

Understanding legal pluralism in water rights: lessons from Africa and Asia

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Water rights, like the underlying resource itself, are fluid and changing; they necessarily connect people; and they can derive from many sources. As water rights are now receiving increasing attention from scholars and policymakers in developing countries, it is useful to examine the differences and similarities between land and water rights—as well as the linkages between the two. Without an understanding of the range and complexity of existing institutions that shape water use, efforts to improve water allocations may be ineffective or even have the opposite effects from those intended. Reforms need to carefully consider the range of options available. This paper reviews the multiple sources and types of water rights, the links between land and water rights, using examples from Africa and Asia. It then examines the implications for conflict and for water rights reform processes.

Keywords: water rights, land tenure, legal pluralism, customary law, conflict management, Africa, Asia

Introduction

Two images are often associated with the term “property rights”: fixed stone walls - immobile, permanent, and restricting access to the resource - or a title deed - a piece of paper with a big red seal affixed in a government office. Neither of these images, which derive from European tradition on land, is very helpful in understanding water rights, particularly in Africa and Asia. Water rights, like the underlying resource itself, are more fluid and changing; they necessarily connect people; and they can derive from many sources besides the government. As water rights are now receiving increasing attention from scholars and policymakers in developing countries, it is useful to examine the differences and similarities between land and water rights - as well as the linkages between the two.

A starting point for this analysis is to consider why property rights matter, and why attention to water rights has lagged behind attention to land rights. Reasons given for attention to property rights are often addressed under four “Es” and a “C”: efficiency, environment, equity, empowerment, and conflict reduction.

- In terms of efficiency, the arguments are often made that secure property rights are needed to provide incentives to invest in a resource. For water, this often means developing and maintaining the infrastructure, such as a well or irrigation canal.
- Environmental arguments are closely related: property rights provide incentive to protect the resource, and without property rights that are enforced, resources often become degraded.
- Equity relates to the distribution of the resource, and can be defined in terms of equality of access, particularly for meeting basic needs, or in terms of distribution of rights in proportion to investment that people make, or some combination thereof.
- The way rights are defined determines if people are included or excluded in the control of a vital resource for their lives. Holding property rights is thus empowering to individuals or groups, particularly control rights that recognize authority over how the resource is managed.
- Clearly defined rights are also held to reduce conflicts over resources during scarcity, which is a matter of growing concern with discussions of “water wars.”¹

Given this importance of property rights and of water, why has there not been more attention to rights over water? The induced innovation hypotheses argue that establishing effective property rights is costly, so find that as long as a resource is abundant, there is little incentive or need to define rights over it, but with increasing demands and scarcity, there is pressure to define rights (Alchian and Demsetz, 1973). This is seen in African history, where “frontier” areas with low population densities have generally had more loosely defined land rights than areas of high population densities, and as populations increase, land rights become more specific

(Besley 1995; Otsuka and Place, 2001). But while changes in land tenure institutions are more familiar, studied, and debated, changes in water tenure have received less attention. However, we also see that where water is plentiful, people often do not even know or care who else may be sharing the same river, lake, or aquifer. As populations grow, demands on water rise, for household use, agriculture, and industry. Those who use water are increasingly affected by the actions of other people. Coordination becomes more complex and more crucial. In one way or another, water rights institutions, expectations about what claims to water are socially accepted as legitimate, are constituted by such competition, influencing people's ability to obtain water.

However, water has several properties that mean that water rights cannot be determined in exactly the same way as rights to land and other resources. Water is mobile, and most water use depends on flows. After water is diverted, some evaporates or is transpired by plants, but much water also runs back through surface channels and aquifers to be reused further downstream. Cultivation of crops, planting or cutting of trees, and other changes in land use transform the quantity and timing of water flows into and out of aquifers and rivers. While much land is dedicated to a single use, almost all water has multiple overlapping uses and users. All uses not only withdraw some water, but also add something to the water that affects the quality for users downstream, and changes in water flows affect not only human uses, but also animals and the broader environment. Rights to water, and the consequent patterns of use, concern not just how much water is withdrawn, but also water quality and the environment.

The slippery nature of the water itself makes it more difficult to define water rights because of the need for so much specificity: *who* can use *how much* water from *what source*, *when*, for *what purpose*, etc. This specificity, in turn, combined with the fugitive nature of the resource itself, increase the costs of monitoring and enforcing water law. As a result, effective water rights require active management of the resource.

Improvements in water rights institutions can help reduce poverty, improve economic productivity and protect nature. But efforts to improve water allocations may be ineffective or even have the opposite effects from those intended, unless grounded in a good understanding of social institutions that shape rights to water, a careful assessment of the options available for improving water management and a willingness by those involved to experiment, adapt and learn from experience. The diversity of culture, environment, economic activities and other conditions means there is no one best way to improve water rights and water allocation institutions. The best route to better water management depends on where you are starting from, with many pathways available (Bruns and Meinzen-Dick 2003).

