Ignition for Fit For Purpose Land Administration in Nepal

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SUMMARY

In Nepal, the drive to ignite Fit For Purpose (FFP) Land Administration gained importance following two important events: The earthquakes in 2015 and the promulgation of a new Constitution in 2015. During the severe earthquakes (EQ) 8790 people died, more than 100,000 people were displaced and some 769.000 structures were destroyed. The promulgation of a new Constitution proposes the state to restructure into a federal structure with land administration services split into central, state and local government entities.

Land is an important issue underlying many of the reconstruction challenges. Shelter needs to be provided for the affected population, either temporary or permanent. Infrastructure needs rebuilding, and urban and rural livelihoods need to be re-established.

FFP Land Administration is designed to meet the land administration needs of people and the environment - and to support identifying the way land is occupied and used - within a relatively short time and at relatively low costs. There is growing agreement that the approach can help Nepal to address key land tenure issues surrounding recovery and reconstruction. The guidelines of the FFP approach can also assist the government of Nepal in managing the resettlement of high risk communities. It will provide structured guidance on building the spatial, legal and institutional frameworks - and use pro-poor land tools that fit the purpose, are flexible, and can be improved over time to support the provisions of the new Constitution.

In this paper the opportunities for the implementation of FFP land administration will be described. Besides an overview of the tenure types and a description of the current land administration, it will also take the post disaster land challenges into account.

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1. INTRODUCTION

In August 2016 Kadaster, University of Twente (ITC Faculty) and RMIT University have visited Nepal to discuss the possibilities to implement Fit-For-Purpose Land Administration.

The visit took place under the LAND Programme¹. The overall objective of the LAND Programme is to enhance security of rights on land and property worldwide. For this assignment, the objective is to ignite implementation of Fit For Purpose (FFP) Land Administration in the resettlement areas after the earthquakes in Nepal.

The drive has become of greater importance following the two severe earthquakes (EQ) in 2015 that affected around half the country and a big part of the population. Land is an important issue underlying many of the reconstruction challenges: shelter needs to be provided for the affected population, either temporary or permanent; infrastructure needs rebuilding, and urban and rural livelihoods need to be re-established. Most significant is that preliminary estimate suggest approximately 475 sites (villages/settlements, with more than 19.000 households) require resettlement after the EQ.

Fit For Purpose Land Administration

The approach of Fit For Purpose Land Administration is that land administration should be designed to meet the needs of people and the environment. The Fit-for-Purpose solutions provide opportunities for land administration systems to deliver benefits, including secure tenure rights, to a wide range of stakeholders within a relatively short time and for relatively affordable costs in a flexible manner (GLTN, 2016). The approach has been recognized and supported by FIG and the World Bank and described in a joint publication (FIG and WB, 2014). The publication was followed by a guide of GLTN 'Fit For Purpose Land Administration – Guiding Principles for Country Implementation'. This guide supports developing countries in designing their specific strategy for implementing FFP land administration. It is primarily designed to allow a range of stakeholders in developing countries to understand the overall FFP land administration approach and to recognize the benefits of adopting this approach. It also provides structured guidance on building the spatial, legal and institutional frameworks in support of designing the country specific strategies for implementing FFP land administration. (GLTN, 2016).

This paper describes the results of the visit and the opportunities for the implementation of FFP land administration.

¹ <u>https://www.kadaster.com/partnership-land</u>

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2. NEPAL AND THE ROLE OF LAND

Land is always an issue in Nepal - both socially and geographically. It is an important factor to determine ones' status in society: being landless results in absolute powerlessness. Dealing with the issues related to land, e.g. informal settlements, are complex and sometimes considered as too difficult to address. Four main forms of tenure exist: formal (including public and privately helds lands), non-formal, informal, and encroachment (See Section 3.1). In general, there is a gap between what NGOs focus on, politician promise, and what administration can cope with and deliver.

