

USE OF UPGRADED EVIDENCE IN CADASTER APPROACHES FOR SYRIAN REFUGEE RETURN

Jon D. Unruh

Department of Geography, McGill University, 805 Sherbrooke St. W, Montreal, Canada
jon.unruh@mcgill.ca

ABSTRACT

The enormity of the Syrian refugee crisis in Turkey, Jordan and Lebanon, together with the difficulties of their livelihoods and the burden placed on host countries, highlights the importance of planning now for the eventual return of refugees to their housing, land and property (HLP) in Syria. As in all refugee generating scenarios, the manner in which most Syrians departed their HLP resulted in little opportunity to obtain, prepare or bring, the documentation needed prove ownership, occupation, or claim to their properties to which they must one day return. Further, in a great many cases such documentation, if it existed, was incomplete, inaccurate, contested, confused, improperly recorded and of uncertain legal standing. Overlain on this situation is a long history of land and property confiscations, dispossession, grievance, corruption and patronage, which has meant that many HLP assets will be reclaimed anew when their former occupants return. While the social and legal challenges for reattaching returning refugees to their HLP is difficult in any postwar situation, this will be particularly so in the Syrian case due to the absence of documentation and the contested, confused and aggrieved land rights system in the country's history. Past research has highlighted the need to move quickly in refugee situations, so as to be able to effectively capture such recognition and recollection of land and property features before they are lost. Waiting until a war is over before establishing a program for how refugees will reclaim HLP is an expensive and protracted process that marginalizes those who have lost important evidence over time, resulting in a reluctance to return from refugee hosting countries. This paper examines the prospect for examining the primarily informal, customary evidence that refugees do have and how this evidence can be gathered, upgraded, combined and corroborated, and then inserted into useful types of cadasters for use in their return to (and restitution of) lands, properties and areas of origin.

Key words: Syria, land rights, HLP, war, land tenure

INTRODUCTION

The scale of civilian population dislocation during armed conflicts, and the importance--yet difficulty--of reattaching people to lands and properties subsequent to conflict, presents large challenges for peace-building and recovery. Land and property restitution significantly influences the prospects for social, economic, livelihood, security and political recovery. Both the international legalities concerning housing, land, and property (HLP) restitution, and the logistical ability of the international community to physically return people to locations of origin are robust. However the national HLP tenurial arrangements that are able to legitimately

and legally reattach lands and properties to their rightful owners, renters, and occupants, as well as recognize specific rights, reconnect groups to homelands and provide tenure security, continue to be highly problematic. This is particularly the case where no HLP documents existed prior to dislocation. The lack of recognized forms of evidence or proof of ownership, membership, occupancy, or rent is in most cases a primary problem in quickly and effectively restituting HLP assets. Deriving restitution programs for doing this after a war ends is an expensive and protracted endeavour--with the prolonged nature of the process often creating additional problems. This article describes ten techniques for deriving, protecting and using forms of evidence attesting to HLP claims early in a conflict, as opposed to subsequent to a conflict. In several ways this may result in a certain pre-emptive effect on some forms of dislocation.

What are needed are ways to 'upgrade' the informal and ancillary forms of evidence that refugees do have and do know about, based on their lived histories on their lands and properties, in order to bring these into innovative cadaster approaches that are able to facilitate effective return to their HLP. Important in this regard is the recognition and recollection of HLP demarcations, distinguishing features, and other informal forms of evidence readily recalled, to be combined with GIS, mapping and aerial photography techniques.

This paper examines the prospect for examining the primarily informal, customary evidence that refugees do have and how this evidence can be gathered, upgraded, combined and corroborated, and then inserted into useful types of cadasters for use in their return to (and restitution of) lands, properties and areas of origin. In this regard the paper will also examine how conventional restitution techniques can be brought into an evidence and cadaster relevant context. While the work on the Syrian refugee HLP 'customary evidence to cadastre' problem is in its preliminary stages, this article will focus on the techniques and approaches that are relevant to the Syrian case.¹

The paper begins with an examination of the description of HLP restitution for refugees generally, and then moves to discuss the nature of informal, customary evidence and its utility in war-affected scenarios, and then proceeds to describe how such evidence can be dealt with in housing land and property (HLP) restitution programs that may be considered for attachment to innovative forms of cadasters.

THE RESTITUTION PROBLEM IN WAR-AFFECTED STATES

The on-the-ground technical problems with reclaiming and re-accessing housing, land and property (HLP) in a war-torn context particularly when a war has lasted a long period of time, are numerous and daunting. There are problems involving multiple and overlapping claims, use, and occupancy of land and property by squatters and others; destroyed and damaged lands and properties; abandoned HLP assets with no way to distinguish which are temporarily unoccupied vs permanently abandoned; sectarian or ethnically cleansed areas; repeated waves of short and long-term displacement often involving different occupants and claimants at

¹ Some of the material presented here appeared in: Unruh JD (2014) Pre-emptive and advanced techniques for war-torn land and property rights reacquisition. *Land Use Policy* 38: 111-122; and Unruh JD (2006) Land tenure and the 'evidence landscape' in developing countries. *Annals of the Association of American Geographers*. 96: 754-772.

different times over the same lands; seizing of HLP assets by opportunists taking advantage of the lack of documentation and weakened legal and institutional environment; groups and individuals seeking redress for perceived past wrongs such as being evicted from lands, recently or long ago; lack of documentation or their destruction and fraudulent alteration; coerced or other forms of 'bad faith' transactions which can be formalized in land records, at times followed by repeated 'good faith' transactions; and a change in those that are in power nationally and the subsequent coercion and manipulation of land records (eg., Leckie, 2007; Pantuliano, 2009). The inability to quickly deal with these problems results in large volumes of dislocatees after a war that continue to roam the country, join the ranks of the postwar disgruntled, and can be easily recruited into subsequent nascent insurgencies, or engage in banditry.