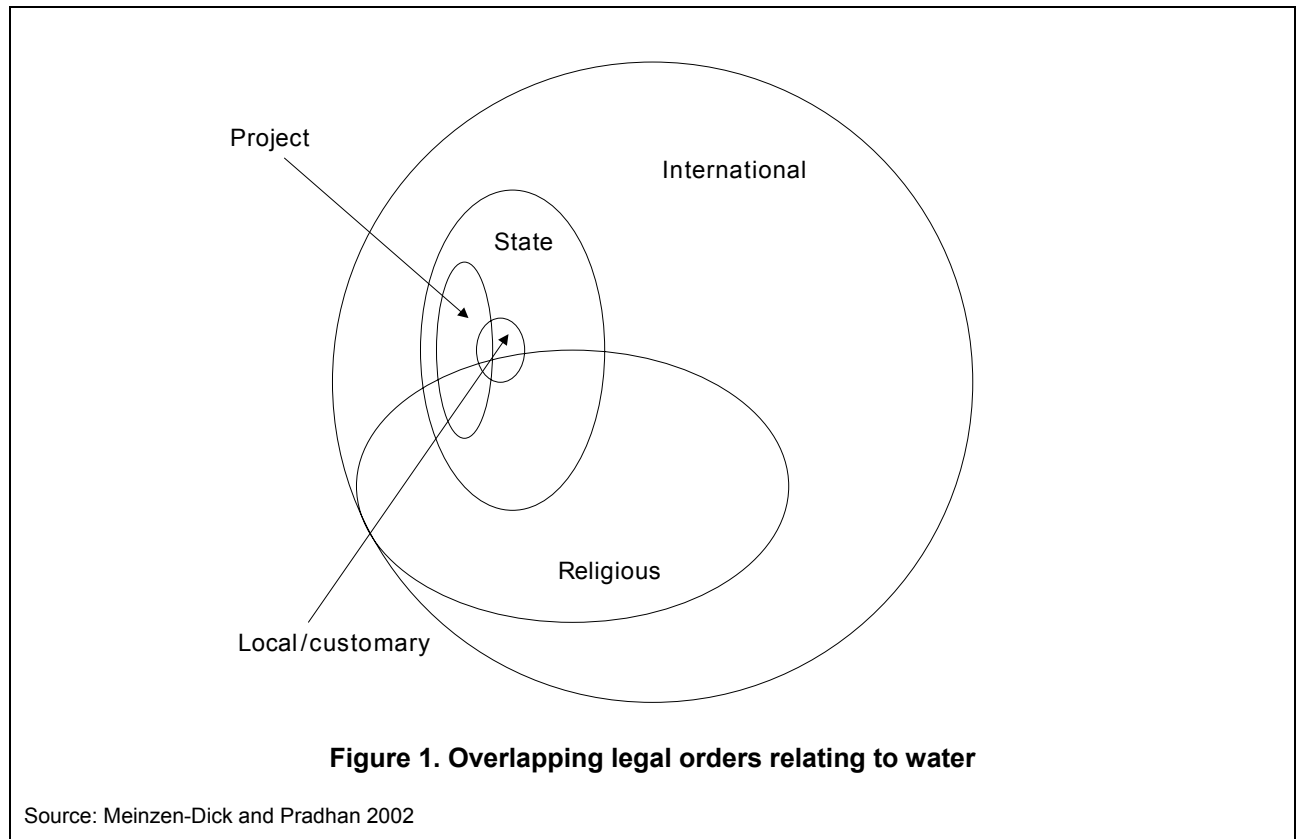
From this standpoint, the increasing attention to water rights in Africa is very encouraging, particularly studies that seek to address the complexity of rights over this complex resource. The remainder of this paper examines some of these complexities, and lessons that can be drawn, not only for water governance in Africa, but for other regions and other resources, as well. We first review the multiple sources and types of water rights, the links between land and water rights, then examine the implications for conflict and water rights affects attempts for water rights reform processes. Most of the emphasis in the paper is on how water rights—defined at different levels—affect people, and hence on the local level, but the concluding section on reform processes also addresses water rights at larger levels.

Legal pluralism in water rights

Property rights can be defined as “the claims, entitlements and related obligations among people regarding the use and disposition of a scarce resource” (Furubotn and Pejovich 1972). Bromley (1992:4) points out that “Rights have no meaning without correlated duties ...on aspiring users to refrain from use.” This means that property rights are not a relationship between a person and a thing, but are social relationships between people with relation to some object (the property). Particularly in the case of water, rights also have corresponding duties that apply to the rights-holder—usually to use the water and dispose of wastes in a certain manner, and often to provide money, labor, or other resources to maintain the water supply.

The crucial point is that property rights are effective (legitimized) only if there is some kind of institution to back them up. In many cases the state is a primary institution that backs up property rights, but this is not necessarily the case. Particularly in the case of water rights, we find many examples of customary law (which nonetheless changes over time) that is backed by local authority and social norms. User groups may define their own rules for a waterpoint. At the other end of the scale, international treaties such as the Ramsar convention on wetlands generate yet another type of law that can provide a basis for claiming water rights. Particularly in Africa, where so many countries share in international river basins, treaties and other international law is relevant to the allocation of these shared waters. Irrigation or other water development projects generate their own rules and regulations, which constitute yet another type of “water law.” Most religions also have precepts relating to water that can provide the basis for entitlements or obligations regarding water.