Role of the government towards land

There have been many governments in the past 25 years. This slows down administrative procedures and decision-making processes. The government recognizes the issues related to non-formal settlements - informal settlements less so. The government supports that all citizens are entitled to own land. This is one of the big changes related to land with the implementation of the new constitution.

The settlements that are socially accepted, but have no formal tenure, will be recognized on the short term. For the other informal settlements there are three options:

- Recognize the settlement
- Relocate the settlement
- Move away from the settlement

Increase of informal settlements

According to UN Habitat in Nepal the number of informal households has increased from 400.000 to 900.000 in the last 20 years. The increase of informal settlements is due to a migration flow from the mountainous areas in the North to the flat arable land in the south, and from rural areas to urban areas in search of better opportunities and livelihood. According to several government sources many have land in the area where they originate from. They are not entitled to own land in the new area where they live. Half of the inhabitants of informal settlements rent their houses. Most of the times this is a verbal agreement. Or there is no contract. Natural hazards are a big issue for informal settlements. In the southern plains of Nepal there are yearly issues due to floods (on average around 400 deaths). In the northern mountains of Nepal there are yearly issues due to landslides.

1.1. The Gorkha Earthquake & land tenure

The earthquake, also known as the Gorkha earthquake, in April 2015 followed by 2nd one in May, mainly affected areas in 31 districts in the Centre and the North of the country. In this area there are less issues related to informal settlements in comparison to the south. Due to the earthquakes there is pressure from the National Reconstruction Authority (NRA) to address land issues.

In short, a few facts about the Earthquake:

- 8790 people lost their lives in the Gorkha earthquakes.
- 22.300 people were injured.
- 100.000 people are displaced.

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- 8 million people affected.
- 769.000 structures were destroyed (of which 31.000 class rooms)

Relocation of the Settlements

In the affected area many settlements were damaged. 475 settlements (19.100 households) are identified as potentially high-risk settlements. These settlements are geologically assessed to determine whether they need to be 1) relocated or 2) if they can continue the settlement with protective measures or 3) if they can continue the settlement as before. In August 2016, 117 settlements were assessed: 56 were identified for relocation, 40 for continuation with protective measures, and 21 were considered safe to continue. The reasons for relocation is different in each case and depends on the unique circumstances and location of the settlement.

Reconstruction grant procedure and certification of land rights

For the reconstruction NRA focuses on two main issues. The first step for reconstruction is to determine if the current location is habitable for now and in the future. The second step is to provide certificates to proof ownership. For the second step there is time-pressure. NRA does not have the luxury of time to hand out formal titles with accurate geodetic surveys of the properties involved. People can reconstruct their house with a grant from the government. They get access to these funds with proof of their 1) citizenship 2) land registration 3) grant eligibility. Households that have no documents cannot apply for the grant. The Survey department under the Ministry of Land Reform and Management (MoLRM)can (re)issue a certificate in case if there are formal rights. There is (currently) no procedure to deliver a certificate to household that are not formally recognized.

Post Disaster Needs

After the earthquakes, the Government of Nepal conducted a Post Disaster Needs Assessment (PDNA) to develop the Post Disaster Recovery Framework (PDRF). In the PDRF the actions for recovery in the coming 5 years are described.

The Government of Nepal is committed to address the reconstruction in a practical way and to prevent long bureaucratic procedures. The NRA sets the example and has developed the guidelines for different topics to support the recovery:

- Housing Grant Distribution;
- Environmental Impact Assessment;
- Land Acquisition;
- Public Procurement
- Reconstruction Regulation;
- Land Registration; and
- Intensified collaboration with non-governmental organizations

NRA supports the use of Fit-for-purpose approaches in the government's effort of fast-tracking recovery initiatives.

