

Person, Parcel, Power, Towards an extended model for Land Registration

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Key words: Land Registration Theory, Legibility, State, Authority, Power

ABSTRACT

Several authors in Land Registration have overemphasised the process of recording land interests at the expense of the process of classifying these interests. Arguably, classifying land interests and the State's role in the classification process have received less attention because classification by the State takes place before Land Registration.

This model of objective, straightforward Land Registration is at odds with current processes in the domain of Land Registration. Nowadays, many different State and non-State actors are involved in the process of classification and are influencing the process of registration. Advances in geo-ICT are facilitating this greater involvement as shown by initiatives like OpenCadastreMap, MapMyRights, CommunityLandRights and crowd-sourced cadastral mapping initiatives, in general. The international acceptance of the Continuum of Land Rights and similar philosophies also undermine the monopoly of the State in the definition and classification of land rights.

In this paper, we present a model of Land Registration that makes explicit the various classifiers (State, non-State, local, global) and their classifying approaches. The model extends Henssens' classical model with the variable State and Power. With this extended model we can better understand the legality and/or legitimacy of a Land Registration system and the authority of the classifier and administrator of the system.

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1. INTRODUCTION

This paper is written in the framework of a broader research effort into participatory Land Registration. The objective is to make a reconnaissance of the theoretical context from which this phenomenon can be studied. Participatory Land Registration comes under many different names such as crowdsourcing, community driven adjudication, grassroots mapping, participatory mapping etc. Keywords are ‘participation’; ‘community’, ‘grassroots’ etc. so participatory Land Registration can be looked at from a wide array of scientific domains like public administration, political and social sciences in addition to the more classical sciences that deal with Land Registration like law, economy and technology.

Chapter 2 gives an overview of classical Land Registration theory and a proposal to extend the classical model. In Chapter 3 a typical case study of participatory mapping is described and analysed. In Chapter 4 the proposed model for Land Registration is further extended such that it accommodates all forms of participatory Land Registration.

In this paper the term Land Registration includes the processes of land adjudication, demarcation, surveying, and recording (Henssen quoted by Zevenbergen et al., 2013).

2. LAND REGISTRATION THEORY

McLaughlin and Nichols (1989, p. 81) define Land Registration as “*the process of recording legally recognised interests (ownership and/or use) in land.*” Nichols and McLaughlin (1990, p. 107) define Land Registration slightly differently: “*the process of officially recording information about land tenure. Land tenure encompasses the rights, responsibilities and restraints that govern the allocation, use and enjoyment of land resources*”. The land records that are the result of the process of Land Registration are illustrated by Henssen (1995) in Figure 1 with the classical trinity man-right-parcel.

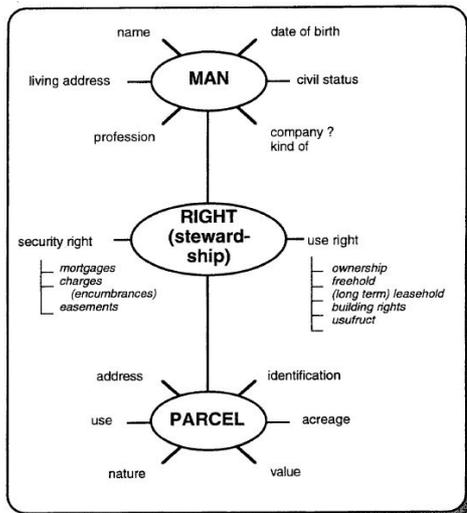


Figure 1 Man-Right-Parcel (Henssen, 1995)

The first definition takes “*legally recognised interests*” as the starting point. The second refers to “*officially recording information about land tenure.*” The legal recognition of the interests has already taken place and is bracketed out from the definition, while the role of the State in the registration process becomes that of a mere administrator of already established rights. Similarly, Henssen’s model does not foreground the State in the process of establishing the man-parcel relationship. Classifying land interests and the State’s role in the classification process have received less attention because in the classical process of Land Registration, classification by the State takes place before the actual Land Registration.