The pluralism of water law is further increased in many places in Africa because each of these types of law—especially state, customary, and religious—may themselves be plural. Government land laws may contradict water acts. Many communities have different ethnic groups living side by side and using the same water, but having different traditions regarding its use. In particular, many sites have farmers and pastoral groups, with different ways of life and ideas on water. The mix of religions adds to this plurality. All of these types of law will be interpreted differently in different places, generating a plethora of local law.



These different types of water law are not neatly separated; rather, they overlap and influence each other. Nor are all equally powerful—their influence will vary. Figure 1 illustrates these overlapping types of law, which can be thought of as force fields, with variable strength (Meinzen-Dick and Pradhan 2002). For example, customary law may be very strong and state law virtually unknown or irrelevant in a remote community with low migration and low penetration of state agencies, but in a heterogeneous community with high migration rates in the capital city, customary law may be much weaker than state law. In the case of rural land rights in Africa, Bruce and Migot-Adholla (1994) found that customary land tenure arrangements provided just as much tenure security as government-issued title to the resource. Given the even higher costs of enforcing water rights (compared to land rights), and the limitations of government agency capacity, especially in most rural areas, we

would expect that customary law, backed by local norms and community sanctions, would also be as effective as state law as a basis for claiming water rights in many parts of Africa.

Bundles of rights

As with rights over land or trees, water rights are not usually homogeneous “ownership” rights that permit one to do anything with the resource, but rather can be considered as bundles of rights that may be held by different parties. Indeed, because of the complex interrelations between these individual rights and rights-holders, they could even be considered as a “web of interests” (Arnold, 2002, cited in Hodgson 2004). The exact definition of these bundles varies, but they are often grouped into two broad categories: *use* rights of *access* and *withdrawal*, and *decision-making* rights to regulate and control water uses and users, including the rights to *exclude* others, *manage* the resource, or *alienate* it by transferring it to others (Schlager and Ostrom 1992). To these may be added the rights to *earn income* from a resource, which Roman legal traditions have referred to as *usufruct* rights (see also Alchian and Demsetz 1973). Rights to earn income from a resource (even without using it directly) can be separate from use and management of the resource, as when government departments collect revenue from water users, or when individuals or communities collect a charge from others who use water—a factor that is increasingly important in the context of water transfers.

An example from Kiptegan, a spring protection site in the Nyando basin of Kenya illustrates this:

- Because of strong local norms that no one should be denied basic water needs, anyone has the right to withdraw water from the pipe below the spring for drinking
- People may also use water for their cattle, but only from the cattle trough, and they are expected to help keep the trough clean
- Those community members who paid some of the cost of developing the spring protection are entitled to a higher level of service, including, if hydrologically feasible and they have paid for it, a piped water supply to meet domestic needs and some small garden uses at their homestead, and to have a say in selecting committee members
- The members of the committee, who provide additional time and labor, also have decision-making, or control rights, including decisions of who can join/who is excluded from the user group, and how the spring and its infrastructure will be managed. They also collect fees from the group members, but do not earn income from this themselves.

These represent a blend of customary law, “project law” (in the form of rules developed with external assistance when the spring was protected) and rules developed and modified by the user group.

While the exact definition of these bundles of rights varies from place to place, we find several common elements in much water law in Africa:

- The state generally claims some kind of ultimate “ownership” rights over water, which may not be felt at all at the local level, or it may require that individuals or groups who want to use or develop a water source need to get some kind of permission from the state.
- There are widespread notions that anyone is entitled to water for “primary uses,” which are usually interpreted as basic domestic needs, as well as household gardens, but may include other productive livelihood needs. Islamic law has formalized this as a “right to thirst” for people and animals. Indeed, many African societies recognize water needs of animals as well as people. As one Kalengin proverb in Kenya says, “Even the hyena is entitled to water,” with the implication that no one can be denied water (Leah Onyango, personal communication, 2004).
- While basic use rights are strong, they are also usually quite flexible. Rather than being clearly defined in terms of who can draw how much water, access rights are socially negotiated, either individually or by groups, depending on changing local circumstances (Witsenburg and Adano, 2003). In rangelands, Ngaido (1999) discusses the importance of *access options* for people to use another individual’s or group’s land and water resources under conditions like drought, which provides a measure of resilience against ecological stress (Ngaido 1999). Cleaver (1998:351) reports a similar pattern for domestic water in Zimbabwe: “As a precaution against drought, women rarely rely on one source of water but maintain access to a number of different supplies, often through reciprocal social networks. Incentives to

cooperate may therefore be indirect and relate to the need to maintain good relations with neighbors and kin a more general sense.”

- Control rights of management and exclusion are often held by the local chiefs, groups, or individuals who developed the source. The effectiveness of these management authorities in setting and enforcing the rules, and in maintaining the source, varies greatly, as does the extent to which they are participatory or autocratic. Indeed, effectiveness and decision-making practices are related. In Burkina Faso, McCarthy et al. (2004) found that where the chiefs made decisions in collaboration with community members, rather than by themselves, there was a significantly higher cooperative capacity, which led to better resource outcomes. Similarly In Zimbabwe, Cleaver (1998:355) reports: “critical decisions about the rationing of water from particular sources are only successfully enforced in those communities where the decision has been taken at a meeting of the whole community rather than a committee alone. Consensus may enhance collective amangement since it reduces the need for compulsion, monitoring, and sanction.”
- Most state, customary, and religious law does not grant alienation rights (to sell, give away, or otherwise transfer one’s rights to someone else).² More people can be allowed in, but there is no profit to an individual to give up their rights to water.