1.2. National Reconstruction Authority (NRA)

The NRA² was established in December 2015. In the first phase of their existence it is important for NRA to provide access to the grants to enable the reconstruction of the houses. There are two major land related concerns: 1) enabling reconstruction where houses are damaged or fully collapsed in areas considered safe; and 2) relocating people and houses from areas considered unsafe. Both issues require information about people (citizenship certificate), the damaged property (survey), and an ownership certificate. NRA needs innovative approaches for the registration of land that is simple, quick and result oriented. Fit For Purpose Land Administration fits with this approach. NRA aims to train and increase capacity building related to Fit For Purpose Land Administration.

1.3. Survey Department

In the process of recovery and the proof of ownership, the Survey Department of MoLRM has an important role.

The Survey Department is responsible for the topographical mapping, the Geodetic Surveys, the Cadastral Surveys, the NSDI and the International boundary surveys. There are 2600 people working at the Survey Department. 500 of them work in the Kathmandu office.

The Survey Department is still growing. New offices are opened in the districts and new staff is hired.

The creation of the Cadastral Map started in 1964. It was completed in the early '90s. 95% of the cadastral map is created with a plane table. However 60% of the maps created now are created with a total station. The cadastral map has three scale levels

- 1: 4800 (originally)
- 1: 2500 (rural areas)
- 1: 500 (urban areas)

The new constitution provides access to land for the poor people (squatters). There is no provision at country level to include the informal settlers into the cadastral map.

The topographical map is produced at two scales, 1:50.000 and 1:25.000. The updating of the map depends on the location and the changes that occur in a region. The last census was held in 2011. A new atlas is made with support of data from the Central Bureau of Statistics

Support of the Survey Department after the earthquakes

In the first phase after the earthquakes the Survey Department contributed to the recovery with their data. Free access of location data was given for the first three months through the web portal: <u>www.ngiip.gov.np</u>, although usage statistics and update are not reported. Also interactive maps were created to display the effects of the earthquake. And in a preliminary study the movement of mass was described.

² <u>http://www.nra.gov.np/</u>

In the current phase of recovery the Survey Department supports NRA with the registration of property rights. At this moment the accuracy of the registration procedures is legally described. In the areas affected by the Earthquake it is time consuming and costly to survey the boundaries of the properties that are not in the cadastral map.

To support the recovery the Survey Department formulated two projects for the Post Disaster Recovery Framework (PDRF).

- Rehabilitation of the Geodetic Control Network
- Multipurpose Mapping

The funds for both projects are not allocated yet. It means that the flights to collect orthophoto and LiDAR data have not started. This delays the reconstruction and relocation procedures in the affected areas.

3. STATE-OF-PLAY FOR LAND ISSUES IN POST-DISASTER NEPAL

This section unpacks the major land tenure classifications in Nepal, the administrative systems that support them (or not), and the implications on the tenures and administration in the post-disaster context.

3.1. Land Tenure Status

In the context of Fit For Purpose Land Administration, land tenure in Nepal is discussed locally using four categories: formal, non-formal, informal, and encroachment. Figure 1 provides a means for distinguishing the categories in terms of statutory (legal) and social (legitimacy) acceptance.



Adapted and applied from Zevenbergen (2016)

Figure 1. Statutory and legal status of Nepalese land tenure categories.

Formal tenures are those land interests recognized by the state. They have both high legal and social acceptance. These include state land, private land, and religious trust land (Guthi land). Private lands account for approximately 27% of the country area and are administered using conventional laws, institutions and mapping processes – initiated in 1964/5 under the Land Reform Program. State or public lands accounts for approximately 73% of the country. Guthi land makes up only 0.03% of the land area and relates to temples and religious sites maintained religious bodies.

Non-formal tenures are those land interests with high social acceptance and statutory recognition, but, without ownership certificates and mapping completed. The land holdings are long standing and are characterized as being multi-generational and in existence prior to the 1965 Land Reform Program. Estimates suggest that these non-formal tenures account for 6% of the land area. However, unlike formal private tenures, for various reasons, they were not captured during the initial land registration program. Under the new Constitution of Nepal (2015), these tenures have gained increased legal status and are being systematically added to the conventional land administration system: there is a program for updating the non-formal tenures and issuing a land title, with only 4000 households still to be formalised. In August 2016 it was anticipated this will be completed in 2 years.