Approaches are needed that can induce the rapid reacquisition of HLP assets not only for dislocated populations, but also serve those who may become dislocated. The central questions become, what in terms of effective forms of evidence can be used subsequent to (or during) a war to legitimately and legally provide attestation for claims, and facilitate rapid re-access and reacquisition of lands and properties? How can these forms of evidence be attached to cadaster efforts designed specifically for restitution and return? Despite the difficulties of war-torn settings, are there techniques that are able to reach back into the livelihoods of dislocated populations and how they interacted with local physical and institutional landscapes to derive legally meaningful and locally legitimate forms of evidence which can attest to belonging in areas of origin and be brought into cadasters?

THE NATURE OF CUSTOMARY EVIDENCE

Evidence and Legitimacy

Fundamentally, evidence must be of ongoing value and utility in both customary and formal land tenure systems. Unless evidence or proof of claim is connected to cadasters and to local cultural reality and logic as well as being relevant to formal law, it will not have value within the customary land tenure system and will not likely deliver the hoped-for outcome within the formal tenure system. The problem of such 'proving' is at the heart of both the rights recognition argument (Quan 2000; Delville 2003), the popular capital-poverty-property rights approach (Pipes 1999; de Soto 2000), and attachments or claims to land based on identity, religion, and various insurance and security functions (Bruce and Migot-Adholla 1994). At the same time, the Western legal tradition in evidence law is now significantly pervasive and growing in influence in the developing world (McAuslan 1998; 2003). The fundamental intent of this legal tradition is to deliver legitimacy of authoritative decisions that depend on the freedom of concerned parties to collect and present *any* evidence that they believe to be relevant and of probative value (Dennis 1999; Murphy 2003). However, connecting systems of customary social and cultural reality with spatially-explicit constructs that have utility in cadasters as evidence and proof in a formal legal system remains overlooked, elusive, and undefined.

Evidence as Argument

Evidence proving rights to land is an important domain of interaction between formal and informal tenure systems (hence the presumed value of title), and where significant unrealized

opportunity may reside for potential compatibility. Deriving such evidence involves making logical connections between the existence of observed reality, and the interpretations, inferences, and conclusions regarding that reality so as to derive evidence for claim, such that an ‘argument’ of sufficient strength is made. In other words constructing an argument is the process of bringing evidentiary meaning to a purported fact or observation (Murphy 2003). The ‘argument’ notion is important. All claims to land are part of a construction of an evidence-based ‘argument for claim.’ Even formal title, or long-term occupation, are only arguments based on evidence that can be, and often are, contested—as are claims based on tribal, ethnic, religious, and other identities, or group membership.

Thus evidence is not information, or an institution, but rather an ‘argument.’ In a Western legal context such arguments have two components: facts, and the inferences and conclusions drawn from facts (Garner 2000; Murphy 2003). An argument can be strong, weak, true, untrue, convincing or unconvincing, and corroborate or contribute (strongly or weakly) to other ‘arguments’ to make a more persuasive argument. The legitimacy of evidence depends not only on the interpretation or translation of reality into evidence, but also on the acceptance by ‘others,’ that the inferences, interpretations, and conclusions are logical. In other words, arguments must make sense within a widely-accepted logic (Murphy 2003). Making such a logical connection in deriving or ‘rendering’ evidence is fundamental to the philosophical and logical foundation of the formal legal concept of evidence (Murphy 2003; Robillard et al 2002).

The Role of the ‘Informal Argument’ - Evidence or Institutions?

While the existence of effective institutions for bringing evidence into cadasters is important, lack of formal institutions to utilize evidence does not prohibit evidence from being widely used to make an argument for claim to land. And in reality the reverse is often the case. Where effective, legitimate institutions are lacking, the emergence of certain forms of landscape-based evidence can be particularly robust, especially forms which connect with formal notions of claim such as ‘occupation.’ Purposefully planted trees deserve particular mention in an evidentiary context due to the very clear connections made between social relations and landscape. The literature regarding the tenure role of trees is significantly large (Meinzen-Dick et al. 2002; Otsuka et al. 2001; Fortmann and Ridell 1985). Economic, marker, and service trees are notable for their pervasive role as legitimate evidence for claim within customary systems, and their strong connection with formal legal notions of long-term occupation or presence. And Cohen (1993) articulates the powerful informal role of tree planting as evidence in asserting land claims in the contested landscapes of the Middle East by both Palestinians and Israelis, given that legitimate institutions to resolve claims between these two groups are lacking.

That tree planting serves as powerful evidence for land claims is underscored by the restriction on tree planting by certain groups (such as women, tenants, and migrants), and the failure of agroforestry programs that do not take this tenure aspect of trees into account. Trees are valuable for land tenure claims because they make the “right” evidentiary connections among the physical, social, and cultural realms. Tree planting also suggests the utility of other forms of evidence that link these same realms. And Schroeder’s (2000) work in The Gambia highlights the temporal and spatial dynamics of tree ownership and claim, particularly between men and women. Such dynamics are important to the interpretation and reinterpretation (over time, by different actors) of the readings of landscapes, and hence to making different ‘arguments.’