Types of water rights

As with other types of property rights, water rights can be broadly classified as public, common, or private property, according to who holds the rights, and particularly, the decision-making rights of allocation, which lie at the heart of water rights (Meinzen-Dick and Bruns 2000; Meinzen-Dick and Bruns 2003; Paul 2003).

Public water rights are rights held by the state, and in which the government allocates rights to users. The government can assert its rights over water by controlling the water allocation directly through government agencies, or by acting as a licensing or leasing agent for granting water rights (Paul 2003). In Zimbabwe for example, the water reform in 1990s declared all the water to be the property of state. People can get water rights through acquiring water permits, which gives them legal license to use but not own water. Water permits are issued in consideration of the needs of the applicant and the expected benefits of the proposed water use (Latham 2000, Mtisi and Nicol, 2003). In Mozambique, the Water Act of 1991 regards water as a public good. People cannot have private ownership of water sources but can obtain rights to use water by acquiring a water license (Vaz and Pereira, 2000). Water licenses are granted for a period of 5 years and are renewable. The use of water for primary needs like small irrigation, domestic use, watering the livestock, is free.

Common water rights refer to communal water rights where water can be used by people in ways that are specified by some community. For true common property, some form of community or user group should have rights to allocate water at some level, e.g. in specifying who may or may not use the water, in what ways. In most African customary water law, water is considered as a community property and private ownership of water is not recognized (WFP, 2001).

Private property rights are rights held by an individual or legal individuals like corporations (Meinzen-Dick and Bruns, 2003). In water, it is generally only use rights that are recognized for individuals, particularly permits or licenses that give an individual a right to use water in certain ways (Paul, 2003). In Botswana, for example, people do not need to acquire water rights if they are using the water for domestic purposes or for watering livestock. However, people are required to obtain water rights if using the water for irrigation or commercial purposes. In some cases private rights go beyond just use rights, to include the rights to allocate the water, as in Chile’s tradable water rights systems, in which a right-holder can transfer that water to others through sale or lease. Although there are individual use rights in Africa, private water allocation rights are not widespread. There are some sources such as wells or small springs which are considered private, in which the rightholder has the right to allocate water from that source. For the case of a private water source like a well, an individual is required to obtain land rights to be able to construct a well on a particular land. After the well has been constructed, an individual holds the rights to both the land and water (Carlsson, 2003).

In most treatments of property rights, these types of rights are contrasted with open access situations in which anyone has unrestricted use of the resource. There are no specific rights assigned to anyone and no one can be

excluded from using the resource. It is the lack of rules in open access that is seen as contributing to the “tragedy of the commons,” wherein resources degrade because of lack of control over their use or incentives for investing in its provision (Bromley 1992). Thus “open access” has taken on a very negative connotation in much of the resource management literature. However, many discussions of African water rights use the term “open access” with a positive connotation, which others might associate with the notion of human rights to water (e.g. Gleick 1999). In African countries the notion of free access is also applied to some rangelands, rivers and streams (FAO 2002). Many of these notions were developed under conditions of low population densities, and may not stand up to increasing scarcity and competition. In practice, there are often some forms of restrictions on use of the resource. However, although it is important to address the questions of who will manage the resource, how well, and why, if they cannot exclude others, and what consequences this has for the state of the land and water as they come under pressure, it is also important to recognize the value placed upon “open access” to water for all, and to seek ways to accommodate this for growing populations.

Although these different property rights regimes can be distinguished analytically, in practice they often overlap. The state may claim ultimate ownership of the resource, but recognize communal rights over water in a stream, and open access primary use rights for outsiders. When that same water percolates into the water table and is accessed through a well, it may be considered the private right of the person who built the well.

South Africa provides an illustration of these overlapping property rights regimes, and how they change over time. During the apartheid era, state water law was based on the English common law principle, which gave use and control rights over water to those who owned the overlying land. Thus, groundwater, springs, and even small dams on a farm were effectively private property. However, the customary law of most black communities held that there is no private control of water but the community leader like the village chief had the right to control and determine the use of water resources for the benefit of the whole community (Tewari 2002). The new government reformed water rights through the National Water Act (Act 36 of 1998). This Act declared that the state is the guardian of all water resources in South Africa, but it also incorporated the African customary view on water rights by declaring water to be a public resource that belongs to the whole nation and needs to be available for common use by all South African citizens. All water required for basic human needs like drinking is guaranteed as a right (RSA 1998; Perret 2002). Under this act, people cannot own water but can be granted water use rights through a licensing system, which require users to pay for it. The money generated from water use charges is used for water service and management costs (Farolfi 2004, Tewari 2002). In rural communities, individual water users are authorized to have water use right without any payment, registration or licensing if the water is taken for reasonable use for domestic purposes, small gardening and for animal watering. If the water is used for commercial purposes, then individuals are required to obtain a legal entitlement to use water or license. Through the licensing system, an individual is granted water use right for a maximum of 40 years subject to renewal (Perret 2002). Regulations to public water rights are meant to control water use, and resolve problems which might occur as a result of water over use, and resolve conflicts as results of competing uses. There are thus public rights to regulate the resource, collective rights of communities to use water for basic needs, and private individual use rights under licenses.

