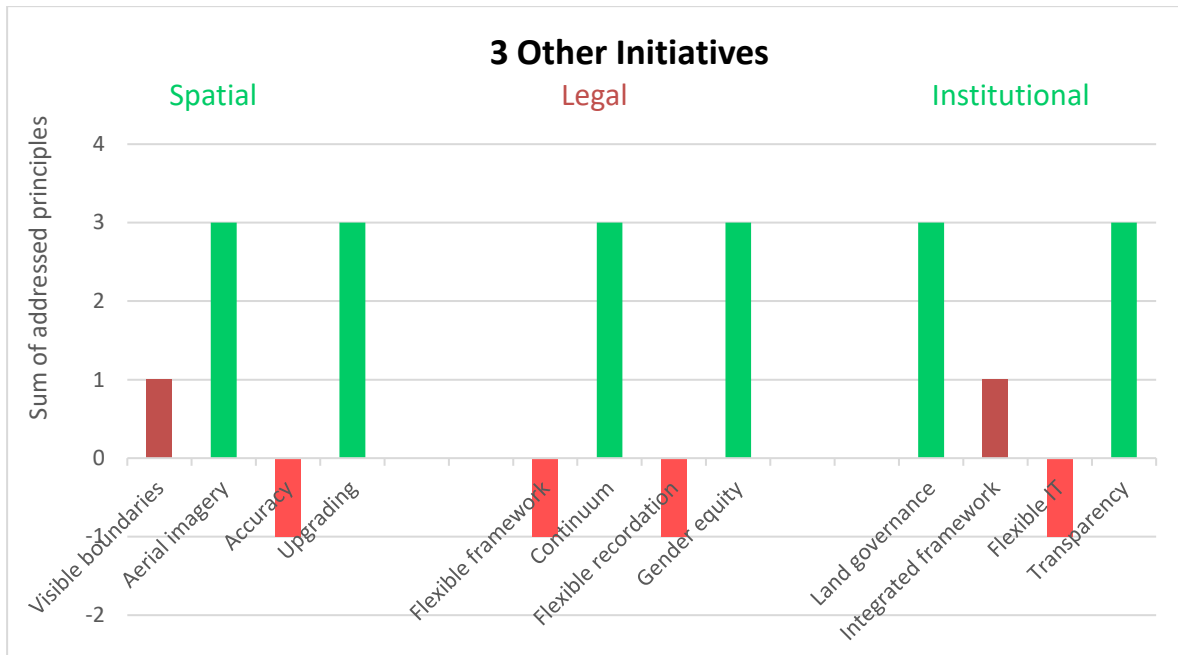


Figure 9: FFP LA Key Principles addressed for 3 other initiatives. Green indicates a positive score higher than +1, orange indicates a moderate score of +1, red indicates a negative score lower than 0.

For the spatial framework, the key principles are addressed 9 out of 12 times. Therefore, the spatial framework has a green score. The second and fourth principle ‘aerial imagery rather than field surveys’ and ‘demands for updating and opportunities for upgrading and ongoing improvement’ are addressed mostly within that framework for the analysed initiatives.

For the legal framework, the key principles are addressed 8 out of 12 times. Therefore, the legal framework has a red score. The second principle ‘a continuum of tenure rather than just individual ownership’ is identified as the most significant principle within that framework for the analysed initiatives.

For the institutional framework, the key principles are addressed 9 out of 12 times. Therefore, the institutional framework has an orange score. The first and fourth principle ‘good land governance rather than bureaucratic barriers’ and ‘transparent land information with easy and affordable access for all’ is identified as the most significant principle within that framework for the analysed initiatives.

Altogether the key principles are addressed 26 out of 36 times (Figure 10).