This traditional model of Land Registration that obscures the role of the classifier (in this case of the State) is incapable of taking into account current innovations in the domain of Land Registration. Nowadays, different State and non-State actors are involved in the classification of land rights and tenure forms, classification of entitled persons and communities and the registration of the legal relation between these two. The international acceptance of the Continuum of Land Rights (UN-Habitat, 2008) and the Voluntary Guidelines on the responsible governance of tenure (FAO, 2012) and the development of tools to support these philosophies like the Open Tenure software (FAO, 2014) and STDM (FIG et al., 2010; Griffith, 2011), are challenging the monopoly of the State as the sole classifier of land rights. Royston and Du Plessis (2014, page 6) quote Fourie stating “*a Continuum of Land Rights [...] can be said to exist if a land information management system includes information that covers the whole spectrum of formal, informal and customary rights.*” This implies that the State may or could register rights that are not classified by the State but by non-State actors.

The traditional definitions above and Henssen’s model presuppose a State that takes care of the classification of rights and the registration of these rights in a Land Registration system. Figure 2 makes this explicit: the right-relationship between man

and parcel is defined by the State, both the types of right that exist and the specific relationship between a defined individual or group of individuals and a piece of land. The introduction of the State in the model is based on the dichotomy State-Citizen that Scott (1998) used. Later studies criticised this dichotomy. In the study on Land Registration in Indian cities Richter and Georgiadou (2014) found proof for the idea of Li (2005) that State-Citizen is not a dichotomy but that many variations exist. For an analysis on macro-level as is meant by this paper, the dichotomy suffices.

The State establishes and administers the Land Registration system. Moreover, the Land Administration paradigm (Williamson et al., 2010) reflects the generally held belief that the introduction of Land Administration systems (of which Land Registration is a crucial part) will lead to sustainable development. Every State will have its own world view which will lead to a specific definition of sustainable development (Van Egmond and De Vries, 2011). That will affect the design of the Land Registration system including the role of the State within the system. The involvement of States in Land Registration systems differs considerably around the world. There is very low involvement in certain states of the US (Larsson, 1991, p.52-56) or countries with a weak government where for practical reasons the State is not involved. There is also an ideological difference between deed-registration systems, where the bilateral agreement between two parties is decisive in the creation of land rights, and a title registration system, where the registration of this title by the government is decisive. So in the model of Figure 2 the previously absent or taken-for-granted State is an explicit variable.

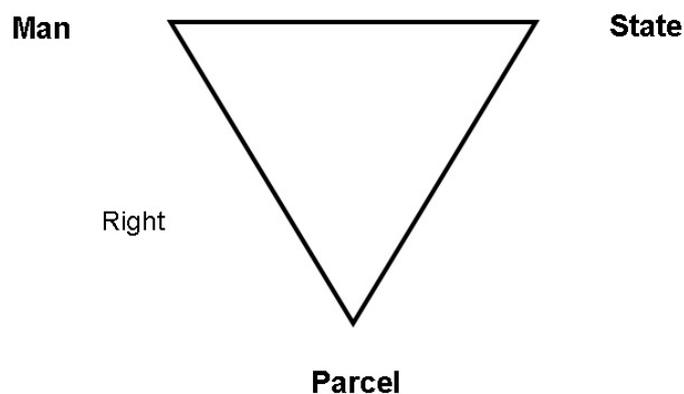


Figure 2 The State defines the man-parcel relationship

Now that the role of the State has been made explicit in the model we can also revisit the definitions of Land Registration and look into the concepts of “*legally recognised interests*” and “*officially recording.*” Legal recognition by the State can take many forms: recognition of a particular man-land relationship by accepting registration in a register held by the State, recognition in a Civil Code or other statutory law that a certain right can exist, as well as recognition on a more general legal level in the

Constitution. The State can also establish certain recognition of tenure relations by signing multilateral or bilateral international treaties or an obligatory agreement with a donor organisation. Royston and Du Plessis (2014) also distinguish administrative recognition, a situation in which the tenure relation as such is not legally recognised but access to public utilities is awarded by administrative officials. Singh (2014) describes similar practises in Bhopal, India.

In many cases these sources of recognition of rights are not consistent. Bakker (2006) describes the ambivalent position of the *adat*-customary rights in Indonesia. The *adat* is recognised by the Basic Agrarian Law of Indonesia but no operational law is in place to register these rights. De Vries and Zevenbergen (2011) describe conflicting regulations defining discretionary space of Land Registration officials. Harvey (2006) uses the concept of elasticity between land tenure and cadastral registration to describe the situation in post-communism Poland where the tenure situation in reality is only very limited reflected in the cadastral records but where no cost-effective procedures are available to repair this. The Voluntary Guidelines (FAO, 2012, p. 29) refer to “*competing rights*” in principle 17.2. In such cases “recognition” becomes a fuzzy concept in need of reference to a specific Law. This is in accordance with Li (2005) who contests the State as a monolithic entity with one intent and as a container of power (Richter and Georgiadou (2014, p. 3). Zevenbergen et al. (2013, p. 599) state with respect to the involvement of local communities in the process of land recordation: “*The terms of the arrangement have to be carefully negotiated and maintained ensuring that the roles, responsibilities and contributions of the parties are clear.*” One could argue that the acceptance by the State of classifications by non-State actors, as in the philosophy of the Continuum of Land Rights, attributes powers to these non-State actors that are traditionally held by the State. A new model for Land Registration should acknowledge this multi-polarity of the State.