Informal tenures are those land interests with far less legal and social acceptance. They are lands settled upon post-1965 – although, often much more recently – and are characterized as slums and informal settlements in urban areas. Unlike non-formal tenures, there are no plans to provide ownership certificates for these land holdings. The percentage of land covered by informal tenures is neither known nor estimated. Whilst the new constitution (2015) can be argued to support the formalization of these holdings, there is currently no government action intended to give these tenures more legal recognition. In general, there appears to be a gap in policy and administration for these tenures - and future prospects for their recognition remain uncertain to say the least. The topic of formalization remains highly political.

Encroachment tenures can be considered a specific case of informal tenures where an identifiable overlap with a formal tenure is identifiable - potentially in a hazardous or highly inappropriate area. These tenures have even less social and legal acceptability. The amount of encroachment land is neither known nor estimated - but, existing government policy is to curb such encroachments and relocate occupiers.

3.2. Current Land Administration Status

The conventional land administration system only pertains to formal private tenures and increasingly the non-formal tenures. There are no administrative provisions for informal and encroachment tenures. The following information pertains to the conventional system. Below each framework of the concept of the Fit For Purpose Land Administration is described.

Legal Framework

The existing legal framework is designed along historical judicial lines rather than any administrative efficiency for citizens.

Only private individual ownership, primarily registered and held by males³, is recognized: there are no mechanisms for some form of basic recognition and recordation of informal tenures.

Procedures for recordation are set by law and regulation, and in general there is a single standardized approach. Only a single register of private ownership is maintained. At present, the only accepted option for formalizing properties and paying reconstruction grants is the existing process of issuing land titles.

Under the new Constitution of Nepal (2015), the right for female inheritance is recognized. However, this only pertains to rights currently held under the formal system. The impact of the new constitution with regards to the amount women's land ownership will take at least a generation. There remains scope to improve the legal framework to further ensure gender equity for land and property rights.

³ Female land ownership 19.1% (http://cbs.gov.np/image/data/Population/National%20Report/National%20Report.pdf)

Institutional Framework

Existing institutional processes of the conventional land administration system focus on aligning historic bureaucratic procedures with the legal framework. There is generally limited scope to develop new procedures for registration and mapping. However, the creation of the NRA following the 2015 earthquake, and the substantial powers given to that body, present the opportunity to fast track bureaucratic procedures. As yet, no expedited processes have been developed, however, NRA is not attached to existing bureaucratic procedures for land rights recordation, and is only concerned that land records can be provided swiftly.

Sectoral silos are evident within the institutional framework. There are divisions within and between Ministries and Departments. Initial registration of land is completed by the Survey Department, whereas, maintenance and updates are completed by another Department. Meanwhile, state land tenures are managed in a variety of other Ministries: there appears little, if any, linkage between the system recording the private formal tenures, and state lands. Obviously, the limited amount of digital data limits the ability for closely linked data and digital procedures. Meanwhile, the establishment of the NRA, the post-disaster reconstruction framework, and the drive for coordination of Ministries - all provide strong impetus for more integrated institutions.

The role of ICT in land administration procedures can be considered quite undeveloped: there are no scaled data creation, storage, and maintenance procedures. In this regard, the ICT approach cannot really be gauged in terms of flexibility.

In terms of transparency, affordability, and accessibility - land information and transactions are provided for a cost - although, following the 2015 earthquake, some land related information (e.g. topographic map series) were made available for free on request.

The state restructuring under the new Constitution further prescribes land governance into a federal structure requiring a complete review on the institutional framework.