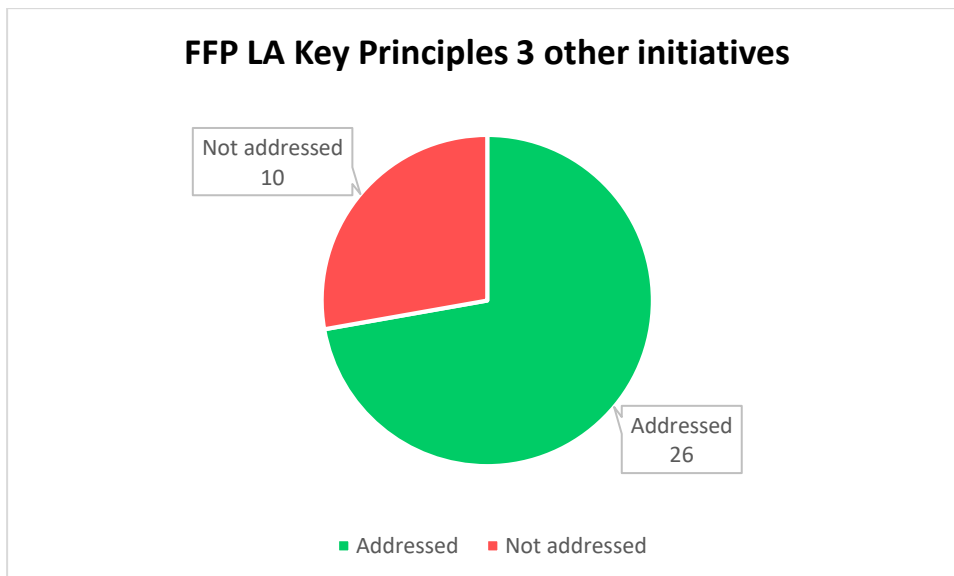


Figure 10: FFP LA key principles of 3 other initiatives.

4. DISCUSSION OF RESULTS

This chapter elaborates on the gathered research findings. The results are interpreted and described in light of the research problem. The most important results are summarised and subsequently explained. Significance of the results is discussed and the research questions are answered. A reflection on the results is provided and some identified research gaps and suggestions for further research.

4.1 Summary of [most important] results

- With regards to the general findings the geographical distribution of the analysed initiatives is quite evenly spread. However, there were no FFP LA initiatives identified for the evaluation by KI's managers in the Arab and Middle-East region.
- KI worked with a variety of partners. Mostly governments are involved in the initiatives, few NGOs are involved as a partner.
- The initiatives mostly focus on the categories Identify Needs and Advice and Advocacy. Capacity Building, actually implementing FFP LA is mostly lacking.
- The five initiatives analysed in-depth have different topics of focus. For instance, the initiative in Nepal focuses on post-disaster land administration and resettlement. The initiative in Benin was a true fact-finding mission to identify first needs in land administration and provide advice and advocacy on FFP LA. The initiative in Indonesia focusses on the integration of third party data coming from participatory and community mapping. The initiative in Kenya was a pilot focusing on participatory data capturing with low-cost and low-accuracy tools. Comparable with the initiative in Colombia, which also piloted participatory data capturing methods, by implementing LADM.

- With regards to the contribution of the initiatives of KI to FFP LA worldwide, the spatial framework is addressed mostly and the legal least.
- For the other initiatives at Trimble, ITC and GLTN, the focus is more evenly distributed on the spatial and institutional framework.

4.2 Analysis of results

Firstly, the results of the geographical distribution of the initiatives and the absence of initiatives in the Arab and Middle-East region is analysed. KI does have experience in this region, more specifically in Egypt and Jordan. However, these initiatives are not labelled as FFP LA initiatives. This region is a point of focus for the department, in fact in 2017 this region is on the action list of LAND. Besides, among translation into French and Japanese, the FIG publication on STDM has been translated in Arabic which is a step forward as well (Lemmen, 2015).