Figure 3 displays the concept of a multi-polar State as a further enhancement of Henssen’s model for Land Registration.

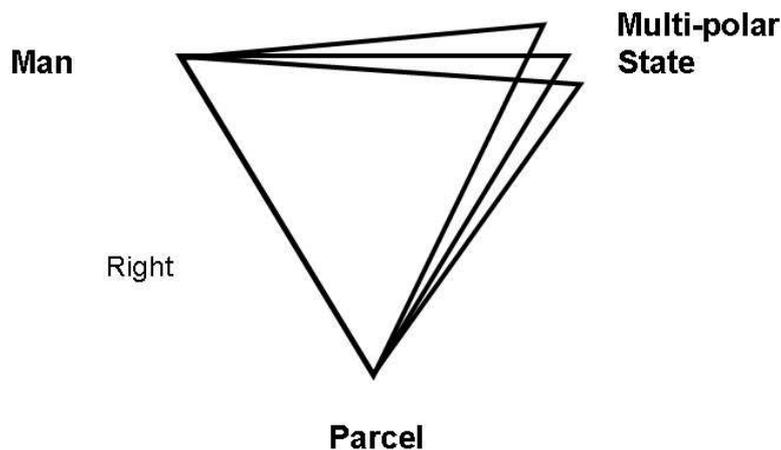


Figure 3 The State is multi-polar

One could argue that the quality of a State-run Land Registration system is inversely proportional to the variation inside the multi-polar State of categorisation of rights and systems of recordation of person-parcel relationships that are based on it. Only in situations where laws and administrative procedures are consistent and the legitimacy of the State-run Land Registration system and conflict resolution provisions are not contested, the variation inside the State is zero and the quoted definitions of Land Registration and Henssen's model are adequate. The reduction of this variation can be considered part of the design criterion of co-management for pro-poor land administration (Zevenbergen et al., 2013).

Scott (1998) describes the introduction of Land Registration systems as a process that was necessary for the State to make society legible and to be able to administer it as a result. The concept of formality as used in the Continuum of Land Rights (see Figure 4) is closely connected to the concept of legibility as used by Scott.

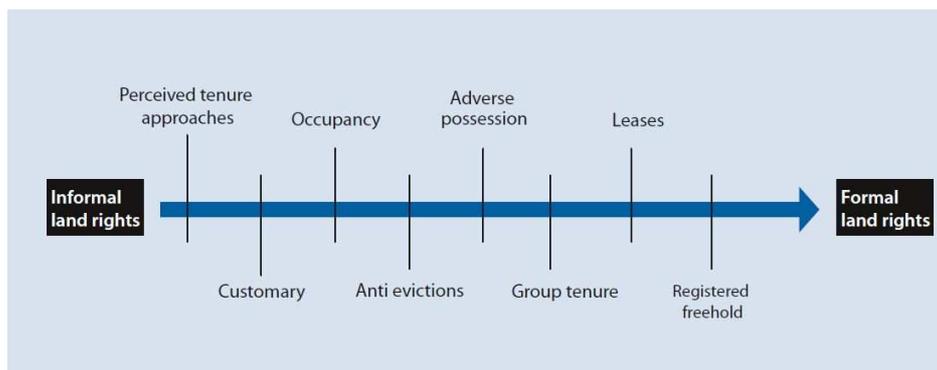


Figure 4 The Continuum of Land Rights (UN-Habitat 2008)

In the Continuum, a formal land right only exists when the right is registered and thus legible by the State. The multi-polar State from Figure 3 can also be related to the

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concept of formality in the Continuum: the more entities of the multi-polar State recognise a certain right and the related registration, the more formal the right becomes. The Voluntary Guidelines (FAO, 2012) take legitimate rights as a starting point for the responsible governance of tenure. In principle 2.1.2 legitimate rights are connected to the obligations of the State under national and international law. So any obligation of the State can create this legitimacy. The Voluntary Guidelines try to close the gap between recognition at one side and protection and recordation at the other, underlining the multi-polarity of the State.