While planting economic trees can be one way to make an argument for claim, clearing land is more pervasive as a means of creating evidence of occupation and thus claim. This practice is also of great concern for environmental conservation. Deforestation as a form of evidence is widespread in part because it is so effective. In one sense, the more lacking local to national institutions are for adequately treating evidence (claim, dispute resolution), the greater the need to make a strong visible argument for claim, in order to preempt, to the degree possible, the likelihood of a counter-claim and therefore the need for an institution to resolve a dispute. Brazil's grand colonization schemes in the Amazon provide a well-known examples of this phenomenon. In spite of the government having provided settlers with land titles, in some cases settlers themselves have cleared much more land than they can cultivate in an effort to secure their claim (Fernside 1986; Postel 1988). Other examples of clearing land to create evidence of occupation where effective institutions are lacking can be found in the Philippines (Uitamo 1999), Uganda (Mulley and Unruh 2004; Aluma 1989), Cameroon (Delville 2003), Zambia (Unruh et al. 2005), and Sierra Leone (author's fieldwork 2005).

Such clearing is one way that adaptation between formal and informal tenure systems may occur, since this form of evidence fits with a concept contained in formal law, that of occupation. That such a feature of adaptation can result in land degradation reveals the negative aspects of adaptation if it operates in a one-sided fashion. On the other hand, if formal law generally held other forms of landscape-based evidence to be as important, or more important than 'clearing to claim,' would this reduce the need to pursue such an arduous form of evidence (clearing) when other forms would do?

Delville (2003) notes in several countries (Rwanda, Ivory Coast, Benin, Senegal) the derivation of evidence (informal pieces of paper) and procedures that attest to land transactions, in the absence of institutions and laws to handle such evidence. This absence, however, does not prevent such evidence from having great utility as an informal argument, a way to 'make the case' for the existence of rights (Deville 2003), and this could be of great utility in the construction of innovative forms of cadaster. In effect such 'pieces of paper' participate in the translation of landscape evidence--boundary represented in pieces of paper, and witnesses whose signatures attest to boundary location. Meanwhile Lund (2002) observes that negotiation plays a key role in land claiming and adjudication and that a variety of actors are engaged, as "all sorts of tactical and strategic manoeuvres that affect the outcome in terms of changing, transforming or solidifying a land claim" (Lund 2002, 18) are pursued. Such maneuvers, strategies, and assertions, in attempting claim or defense of claim without using institutions, are based on various forms of evidence attesting to the assertion, or supporting the strategy, whether this be continued use and occupation, a receipt of purchase, membership in lineage or other group, or testimony of authority figures, friends, or neighbors. The challenge then is, how to translate all this into forms of cadasters.

Customary Evidence, or Rights?

A distinction between the utility of evidence, as opposed to rights, is important for five reasons. First, because of the large variation in customary tenure forms and formulations (ethnic, geographic, religious, etc.) within any one country, focusing on a few broad customary tenurial patterns (rights) connected to simple forms of evidence (e.g., group membership) will not adequately engage the disconnection. Second, this same variation also means that formal law

will not be able to embrace, and thus make legal, all of this variation in ways that are meaningful to the different customary structures, and still be operable as a formal, widely applied, and uniform system. And indeed the codification of customary law can in some cases capture and emphasize ethnic differences. Maganga (2003, 60) notes “the activities of one group undermine those of another, and no one group is willing to adhere to the cultural practices of another.” Ethiopia as an example has over 70 separate languages with a larger number of distinct social units.

Third, attempts at incorporating customary laws and other structural aspects of indigenous tenure regimes into formal law, finds that much in customary tenure can be fluid, reflecting variation and change in a variety of social, political, and economic variables, including capricious decision-making by leadership (Guadagni 2002; Roberts 1994). Elias (1994) sees this very uncertain formal legal environment as a fundamental obstacle to reducing customary laws to written codes. In a discussion of customary trends in comparative land law, Guadagni (2002, 8) argues that to “preserve customary law in any codified or restated form” would so rob this law of its flexible utility, that codification would essentially kill it. The goals of formalized property laws are different. Such laws are much less subject to change, hence their predictability, wide application, and value in operationalizing capital and other aspects of property associated with land as a commodity.

Fourth, some primary forms of rights, held as quite valuable by customary groups, are very difficult to incorporate into formal law. Rights to land based on tribe, ethnicity, lineage, opposition to a particular group, or position in a customary hierarchy, can have large meaning within customary tenure regimes, but can be of limited or no utility in formal tenure regimes. In fact, such rights may directly contradict the goals of formal tenure systems that elevate notions of wide applicability and equity in the context of individual rights. This is a significant problem in attempting to legalize rights attached to groups. Finally, conflicting and contradictory rights and laws, both between different sets of customary law, and between customary and formal laws is a large and difficult problem (Unsworth 1994).

These issues highlight the importance of understanding usable evidence coming from customary life, as existing within a domain of human interaction with the landscape. And from this interaction many possibilities can be drawn that attest to the veracity of the interaction (corroboration), and hence the existence, or perceived existence, of rights for such interaction to occur in the first place. And Western evidence law is quite compatible with this. Dennis (1999,12) describes the law of evidence as not "a tidy system of clearly defined rules" but rather "indisputably untidy and extremely complex," in which nearly everything that is relevant is admissible. Robillard et al (2002) and Robillard and Wilson (2003) describe the formal evidence of boundary location and control in a land and property rights context, and how a very wide variety of evidence—including evidence that is centuries old and embedded in historical and cultural landscapes—is used in dispute resolution, surveying, and resurveying.