Spatial Framework

Conventional procedures are highly manual and paper based, although, there is slow movement towards digitalization. For spatial data collection, the majority of the surveys are carried out using plane table technologies (65 - 95%), with some movement towards the use of total stations. The use of GNSS appears reserved for geodetic control surveys: no use of low-cost GNSS is made in cadastral surveying. In addition, no use is made of aerial photography or satellite imagery in the tenure mapping process.

The conventional system assumes and promotes fixed boundaries and generally does not utilize the visual boundary or general boundary approach. The cadastral mapping accuracies are set at 1:4800 (originally), 1:2500 (rural) and 1:500 (urban) - although, justification for this is unclear. Actual field measurements have high accuracy requirements. It appears accuracy is driven by historical technical standards, rather than the contemporary purposes for which the cadastre can serve. Procedures for updating land tenure information are based on historical convention - and appear to

experience minimal change. This could be in part to do with institutional inertia and also the cost procedural change and technical upgrade: there is simply insufficient funding available.

With regards to the 2015 EQ, tenure mapping of the pre-earthquake tenure situation for each household is needed to support the reconstruction process. This applies also to households on informal tenures that are not going to be resettled, and who either had no damage, or could rebuild safely in-situ. The resettlement process could be supported by mapping of the pre-disaster situation of the affected households, as well as the tenure situation for the land on which the households will be resettled, and adjacent properties. There are as yet no plans within the relevant mapping agencies to reduce accuracy requirements with a view to expediting mapping of areas requiring resettlement, and the areas where relocation would occur.

4. POST-DISASTER LAND CHALLENGES

All tenure types described above are potentially affected in the post-disaster context. Key challenges and current responses are now described. In general, from the tenure types described above the category of encroachment (or illegitimate and illegal) is not supported by MoLRM for formalization: more response focus has been placed on the socially and/or legally legitimate tenure types: these include formal titles.

Disputes over land holdings

Prior to the earthquakes there were many land issues that affected access to land and livelihoods. The level of disputes over land was very high. Out of all civil cases in the Courts of law about half (47.5%) are related to land litigation, while many more end up without being reported or unheard (UN Habitat, 2017). The earthquake exacerbated these land issues resulting in an increase in disputes over land: new disputes were created, whilst other longer standing unresolved land tenure were brought to the surface.

Displacement and landlessness

Households with informal tenures, bonded labourers, renters and squatters faced the greatest impact from the earthquake. In the post-disaster period people were displaced from their land and some were not able to return due to damage or to being unable to prove their right to the land (through an ownership certificate). In this regard, there has been an increase in landlessness due to loss of access to land, or inheritance or rental agreement issues. This is recognised in the constitution and the PDRF, and a priority is placed on providing land (with formal tenure) to Dalits and also protecting the land rights of women.

Documentation and records lacking

Loss of access to land after disaster can occur due to loss of documents (land title, contracts, rental agreements), the death of a husband or a formal title-holder, or lack of recognition of verbal agreements over land or shelter. Those with formal land titles generally find it much easier to prove their rights to land. However, where the husband dies the wife may not be able to prove inheritance. Similarly, bonded labourers and rental agreements that are verbal may not have been be continued after the earthquake with a loss of livelihoods and shelter. A current Survey Department project

aims to register all non-formal tenures within 2 years. However, the informal settlers are the most vulnerable to missing reconstruction grants, and to face eviction.

Post-Disaster Resettlement and Relocation

An estimated 475 communities may need to be resettled in new locations. Resettlement is inherently complex and must consider tenure, livelihoods, shelter, and cultural diversity. The NRA will undertake an assessment of which houses should be resettled and identification of the resettlement locations. In some cases land acquisition will be required and compensation paid. Those with land titles may sell their original land to the government and/or receive compensation. Where non-formal tenures still exist these may need to be formalized under a fast-tracked process. At this stage it is not clear whether informal tenures will be resettled. It is anticipated that resettled households be provided with a land title at the new location. Supporting the resettlement process with advice on fit-for-purpose approaches to land administration was seen as a key priority for the involved stakeholders.