The arrow in Figure 4, from informal to formal, is interpreted by Whittal (2014) as the possibility of a linear “progression” from informal to formal land rights and proposes a two-sided arrow to accommodate “regression”. In the model of Figure 3, regression can be seen as reduction of entities in the multi-polar State that recognise a certain right. This can be the case for instance when an anti-eviction order for an informal neighbourhood, which had a certain recognition because of the country’s signing of the participation Vienna declaration (1993) that acknowledges the right to proper shelter, is cancelled because affordable housing is made available elsewhere.

3 PARTICIPATORY LAND REGISTRATION

According to Henssen, Land Registration is “*the aggregated processes of land adjudication, demarcation, surveying, and recording*” (Zevenbergen et al., 2013, p. 595). In many participatory approaches of Land Registration the classification of rights, land and persons is an integral part of the registration process. Participation can take place in all these processes.

Participatory Land Registration is a container concept that covers many different situations. Three ideal types can be distinguished. In the first type, the State has the initiative and controls the classification and recordation. Potential right holders are involved by the State to increase efficiency or inclusiveness of the process. In the second type, the State still controls the overall Land Registration process but delegates the classification and or recordation of rights to a local community, as is the philosophy of the Continuum of Land Rights (Royston and Du Plessis, 2014). The control of the State over the classification of rights is replaced by the selection and appointment of authorities that can execute the classification and recordation.

In a third type of participatory Land Registration, a group of users/right holders takes the initiative themselves. The collected information is used within that group or to claim rights from the State. The third type is gaining prominence due to advances in geo-ICT which facilitate the greater involvement of non-State actors as shown by initiatives like OpenCadastralMap (Laarakker and De Vries, 2012), CommunityLandRights (Community Land and Resource Rights Bulletin, 2013), MapMyRights (McLaren, 2014), Open Title (FAO, 2014), crowd sourced cadastral mapping initiatives in general and the development of the Social Tenure Domain Model (Lemmen et al., 2007). The third type of participatory Land Registration

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deviates the most from classical Land Registration. A typical example of this type is described by Ramirez-Gomez et al (2013), and is summarized in the next section.

3.1 Non-State driven participatory mapping

In 2011, the NGO Conservation International Suriname (CIS) engaged in a participatory GIS (PGIS) mapping project to identify ecosystem services with the Trio and Wayana indigenous peoples living in five villages in Southern Suriname (Ramirez-Gomez et al., 2013). Ecosystem services are the resources provided by the landscape in which the people living there depend. The primary purpose of the project was the protection of 2 million hectares of pristine land in the South of the country. CIS thought that the dependency of the local people on natural resources could help in the dialogue with the government to protect the area. Therefore it was decided to engage with the communities and use PGIS to map the ecosystem services. CIS contacted the villages, presented the PGIS project concept and negotiated with village leaders about the scope and terms of the project. In this way CIS tried to win their trust with different levels of success. In some villages there was a fear that the biodiversity study would lead to the creation of protected areas that would restrict its use. But CIS succeeded in some villages to execute the mapping. The idea that the maps could be used as a basis for a claim for land rights played a role (page 17). Ramirez-Gomez et al describe the design of the mapping process. The dilemma was to find a method that both meets scientific standards and is understandable in the local language and culture. (Ramirez-Gomez et al 2013, page 3).

During a workshop the villagers made a list of 90 landscape features that were important to them. These features were grouped into seven categories of landscape services. These services were regrouped into two categories of provisioning and cultural services following the Millennium Ecosystem Assessment typology. Based on the information from the villagers two other categories were added: income services and touristic value. The four service groups (provisioning, cultural, income generation, recreation) were presented to the villagers and accepted as the PGIS mapping attributes (Ramirez-Gomez et al 2013, page 8).

The article further discusses some issues during the execution of the mapping process. Strategic mapping is taking place when more, larger or different types of attributes are mapped because somebody is aware of the fact that the map will influence future land use (page 20). It also happened that the villagers tried to influence each other based on a claimed better knowledge but that was prevented by CIS (Ramirez-Gomez et al 2013, page 19). There were also differences in perception between the different villages. The Trio, having descended from nomadic people, walk extensively for days and weeks across the region. It was challenging for them to define the mapping extent because they affirmed “we go everywhere” (Ramirez-Gomez et al., 2013, page 15). The article shows a number of maps that were produced. The maps were left with the villagers. Figure 4 shows one of them. The article does not give information over the follow up of the project.