POSSIBILITIES FOR INCLUDING CUSTOMARY FORMS OF EVIDENCE IN CADASTERS

The following briefly describes some techniques for attempting to advance the HLP restitution process in war-torn settings, so that ultimately their incorporation into cadaster efforts can be

pursued. While not all of the techniques are applicable in all situations, at the same time their tailored application to specific country circumstances may hold significant potential, particularly in a cadastre context. In this regard the descriptions here are more generic than country specific, although country examples are provided. Several of the techniques are complementary such that they could enhance each other or achieve certain cost savings.

Refugee and IDP camp registration

There exists in many cases a significant opportunity to engage dislocated populations quite soon after they become displaced. This can be done in order to define, gather and record a variety of evidentiary documents, descriptions and statements that connect individuals and groups to specific lands, locations, and properties. As IDPs and refugees arrive at camps operated by the international community they must undergo a registration process in which they are asked questions by camp personnel regarding where they are from, how many are in the family, the nature of their dislocation, area of origin, etc. (PCWG, 2009).² Unfortunately such information is not shared with an HLP restitution process. While the provision of such information as it exists would be valuable (PCWG, 2009), it would be especially useful to ask incoming IDPs and refugees more about their HLP situation that they just left during this reception process, in order to record evidence for claim that would assist in their return and reintegration subsequent to the end of hostilities; and then include these in cadasters. In addition, quick HLP surveys within camps subsequent to reception would also be valuable in recording additional information to be used as evidence. Useful information could include, precise locations of origin; living arrangements and residential rights; specific land tenure arrangements (i.e. forms of ownership, access, share-cropping, rental); the nature of customary, statutory and communal rights; specific farming and pastoral rights; history of transactions of lands and properties; boundary descriptions; and land and property secondary occupation or destruction.

Much more in-depth and detailed questionnaires could also be given to camp inhabitants by specialist teams moving between camps in order to assemble detailed corroborative evidence. Such a questionnaire could record specific information at the household level regarding abandoned land and property including, a detailed description of properties; legal basis of ownership or use (statutory or customary); the circumstances under which it was abandoned (Williams, 2009); specific rights of land resource use for forests, grazing and water; specific locations of grave sites; traditional ceremonial locations; and other forms of customary, location-specific evidence attesting to presence in and knowledge of an area in the pre-dislocation period. Such an in-depth exercise could easily include cognitive mapping of lands and properties.³ Such maps can be easily and quickly hand-drawn on paper, a chalkboard, or even in the soil and then digitally photographed. The role of cognitive maps as evidence is significantly compelling, especially when it corroborates other evidence. Cognitive maps

² Often such information is gathered even before dislocatees enter camps, as humanitarian organizations and the UN encounter them as they flee and prepare to take them to camps (Wade, 2013).

³ Cognitive maps (also known as mental maps) are informal hand-drawn maps that get at the perception of the map-maker with regard to his/her landscape, and demonstrate a level of familiarity with a local landscape which strongly attests to occupancy. Such maps include important components of the landscape which can then be corroborated with other information such as existing maps and other documents, remote sensing, verbal testimony or aerial photography.

produced by local populations have been used for a wide variety of purposes, including natural resource management projects (e.g. Jones et al, 2011), as a legal tool (e.g. Hjortso, 2005), in conflict assessment (e.g. Giordano et al, 2012), and as legal evidence for populations in land claims many decades after their dislocation (e.g. Hart, 1995). The challenge in such recording of in-depth evidence is then organizational--maintaining the ability to attach evidence stored in a database to people as they reside in their dislocated locations (often moving) and then eventually return. However, approaches to managing and using complex spatial-temporal databases and other tools of geographic information science are now significantly advanced (e.g. Nelson et al, 2009; Knowles, 2008; Dysart, 2011), facilitating their application to new problems.

Pre-emptive land registration

A technique with considerable potential utility in ongoing conflicts which are expected to continue for some time, is to pre-emptively register, in widespread and rapid form, the lands and properties of those who may become displaced. Such an approach would be valuable where displacement is or could become a significant feature of the conflict, or is expected to occur in new areas, and where populations by and large do not have documented title. Williams (2009) notes the legal advantages to doing this. And while such a rapid procedure would not attempt to definitively title land, or provide complete clarity of rights and boundaries (as this would increase the time requirement, and would need to resolve any ongoing disputes), it should be claim-based and aim for maximum coverage as quick as possible, however 'light' the process. Widespread dissemination of the fact that such a procedure has occurred or is underway, could act to pre-empt or deter some dislocation caused by certain interests attempting to gain permanent control over lands via the conflict. In this regard the mapping and GIS abilities of remote sensing (see section 3.9) would be of considerable additional value.

The Colombian government has perhaps the most capable approach regarding proactive and pre-emptive measures for land and property restitution (Zuluaga et al, 2009). With approximately four million people displaced over the course of the long insurgent conflict, the country faces an enormous problem in the return and reintegration of large populations of rural inhabitants. In a look forward to facilitating this even before the war comes to an end, the government has instituted a program whereby those who have become dislocated, or believe they could be, have the opportunity to quickly register their land with a specialized program, so as to facilitate their return upon the end to hostilities (Zuluaga et al, 2009). Given the size of the dislocation, and nature of the land tenure problems in Colombia, this approach will likely prove very useful in restitution and recovery. Using a variety of methods for obtaining evidence for claim, including techniques of 'social cartography' (adding testimonial evidence to maps) for IDPs lacking documents and where land is lacking delimitation, the Colombian approach seeks to get a head start on large-scale restitution.

