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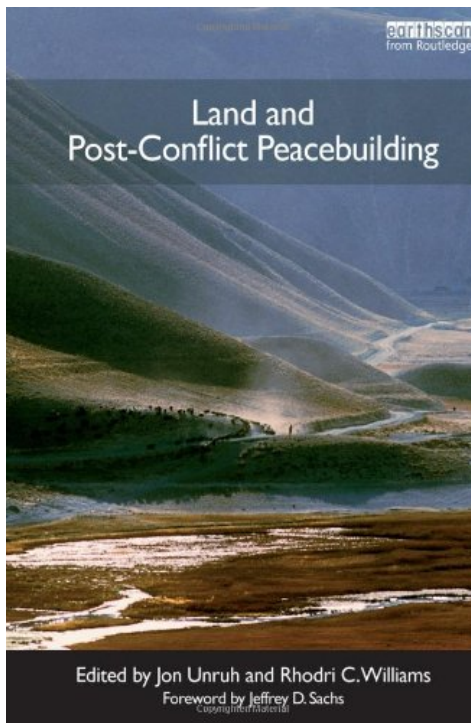
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### Snow leopards and cadastres: Rare sightings in post-conflict Afghanistan

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# Snow leopards and cadastres: Rare sightings in post-conflict Afghanistan

*Douglas E. Batson*

Good land administration benefits individuals, government, businesses, and the environment, especially in post-conflict countries. The Working Party on Land Administration of the United Nations Economic Commission for Europe (UNECE) states that “the inter-relationship of people and land is fundamental to human existence” (UNECE 2005, 4). The same publication lists “support environment management” as one of thirteen benefits of effective land administration (UNECE 2005, 6). UNECE defines land administration as the formal systems “necessary to register land and property and hence to provide secure ownership in land, investments and other private and public rights in real estate. A system for recording landownership, land values, land use and other land-related data is an indispensable tool for a market economy to work properly, as well as for sustainable management of land resources” (UNECE 1996, 7). Of course, in peaceful and prosperous developed nations, land administration and environmental concerns rank high on the political, social, and legal agendas.

But can good land administration be achieved in post-conflict Afghanistan, where poverty, unemployment, and a demographic youth bulge overtax the fledgling, democratically elected government and fuel a narcotics-based economy and a tenacious insurgency? The protracted human conflict has degraded the natural environment to the point where, even if the current insurgency were quelled, Afghanistan faces “a future without water, forests, wildlife and clean air” (UNEP 2003, 5).

Given these circumstances, it comes as no surprise that the United Nations Environment Programme (UNEP) found that Afghanistan’s long-term environmental degradation is caused, in part, by a complete collapse of regional and national forms of governance (UNEP 2003). Afghanistan expert Barnett R. Rubin foresees a decades-long transition from customary law to civil and state law. Keenly aware that a lack of basic law enforcement undermines the legitimacy

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of any government, Rubin, from his 2006 travels in the country, recognizes the value of local governance:

The only capacities for dispute resolution and law enforcement in much of the country consist of village or tribal councils and mullahs who administer a crude interpretation of sharia. During the years required for [judicial] reform, the only actual alternatives before Afghan society are enforcement of such customary or Islamic law or no law at all (Rubin 2006).

In 1962 the biologist Rachel Carson published *Silent Spring*, a book that raised environmental awareness and sparked the ecology conservation movement in the United States. The title was inspired by a John Keats poem, “La Belle Dame sans Merci,” which describes a desolate place where “no birds sing.” This chapter posits that lessons learned from land-related initiatives at the local level are the basis for an Afghanistan that will not become a silent spring.

The chapter argues further that a critical omission in reconstruction and development programs in Afghanistan has been in not recording the locally determined relationships between people and land, information typically registered in a cadastre. Indeed, cadastral survey parties have been all too rare in Afghanistan, almost as rare as a sighting of the legendary snow leopard, not reportedly seen in many years.

The chapter begins with an overview of the challenges faced in rebuilding Afghanistan, specifically the need for a cadastre system that records the relations between people and land. It then discusses the problems of refugee resettlement, the population explosion, and the environmental destruction from decades of conflict. The chapter then focuses on the importance of land tenure security and describes local initiatives that have contributed to security. It continues by discussing the importance of dispute resolution to tenure security and how environmental initiatives, while generally lower in priority on political, social, and legal agendas, can be embraced when local communities share a stake in the success of environmental protection. The chapter concludes by stressing the important role of the cadastre system, particularly the Land Administration Domain Model.

### REBUILDING AFGHANISTAN

Reconstructing Afghanistan requires many forms of action, and one focus must be on land administration. A cadastral (land and property registry) system can reduce both conflict and environmental degradation by bringing land matters into the public forum. However, nine years into post-conflict reconstruction, little headway has been made toward untangling the successive impacts that tribalism, communism, Islamic theocracy, and now the lure of a free-market economy have had on land and property in Afghanistan. Aid workers in the country, exhausted by ever-urgent humanitarian needs, are loath to begin long-term development projects in the face of dwindling donor support and escalating violence.