Beyond the reconstruction phase, a DRR approach will require that households not damaged by the earthquake - but still at risk of floods and landslides - have tenure security to improve their resilience.

5. EXAMPLE SETTLEMENTS

For the LAND program GLTN organized a field visit to four different settlements in Kathmandu Valley. The settlements have different settings. They provide good examples of the issues related to the tenure structures in Nepal. The first two settlements are heritage sites badly affected by the Gorkha earthquake. One involved houses on Guhti (religious) land and the second had houses on private land. Key members of the community seek to reconstruct the houses in the traditional way to maintain the culture and identity of the settlement. The third settlement is an informal settlement where urban poor live. Due to the tenure insecurity they have very limited access to services from the government. The 4th settlement is a rural community that would like to improve the spatial structure of the settlement after the earthquake. A complex process with many stakeholders at local and national level.

5.1. 1st Settlement - Khokana

Khokana is an old medieval town established during the Malla kingdom. It is a heritage site with traditional architecture. During the Gorkha earthquake many houses were damaged and destroyed. Over a 1000 households were affected. The 884 households living in the damaged houses are relocated to temporary shelters on the rural plots outside of the built-up area.

The households have used their own rural plots or they rent the plot from the owner.

The tenure in Khokana is not formally registered, but, is legally recognized in law (i.e. non-formal). Without proof of ownership of the land people cannot apply for the government grants to start the reconstruction. Along with a wave of predatory land speculators following the earthquake, this is the key land related issue in the area. The financial circumstances for many households are bad due

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to loss of income. Also it is costly to reconstruct houses in line with the building regulations of the municipality and that are designed in the traditional way. Some households sell their land to parties from outside the settlement.

The Survey Department started recently to survey the parcels in Khokana. This procedure takes time due to discussions about the exact location of the parcel boundaries. An alternative method could work, for instance a participatory approach to agree on the preliminary locations of the parcels. The people know who owned what.

During the visit a meeting with the local committee was held. The committee discusses the reconstruction of Khokana. It consists of planner, engineers, social workers and local representatives. It is a network of volunteers that work as an umbrella for different organizations (NGO's, CBO's) that started activities in Khokana. They first focused on healthcare in the first months after the Gorkha earthquake. Later they focused on cleaning up the roads and to remove the debris of the earthquake. Now they are focusing on the reconstruction processes.

For the settlement it is important to preserve the cultural heritage and to rebuild houses in the traditional style. There is currently not sufficient know-how and skills to rebuild the houses in a traditional way. Also it will be more expensive than rebuilding with standard brick and mortar and concrete.

Priority for the reconstruction is given to the public areas like the temples so that cultural events and festivals can take place. This is important to keep the community structure intact and alive.



Picture 1: Damaged houses in Khokana

5.2. 2nd Settlement – Bungmati

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Bungmati is a heritage site just like Khokana. It is a traditional village and a closed community. Before the Gorkha earthquake on average 50 tourists a day visited the settlement.

The earthquake damaged 525 houses. Most of the houses in Bungmati are formally registered. This is one of the requirements to apply for the grant of NRA. The design for the house is another requirement. It is intended to rebuild the houses in a traditional way. UN Habitat provides technical assistance to rebuild the houses. A master plan for the coming 5 years for the renovation is created and approved. Bungmati is one of the first towns in this phase.

Before the reconstruction of the individual houses can start, the designs of the building have to be approved by the municipality: this procedure delays the reconstruction and in the meantime people cannot start the reconstruction.

5.3. 3rd Settlement – Bansighat

Bansighat is an urban poor informal settlement located on the riverbanks in the city. It is an informal settlement, established around 30 years ago. Most inhabitants of the Bansighat came from the south. They were dislocated due to floods and (manmade) disasters. The inhabitants have limited access to services of the government because they have no registered land title.

In cooperation with the municipality each house now has a house number. Also some services like access to electricity are now available.