Relationship between land and water rights in Africa

Much of the current attention to water rights reform now looks at ways of making water rights separable from rights over land. This particularly applies to well-publicized cases in the Western United States, Chile, and Australia, where growing demand for water for non-agricultural uses in cities and industries creates pressure to transfer water away from agriculture. However, from the point of view of much European statutory law, water rights have been a subsidiary component of land rights (Hodgson 2004). In much of Africa and Asia it is hard to identify the water rights because they are intrinsically linked to land. African customary land rights, in turn, depend on social relations—membership in communities or relations with land-allocating chiefs, for example. Indeed, in Ramazotti’s (1996) review of the ethnographic literature on customary water law, most information about water rights came from discussions of land law or the institutions of chieftaincies, demonstrating how water rights are embedded in both land tenure and social relations.

Two very different environmental conditions—wetlands and semi-arid rangelands—illustrate the linkages between land and water rights. In wetlands, control over land also gives water. Here, land is more scarce than water, and hence it makes sense to concentrate on the allocation of land. By contrast, in dry areas, water rights are the key to control and use of land for pastures. Access to water points opens up the possibility to use large areas of grazing land for migratory pastoralists.³ Enclosing a water point can make pastoral production—and even the lives of the pastoralists—unviable.

Keeping animals often overlaps with other land (and water) uses. On the more humid end of the spectrum, animals may be raised in agricultural areas, either by the farmers themselves or by pastoralist households. While there can be complementarity in resource use by letting animals graze on fallow fields and provide manure in exchange, there is also potential for conflict, especially where cattle must pass by or through growing fields to get to water. In the Kirindi Oya irrigation system in Sri Lanka, the irrigation development displaced pastoralists from land, and did not provide enough alternative watering points for the cattle. Although the cattle farmers' association was included in irrigation Project Management Committee meetings to address cattle damages to crops as they walked through the system to get water, they were not included in the decision-making about water allocation, to ensure that their needs were met (Meinzen-Dick and Bakker, 2001). On the drier end of the spectrum there are important overlapping uses between pastoralists and wildlife that are particularly important in Africa. The interactions between humans, livestock, and wildlife have often been studied in terms of land, particularly where parks or reserves are created for wildlife, excluding the people and their animals, but the interactions and even conflicts are often over water, particularly where tourism is developed and consumes large amounts of water (e.g. for swimming pools), or fences are used to exclude people from accessing water points, thus denying basic needs.

Both wetlands and drylands are important resources in Africa, and hence the principles of interconnected land and water rights are important to understand for these resources. But even in irrigation systems, land rights are the key to obtaining water. There are clearly demarcated areas of land that are entitled to receive irrigation water. In South India, for example, land is even classified according to whether it is supposed to receive one season of irrigation per year or two, and land values and taxation rates differ accordingly. However, the development of many irrigation projects has also disrupted land tenure arrangements by expropriating the land to be irrigated, and then reassigning plots in the new system. This is illustrated in van Koppen's (2000) study of the development of irrigation systems on *bas fonds* (wetlands) in Burkina Faso: women had held relatively strong use, decision-making, and even full ownership rights over the *bas fond*, where they cultivated rice. However, the project initially ignored the fact that women were the landholders, and assigned "household" plots to the male heads of households, thereby weakening women's rights—an example of project law and customary law clashing. The result was a fall in productivity despite the "improvement" of the technical infrastructure, because the underlying institutions—including not only property rights but also intra-household relations - were disrupted. Later sites under the project corrected this by involving the women in the land allocation.

In other cases of irrigation development, the state has expropriated all land in the area to be irrigated, and then reassigned (often smaller) plots within the irrigation system, as in Kenya, Malawi, and Zimbabwe, for example. The result may be stronger water rights, but weaker land tenure security, as the farmers cultivating irrigated plots often shift from holding relatively strong customary use rights to their land, to being "tenants" on government land, and subject to the threat of eviction for failure to cultivate in prescribed ways, which often include growing specified crops. Farmers thus lose many decision-making rights over their land, as well as uncertainty about the duration of their rights. And, because they often cannot transfer or sell their land in the irrigation scheme, they do not benefit from any improvements. This contrasts with the situation in much of Asia, where farmers generally have ownership rights to land within irrigation schemes, which provides for much greater security of tenure and a long-term view of irrigated production.

Even where land and water are not strongly connected for productive purposes (as for cultivation or herding), there are vital links between land and water rights. In Kenya, for example, there are strong norms specifying that everyone has rights to use water. However, much of the land has been privatized. In the Nyando basin, land buying companies bought land from large-scale white farmers, subdivided and sold all of the land to

smallholders, without regard for the slope or location of the plots relative to water. While no one should be denied water, it was not as incumbent upon land owners to allow people and their animals to cross their land to access the water. The result was that many people had no access to the springs or rivers, and hence could not get water, even for basic domestic needs. The few public access points, such as bridges, became overused. Moreover, communities faced considerable obstacles to developing water sources, if they could not control the land, as well. In the Kiptegan site referred to above, the spring development that benefited the whole community was only possible when, after discussions with ICRAF and government staff, several men with land surrounding a spring decided to devote that land to the spring protection, planting indigenous trees above it and setting aside an area in which people and cattle could (separately) access the water (Leah Onyango and Brent Swallow personal communication, 2004).