Conor Foley, a consultant to human rights and refugee organizations, speaks to land administration with his charge to the international community: “Good governance, respect for human rights and the rule of law are not ‘optional extras’ when it comes to rebuilding a country, but an intrinsic part of the process of reconstruction” (Foley 2006, 3). The UN Human Settlements Programme (UN-HABITAT) reminds planners that long after the media, emergency services personnel, and stability forces pull out of a country, post-conflict land management “is dependent on political will and a determination to build effective systems—including technical and governance—over long periods. As a rule of thumb, it takes about 25 years to build such a system” (UN-HABITAT 2007, 65).

The Geographic Research Branch of the UK Defence Geographic Centre summarized how decades of chaos has affected the relationship of people to land in Afghanistan and underscored why it will take a quarter century to institute a land administration system in Afghanistan (UK Defence Geographic Centre 2006). In brief:

- The present legislation on land tenure in Afghanistan is complex, uncertain, and incomplete. Land relations in Afghanistan have been governed by a number of legal frameworks, and these frameworks have been interpreted differently by successive administrations; therefore, identifying the current law is a challenge.

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- Stark inequalities in landownership, ethnic conflict over land access, and mismanaged land reforms by the state have generated and sustained conflict over the past twenty-five years.
- No clear regime for managing land rights exists, and, by default, many management functions have fallen to the courts, which handle the bulk of land disputes. With instability and coercion by warlords over the last decade, land rights management and dispute resolution have lost credibility in many areas.
- Most rural Afghans regulate their landownership relations by custom, without using officials or courts. Customary sector management offers a strong foundation, but it is rife with practices that favor wealthier elites, men, and dominant ethnic groups.
- The rules addressing who may own land in Afghanistan and in what circumstances vary depending on the type of land under consideration.

Reconstruction and development programs in Afghanistan will succeed only if the locally determined relationships between people and land are clear and consistent—and, most important, registered in a cadastre. The International Federation of Surveyors (Fédération Internationale des Géomètres, or FIG) defines a cadastre this way:

A Cadastre is normally a parcel based and up-to-date land information system containing a record of interests in land (e.g., rights, restrictions and responsibilities). It usually includes a geometric description of land parcels linked to other records describing the nature of the interests, and ownership or control of those interests, and often the value of the parcel and its improvements (FIG 1995).

Now, for the first time in history, the systematic recording of informal land rights and interests is feasible with the Land Administration Domain Model (LADM), a new approach to land administration. The LADM, with spatial and legal-administrative components, can locate, describe, and record customary social tenures, even claims with no apparent legal basis. The model is compelling because it makes explicit more than just ownership rights—for environmental conservation purposes, the LADM can record stewardship responsibilities and restrictions on harmful practices; for improving governance more broadly, it can harmonize local decisions with regional or national land policies as these essential services are reestablished.

### **REFUGEE RESETTLEMENT, THE POPULATION EXPLOSION, AND ENVIRONMENTAL DAMAGE**

In Afghanistan the competition over land and other natural resources is exacerbated by three sources—returning refugees, a population explosion, and environmental degradation from decades of conflict. An estimated 4.6 million repatriated refugees

have returned to Afghanistan from neighboring countries since 2002. A degraded environment makes their resettlement very difficult, as seen in the example of Kelagay.

From 1990 to 2006, Kelagay was an empty, dusty plain, the site of an old Soviet military base and an abandoned village, whose broken walls stood in the midst of untended fields. But since 2006, frantic construction has been going on in that part of Baghlan Province, as Afghan laborers have built high-walled compounds and flat-roofed houses from mud and straw. The building boom began when the entire population of a ruined village, called Naseri Chehl Kapa, came back that summer after twenty-six years as refugees in Pakistan. Because their numbers had increased with the arrival of a new generation, they occupied government land well beyond their original village and fields, up to and across the nearby road. Within a week of their arrival, the returned villagers began dividing up the land parcels and buildings. The *New York Times* quoted one villager: “‘This is our ancestral land; our forefathers lived here,’ said Haji Abdul Jabar, who is building a large compound that will house his family and those of his seven brothers” (Gall 2006). But what did the Jabar brothers find when they attempted to return to their ancestral livelihoods of agriculture and animal husbandry?

The Jabar brothers probably found land that had become infertile and arid, and thus impossible to cultivate. As a result, their young male offspring, who knew nothing of agriculture and livestock as refugees in Pakistan, will likely flock to the cities to eke out an existence in the slums. There, with no home or means of support, they will be predisposed to recruitment by the purveyors of instability: crime bosses, drug traffickers, and the Taliban.

The Afghan population explosion, from 11 million in 1970 to over 30 million today, worsens the competition for land and other resources (World Bank 2009). The geographer Nigel Allan has stated that the land cannot support the current huge population—and will never be able to do so (Allan 2007). Allan was not taking the environmental degradation (recent drought, denuded forests, and erosion) into account in his warning about Afghanistan’s high birth rate. The stark imbalance he noted between population and natural resources thwarts reconstruction efforts altogether and foreshadows renewed conflict in Afghanistan, this time over access to resources for survival as opposed to ideology.