Some of the households have a certificate that describes the people to land relationship. On the certificate you can find the most important details about the household, house number, name, id, family members (including picture). The certificates were created 15 years previously with support of the municipality and the mayor of Kathmandu. There is no map attached to it. And there is no database to maintain it. Five years ago a new database was created by the community, but it is not maintained. The certificates help in getting access to power and water.



Picture 2: Certificate issued in the name of the family head after household survey carried out for informal settleers and squatters in Bansighat

The Gorkha earthquake damaged 40 houses in the informal settlements of Kathmandu including Bansighat. The households cannot apply for grant of NRA, because they do not have a formal title to their land.

In Bansighat there is also a public community centre for women and children. A local CBO helped to build the centre. The community made a joint declaration to describe the purpose and use of the building. The municipality approves of the building. In the centre trainings and skill development takes place for women and children.

The inhabitants of Bansighat have a constant fear of being displaced. They would like to formalise their land tenure. To address this issue they need support of different municipal department and national ministries. For the community it is difficult to know who to address at the different departments and ministries.

In Kathmandu over 63.000 people live in these kind of informal settlements.

5.4. 4th settlement – Matsegaun

Matsegaun (Machhegaon) is located in the hills around Kathmandu Valley. The settlement was also affected by the Gorkha earthquake. The settlement is divided in three areas. In one of the areas, Taukhel, 98 of the 114 houses collapsed. Some parts of the community do not want to rebuild the

area in Taukhel in the same way. The size of the many of the houses is too small. As well as the size of the rural plots (32m²). Also the roads were too narrow and there were limited public spaces. With the support of land pooling and land readjustment the community would like to redesign the settlement. This way all families have plots with a proper size (80m2). A complicating factor is that not all households have a formal land title. The community is supported by a CBO, Lumanti - however, households with bigger plots and the older generations are not interested to change the current situation. To make the land pooling successful the communities needs assistance of different ministries. The community experiences a gap between the policy that supports their initiative and the staff and administrative processes of the Ministries that should supposedly enable the work. The community needs to be well aware of the responsibilities of the different ministries to request the right support. After the land pooling processes additional budget is required for the infrastructure of roads, sewerage and electricity.

6. IGNITE FIT FOR PURPOSE LAND ADMINISTRATION

FFP LA is designed to meet the needs of people and the environment - and to support identifying the way land is occupied and used - within a relatively short time and at relatively low costs. There is growing agreement that the approach can help Nepal to address key land tenure issues surrounding recovery.

The guidelines of the FFP approach can provide direction and guidance to the government of Nepal to the resettlements. It provides structured guidance on building the spatial, legal and institutional frameworks - and use pro-poor land tools that fit the purpose, are flexible, and can be improved over time.

With the current challenges in Nepal, Fit For Purpose Land Administration can provide support and guidance for the government and society.

The government of Nepal and especially NRA needs innovative approaches for the registration of land that is simple, quick and result oriented. Fit For Purpose Land Administration fits with this approach. The aim of NRA is to train and increase capacity building related to Fit For Purpose Land Administration for the earthquake affected areas -and in parallel to that, UN Habitat and NRA require demonstration to relocate settlements. The first step is to define the purpose for Nepal.

Defining the purpose in Nepal

In the affected areas in Nepal land titles are required as evidence for reconstruction grants to be paid. Therefore, people with informal tenures cannot get reconstruction grants until a land title is issued. Where non-formal tenures have not yet been upgraded, households risk missing out on the reconstruction grants. A key challenge for the reconstruction effort is how to formalize the legitimate informal tenures - in a timely and cost effective manner.

Therefore, the main purpose for the people in the earthquake affected areas is to prove their land tenure status to get access to the grants. Currently, the only accepted option for formalizing

properties and paying reconstruction grants is the existing process of issuing land titles. The conventional system promotes fixed boundaries – created via plane table or total station surveys – and generally the measurements of the boundaries have high accuracy requirements. This is driven by historical technical standards. To address the purpose in a flexible way, in a short time and at relatively low costs another approach and procedures are needed.