“In Suape, Brazil the Dutch NGO BothEnds is actively advocating for the rights of indigenous smallholders against impact of large scale industry on their livelihoods (BothEnds, 2017). A Fit-For-Purpose Land Administration solution comes into view. KI has implemented network events in Brazil with land professionals from NGO’s, universities and government to promote and push forward an alternative for the current Land Administration system. This example shows that the fact that KI’s initiatives have not been directly implemented with NGOs does not mean that KI is not involved with NGOs, cooperation is essential to work together and align initiatives. For instance, in Nepal where the National Reconstruction Authority is facing difficulties in accepting third party data to verify ownership, KI has proposed to use Fit-For-Purpose Land Administration as an internationally recognised concept and develop a methodology for fast and inclusive registration. At the same time the NGOs Caritas Nepal and Cordaid launched several programmes to advocate on behalf of the Nepalese victims for fast release of the reconstruction funds (Cordaid, 2015). This resulted in political pressure and force from Development Partners to show results. A FFP LA demonstration project is currently implemented (May 2017 onwards) with the interest and support of the National Reconstruction Authority. They will use the results to adapt the policy and regulations so it will be easier to proof ownership and release the reconstruction grants to the people. In implementing the above-mentioned demonstration project, KI is working with the local and national government authorities and implementing together with an international and local NGO.”

Example case 1: Relationship KI with NGOs. Source: LAND Annual report, 2016.

Another finding is the fact that governments are most likely to be implementing partners of KI. This can be explained by the nature of the work, since provision of a sound land administration system is mostly a governmental task. The initiatives are foremost action-oriented and mostly targeted towards the government or implemented with regards to formal procedures and to ignite change from inside out.

When it comes to implementing FFP LA initiatives, the cooperation with NGO’s has been limited from January 2015 – June 2017. In cooperation with NGO’s the initiatives can be strengthened. Their advocacy and media expertise can result in political movement. NGOs

can put pressure on the government to change from the outside in. The initiatives of KI focus more on technical and institutional capacity rather than on political motivation. Both inputs are needed to stimulate change at government level, whether the change is inflicted through incentive, through need, or a combination of the two. This means that working alongside is sometimes more effective than implementing together; the change will be stimulated from both the inside and the outside. The below box provides two examples from the LAND annual report 2016 (Example case 1).

When looking at categorisation, it seems the analysed initiatives mostly focus on identifying needs and providing advice and advocacy in land administration. Especially, since the method of FFP LA is still in the awareness phase. However, the FFP LA pilots in Kenya and Colombia provide an important stepping stone to further catalyse the method. Besides, initiatives from KI at this stage mainly aim to inspire people with the FFP LA approach and therewith hope to reach embracement of FFP LA and build capacity for the implementation. With regards to the contribution of the initiatives to FFP LA framework KI addresses the spatial framework most. ‘Accuracy relates to the purpose, rather than technical standards’ and ‘aerial imagery rather than field surveys’ are the principles addressed mostly within that framework. This relates to KI’s expertise, being a Cadastre, Land Registry and Mapping Agency.

The legal framework is addressed least, which seems to be a complex framework, due to longstanding laws. There is a discrepancy between the initiatives’ timeframe and potentially needed policy change. Most of the time, initiatives are relatively short term when looking at the investment necessary for policy change.