Planted trees

Where effective, legitimate institutions are lacking (as they almost always are during and after war), the emergence of certain forms of landscape-based evidence can be particularly robust, especially forms which connect well with statutory precepts of claim such as attesting to 'occupation.' Purposefully planted trees deserve particular mention in a war-torn evidentiary

context due to the very clear connections made between social relations and specific lands. The literature regarding the tenure role of trees is significantly large (e.g. Raintree 1987; Meinzen-Dick et al., 2002; Fortmann and Ridell). Purposefully planted economic, marker, and service trees are notable for their pervasive role as legitimate evidence for claim within customary systems, and their strong connection with formal legal ideas of long-term occupation or presence (Meinzen-Dick et al., 2002). For example Cohen (1993) articulates the powerful role of tree planting as evidence in asserting land claims in the contested landscapes of the Middle East by both Palestinians and Israelis, given that legitimate institutions to resolve claims between these two groups are lacking.

Trees are valuable for land tenure claims because they make the 'right' evidentiary connections among the physical, social, and cultural domains (Unruh, 2006). While economic and service trees are useful in this regard, there is widespread use within customary and statutory tenure systems of specific 'marker trees'; in other words purposefully planted trees which exist as boundary or place markers on rural lands (e.g. FAO, 1995; Dewees, 1995). While these exist in wide variety, they share significant similarities. Most are not natively from the areas in which they are used, so as a result they stand out and are recognized as non-native. As they are not native they also frequently do not reproduce (self-seed) locally, and hence their existence is evidence for their purposeful placement. They are commonly used within customary tenure systems for boundary and claim purposes but are frequently also recognized in law. This can be especially useful evidence if the original occupant can describe with some precision where the trees are, especially when corroborated with testimony from neighbours. In Liberia, 'soap trees' were used for a such a purpose after that war (Unruh, 2008a). A related tool for observing the presence and absence of trees, particularly relevant to cadasters, is remote sensing imagery from different points in time, revealing an earlier presence of trees.

A variation of this approach is the utility for cadasters of in-place economic and service trees, such as mango, papaya etc., that do self-seed locally. While perhaps not quite as explicit evidence as marker trees, after a war it can be quite clear which are the older trees and which are the younger ones that have self-seeded. In the developing world, such economically valuable trees are among the most common and valuable forms of customary evidence for claiming ownership of land (e.g., Raintree, 1987; Fortmann and Riddell, 1985 and the references cited in these works for Africa, Asia, and Latin America). In the case of cashew trees in postwar Mozambique, the rules and customs regarding the link between cashew trees and land tenure in the postwar context, greatly facilitated (at no cost to the state) the coordination of defending and asserting rights to land, and hence land re-access and dispute resolution during the return process (Unruh, 2010). The older cashew trees in particular have and continue to play an important role in the organization of property rights in the period of recovery.

The fact that use of such marker and other purposefully planted trees is so widespread in customary tenure systems, means that statutory law could potentially move quickly in a modest way, to recognize where it does not already, the evidentiary role of such trees; either generally, for dislocatees only, or temporarily in order to facilitate return and reclaim. For statutory law, such 'facts on the ground' regarding property rights are a fundamental component of claim and counter claim (Ottolenghi, pers. comm. 2009).

Recording customary practices attesting to rights

Like the village level protection and copying of documents that attest to land and property rights, recording customary rights at the village level can likewise prove to be very worthwhile. Williams (2009) observes from a legal perspective that simply recording customary and informal practices regarding HLP is very worthwhile in a village setting (pre-dislocation) as well as in a camp setting subsequent to dislocation, as these can be used in any subsequent legal efforts. Williams (2009) further suggests that "[f]or customary situations testimony should be taken from owners, users, witnesses, and any customary leadership with regard to the location and nature of the HLP assets in question". As in camp situations, digital voice and video recordings can quickly record known customary rights, claims, HLP descriptions and other relevant information at the individual or community level, and can be corroborated with other forms of evidence such as that derived with remote sensing. A growing number of countries acknowledge customary rights in statutory laws, constitutions, regulations, legal rulings and precedents; and these can be used in connection with descriptions of customary rights for restitution purposes.

Remote sensing

Satellite imagery and aerial photography have recently begun to offer significant potential for establishing connections between the displaced and their lands and properties. Research and application in the use of both forms of imagery to analyze landscape scale phenomenon has now progressed to the point of significant integration with social science. The incorporation of social processes which are reflected in landscape patterns (e.g., Liverman et al, 1998; Moran and Ostrom, 2005; Lambin et al, 2001) has provided important insight into land tenure arrangements connected to landscape features which can be useful for restitution. Villages; settlements and graveyards; agricultural fields; human use of streams, hills, ridges, ravines and forested areas; trees planted along boundaries; and the location and features of streets and buildings, can all be observed over wide areas with such imagery and connected with the social processes which produced or altered them. This can produce very robust connections between specific lands and properties on one hand, and the people who participate(d) in, and hence have exclusive knowledge of certain landscape change on the other, thus attesting to occupation (e.g., Vogt et al, 2006). The analytical connections between satellite/air photo imagery and rural institutions (formal and informal) is a vigorous field of research and application that is providing key insights into postwar recovery by integrating geography, anthropology, and political science (e.g., Fairhead and Leach, 1996; McConnell et al, 2004; Guyer and Lambin). Pre-conflict imagery often exists for many areas of the world, such that even well after displacement, this imagery can be requested from the governments and companies that hold them so that a characterization of specific areas for certain periods of time can be derived. Such pre-displacement landscape patterns can be readily identified and described in detail for input into cadasters by dislocatees familiar with them, making a powerful argument for pre-displacement occupancy. The significant utility and potential of such imagery has been demonstrated in a wide variety of participatory mapping exercises with local (including forcibly dislocated) populations well able to recognize land use and terrain features from both satellite imagery and aerial photography (e.g. DW, 2005). Combining or matching such imagery with verbal and/or other evidence attesting to attachments to land prior to dislocation can serve as valuable forms of attestation for restitution claims.