A January 2003 UNEP assessment of the Afghan conflict’s environmental damage warned that a return to 1970s-like peace on the pastures would be impossible. While “over 80 percent of Afghan people live in rural areas, they have seen many of their basic resources—water for irrigation, trees for food and fuel—lost in just a generation” (UNEP 2003). Decades of conflict, drought, and neglect have left unclear who is responsible for Afghanistan’s natural environment. In 2007, Afghanistan’s Ministry of Agriculture and Food predicted grave consequences if the government and international aid organizations continued to ignore the country’s deteriorating environment. A summary of the UNEP report noted some stark facts:

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- Up to 50 percent of Afghan farmlands have not been cultivated for the past twenty years.
- Afghanistan's agricultural produce has decreased by 50 percent.
- Soil fertility is declining, salinization is on the increase, water tables have dramatically fallen, and devegetation is extensive.
- More than 80 percent of Afghan land is subject to wind and soil erosion.
- Over 70 percent of forests have been lost since 1985.
- Deforestation makes Afghanistan increasingly vulnerable to natural disasters, namely flooding and landslides.
- The eradication of Afghan forests has led to rapid expansion of deserts in the southern, eastern, and northern regions of the country (IRIN 2007).

Hazrat Hussain Khaurin, director of the Forests and Rangeland Department of the Ministry of Agriculture and Food, asserts that "neither the government nor impoverished Afghan farmers have the basic technology or required resources to resist widening desertification" (IRIN 2007). Similarly, Abdul Rahman Hotaky, chairman of the Afghan Organization of Human Rights and Environmental Protection, described the multiple social, environmental, and economic implications of desertification for the Jabar brothers, their extended families, and millions like them: "Desertification has exacerbated already widespread poverty among many Afghan farmers who seem hapless to tackle problems created by this natural crisis" (IRIN 2007).

### LAND TENURE

Security of tenure is the most pressing post-conflict land issue in Afghanistan. Owning the land in the Western sense, recorded in deeds and titles, is not the primary concern. An explanation of the difference is warranted.

In antiquity to effect a transaction the parties involved would meet at the city gates in the presence of the community elders, . . . or assemble somewhere else in public and there agree upon their terms. The transaction may or may not have been written, depending upon local custom. But whether recorded in parchment, books, or peoples' memory, the transaction was public, and therefore considered legitimate.

This universal human practice is the basis for deeds, the written record of transfers of rights, ownership, or possession between parties. . . . After the industrial revolution Western countries found a need to record the ownership of land parcels in a way that would make transactions easier to track and more readily available to government and financial institutions. This led to a shift to an absolute individual land parcel record of who owns what and where. . . . This protected both the lender and the borrower. For the government, ownership was clear for taxation purposes. . . .

Unlike a deed, which is a physical object, a title is conceptual. A title is a right a state gives to a certain person or persons recognizing the legitimate ownership



or possession of a given property. There may be a document that acknowledges this title, but the title itself is the right, not the piece of paper. Whereas a deed always involves two parties and records a transaction at a certain time, a title . . . merely declares who has what rights to what property (Batson 2008, 87).

Guaranteeing that millions of Afghans can hold their lands securely is crucial for the country's long-term stability. Holding—not owning—the land implies a dependence upon state authority for protection from those who might try to seize the property. Thus the Afghans' most immediate worry is forced eviction, whether by the state or a third party. The layers of complexity and potential for conflict are compounded when, for example, the state suddenly claims ownership of land long held by people through custom and tradition. Officially, these people are landless, but nevertheless “the wealth of all of these poor people is tied up in their land and housing” (IRIN 2003). Unfortunately, the time and expense (including bribes to government officials to make sure they do their routine jobs) of acquiring and registering land titles often undermines the goal of secure tenure for the poor.

Leaders of post-conflict countries are often pressured by citizens who clamor for land reform. In many cases, hastily enacted national policies “confuse ‘ownership’ with ‘security of tenure,’ resulting only in . . . delays in extending effective security of tenure” to those who direly need it (Cousins and Kingwill 2006, 1). Similarly, cadastres designed by external parties tend to serve the interests of national elites and outside groups rather than those of the local people, who are usually poor. If a cadastre does not reflect local arrangements, it is open to abuse, particularly in post-conflict countries.

## **LOCAL LAND INITIATIVES IN AFGHANISTAN**

To succeed, land tenure policies must reflect local realities. There are local land initiatives in Afghanistan that have been, or could be, harmonized with regional or national land policies and land administration. These include community mapping and land titling activities.

### **Community mapping**

Community-based creation and maintenance of land rights records is a bottom-up response to weak state institutions. Centralized land-governing institutions have not enjoyed public confidence among Afghans. In response to increasing insecurity of tenure on Afghan rangelands, a problem that has arisen in recent years, a Rural Land Administration Project (RLAP) team has created a community initiative to produce and record community agreements about who holds the legitimate rights to use which pasture lands for particular purposes during specific times of the year. David Stanfield, president of the Terra Institute, has declared that RLAP's participative, transparent, and observable processes—conducted under the rubric of land titling and community recording of locally derived agreements on the



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legitimate users of rangeland—has demonstrated the viability of community-based mapping in rural Afghanistan (Stanfield 2007).<sup>1</sup>