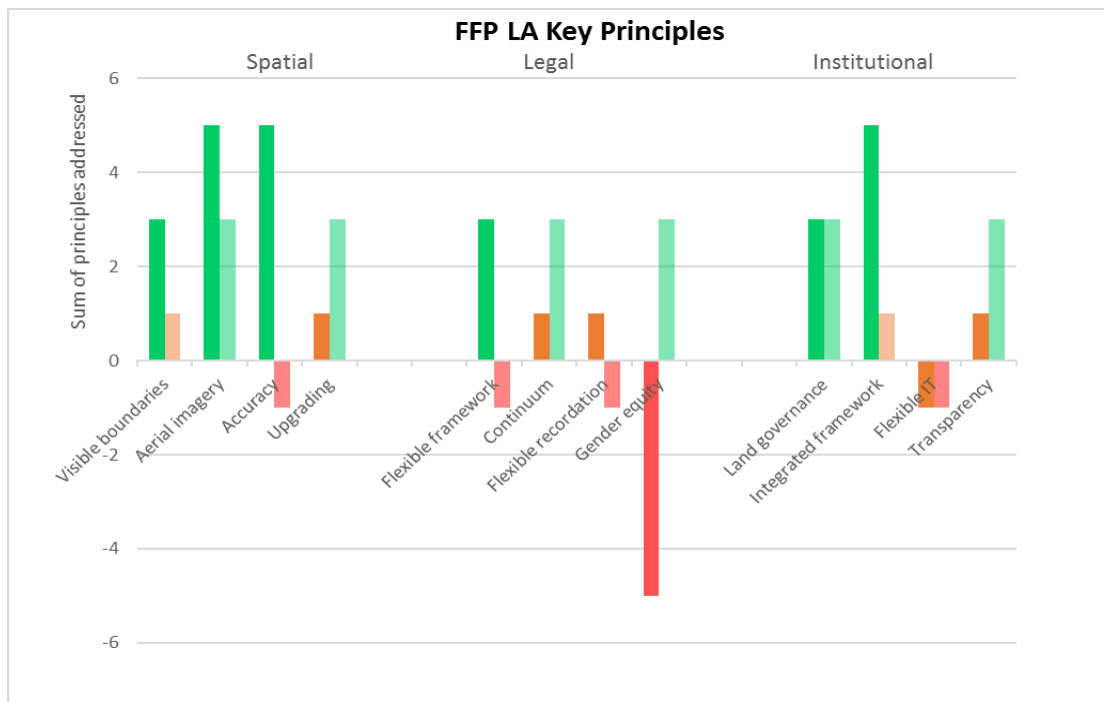


Figure 11: Sum of addressed FFP LA principles for 5 initiatives at Kadaster and 3 other initiatives.

Green indicates a positive score higher than +1, orange indicates a moderate score of +1 or -1, red indicates a negative score of -1 or lower. For every key principle the first bar represents the score for initiatives from KI (100% saturated), the second bar represents the score for the other three initiatives (50% saturation).

In comparison to three other initiatives from Trimble, ITC and GLTN, KI has a stronger focus on the spatial framework (Figure 11). Focus of the three other initiatives is more evenly distributed with the institutional framework as well. Possibly, because of the different organisational types, other initiatives at businesses and university focus differently than a governmental organisation. In the other three initiatives, the legal framework is lagging behind as well, because of its complex nature.

Within the spatial framework, the most notable difference can be found in the principle on accuracy, and its relation to the purpose, which is a strong focus of KI and not so much of the other initiatives.

Within the institutional framework, the most notable difference is in the principle on 'Integrated institutional framework rather than sectorial silos' which is a strong focus of KI and not so much of the other initiatives. Since KI is working mostly with governmental partners, they often deal with sectorial silos, which from their perspective is important to address. The other initiatives probably work less with governmental partners than KI, which results in a lesser embodiment of that principle in their initiatives.

4.3 Significance of results

The presented results are of importance considering the presented literature on land administration in Chapter 1. Acknowledging different forms of land tenure using the continuum of land rights requires new and innovative pro-poor forms of land recordation (Zevenbergen, Augustinus, Antonio, & Bennett, 2013). Conventional methods based on individual land titling are not able to deal with the different forms of tenure (Enemark et al., 2014). Hence, new affordable tools for spatial data acquisition and recordation are needed to support the continuum of land rights (Enemark et al., 2014; Van der Molen, 2006). As described in Chapter 3 the initiatives from KI address pro-poor forms of land recordation in a participatory manner. For instance, in the post-disaster context of Nepal and with participatory land recordation in Kenya and Indonesia. Thus, KI is developing and applying affordable, innovative methods to achieve security of land rights for all.

In conclusion, when looking at the formulated SDG 1.4.2, innovative methods and approaches must be proposed to reach ownership and control over land by all men and women in 2030. One must aim to align with the changing needs of the individuals, governments and societies in developing countries to “align technical and administrative requirements of land administration better to the social and legal requirements” (Zevenbergen et al., 2016, p. 4). Thus, considering the social requirements is a key issue. When looking at the initiatives from KI, focus is largely on the spatial aspects of land-related issues. However, according to Enemark et al. (2015, p. 45) building both the spatial, legal and institutional frameworks is essential for implementing national programmes at scale to deliver security of tenure for all. Based on this, the recommendation for KI is to focus increasingly on the legal and institutional frameworks to meet the needs of the individuals, governments and societies.