This spring protection offers a positive example of how the way in which land is used has a major impact on both the quality and the quantity of water resources, and thus on water rights. Unfortunately, negative examples come to mind more readily: cattle tracks or cultivation of hillsides contributing to soil erosion and hence lower water quality and silting up of reservoirs; pesticide use on farms polluting the streams and groundwater; deforestation or reforestation affecting the runoff rates. This linkage between land and water in hydrological units lies at the heart of watershed management programs. Swallow et al. (2001) point out that these relations are complex, and not all land is equally influential in this: there are particular types of land uses, including wetlands, riverine vegetation, and paddy fields that play critical roles as sinks or filters for water, sediment, and other flows. Unfortunately, the property rights to riverine vegetation and wetlands is often not clearly defined, nor are they under the effective control of a management entity that seeks to protect or enhance their watershed functions.

Alongside the burgeoning number of watershed management projects supported by governments and NGOs, land and water rights are increasingly being separated. Part of this is fuelled by government structures: land and water are specified in different statutes and administered by different government agencies. Even international and donor organizations recommending policies for land tenure often neglect to mention water, and vice versa. There are also fundamental differences in the conceptualization of land and water rights, with state law treating land rights in the abstract, without regard for their location or topography (as exemplified by the land buying companies in Kenya). Water rights, by contrast, are always very particular to location, time, and use. In reviewing both the functional linkages between land and water, and these divergences, Hodgson (2004) finds that “few formal mechanisms exist in law to ensure a co-ordinated approach to the allocation and administration of land tenure rights and water rights.”

The growing trend toward integrated water resource management (IWRM) tries to link these, to overcome the divide that has been created by assigning authority over land and water to different government agencies. There are hopeful signs: Kenya’s current land tenure and water rights reform are taking place in parallel, but officials involved in the two processes are at least consulting each other. But for reintegrating land and water rights, state law and institutions may not be the best starting point. Rather, it is useful to look to the ways in which land and water rights and management have been linked in a range of customary institutions, and seek to identify principles upon which appropriate land and water rights linkages can be built.

Water, rights, and conflict

Based on property rights theory and experiences with land, it would seem that clearly defined property rights - which, by definition, create shared expectations - would help to reduce conflict over the resource, particularly as it becomes more scarce. This notion provides part of the impetus for water rights reforms and formalization (Rodgers and Hall 2003). However logical it may be, it is not necessarily true. When a fixed expectation comes up against a fluctuating resource, that in itself can be a source of conflict. This may explain why customary water rights are so often ambiguous. In a collection of studies of water conflict in Nepal and India (Benda-Beckmann et al. 1997) a recurring theme is that local norms which form the basis for claiming water rights are principles rather than precise rules, subject to recurring negotiation. Indeed, in many of these cases it was attempts to formalize rights that often triggered conflict, rather than the use of the water itself. The same was found along Tana River in Kenya, where a government land adjudication program triggered violence

between Pokomo farmers and Orma pastoralists, who had historically shared the resource under more flexible tenure arrangements.

That ambiguous or flexible rules are particularly adapted to situations where the resource is very variable is seen in a study from Marsabit, a dry pastoral area in Northern Kenya. Although there has been recurrent violence and raiding between the different ethnic groups in the area, and both claimed rights to the water points based on different customary principles, Witsenburg and Adano (2003) found that conflicts actually *decreased*, rather than increased, during drought because: “Both ethnic groups claim ownership of the well site, but they both said that the other group had a legitimate claim as well, which they consider in crisis times of drought. Samburu/Rendille herdsman said that the Boran have a rightful claim, because they have invested time, money and labour to develop the wells, whereas the Boran admit that the Samburu/Rendille have a rightful claim based on their history, having used this water site long before the Boran migrated from Ethiopia in the 1920s. ... many [violent] incidents take place at well sites, though not because they want to capture the well or to fight for access to the well. If they would really like to use the well, they would approach the other group peacefully. Instead, they fight at well sites because these are profitable places to raid when there is a concentration of people and animals. ... situations of drought and hunger, as in 2000, are different from other situations: they now have a common enemy to fight.” Thus, a recognition of their interdependence and common need for water mitigates conflict over this vital resource.

Studies from Zimbabwe (Cleaver, 1998; Chikozho and Latham, 2005) have similarly found that customary water rights place a high value on conciliation and conflict avoidance. Although there may be rules governing use of water, there is a reluctance to punish rule-breakers. “Approximate compliance” is accepted, taking into consideration hardship circumstances of the rulebreakers. This is similar to *adat* (customary law) in Indonesia, which considers the intention behind an action as important as the act itself when meting out sanctions (Ambler 1998). In Sri Lanka, Meinzen-Dick and Bakker (2001) also found that communities allowed people to use water in ways that were against official government regulations when “they need it and there is no other source.”