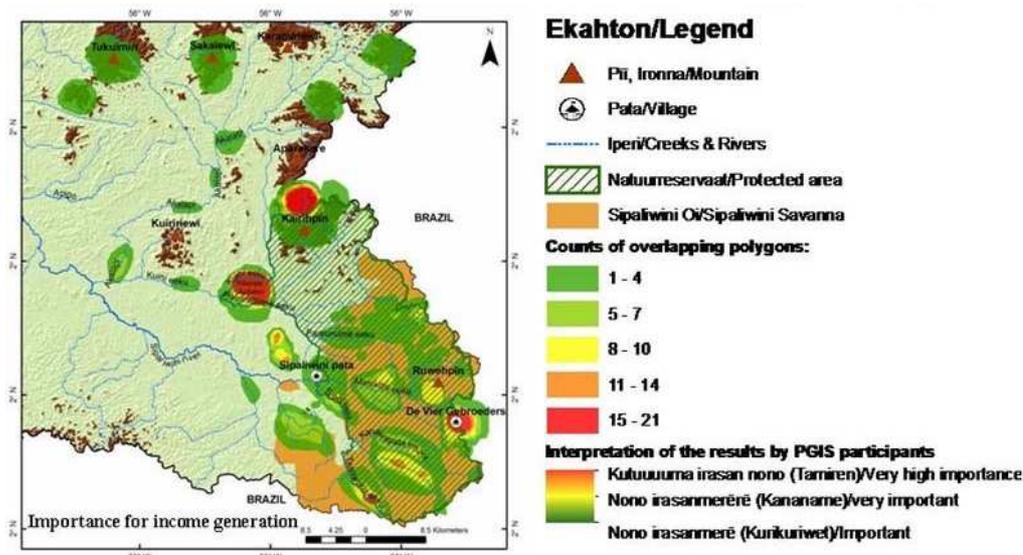


Figure 5, Ramirez-Gomez et al 2013

3.2 Analysing the case study

The project produced maps as shown in Figure 5. The map shows the level of importance of patches of land to a certain village. Many different sources of authority can be distinguished that influence the outcome of this process of classification of knowledge about the resources. The State does not seem to be one of them. The village leaders negotiated the terms of the project. Categories are introduced based on a combination of local and outside-knowledge. Implicit knowledge that exists with the villagers is made explicit but also categorised and changed by outside knowledge, depending on the perspectives of the individual actors and the society as a whole. A map is produced using these categories but influenced by cultural differences and internal and external power-relations. Villagers tried to influence each other but the CIS-people tried to prevent that. That was an act of authority. CIS wanted to use the villagers as independent sensors and tried to switch off the existing social relations between the villagers.

In the background of the case description the State is present as a future negotiation partner for land rights and conservation areas (in the context of national law) possibly based on the results of the PGIS-process. Some villagers were anticipating this by executing strategic mapping which also influences the outcome of the process. It is unknown what is done with the map and how it influenced society. Maybe it is further ignored, used in the village or used in discussion with the Government.

3.3 Conclusion from this case study

The process described in the case study is not covered by the definition of Land Registration in Chapter 2, but the concepts used in the definition, land, man and right

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can all be recognised. The State is absent but other sources of authority can be distinguished. In the next Chapter the consequences of this for the model of Land Registration are considered.

4. FURTHER EXTENSION OF THE MODEL OF LAND REGISTRATION

In Chapter 2 we introduced the multi-polar State in the model of Land Registration. In the participatory mapping case study described in Chapter 3 the State is absent, but similar processes as are included in Land Registration like classification and recordation are taking place. These processes are, as described, executed by several non-State actors. The legitimacy that is created is also meant to be relevant in the Land Registration-systems run by the State. So we have to be aware of the possible effect of processes of classification and recordation by non-State actors on Land Registration as executed by the State.

The concept of “the State” in the model as shown in Figure 3 should therefore be extended with non-State actors. State and non-State actors together can be labelled “Authority”, however “Authority” presupposes “Legitimacy”. Both State and non-State actors can lack legitimacy when dealing with Land Registration. In the following a number of examples are given.