4.4 Reference to research question(s)

This paragraph answers the research questions.

1. Which Fit-For-Purpose Land Administration initiatives can be identified?

From January 2015 – June 2017 fifteen unique FFP LA initiatives are identified at KI. These are categorised according to four categories: 1) Identify Needs, 2) Advice and Advocacy, 3) Capacity Building and 4) Networking and Events. The initiatives are presented in the first paragraph of Chapter 3, and in the story map (<http://arcg.is/2siEsEP>). Semi-structured interviews have been held for these initiatives to find answers for the second research question. Subsequently, five initiatives are identified and analysed in-depth in this paper.

2. How did the key initiatives contribute to Fit-for-Purpose Land Administration worldwide?

The five FFP LA initiatives from KI are analysed in-depth with a SWOT analysis of the initiative in relation to FFP LA and a specific FFP LA analysis. This information is presented in Chapter 3. With regards to the FFP framework, the five initiatives mostly addressed the spatial framework of FFP LA. Obviously, elements from the legal-, and institutional framework have been considered as well. However, to a lesser extent than the key principles from the spatial framework.

3. How can the key initiatives be evaluated in relation to other Fit-for-Purpose Land Administration initiatives?

In comparison with three other initiatives at ITC, GLTN and Trimble, KI has a stronger focus on the spatial principles than the others. ITC, GLTN and Trimble, address the spatial-, and institutional framework more balanced. The legal framework is addressed least, by KI and the other three organisations as well. This seems to be a complex element.

Then to answer the main research question:

4. How can the key Fit-For-Purpose land administration initiatives from KI be evaluated from 2015 to 2017?

The used method is found useful to give insight in the carried-out FFP LA initiatives from KI. It seems the initiatives have different angles and approaches, although all aim to provide tenure security for all. The SWOT analysis and FFP-analysis give insight in the contribution of the initiatives to FFP LA worldwide.

5. Reflection about the results

When looking at the research results it was difficult to analyse FFP LA due to the abstract nature of the approach. Especially for the interviewees, who mainly look at their work (in the field) from a practical point of view, and not necessarily from a theoretical point of view. On top of that, despite the standardisation of the semi-structured interviews with the topic list, results of the interviews came out differently. Some interviewees answered certain questions from different viewpoints. To prevent different results in the analyses, questions were sometimes rephrased. Besides, the interviewees were asked to review the summary of the interview and explain some of their answers more elaborately. On top of that, three colleagues reviewed this paper and provided additional feedback on the research.

FFP LA is assumed to be a good land administration approach. Although, one can wonder who can decide what is right and wrong in using FFP LA. The term itself already says the approach should be fit for the purpose it is addressing. Which varies between countries and regions. For the FFP LA frameworks the focus, of the initiatives researched at KI, is mostly on the spatial framework, which may not necessarily be wrong. However, one can wonder if the institutional and legal framework should be addressed in a similar degree as the spatial framework. In this research FFP LA within KI's initiatives is presented and advice (with respect to the FFP LA approach) is given in Chapter 5, assuming FFP LA is desirable.

6. Remaining gaps and need for further research

The produced results only show the point of view from KI. It was not within the scope of this internship research to evaluate KI's initiatives with stakeholders involved in the initiatives. However, this would be of added value, to capture experiences and needs from partners, stakeholders and beneficiaries with whom KI carries out their initiatives.

With respect to this research an external evaluation is already planned for the LAND partnership 2017 (year 3). The produced evaluation framework can be reused, preferably on a yearly basis, to evaluate, internally and externally, other or upcoming FFP LA initiatives at KI or at other organisations.