A valuable resource from Afghanistan's constitutional monarchy still exists to aid community mapping. Between 1965 and 1978, one-third of Afghan agricultural lands, or 12.9 million *jerib* (a traditional unit of land that equals a fifth of a hectare, 2,000 square meters, or 0.494 acre), were professionally surveyed by the Afghan Geodesy and Cartography Head Office (Safar 2007). This enormous undertaking, covering 25,800 square kilometers (nearly the size of Rwanda), was not used in a land registration system or to issue formal titles. Cadastral surveyors compiled the names of probable parcel owners to dispel any notion that they were also official government title adjudicators. Despite being decades old, these painstakingly assembled graphical and textual records survived the conflicts and could contribute to a future land administration system. The owners and occupants certainly have changed, but the parcel boundaries probably remain much the same, as there have been few subdivisions and consolidations, at least in villages such as Kelagay.

### Land titling and economic restructuring

From 2004 to 2009, the Land Titling and Economic Restructuring in Afghanistan (LTERA) program initiated two projects in selected urban areas. Funded by the U.S. Agency for International Development (USAID) and implemented by the Emerging Markets Group, LTERA presented a five-pronged approach to land titling and economic restructuring: a land registration system, a mapping and land information system, tenure regularization, a policy and legal framework, and the release of public land to private ownership (Gebremedhin 2006).

LTERA has done important work in rehabilitating and reorganizing deeds in provincial court archives, although little progress has been made in simplifying land titling procedures, clarifying the legal framework for property rights, reducing the cost of transactions, or reorganizing land administration agencies. Two LTERA projects are worth special consideration: the upgrading of informal settlements in two districts of Kabul and the rehabilitation of court archives (*makhzan*).

### *Upgrading of informal settlements in Kabul*

LTERA selected two community development councils that were established by UN-HABITAT in districts 7 and 13 of Kabul. These areas were chosen, in part, because the communities had already established representative bodies (*shuras*), and both residents and the municipality were willing to participate in the program. Although the *shuras* had been involved in previous upgrading projects,

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<sup>1</sup> For more information, see J. D. Stanfield, Jennifer Brick Murtazashvili, M. Y. Safar, and Akram Salam, "Community Documentation of Land Tenure and Its Contribution to State Building in Afghanistan," in this book.

the issue of land tenure security had not been addressed prior to the LTERA project. In District 13, newly established land-clarification boards review property deeds presented by informal settlers. Ninety-five percent of these are informal, customary deeds. Disputes settled at the community level avoid the bureaucratic and uncertain procedures of the Kabul courts. Once community consensus is reached about who lives—or has the right to live—where, LTERA requests the municipality to issue a certificate of comfort. While not a property deed, it offers a valuable form of tenure security (USAID 2009a).

From this pilot program to formalize informal settlements, LTERA has developed preliminary proposals to create a legal basis for regularizing tenure in other settings. The team has developed a replicable and cost-effective methodology to upgrade basic services, regularize tenure, and integrate informal settlements into a municipality's urban planning process. The projects in Districts 7 and 13 tested an incremental, community-based method of upgrading and regularizing tenure. These neighborhoods were chosen partly because their problems were obvious. Informal settlers lived in fear of forced eviction and therefore had no incentive to improve their dwellings, start businesses, or upgrade their neighborhoods. According to Dr. Gregory Maassen, LTERA chief of party from 2006 to 2009:

We estimate that in Districts 7 and 13, the implementation of the 1978 Kabul Master Plan would result in evicting 2,000 households (about 14,000 people). We are preparing a land use plan for the districts. The plan contains alternative land development options which better reflect current land patterns, provide residents access to basic services, and considerably minimize the number of evictions. Once approved by the municipality, it will halt forced evictions (Maassen 2007).

A 2006 preliminary study of the LTERA project in District 7 was conducted by the Cooperation for the Reconstruction of Afghanistan (CRA), an Afghan nongovernmental organization well versed in the techniques and philosophy of community action. CRA identified the benefits of improved tenure security as measured by increased business activity and housing construction, especially where improvement in security was accompanied by community organization and physical upgrading of the district's streets and drainage systems. Interviews with community leaders and residents also showed that people's perceptions of tenure security and general conditions have improved significantly since the implementation of the project. In summary, the work done by the community was due largely to the organizational and guiding efforts of CRA and financial support from USAID and the Emerging Markets Group (USAID 2009a). Several benefits accrued:

*More construction occurred.* Forty-six houses were either reconstructed or extended in the pilot area since the implementation of the project, which represents 9 percent of all houses in the area. All but one of these houses are

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constructed of brick and concrete, which requires a substantially greater investment than the usual mud construction.

*More businesses opened.* The number of business enterprises increased from 117 to 126, an increase of 7 percent from November 2005 to September 2006.

*The price of vacant land increased.* Although house prices appeared to have stabilized or, in some instances decreased, the price of vacant land increased by as much as 50 percent since the project was implemented. There were fewer houses on the market than before the project started. There were fewer properties available for rent, and rents increased by an average of 30 percent after September 2005.