Holston (2007, page 203) argues that in Sao Paulo in a certain context of time and place “land law promotes conflict, not resolution, because it sets the terms through which encroachments are reliably legalised”. Askew et al. (2013, page 135) come to the same conclusion. Holston (2007, page 226) even describes cases where people file a lawsuit against an accomplice to get the desired court ruling. In his closing speech at the WorldBank Land and Poverty conference 2014, Mahmoud Mohieldien stated: *“the world is full of bad ideas and bad habits and many people are benefitting from that.”* Also States (or parts of it) can have bad ideas and bad practises.

Corruption is generally recognized as an important factor to deal with in Land Registration (Transparency International and FAO, 2011; Van der Molen and Tuladhar, 2007). Scott (1998) sees corruption as the attempt to influence policy at the implementation level by people who had not the chance to influence policy at the agenda-setting phase of the policy cycle. The model of figure 3 is accommodating for this, corruption can be seen as a relation between any part of the multi-polar State and man that is influencing the man-land relationship contrary to the norms defined on a higher State-level. The model also accommodates different levels of corruption: bribing registry staff into a wrongful registration takes place at different State level than bribing politicians into a registration law that favours certain land interests. The more discretionary space a certain unit of the multi-polar State has, the thinner the line will be between corruption and legitimate political influence. Concern on corruption

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is also expressed in relation to participatory methods of Land Registration (McLaren, 2011).

Land grabbing and large scale acquisition are terms used for the same phenomena. Wisborg (2011) defines land grabbing as: “ethically unacceptable land acquisition”. The large scale land acquirer will refer to the deed of sale and the registration in the Land Register and call it a legal transaction. The acquirer will claim that (s)he found “empty land” (Borras et al., 2011). The reference for such an opinion is the operational registration law in the country because the State-run Land Registration system accepted the deed of sale. The question will be whether any right as defined by any of the State-poles is ignored by that transaction. If the large scale acquisition is in conflict with any right as recognized by any part of the multi-polar State, one could speak of land grabbing. Even if no national law is broken, non-State actors still can classify an acquisition as land grabbing.

Discrimination can be executed both by State as by non-State actors. USAID (2004, page 25) is describing discriminatory practices on State-level in Kosovo between 1989 and 1999. In the literature on gender many examples can be found of discrimination on non-State level (see Bicchieri and Knight, 2014).

Table 1 gives a simplified overview of all actors dealing with land. The term “Power” is used to accommodate both legitimate and illegitimate acts. Any Power will have its own way of classification and recordation of persons (or groups of persons), land and the right-relation between them, ranging from sophisticated Land Registration systems to orally communicated recordation.

Power:	Legitimate	Non-legitimate
State	State-authority	Corruption, land grabbing, discriminatory laws
Non-State	Non-State authority: religious, family, international, etc.	Gangs, war-lords, discriminatory practices, corruption

Tabel 1: Powers

Participatory Land Registration can be influenced by all these powers. The model shown in Figure 3 can therefore be extended to the model as shown in Figure 5. In the model the term “Man” is replaced with the more gender-neutral “Person”.

Parcel is replaced by Spatial Unit as used in STD (FIG, 2010, p. 10): “*the areas of land (or water) where the rights and social tenure relationships apply*”.

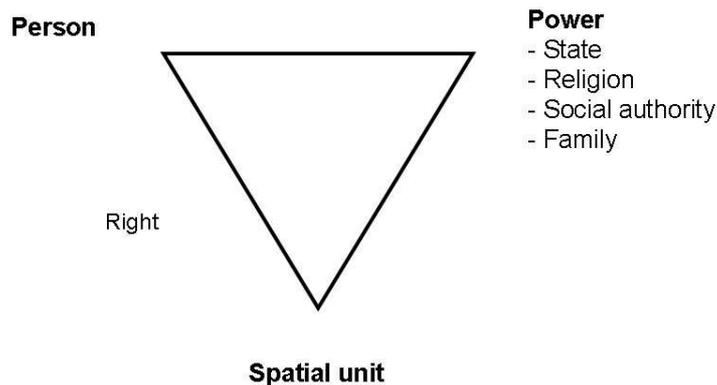


Figure 5 Person, Power, Spatial Unit

5. CONCLUSION

UN-Habitat (2008) sees two components for any form of tenure. Firstly a reasonable duration of rights appropriate to the use to which the land is put and the social needs of the land user and secondly effective legal protection against eviction or arbitrary curtailment of land rights, with enforceable guarantees and legal/social remedies against the loss of these rights. Basically it is about which behaviour in relation to land is accepted and/or enforceable. Acceptance and enforceability however need the definition of a specific social context, State or non-State, legitimate or not legitimate. Duration and protection can be provided for by the State but also by non-State actors. But the State is no guarantee that these components are provided for, nor are non-State actors.