Obtaining imagery for use in support of rapid restitution programs can be fairly straightforward. Apart from the possibility of downloading such imagery from the internet for free, during a peace process the UN military command or a participating member state nearly always has satellite and air photo imagery of the country in question--both historical and recent, and this can be requested for use in restitution activities. In East Timor the Australian military active in the country as peacekeepers provided areal photography to the recovering Land and Property Unit for use in restitution. In an example from Darfur, various NGOs monitor secondary occupations using satellite imagery (Elhawary and Pantuliano, 2009). Such monitoring can determine the dates of abandonment by those who fled as well as the dates of secondary occupation, in addition to detecting change in HLP-relevant landscape features over time due to secondary occupation.

CONCLUSIONS

The techniques briefly outlined in this paper, along with others, may have the potential for a certain pre-emptive effect with regard to certain restitution problems, and possibly even dislocation. Williams (2009) highlights the prospect of using HLP evidence, "to alert parties in de facto control of abandoned properties of ongoing violations that they must address or be held accountable for." At a minimum, widespread dissemination of the fact that evidentiary information is being collected from dislocatees encourages any current or prospective secondary occupant (including those engaged in land grabbing) to begin to doubt that they will be able to retain such land. An important aspect of such a scenario is that in many cases, but particularly those involving ethnic cleansing (the Balkans, Darfur), secondary occupants do know that they are on someone else's land or property, regardless of the political context (Williams, pers. comm, 2009). What can encourage this doubt is the clear and widespread public awareness of the recording and protection of evidence for the purpose of restitution. As Williams (2010) notes, it is possible to push ambiguity in certain directions during conflict. Such doubt and ambiguity can have the effect of encouraging private arrangements between some secondary occupants and the original owners, whereby forms of rent, care-taking, etc., are arranged, so that the secondary occupants hedge their bets with regard to any ultimate post-conflict HLP arrangement. The author's own research revealed this to be the case in Darfur.

Where widespread civil society, government and international community awareness exists that evidence pertaining to IDPs and refugees is being collected and sent quickly out of the country so as to be used in restitution, there emerges the possibility of repercussions on the conduct of the conflict itself. This could occur in particular with regard to wartime objectives of population replacement on lands and properties, and the willingness to participate in such objectives by sympathizers, combatants, and even government personnel. Such an effect may contribute to less dislocation overall as those who promote or cause it may come to the conclusion that it is not worth their while.

The aftermath of the Arab Spring uprisings will see profound sociopolitical and economic changes for societies in a number of countries of the Middle East. Due to the long period in which some governments preceding the uprisings were in power, and the manner in which they governed, what accumulated was a significantly large set of perceived injustices over a variety of issues. Land and property rights are one of these important issues, and it has emerged in all of the Arab Spring states as important to addressing both peace and economic development.

REFERENCES

- Bruce, J. W., and Migot-Adholla, S. E., 1994, Searching for land tenure security in Africa, Dubuque, Iowa, The World Bank and Kendall/Hunt Publishing Co.
- Cohen, S., 1993, The politics of planting: Israeli-Palestinian competition for control of land in the Jerusalem periphery, Chicago, University Of Chicago Press.
- Dennis, I., 1999, *The law of evidence*, London, Sweet and Maxwell.
- Delville, P. L., 2003, When farmers use 'pieces of paper' to record their land transactions in Francophone rural Africa: insights into the dynamics of institutional innovation, In *Securing land rights in Africa*, Benjaminsen, T.A., and Lund, C., London, CASS Publishing.
- Elias, T. O., 1994, The problem of reducing customary laws to writing. In *Folk law: essays in the theory and practice of lex non scripta: volume I*, eds. Renteln, A.D., Dundes, A., 319-330. Madison, University of Wisconsin Press.
- Fernside, P. M., 1986, Spatial concentration of deforestation in the Brazilian Amazon, *Ambio* 15, 74-81.
- Fortmann, L., and Ridell, J., 1985, Trees and tenure: An annotated bibliography for agroforesters and others, Madison and Nairobi, Land Tenure Center and ICRAF.
- Garner, B., 2000, *Black's Law Dictionary*, Saint Paul, The West Publishing Group.
- Guadagni, M., 2002, Trends in customary land and property. In *Land law in comparative perspective*, eds. Jordan, M. E. S., and Gambaro A, New York, Kluwer Law International.
- Hart, E. R., 1995, *Zuni and the courts: a struggle for sovereign land rights*, Lawrence: University of Kansas Press.
- Lund, C., 2002, Negotiating property institutions: on the symbiosis of property and authority in Africa, In *Negotiating Property in Africa*, eds. Juul, K., and Lund, C., Heinemann, Portsmouth.
- Maganga, F., 2003, The interplay between formal and informal systems of managing resource conflicts: some evidence from south-western Tanzania. In *Securing land rights in Africa*, eds. Benjaminsen, T. A., and Lund, C., London, CASS Publishing.
- McAuslan, P., 1998., Making law work: restructuring land relations in Africa, *Development and Change* 29, 529-552.
- McAuslan, P., 2003, *Bringing the law back in: essays in land law and development*. Burlington, Ashgate Publishing Limited.
- Meinzen-Dick, R., McCulloch, A., Place, F., Swallow, B., 2002, *Innovation in natural resource management: the role of property rights and collective action in developing countries*, London, Johns Hopkins University Press.
- Mulley, B. G., Unruh, J. D., 2004, The role of off-farm employment in tropical forest conservation: labour, migration, and smallholder attitudes toward land in western Uganda, *Journal of Environmental Management*, 71, 193-205.
- Murphy, P., 2003, *Evidence, proof, and facts*, Oxford, Oxford University Press.
- Otsuka, K., Suyanto, S., Sonobe, T., Tomich, T. P., 2001, Evolution of land tenure institutions and development of agroforestry: evidence from customary land areas of Sumatra. *Agricultural Economics* 25, 1, 85-101.
- Pipes, R., 1999, *Property and Freedom*, New York, Vintage Books.
- Postel, S., 1988, Global view of a tropical disaster, *American Forests*, 94, 25-29.
- Raintree, J. P., 1987, *Land, trees and tenure*, Nairobi and Madiso,: ICRAF and the Land Tenure Center.
- Quan, J., 2000, Land tenure, economic growth and poverty in subSaharan Africa, In *Evolving land rights, policy and tenure in Africa*, eds. Toulmin, T., and Quan, J., pp. 31-50, London, Natural Resources Institute.
- Roberts, S., 1994, The recording of customary law: Some problems of method, In *Folk law: essays in the theory and practice of lex non scripta: volume I*, eds. Renteln, A. D., Dundes, A., pp. 331-338, Madison, University of Wisconsin Press.