Aaron Wolf (2000) suggests that localized principles used to manage water and mitigate conflict could also provide valuable lessons for those dealing with water at the international level. Based on a study of the Berber in Morocco and Bedouin in Israel, he suggests that principles such as prioritizing uses and protecting downstream and minority rights can be applied to international waters, as well. From our examination of these cases we can suggest an additional principle to draw upon - the value placed on mutual survival, and the recognition that, especially in times of drought, there is a common enemy that competing users should cooperate to overcome.

Implications for water rights reform processes

Many countries in Africa have been, or still are, engaged in a variety of land tenure reform processes. Now due to a range of internal and external pressures, many are also embarking on water rights reforms. Comparing the impetus between land and water rights reforms, Hodgson (2004: 30) finds: “the concerns of water rights reform, scarcity and sustainability, are quite absent from the land reform debate.” But on the other hand, “Generally speaking, water rights reforms have had fewer re-distributive or socio-economic objectives than reforms to land tenure rights. An exception is South Africa whose recently enacted Water Act seeks to implement the two key principles of the 1997 National Water Policy, ‘sustainability’ and ‘equity’ (Hodgson 2004: 28).”

Many land tenure reform programs (e.g. Kenya’s Swynnerton Plan (Synnerton 1954)) have imposed western-style private property with cadastres and title. However, experience has shown problems with this approach in terms of the high costs and potential to exclude many people. Research on customary tenure (particularly in Africa) has also found that customary systems do not necessarily create tenure insecurity that limits investment (Bruce and Migot-Adholla 1994). Consequently, new donor and government plans take more nuanced approaches, starting with more attention to existing land tenure (e.g. EU, 2004). Even de Soto, a well-known advocate of land titling and privatization programs, argues that it is essential to understand the customary rules

and social contracts (“people’s law”) that that are already in place before implementing any major reforms: “Outside the west, extralegal social contracts prevail for a good reason: They have managed much better than formal law to build on the actual consensus between people about how their assets ought to be governed. Any attempt to create a unified property system that does not take into account the collective contracts that underpin existing property arrangements will crash into the very roots of the rights most people rely on for holding onto their assets (de Soto, 2000: 171). If that applies to land rights, it is even more true of water.

Yet water reform processes are often dominated by (statutory) legal scholars and/or hydrologists, and have not always started with a thorough understanding of existing water rights and governance systems. Programs of formalizing, registering, and individualizing water rights run the risk of creating “cadastre disasters” unless they learn from the experience of land tenure reforms, and take into account the range of existing water rights. In the remainder of this section, we examine how an improved understanding of the complexity of existing (pluralistic) water rights could contribute to effective reforms, and how the experiences from land and water rights reforms might inform each other.

It may yet be that the property rights school will be proved right, and rising demands and competition for limited water resources will prompt formalization of water rights in Africa, as well. These changes are taking place in land, both through state and external intervention, as well as endogenously through changes in the customary law itself (Otsuka and Place 2001). With rising populations and growing per capita water consumption - for domestic uses, intensification of agriculture, and industrialization - water uses and users are becoming even more interconnected, not just at the local level where face to face negotiations are possible, but over large distance, from rural areas to cities, and even across national boundaries. For example, in the Mara-Serengeti basin of Kenya and Tanzania, agricultural development in the upstream areas is affecting the quantity and quality of water available for the pastoralists and wildlife further down, a factor compounded by increasing tourism, which also creates high water demands. Some form of new institutional arrangements is called for to regulate or reconcile these competing demands.

Existing customary institutions are likely to be inadequate where the competing users are from different ethnic or religious background, so that they do not share the same norms and customs. Thus, the emerging water law is likely to be based in state institutions. When the competing users do not even share the same government, then some form of international institution is usually created. But as these decision-making and regulatory bodies move away from the institutions based on social relations, in which much customary water law is currently embedded, the users affected are likely to have less say in the decision-making. Just as importantly, they are likely to identify less with the other water users with whom they share the resource, or to understand and respect each other’s needs. The lower influence on the rules and lower sense of identity with other users are likely to reduce compliance with the rules. The question is whether the emerging (national or international) governance systems that set and enforce water rights at these higher levels can build on the principles of social relations, personal contact, by including mechanisms for members of different user groups to meet and understand each others’ needs? Such “multi-stakeholder platforms” may take longer to develop the rules, and may seem more costly than to just have “experts” do the work, but in the long run it may pay off through increased legitimacy, and hence higher compliance at lower enforcement costs.

At the same time, we should not romanticize customary system. There is ample evidence that customary law frequently reflects unequal power relationships in local communities. Such relationships greatly affect the ways in which land and water are distributed and managed. State law may seek to confer more rights on the less advantaged members of a given community, on paper at least. Formalization of water rights may also be called for to protect the livelihoods of existing users against new uses and users. This is especially relevant as water use increases, bringing local users into competition with other users.

However, there is ample evidence that groups like women or the poor often lose out in processes of formalization, particularly in land titling programs (Lastarria-Cornhiel, 1997). One reason they lose out is because such people often lack the resources (knowledge, time, travel, and money) required to get security of tenure through the state, but as the “force field” of state law increases, the customary security of tenure through social relations often weakens. It may be advisable for those who develop any water rights registration

programs to go through the whole process with a poor rural woman, to see exactly what it would take for her to get recognized rights through the state, and then modify the system to remove as many obstacles as possible for people like her.