5. CONCLUSIONS AND RECOMMENDATIONS

In conclusion, the gathered information will be useful for KI to be able to identify their main FFP LA initiatives from January 2015 – June 2017. It seems there were fifteen initiatives falling into four different categories. The initiatives mostly focus on identifying needs and providing advice and advocacy, future focus will also shift to building capacity by means of FFP LA methods to scale FFP LA in countries that can benefit from this approach. Experiences from Colombia and Kenya can be used for implementation in other countries as well.

The contribution of KI's initiatives to FFP LA worldwide seems significant. Quite some FFP LA key principles are addressed within the initiatives. However, focus mostly seems to be on addressing the spatial framework. One can wonder whether the spatial, legal and institutional frameworks should be addressed in a balanced way. FFP LA is a method in development. Flexibility is a key component, there is no blueprint available of which issues to address first. Experiences from other organisations can be taken in to account, by discussing one another's lessons learned, knowledge can be shared on promoting, using and implementing FFP LA.

It is advised to continue evaluating FFP LA initiatives on a yearly basis with the methodology developed in this research. It can be extremely helpful to also capture experiences from KI's partners to constructively evaluate cooperation, partnerships and performance continuously. On top of that, other organisations who carry out FFP LA initiatives as well, are urged to evaluate their initiatives by means of this method. This will allow for comparative research and will provide lessons learned from businesses, academia or other governmental organisations.

REFERENCES

- Bennett, R., van Gils, H., Zevenbergen, J., Lemmen, C., & Wallace, J. (2013). Continuing To Bridge the Cadastral Divide. In *Annual World Bank Conference on Land and Poverty*.
- Both Ends. (2017). Brazilian paradise or industrial center? Retrieved June 23, 2017, from <http://www.bothends.org/en/News/Our-stories-oud/Havenuitbreiding-in-Suape,-Brazilië/>
- Chan, X. (2011). A SWOT Study of the Development Strategy of Haier Group as One of the Most Successful Chinese Enterprises. *International Journal of Business and Social Science*, 2(11), 147–153. Retrieved from [http://ijbssnet.com/journals/Vol._2_No._11_\[Special_Issue-June_2011\]/21.pdf](http://ijbssnet.com/journals/Vol._2_No._11_[Special_Issue-June_2011]/21.pdf)
- Cordaid. (2015). Nepal: from emergency aid to reconstruction. Retrieved June 23, 2016, from <https://www.cordaid.org/en/news/cordaid-nepal-emergency-relief-reconstruction/>
- Enemark, S., Bell, C., Lemmen, C., & McLaren, R. (2014). *Fit-for-Purpose Land Administration*. Denmark: FIG Publications.
- Enemark, S., McLaren, R., & Lemmen, C. (2015). *Fit-For-Purpose Land Administration Guiding Principles*.
- GLTN. (2015). *The Continuum of Land Rights*. Nairobi, Kenya. Retrieved from www.glt.net
- GLTN. (2017). Uganda. Retrieved June 23, 2017, from <http://www.glt.net/index.php/country-work/uganda>
- Harrell, M. C., & Bradley, M. A. (2009). *Data Collection Methods: Semi-Structured Interviews and Focus Groups*. California. Retrieved from www.rand.org
- Hennink, M., Hutter, I., & Bailey, A. (2010). *Qualitative Research Methods*. SAGE.
- Kadaster. (2017). About Kadaster. Retrieved April 5, 2017, from <https://www.kadaster.com/about-kadaster>
- LANDac. (2016a). *Food security and land governance factsheet Benin*. Utrecht. Retrieved from <http://www.landgovernance.org/assets/20160608-Factsheet-Benin.pdf>
- LANDac. (2016b). *Food security and land governance factsheet Kenya*. Utrecht. Retrieved from <http://www.landgovernance.org/assets/20160608-Factsheet-Kenya.pdf>
- Lemmen, C. (2015). *FIG Publication 52 on SSTDM in Arabic*. Retrieved from http://fig.net/resources/publications/figpub/pub52/figpub52_arabic.pdf
- Lengoiboni, M. (2016). *Promoting land rights to land for women and vulnerable groups through education in Eastern Africa*.
- Michaud, S. (2017). *Combining Geomatics Technology for Successful Land Development Projects*. Retrieved from http://fig.net/resources/proceedings/fig_proceedings/fig2017/ppt/ts03a/TS03A_stephanie_8507_ppt.pdf
- Panagiotou, G. (2003). Bringing SWOT into Focus. *Business Strategy Review*, 14(2), 8–10. <http://doi.org/10.1111/1467-8616.00253>
- Payne, G. (2001). Urban land tenure policy options: Titles or rights? *Habitat International*, 25(3), 415–429. [http://doi.org/10.1016/S0197-3975\(01\)00014-5](http://doi.org/10.1016/S0197-3975(01)00014-5)
- UNECE. (1996). *Land Administration Guidelines: With Special Reference to Countries in Transition*. New York and Geneva: United Nations. Retrieved from <http://www.unece.org/fileadmin/DAM/hlm/documents/Publications/land.administration.guidelines.e.pdf>
- UNHCR. (2015). Internally displaced persons in Colombia. Retrieved July 12, 2017, from <http://popstats.unhcr.org>
- United Nations. (2015). Sustainable Development Goals - 1. Poverty. Retrieved September 19, 2016, from <https://www.un.org/sustainabledevelopment/poverty/> (9404)
- An Evaluation of the 2016-2017 Sustainable Development Goals (SDG) Report by Carline Amsing and Paula Dijkstra (Netherlands)