*Land tenure was more secure.* Thirty residents of District 7 were interviewed about their knowledge of the LTERA upgrading effort. All but one felt more secure as a result of the project and believed that the area would eventually be formally incorporated into the city plan. Three respondents noted that the mere fact that roads and drains had been constructed had resulted in improved perceptions of secure tenure.

*There was a positive impact on community development.* The shura and community leaders involved with the property adjudication process reiterated their support for the project and confirmed that it had resulted in improved perceptions of tenure security and increased economic activity.

Lessening fear of forced eviction, resolving disputes, demarcating plots, providing funds to upgrade community infrastructure, fostering community development—each success, no matter how small, builds upon the others to provide security of tenure and upgrading of the settlement.

### ***Restoration of legal documentation in registration courts***

When land disputes occur in Afghanistan, taking matters to the courts often adds to the woes of returnees and others dispossessed of their land due to conflict or large-scale land acquisitions (often referred to as *land grabbing*). Plagued by corruption, inefficiency, delays, and a lack of enforcement, the justice system disappoints many Afghans, who resort to customary dispute resolution methods.

In Afghanistan the primary courts in both urban and rural districts prepare title deeds when people come to the judges to acquire them. The provincial appeals courts, located in the provincial capitals, maintain the archives of deeds documenting the transfer of title according to procedures established by the Supreme Court. These archives, which contain all primary and provincial court documents and are maintained by the judiciary, are called makhzan. But “maintained” may be too kind a word. During the Afghan civil war, the archives suffered neglect and destruction and were left in generally poor condition. Many legal documents, including title deeds, were stolen, destroyed, or falsified, and fraudulent new title deeds were created for dubious property transactions.

To restore confidence in the judicial system, it is essential to rehabilitate the legal archives and make them accessible to the public, especially for land and property disputes. The goal of LTERA’s makhzan rehabilitation program is

to build on efforts started by previous USAID-supported programs to improve land tenure security through the implementation of a cost-effective, transparent, accessible, and simple system for preparing, archiving, and consulting deeds. The reorganization of the archives concentrates on three objectives: classifying the original legal documents to make them more accessible to the public and the judiciary; maintaining the documents in the archives for future use in building a land information system; and digitizing the documents to make them more secure and more quickly accessible, especially for use in delivering duplicate titles.

By the end of its five years the LTERA project had digitized 616,498 deeds and “reorganized close to 7 million legal documents, including 1,077,000 title deeds, representing over 80 percent of the total number of title deeds registered with courts in Afghanistan” (USAID 2009a, 32). The computerization of the archives and the digitization of title deeds not only preserve the documents, which were often in very poor condition, but also make digital copies available, replacing hand-prepared duplicates. A transparent recording and archiving process and secure access to the legal information limits corruption by making it more difficult to falsify existing title deeds or introduce new falsified property documentation. Many residents of Kabul had given up hope that their deeds could be found and are elated that legal copies of deeds can now be obtained. In some cases, the copies are used in the settlement of land disputes; in others, for proving property ownership to secure loans or for clarification of inheritance. The improvements in document storage and retrieval are real, but the system is not used by most people engaging in real estate transactions.

## **DISPUTE RESOLUTION**

One step that cannot be overlooked in achieving tenure security is dispute resolution. In Afghanistan the Norwegian Refugee Council (NRC) operates the Information, Counseling and Legal Assistance (ICLA) program, whose counselors resolve land disputes. In addition to providing shelter and education, distributing aid, and managing camps for refugees and internally displaced persons, the NRC employs Afghan nationals as legal specialists and counselors. Free of charge, the ICLA has helped tens of thousands of people regain their land (Foley 2008). The ICLA does not import Western notions of jurisprudence, and the staff is skilled in handling small cases. Once the parties to a dispute are satisfied that their case, often perceived to be against a socially more powerful opponent, has been heard, they are encouraged to accept arbitration from a traditional *jirga* (tribal assembly) or *shura*, where a final ruling will be made. The ICLA imbues confidence in small claimants who face more powerful parties that they stand a fighting chance to regain their land via a *jirga* or a *shura*.

Conor Foley, a former program manager of the ICLA, believes that *jirgas*, in which all neighborhood or village males participate, or the more restrictive *shuras*, which comprise select elders, “are the closest thing to democratic institutions

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in Afghanistan today. They can reach decisions much faster than the official courts, are virtually cost-free, are less susceptible to bribery and are accessible to illiterate Afghans” (Foley 2004).<sup>2</sup> The ICLA earns legitimacy by infusing traditional, community-based institutions for dispute resolution with vitality and the added prestige of an international endorsement. Due to the international status of the NRC representatives, militia commanders and other power brokers may behave more civilly, and there may be less bloodshed. Yet Foley has no misconceptions about the paucity of justice in Afghanistan: “Such initiatives may help individuals, and may even have a role to play in strengthening civil society and holding the authorities to account, but they are no substitute for an effective justice system based on respect for the rule of law and human rights. Many of NRC’s clients have still not obtained justice, and managing people’s expectations is becoming an increasing problem. Conversely, the organisation’s successes may attract more cases than the centres can handle” (Foley 2004).