To analyse participatory methods of Land Registration, it is not enough to presuppose a legitimate State that supervises the processes of classification, adjudication, demarcation, surveying, and recording of land rights. Multiple powers will influence these processes with legitimate and illegitimate means. Any power will also have its own way to involve the individuals or groups of individuals within its sphere of influence in these processes and allow a certain level of participation. The presented model summarises all the forces that affect the process of Land Registration.

6 REFERENCES

- Anderson, T. (2002). The political economy of human rights. *Journal of Australian political economy* no 50, page 200-227.
- Arnstein, Sherry R. (1969). A ladder of citizen participation. *Journal of American Institute of Planners* Vol. 35, No. 4, pp. 216-224.
- Askew, K., Maganga, F. and Odgaard, R., (2013). Of Land and Legitimacy: a tale of two lawsuits. *Africa* Volume 83 February 2013, pp 120 – 141.
- Bakker, L., (2006). Land and authority: the State and the village

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- in Pasir, East Kalimantan. IIAS Newsletter, no 40, spring 2006.
- Bennett, R., (2007). Property rights, restrictions and responsibilities: their nature, design and management. PhD-thesis, University of Melbourne
- Bicchieri, M. and Knight, R. (2014). “It takes a village” to protect a woman’s land: working at the community-level to secure woman’s land rights in Southern Africa. WorldBank conference Land and Poverty, March 2014, <https://www.conftool.com/landandpoverty2014/sessions.php>
- Borras, S., Hall, R., Scoones, I., White, B., Wolford, W., (2011). Towards a better understanding of global land grabbing: an editorial introduction, *The Journal of Peasant Studies*, 38:2, 209-216.
- Community Land and Resource Rights (2013), Bulletin volume 231, number 1, <http://www.iisd.ca/download/pdf/sd/crsvol213num1e.pdf> at 21-04-2014
- De Vries, W.T. and Zevenbergen, J., (2011). Discretionary space as a concept to review innovation in land administration in Africa. *Survey Review*, 43, 323 pp. 638-652 (October 2011).
- FAO, (2012). Voluntary Guidelines on the responsible Governance of tenure of land, fisheries and forests in the context of national food security. FAO, Rome, 2012.
- FAO, (2014). Open tenure, Mobile data crowdsourcing for Open Land Administration
- FIG, UN-Habitat and GLTN, (2010). The Social tenure Domain Model, a pro poor land tool. FIG-publication no 52.
- Fourie, C., (1998). An Integrated Geo-Information (GIS) with Emphasis on Cadastre and Land Information Systems (LIS) for Decision-Makers in Africa. Working document for meeting of group of experts at United Nations Economic Commission for Africa, Addis Ababa, 23-26 November 1998. Not published.
- Griffith-Charles, C., (2011). The application of the social tenure domain model (STDM) to family land in Trinidad and Tobago. *Land Use Policy* 28 (2011) page 514–522.
- Harvey, F., (2006). Elasticity between the cadastre and land tenure: Balancing civil and political society interests in Poland. *Information Technology for Development*, Vol. 12 (4) 291–310 (2006).
- Henssen, J., (1995). Basic principles of the main cadastral systems in the world, In: *Modern Cadastres and Cadastral Innovations, Proceedings of the One Day Seminar in Delft on May 16, 1995*, FIG Commission 7 and University of Melbourne, p. 5-12.
- Hood, C.C., and Margetts, H.Z., (2007). *The tools of government in the Digital Age*. Palgrave MacMillan, New York.
- Laarakker, P. and De Vries, W., (2011). What about an Open Cadastre Map? FIG Seminar 2011, Cadastre 2.0. Innsbruck September 30, 2011.
- Laarakker, P., (2012). Scenarios for the Spatially Enabled Society. FIG Working Week 2012, Rome.
- Larsson, G., (1991). *Land registration and cadastral systems. Tools for land information and management*. Longman Scientific and Technical.
- Lemmen, C.H.J., Augustinus, C., van Oosterom, P.J.M., van der Molen, P., 2007. *The*