- Robillard, W.G., Wilson, D. A., Brown, C. M., 2002, Evidence and Procedures for Boundary Location, Fourth Edition, New York, John Wiley and Sons.
- Robillard, W.G., and Wilson, D. A., 2003, Brown's Boundary Control and Legal Principles. Fifth Edition, New York, John Wiley and Sons.
- Schroeder, R., 2000, "Re-claiming" land in the Gambia: gendered property rights and environmental intervention, In Producing Nature and Poverty in Africa, ed. Broch, V., and Schroeder, R. Stockholm, Nordiska Afrikainstitutet.
- de Soto, H., 2000, The mystery of capital: why capitalism triumphs in the west and fails everywhere else. New York: Basic Books.
- Uitamo, E., 1999, Modeling deforestation caused by the expansion of subsistence farming in the Philippines, *Journal of Forest Economics*, 5, 99-122.
- Unruh, J. D., Cligget, L., Hay, R., 2005, Migrant land rights and 'clearing to claim' in sub-Saharan Africa: A deforestation example from southern Zambia, *Natural Resources Forum* 29, 190-198.
- Unsworth, E. G., 1994, The conflict of laws in Africa, In *Folk law: essays in the theory and practice of lex non scripta: volume I*, eds. Renteln, A. D., Dundes, A., pp. 795-804, Madison, University of Wisconsin Press.
- Development Workshop (DW), 2005, Terra: Urban Land Reform in Postwar Angola: Research, Advocacy and Policy Development, Development Workshop, Luanda.
- Deweese, P., 1995, Trees and farm boundaries: farm forestry, land tenure and reform in Kenya, *Africa* 65, 217-235.
- Dysart, M., 2011, Remote sensing and mass migration policy development, Defence Technical Information Centre, Air University.
- Elhawary, S., Pantuliano, S., 2009, Livelihoods in a land and conflict context, UN Habitat, Nairobi.
- Fairhead, J., M. Leach., 1996, Misreading the African Landscape: Society and Ecology in a Forest-Savanna Mosaic, African Studies Series, no. 90, New York, Cambridge University Press.
- FAO, 1995, Social and economic incentives for smallholder tree growing, FAO, Rome.
- Giordano, R., Preziosi, E., Romano, E., 2012, An integration between cognitive maps and Bayesian belief network for conflicts analysis in drought management, Paper presented at the 2012 International Congress on Environmental Monitoring and Software Modeling for Environment's Sake, Fifth Biennial Meeting, Ottawa, Canada.
- Guyer, J., Lambin, E., 1993, Land use in an urban hinterland: ethnography and remote sensing in the study of African intensification, *American Anthropologist* 95, 839– 859.
- Hjortso, C., Christensen, S., Tarp, P., 2005, Rapid stakeholder and conflict assessment for natural resource management using cognitive mapping: the case of Damdoi forest enterprise, Vietnam, *Agriculture and Human Value* 22, 149-167
- Jones, N. A., Ross, H., Lynam, T., Perez, P., Leitch, A., 2011, Mental models: an interdisciplinary synthesis of theory and methods. *Ecology and Society* 16, 46. [online] URL: <http://www.ecologyandsociety.org/vol16/iss1/art46/>
- Knowles, A., 2008, Placing History: How Maps, Spatial Data and GIS are Changing Historical Scholarship, ESRI Press, Redlands, California.
- Lambin, E. F., Turner, B.L., II, Geist, H.J., Agbola, S., Angelsen, A., Bruce, J., Coomes, O., Dirzo, R., Fischer, G., Folke, C., George, P., Homewood, K., Imbernon, J., Leemans, R., Li, X., Moran, E., Mortimore, M., Ramakrishnan, P., Richards, J., Skanes, H., Steffen, W., Stone, G., Svedin, U., Veldkamp, T., Vogel, C., Xu, J., 2001, The causes of land-use and land-cover change: Moving beyond the myths, *Global Environmental Change* 11, 261–269
- Leckie, S., 2007, Housing, Land, and Property Restitution Rights of Refugees and Displaced Persons: Laws, Cases, Materials. Cambridge University Press, Cambridge, UK.
- Liverman, D., Moran, E., Rindfuss, R., Stern, P., 1998, People and Pixels: Linking Remote Sensing and Social Science, National Academy Press, Washington, D.C.