### ENVIRONMENTAL INITIATIVES: BAND-E-AMIR NATIONAL PARK

Afghanistan’s urgent humanitarian needs and desperate living conditions make it difficult to undertake long-term development projects, even in an area as important as land administration. Environmental issues rank even lower on the political, social, and legal agendas, not only in Afghanistan but in many developing countries, where attempts to enact conservation programs by relying on a top-down approach have failed. Afghan officials have instead embraced a bottom-up strategy, in which local residents have a stake in the success of environmental protection.

The journalist Aunohita Mojumdar describes how the fond childhood memories of Mustafa Zahir, chief of the Afghan National Environmental Protection Agency (NEPA), contrast with grim, present-day realities:

When Zahir was growing up, he recalls meeting people who had traveled thousands of kilometers out of a desire to breathe Kabul’s invigorating air. Back then, Afghanistan was a tourist destination that enjoyed renown for its crystalline lakes, spectacular mountains, flowering gardens and fruit-laden orchards. Both affluent families and backpacking hippies visited. “Now,” says Zahir, the grandson of Zahir Shah, the last king of Afghanistan, “if you breathe in the Kabul air, your lungs fill with poison” (Mojumdar 2009).

Kabul’s toxic air stems from a population increase from 1.5 million in 2001 to 4.5 million in 2009 (Setchell and Luther 2009). The Afghan capital has become a megacity stripped of such basic natural resources as firewood. Residents burn

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<sup>2</sup> Some researchers and Afghans use the term interchangeably (see J. D. Stanfield, Jennifer Brick Murtazashvili, M. Y. Safar, and Akram Salam, “Community Documentation of Land Tenure and Its Contribution to State Building in Afghanistan,” in this book), which may reflect regional differences in usage.

the refuse they had collected for warmth, and the air is thick with the putrid odor of burned plastic jugs.

But in the Bamyan provincial highlands, Zahir finally has a reason for hope: in 2009 he announced the establishment of Afghanistan's first national park, Band-e-Amir Lakes, with six azure lakes separated by natural travertine dams. Thirteen villages within the park began a grassroots effort by establishing a protected area committee, with the help of the U.S.-based Wildlife Conservation Society (WCS) (Mojumdar 2009; Zahler et al. 2012). When WCS surveyed the area, it found the Siberian ibex, a type of wild goat; the urial, a species of wild sheep; wolves; foxes; and a snow finch, believed to be the only bird species endemic to Afghanistan (Smith 2009). Should a snow leopard—not reportedly seen in the country for years—be sighted, tourists would again trek “thousands of kilometers” to Afghanistan, as Zahir remembered, in the hope of catching a glimpse of the rare animal. A sighting would also boost the current efforts to obtain World Heritage status for the park.<sup>3</sup> USAID has noted:

[S]pecies like the snow leopard are under pressure from excessive hunting, loss of key habitat, and illegal trade. Snow leopard pelts for sale in tourist shops can go for as much as [US]\$1,500 each. International trade in species like the snow leopard is illegal under international law because snow leopards are globally endangered. Now that the snow leopard is protected under Afghan law, it is also illegal for Afghan nationals or internationals to hunt or trade the species within Afghanistan (USAID 2009b).

NEPA published the country's first protected species list at a critical time, in June 2009. The presidential decree banning the hunting of snow leopards in the country had expired the previous March.

In Western countries, the cadastre reflects the land policies of the central government. But a cadastre is not sufficient by itself; it is merely a tool within a hierarchy of land management functions. At the top is the land management system, which develops a national land policy and strategy. The land administration system, next in the hierarchy, implements that policy and strategy. Beneath that are subsystems for land tenure, taxation, utilities, and so forth. Finally comes the cadastre, which records boundary lines, surveyors' reports, land registration, and claims to land. This hierarchy is the conventional approach to land management, an arrangement adequate for most stable countries (Augustinus and Barry 2006).

Clarissa Augustinus, chief of UN-HABITAT's Land Tenure Unit, and Michael Barry argue that post-conflict societies like Afghanistan cannot follow this hierarchical model without incurring massive delay and expense, or without prolonging and exacerbating land crises. They advocate, instead, a local needs

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<sup>3</sup> The UN Educational, Scientific and Cultural Organization administers the World Heritage Convention, which recognizes the world's exceptional sites of natural and cultural diversity. See <http://whc.unesco.org>.

approach. For example, in the community-driven campaign to establish a protective area around Band-e-Amir Lakes, land management was most pressing. In other situations land tenure or land administration can come to the fore. The tendency in many international aid or development enterprises is to design a cadastre to fit the needs of a local settlement, then to take that model to the national level and attempt to create a single, overarching cadastral system that can suit every part of the country and take into account an underlying land policy. In post-conflict societies, “land policy is being developed at the local settlement level” (Augustinus and Barry 2006, 674). Cadastres must be established in order to record what is happening locally, and not wait for a national land policy to take shape. In Afghanistan, such a wait could be for decades.

### **NEXT STEPS: BRINGING CADASTRES TO THE FORE**

Cadastres are land and property registries. In a nation where conflict or a major catastrophe has displaced large numbers of people, returning those people to their land is a key part of the effort to reconstruct the country. For post-conflict planners a cadastre remains the primary source of information about the broad spectrum of formal and informal rights and interests in land. Such information includes the identity of people who have interests in parcels of land; the interests themselves, such as the nature and duration of rights, restrictions, and responsibilities; and basic details about the parcel, including its location, size, value, and any improvements on it (FIG 1995).