Ignition of Fit For Purpose Land Administration

The earthquake of 2015 has created the momentum, political will and articulated user demand to improve the land administration in Nepal within the short term. With the establishment of the NRA it created the opportunity to fast track bureaucratic procedures. NRA is not attached to existing bureaucratic procedures for land rights recordation. As described in chapter 3 and 4, the present situation asks for an approach that is of value to people with formal, non-formal and informal rights. The main concern for NRA is that land records can be provided swiftly. One option for improving tenure security is to formalize all the informal tenure types to facilitate grants and support reconstruction. At present this requires the issue of full title. Another option is to explore ways to record the social legitimacy of informal tenures as a first step towards formal recording. A provisional title could be a solution, so that the people can reconstruct their house.

The option for a provisional certificate of title was discussed during the visit under the LAND program with the stakeholders. A provisional certificate of title can be developed based on a Fit-forpurpose approach to land administration using a spatial framework of imagery rather than a full field survey. It could be considered an in-between step before creating a full certificate of title based on a more accurate boundary survey. A provisional certificate of title requires a different tool level. One for the short term, to make sure that citizens can access the grants - and one for the long term where the provisional certificate of title can be turned into a formal certificate of title with an accurate survey.

With regards to the affected areas in Nepal a tenure map of the situation of all types of tenure before the earthquake is required to support the reconstruction process. This information can be used for the land on which the households will be resettled, and adjacent properties.

As a conclusion of the visit in August, a demonstration project of FFP LA was proposed in three earthquake affected communities, that:

- Starts at the local scale, providing the basis for resettlement and relocation of people affected by the earthquake;
- Matches top-down (national government) and bottom-up objectives (local, government, NGO's and citizens) and are both legally and socially accepted;
- Is replicable in other communities in Nepal (up-scalable) within a timeframe of two years at a cost of lower than 20 dollars per parcel/household, run by local and national organisations.

In 2017 both GLTN and Kadaster are involved to implement Fit For Purpose Land Administration in Nepal.

Ignition for Fit For Purpose Land Administration in Nepal (9054) Paula Dijkstra (Netherlands), David Mitchell (Australia), Bennett Rohan (Netherlands), Ganesh Prassad Bhatta and Raja Ram Chhatkuli (Nepal)

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BIOGRAPHICAL NOTES

Paula DIJKSTRA

Currently 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).

David MITCHELL

David Mitchell is an Associate Professor at RMIT, and has a PhD in land administration. David is co-chair of the GLTN Research and Training Cluster, and member of the GLTN International Advisory Board. At RMIT University he teaches cadastral surveying and land development and undertakes research focusing on the development of effective land policy and land administration tools to support tenure security, improved access to land and pro-poor rural development. He also has a strong research focus on land tenure, climate change and natural disasters.

Rohan BENNETT

Rohan Bennett is an Assistant Professor working in Land Administration. He holds a PhD in Land Administration from the University of Melbourne. He also holds degrees in Engineering (Geomatics) Science (Information Systems) from the same institution. From the University of Twente he holds a university teaching qualification. His research focuses on supporting concerns relating to food security, 'land grabbing', and climate change – through technological developments in cadastres. He is currently working on design elements including crowd sourced cadastres, the global cadastres, and green cadastres – and the process of land consolidation. His educational experiences are broad and cover both the harder and softer elements of land administration. Recent consulting work includes activities in Ethiopia, Uganda, and Vietnam. Rohan acts as a reviewer on for around 20 journal and conference series. He has co-supervised numerous PhDs and over 20 MSc theses, in both the Netherlands and Australia.

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Raja Ram Chhatkuli previously served for more than 35 years as a civil servant in Nepal associated with surveying, mapping, NSDI and land administration. His is currently associated with UN-Habitat in Nepal and his responsibility include coordination of land tenure and management projects.

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