- McConnell, W., Sweeney, S., Mulley, B., 2004, Physical and social access to land: Spatio-temporal patterns of agricultural expansion in Madagascar. *Agriculture, Ecosystems, and Environment*, 101, 2–3, 171–184.
- Moran, E., Ostrom, E., 2005, *Seeing the Forest and the Trees: Human-Environment Interactions in Forest Ecosystems*, MIT Press, Cambridge, MA.
- Nelson, T., Roberston, C., Boots, B., Wulder, M., 2009, STAMP: Spatial-temporal analysis of moving polygons, *Journal of Geographical Systems*, 9, 207-227.
- Ottelengi, R., 2009, Pers. comm.
- Pantuliano, S., 2009, *Uncharted Territory: Land, Conflict, and Humanitarian Action*, Practical Action Publishing, Warwickshire, UK.
- Protection Cluster Working Group (PCWG), 2009, Checklist for humanitarian coordinators and protection cluster leads: housing, land and property, Housing Land and Property Area of Responsibility Group, Protection Cluster Working Group, UN Geneva.
- Unruh, J., 2006, Land tenure and the ‘evidence landscape’ in developing countries, *Annals of the Association of American Geographers*. 96, 754-772.
- Unruh, J., 2008, Catalyzing the socio-legal space for armed conflict: land and legal pluralism in pre-war Liberia, *Journal of Legal Pluralism and Unofficial Law*, 58, 1-32.
- Unruh, J., 2010, Cashew agroforestry and changing property rights in post-war Mozambique. In: *Rights to Resources and Collective Action for Agriculture: A Sourcebook on Property Rights and Collective Action*. Collective Action and Property Rights for Poverty Reduction (CAPRI), International Food Policy Research Institute, Washington, DC.
- Vogt, N., Bahati, J., Unruh, J., Green, G., Banana, A., Gombya-Ssembajjwe, W., Sweeney, S., 2006, Integrating remote sensing data and rapid appraisals for land-cover change analyses in Uganda, *Land Degradation and Development* 17, 31-43.
- Williams, R., 2009. Pers. Comm.
- Williams, R., 2010. Pers. Comm.
- Zuluaga, S., Valencia, F., Otorala, F., 2009, *Voz de la Regiones*. Procuraduria General de la Nacion, Bogota, Colombia.

SPATIAL ANALYSIS METHOD TO OPTIMIZE THE LAND USE BASED ON LAND RIGHT STATUS IN SUKABUMI, WEST JAVA, INDONESIA

Septina Maryanti, Dian Permana Sari

Land National Agency, Indonesia
diankuiki@yahoo.com

ABSTRACT

Land use should pay attention to the ability of land, to avoid deviations between the land use and allotment. The aim of this study is determine the distribution pattern of land use based on incompatibility land rights status in Sukabumi (West Java, Indonesia). Spatial analysis is used to combine the Land Allocation Map with the Map of Land Use to capture the mismatch between the region with the land use allotment. After that, to find incompatibility based on land use rights status, the spreading pattern overlaid with the Map of Land Status. From the research, it can be concluded the incompatibility of land use in Sukabumi have clumped patterns, leading to the southeast region, in the mountainous area, soil types vulnerable to erosion, and high rainfall. Finally, to optimize the land use can be done by clarifying the status of land rights to help the State to manage the land use allotment.

Keywords: Land Use, Land Rights, Distribution Patterns, Land Status, Sukabumi, West Java

**Full paper is not submitted.*

POLISH INTEGRATED SYSTEM OF REAL-ESTATE INFORMATION - PROCESS OF ESTABLISHING AND IMPACT OF CADASTRAL DATA QUALITY

Jarosław Wysocki

Directory
dominik.kopczewski@gugik.gov.pl

ABSTRACT

The main objective of the presentation is to elaborate the Integrated System of Real Estate Information (ZSIN) functioning in Poland. Polish Land Administration is based on the Real Estate Cadastre and the Land and Mortgage Register. Implementation of ZSIN gives the possibility of automatic exchange of information between these datasets as well as other public registers concerning real estates, with the use of standard spatial data services. The Integrated System of Real Estate Information also supports creating the Central Repository of copies of cadastral data, which are currently gathered in 400 local offices. For that reason, the Central Repository is a crucial element for developing the national spatial information infrastructure. The presentation is organized as follows. The first part briefly presents legal basis which define the manner, procedures and technical standards for creating and maintaining the Integrated System of Real Estate Information. The second part introduces the ZSIN architecture. The general concept of the Cadastral Data Quality Model based on ISO 19157 is described in the third part. The fourth part presents a summary of implementing the project "ZSIN - Stage I" and concludes major findings. The fifth part gives directions for future work within the frame of the project "ZSIN - Stage II".

Keywords: Poland

**Full paper is not submitted.*