A cadastre must fit the situation where it is applied because “land administration systems are reflecting the cultural and social context of the country in which they are operating” (Stuedler, Rajabifard, and Williamson 2004, 4). Deed-based or title-based land registries have been unworkable in informal settlements, in countries where there is customary tenure, or in post-conflict situations, all of which are replete with competing land claims. Until now there has never been an internationally accepted standard or method for evaluating land administration systems.

One might think that cadastral information already serves as the foundation for post-conflict reconstruction and development aid. But providing a host nation with the technical and human resources is only half the challenge. Cadastres threaten those who want to maintain a status quo that cements their prestige, power, and profit. Not only criminals, terrorists, and insurgents, but also government officials, national elites, and their well-placed relatives can have ulterior motives to resist formalization of property regimes:

Slum organizers, political bosses, and tribal chiefs can often view tenure regularization as eroding their privileged social and economic position. Municipal officials and ministries that exhibited near absolute power over land decisions do not easily give up control. Political sympathy for squatters is frequently low. Change, which improves the situation for some, will necessarily erode political,



cultural, and/or economic power for others. For all these reasons and more, the process is often complicated, political and violent (Durand-Lasserve and Royston 2002, 241).

While some foreign aid projects have modernized property regimes in developing countries, they have not insisted on transparent, digitized property data (Demarest 2008). It goes without saying that only analyzable cadastral data can guide effective post-conflict reconstruction toward sustainable development. In Afghanistan, it is at the local level that peoples' formal and informal rights and interests in land are known. And a new cadastral tool—one that can record local land policies, decisions, and claims—promises to make land administration an essential part of the international community's post-conflict reconstruction aid. That new tool is the Land Administration Domain Model.

## **LAND ADMINISTRATION DOMAIN MODEL**

The inventive Dutch academicians Christiaan Lemmen, Peter van Oosterom, and Paul van der Molen, working with Clarissa Augustinus produced the Land Administration Domain Model (LADM).<sup>4</sup> The LADM is compelling because it makes explicit various types of land rights, restrictions, and responsibilities. It is flexible enough to record land tenure types not based on the traditional cadastral parcel—that is, customary, informal land rights such as occupancy, usufruct, lease, or traverse.

The LADM has reduced the complex database models that underlie title-based cadastres to the simple principle that a relationship (such as rights to land or customary tenure) always exists between land (spatial objects) and people. No matter how messy or difficult the world's land disputes, nothing falls outside this basic principle.

The LADM then translates these three categories—people, relationship, and land—into Unified Modeling Language to establish three classes for a cadastre: person, right, and spatial object, in that order. The LADM allows registration and maintenance of “relationships between people and land irrespective of the nature of the country's jurisprudence; this ability offers opportunities for the integration of statutory, customary, and informal arrangements within conventional land administration systems” (Lemmen et al. 2007, 7).

Because the LADM should be able to accommodate any legal framework of any culture, it allows great flexibility in describing the persons and places

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<sup>4</sup> The LADM has garnered support from standardization and professional bodies such as FIG, the Open GIS Consortium, UN-HABITAT, and the Infrastructure for Spatial Information in Europe (van Oosterom et al. 2006). In February 2008 the International Organization for Standardization (ISO), the body responsible for determining all international standards, accepted the LADM as New Work Item Proposal 1954. After intensive review, in 2010 it became Draft International Standard (DIS) 19152 (ISO/TC 211 2010). At this writing (August 2012) the LADM is in Final Draft International Standard (FDIS) status, on track to become the world's first International Standard/Technical Specification for land administration by the end of 2012.

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involved and in the systematic recording of rights that are not title-based legal rights but are claims that may need adjudication. The LADM possesses the critical functionality to merge formal and informal land tenure systems, and urban and rural cadastres, into one data environment; it defines a reference model that covers all basic information-related components of land administration.

In brief, the LADM offers several features: a conceptual schema with five basic components (people and organizations, called parties in LADM terminology; parcels, called spatial units; property rights, called rights, responsibilities, and restrictions; surveying; and geometry and topology); a terminology for land administration—based on various national and international systems but kept as simple as possible in order to be useful in practice—that allows descriptions of practices and procedures from various jurisdictions; a basis for national and regional profiles of land administration; and the ability to combine land administration information from different sources in a coherent manner (Lemmen et al. 2009).

The LADM links spatial data from very different systems. In the past, linking such land information has been difficult, in part because of the database structure. Registering the myriad social tenures to land requires linking disparate data, and this is where the LADM excels. It is less a database than a word processor. Anything—even photographs, hand-drawn sketches, and oral testimony—can be put into a document, as long as it records all evidence relevant to a property and the rights that various people claim on it. Thus the LADM is especially suited to recording deeds. Furthermore, when using the LADM:

- Formal and informal tenure systems can be held in one data environment.
- The computer-based system can be converted to a paper-based one, and vice versa.
- Spatial information can be represented in existing geodetic networks and in new spatial frameworks.
- Spatial data can be linked to other systems.
- The computer environment is distributed and decentralized, with information simultaneously processed on multiple, geographically separated computers over a network, making the system usable both centrally and locally.
- Source data can be of disparate types, with different geospatial accuracies.
- Different tenures can be allowed to overlap.
- Places can be identified by a range of identifiers: parcels referenced to geographical coordinates, unreferenced parcels, lines, and points.
- Conflicts can be recorded, women's access to land can be ensured, and highly complex relationships can be described (Lemmen et al. 2007).