- Van der Molen, P. (2006). *Presentation during evening lecture RICS*. London.
- Williamson, I., & Ting, L. (2001). Land administration and cadastral trends: a framework for re-engineering. *Computers, Environment and Urban Systems*, 25, 339–366. [http://doi.org/10.1016/S0198-9715\(00\)00053-3](http://doi.org/10.1016/S0198-9715(00)00053-3)
- World Bank. (2015). World Bank Open Data. Retrieved from <http://data.worldbank.org/>
- World Bank. (2016). World Bank Open Data. Retrieved from <http://data.worldbank.org/>
- World Bank. (2017). *Atlas of Sustainable Development Goals 2017: From World Development Indicators*. Washington, D.C. Retrieved from <https://openknowledge.worldbank.org/handle/10986/26306>
- Xhienne. (2007). SWOT Analysis. Retrieved from https://commons.wikimedia.org/wiki/File:SWOT_en.svg
- 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. <http://doi.org/10.1016/j.landusepol.2012.09.005>
- Zevenbergen, J., De Vries, W., & Bennett, R. M. (2016). *Advances in Responsible Land Administration*. Padstow, UK: CRC Press.

BIOGRAPHICAL NOTES

Carline Amsing works as IT trainee. She carried-out her first assignment of eight months at the Netherlands' Enterprise Agency as an IT Policy Advisor of the CIO-Office. Her second assignment within the traineeship she carries-out from May onwards, at the Ministry of Defence – Geographic Agency as GIS-Specialist. In 2017 she graduated as a Master of Science in Geographical Information management and Applications in the Netherlands. This is a joined programme of Wageningen University, University of Twente, Utrecht University and Technical University of Delft. As GIMA Secretary she is responsible for all practical matters related to the Master Programme. During GIMA she did an internship at Kadaster International where she worked on fit-for-purpose land administration projects. Carline is part of a regional committee of GIN which organises all kind of geo-related events for its members in The Netherlands. She is also an active member of FIG Young Surveyors.

Paula Dijkstra works as regional manager for the international department of the Netherlands' Land Cadastre, Registry and Mapping Agency (Kadaster). She obtained a Master degree in Social Geography. Within her job she is responsible for the international projects in the Central and Eastern European region and the joint projects of Kadaster and the Global Land Tool Network (GLTN).

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Appendices

The Appendices can be requested separately.

- Appendix A: Topic list evaluation FFP LA initiatives
- Appendix B: List of the held Interviews
- Appendix C: List of the Project Documents Analysed