Another reason that the poor lose out is that formal state systems often accord less recognition to the overlapping rights to the resource, on which many poor people rely (Hodgson 2004). We have seen, however, that both land and water rights have multiple uses and users. These multiple users often have some shared understandings on who, how, when and how much of the resource can be used, the inter-linkages between them, and perhaps even quality issues. These are often lost in tenure reforms, particularly privatization, because such conditionality is seen to increase transaction costs and hinder the efficient redistribution of property rights. Even when the state declares itself the owner of all resources, as the custodian for all the people, Hodgson (2004) finds that the effect is to deny customary rights as well as eroding local management authority over the resource.

Codification of rights does not allow for considerations of special circumstances, such as basic livelihood needs, that are given substantial weight in customary systems. This is partly due to limitations of state capacity to interpret individual circumstances, but it also derives from current emphasis on the “rule of law,” which implies that everyone should be treated equally, without special considerations. Reforms of both land and water tenure often have the objective of “regularizing” all uses of water under the authority of a state agency (Hodgson 2004) or to “integrate all forms of property into a unified system (De Soto 2000: 162). Legal anthropologists who study the multiple types of “law” that abound in any society would suggest that this is not possible—that pluralism will always persist, in some form. But even if it were possible to fit all customary law within the ambit of state law, it may not be desirable, because the pluralism in water rights and basis for claims allows for dynamism, for adaptation to varying local circumstances (Berry, 1993; Meinzen-Dick and Pradhan, 2002).

One option that is increasingly used in land tenure reforms is for the state to recognize local authorities, who can set and administer rights within their areas. This builds on both local custom and uses the institutions to back those rights, instead of relying heavily on state apparatus, which is often costly or ineffective, especially in rural areas. Tanner (2002) discusses some of the challenges that this approach faced in Mozambique, particularly difficulties in codifying many different customary systems, protecting the rights of women (who are strongly disadvantaged under customary land law), and guarding against unscrupulous chiefs. To this list of challenges should be added variation in the capacity of local leaders and of communities to manage the resource. Effective management of the resource itself is required to make water rights effective, and if the state does not deliver this, then local leadership and collective action is critical. But such local institutions do not function well in every community; hence devolution of authority over water rights will not work well in all locations, and due attention should be given to local capacity-building, where needed.

Whatever institutional reforms are chosen, the state cannot simply wave a magic legislative wand or issue an administrative order, and expect to automatically change water rights on the ground. Effective changes - from de jure to de facto - require more than changes in the law itself: they need to become widely known, discussed, and even debated. South Africa’s water rights reforms exemplify this. There was a prolonged process of public discussion over the Water Act, which not only served to refine the legislation itself, but to ensure that it was discussed and widely known, so that people can appeal to the new laws to claim their rights, and to see that the provisions of the law are implemented. The next step is to build the capacity of implementing institutions, which may require considerable investment of time, training, and other resources, particularly if multistakeholder institutions are to be developed (Seetal 2003).

However, it is not only statutory water rights that can be changed. Customary and even religious law also evolve over time in response to changing environmental conditions, livelihoods, and even changes in other types of law. Thus, a change in state law can stimulate changes in customary law.

The question of how such changes in state or local law will affect the poor deserves particular attention in water rights reform, given the fundamental importance of water. In particular, where state law makes special

provisions for disadvantaged groups, this can provide something to which they can appeal. But this, in turn, requires legal literacy campaigns so that even illiterate rural women will know of any new rights that they are supposed to be accorded.

Before rushing to formalize water rights—which has often involved either nationalization or privatization, it is important to consider the full range of options, including looking for new forms of property rights that build upon strong customary principles. There is an opportunity to build upon widespread customary norms that specify rights to water for basic needs. Here the international discourse and customary law come together in emphasizing water as a basic human right. However, because water rights are meaningless without an institution to back them, serious questions of how much water can be used will need to be addressed, as well as what incentives there will be for anyone to supply it.

“Open access” to water may be desired (as indicated in much of the local law), but not feasible. Yet water rights reforms should strive to ensure that the basic principle is met: that water for basic livelihood needs will be available for all. Both restraint on use and investment in provision are required. Achieving this may require going beyond conventional measures of regulation or economic incentives, to also appeal to norms and values of sharing and caring for other, as well as for the earth. As Mahatma Gandh reminded us, over 50 years ago: “Earth provides enough to satisfy every man’s need, but not every man’s greed.”

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Notes

1. Although there is considerable talk of “water wars,” in fact there is little evidence of international violent conflict over water. Violence over water is more likely at the local level (Ravnborg, 2004).
2. An exception in customary law is where someone has dug a well or developed a source that is considered private, and can bequeath that source to heirs, e.g. under *Maasai* tradition (Potkanski, 1997, cited in Juma and Maganga, 2005).
3. In West Asia and North Africa, herders with large flocks increasingly bring water to their animals, rather than the reverse, but the higher costs of fuel and transport, as well as high poverty rates, make this less of an option in most of Sub-saharan Africa.

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