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- Social tenure domain model: design of a first draft model. In: FIG Working Week 2007: Strategic Integration of Surveying Services, 13–17 May, 2007, Hong Kong SAR, China.
- Li, T. M., (2005). Beyond “the State” and failed schemes. *American Anthropologist*, 107, 383–394. Retrieved from <http://www.ucpress.edu/journals/rights.htm>.
- McLaren, R., (2011). Crowdsourcing Support of Land Administration. A new, collaborative partnership between citizens and land professionals. RICS Research Report November 2011.
- McLaren, R., (2014). Can the MapMyRights initiative be a game changer? World Bank Conference Land and Poverty 2014.
- McLaughlin, J. and Nichols, S., (1989). Resource Management: The Land Administration and Cadastral Systems Component, In: *Surveying and Mapping*, No. 2, p. 77-86.
- Nichols, S. and McLaughlin, J., (1990). The information role of land registration in land administration. In proceedings FIG XIX International Congress, Helsinki Finland 1990, p. 106-114.
- Ramirez-Gomez, S, Brown G. and Tjon Sie Fat, A., (2013), Participatory Mapping with indigenous communities for conservation: challenges and lessons learned from Suriname, *The Electronic Journal on Information Systems in Developing Countries* 2013, 2, pg 1-22.
- Richter, C. and Georgiadou, Y., (2014), Practices of Legibility Making in Indian Cities: Property Mapping Through Geographic Information Systems and Slum Listing in Government Schemes in *Information Technology for Development*, 2014.
- Royston, L. and Du Plessis, J., (2014). A Continuum of Land Rights: evidence from southern Africa. Worldbank Conference Land and Poverty 2014. <https://www.conftool.com/landandpoverty2014/sessions.php>
- Scott, J. C., (1998). Seeing like a State – how certain schemes to improve the human condition have failed. New Haven, CT: Yale University Press.
- Singh, A., (2014). Incremental tenures and service delivery in low income irregular settlements in Indian cities. WB conference Land and Poverty 2014. <https://www.conftool.com/landandpoverty2014/sessions.php>
- Stacey, R.D., (1996). Complexity and Creativity in Organisations. Berrett-Koehler Publishers San Francisco.
- Starr, P., (1992). Social Categories and Claims in the Liberal State. *Social Research*, Vol 59, no 2, Summer 1992.
- Transparency International and FAO, (2011). Corruption in the land sector. Working paper #4/2011.
- USAID, (2004). An Assessment of Property Rights in Kosovo. Final Report March 2004.
- UN-ECE, (1996), United Nations Economic Commission for Europe (Meeting of Officials on Land Administration), Land Administration Guidelines.
- UN-ECOSOC, (2006). Definition of basic concepts and terminologies in governance and public administration. Committee of Experts on Public Administration, Fifth session, March 2006.

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 Peter LAARAKKER (Kadaster) , Yola Georgiadou (ITC), Jaap Zevenbergen (ITC),
 The Netherlands

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 Engaging the Challenges, Enhancing the Relevance
 Kuala Lumpur, Malaysia, 16 – 21 June 2014

- UN-Habitat, (2008). Securing land rights for all, UNON, Nairobi.
- UN Interagency Framework Team for Preventive Action (2011). Land and Conflict.
- Van der Molen, P. and Tuladhar, A., (2007). Transparency in Land administration. Corruption is everywhere. www.Geoinformatics.com, june 2007.
- Van Egmond, N.D., De Vries, H.J.M., (2011), Sustainability: The search for the integral worldview. *Futures* 43, page 853-867.
- Vienna Declaration and Programme of Action (1993). Adopted by the World Conference on Human Rights in Vienna on 25 June 1993.
- Wehrmann, B. and Antonio, D., (2011). Intermediate Land Tenure, inferior instruments for second-class citizens? *Land tenure Journal* 1-11.
- Whittal, J., (2014). A New Conceptual Model for the Continuum of Land Rights, *South African Journal of Geomatics*, Vol. 3, No. 1.
- Williamson, I., Enemark, S., Wallace, J., & Rajabifard, A., (2010). Land administration for sustainable development. Redlands, California: ESRI.
- Wisborg, P., (2011). Human Rights against Land Grabbing? A Reflection on Norms, Policies, and Power. *Journal of Agricultural and Environmental Ethics*. Published online 11 april 2013.
- Zevenbergen, J., Augustinus, C., Antonio, D. And Bennett, R., (2013). Pro-poor land administration: Principles for recording the land rights of the underrepresented. *Land Use Policy* 31 (2013) 595– 604.