Land information systems should serve decision makers at national, regional, and local levels, with the emphasis on decentralized decision making. The basic concept behind the LADM is to produce and provide land registration (the administrative and legal component) and cadastral mapping referenced to geographical coordinates (the spatial component) for land administration in a decentralized

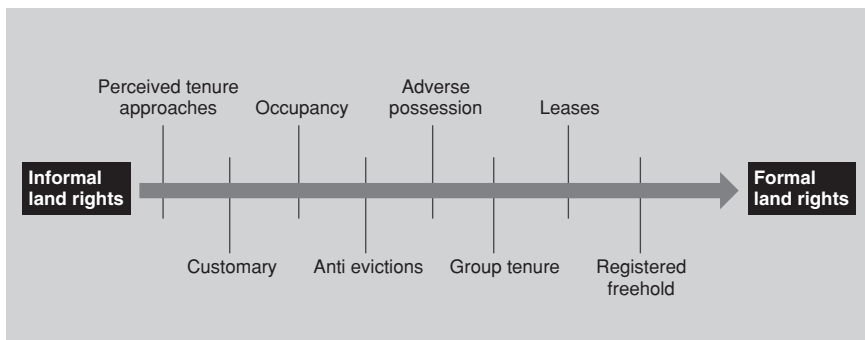
environment. The model will allow better vertical coordination, between local interests and top-down information and policy guidance. In this way, national development policies can be harmonized with local programs (Lemmen et al. 2007). Thus the LADM facilitates the rehabilitation of both local and central governance.

The Social Tenure Domain Model (STDM), a subset of the LADM, is an informative annex in the International Organization for Standardization draft standard of the LADM. The STDM, as it stands, has the capacity to broaden the scope of land administration by providing a land information management framework that would integrate formal, informal, and customary land systems with administrative and spatial components. This is hugely important because “property, even real property, is not a thing. Property is a concert of rights, associated with the thing, that regulates relationships between people” (Demarest 2008, 265).

The STDM makes large projects, such as the reconstruction of Afghanistan, possible through tools that facilitate recording all forms of land rights (even claims), all types of rights holders, and all kinds of land and property objects, regardless of the level of formality. The STDM also goes beyond some established conventions by providing an extendable basis for an efficient and effective system of recording land rights. It focuses on land and property rights that are neither registered nor registerable, as well as overlapping claims that may have to be adjudicated in terms of who (the claimant), where (the location of the claim), and what (the right involved). Finally, the STDM’s emphasis on social tenure relationships reflects the concept of a continuum of land rights promoted by the Global Land Tool Network, UN-HABITAT, and the international community generally (Lemmen et al. 2009) (see figure 1).

**CONCLUSION**

With a comprehensive repository of land information, decisions about tenure and environmental conservation can be made efficiently and equitably. Even in the



**Figure 1. Land rights continuum**

*Source:* UN-HABITAT (2008).

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absence of regional and national land policies, at the local level cadastres strengthen governance, further economic development, and institutionalize the rule of law—goals of the international community’s post-conflict reconstruction efforts in Afghanistan. Where a cadastral system is in use, the rule of law is evident, and—according to Stig Enemark, president of FIG—“the system . . . acts as a backbone for society” (Enemark 2005, 8).

Although cadastres could be the deciding factor between success and failure for the international community’s investment in post-conflict Afghanistan, they have not been reconstruction priorities in that destitute country. This is tragic, because the Afghan Geodesy and Cartography Head Office still boasts a cadastral division and has the capacity to conduct surveys. The office’s analog cadastral surveying in the 1960s and 1970s was technically sound, and the staff has made considerable progress learning digital technologies in a GIS (geographic information system) laboratory over the past few years.

By recording the restrictions on environmentally harmful practices, and by assigning to a person or organization the responsibility for environmental stewardship, a cadastral system can visibly link environmental needs to human ones. The LADM promises the ability to record citizens’ environmental concerns, rights, and interests, as well as the quasi-legal claims of landless people in tumultuous post-conflict environments so that they can be addressed, adjudicated, and later harmonized with regional and national land policies and administration. For large-scale post-disaster or post-conflict environments, the LADM merits close attention by the North Atlantic Treaty Organization, the United Nations, the U.S. Departments of State and Defense, USAID, and other entities seeking to move shattered nations from reconstruction to stability and then to sustainable development.

The Afghan environmental, economic, peacebuilding, and other initiatives discussed above, when recorded in cadastres, indicate that a key foundation of civil society is being built. If the sighting of a rare snow leopard in Afghanistan is sure to make headlines, the sighting of another rarity on the Afghan landscape—a cadastral survey party—is sure to make peace in that troubled country measurably closer to reality.

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