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August 2007

Managing Conflict Over Natural Resources in Greater Kordofan, Sudan:

Some Recurrent Patterns and Governance Implications

El Fatih Ali Siddig, Ministry of Finance and National Economy
Khalid El-Harizi, International Fund for Agricultural Development
and
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Contents

Abstract.....	v
1. Introduction.....	1
2. Defining the Question: Natural Resource-Based Conflict and the State	6
3. Greater Kordofan: General Characteristics and Prevailing Livelihood Systems.....	11
4. Conflicts Over Natural Resources in Kordofan: Some Recurrent Patterns	14
5. Some Environmental and Socioeconomic Implication of NR Conflict in Kordofan ..	23
6. Policies and Institutions Concerning Natural Resource and Conflict Management in Kordofan.....	26
7. Conclusion	46
Appendix A: Case Studies	58
Appendix B: Glossary of Relevant Sudanese Terms.....	89
Appendix C: Persons Met.....	91
Appendix D: Overview of Recommendations.....	94
References.....	96

List of Tables

1. Distribution of case studies among categories of conflict	22
A.1 Case Studies	58
D.1 Overview of Recommendations.....	94

ABSTRACT

Despite the 2005 Comprehensive Peace Agreement, which brought to an end 20 years of civil war in the Sudan, this country continues to experience smaller-scale conflicts, particularly around access to and control of natural resources. Some observers lay the blame for this on ethnopolitical or tribal divisions. However, this paper argues that there are a variety of factors at play behind these conflicts, notably the combination of resource scarcity with a crisis of governance that is particularly evident in transitional areas like the Kordofan region.

To gain a sense of the range of conflicts around natural resources in Kordofan, the authors reviewed existing records such as government archives; conducted interviews with politicians, federal and state government officials, farmers, pastoralists, and Native Administration leaders; and investigated findings in the field. Interviews also served to examine people's knowledge about government natural resource policies and their perceptions of the roles played by government and the Native Administration in conflict management and resolution.

The paper presents 20 cases of stalemate competition or open conflict over natural resources in Kordofan. The cases center on (1) conflicts between farmers and herders over stock routes, gum arabic forests, gardens, watering points, and the use of *dars* (tribal homelands); (2) conflicts between herders and small farmers and government agents or large private investors over mechanized farming areas, oil infrastructure, and other private investments.

In their analysis of natural resource governance in Sudan, the authors find that natural resources policies have often been weak foundations for sustainable resource use, and in some cases they have actually contributed to conflict. In addition, the volatile path of government devolution efforts concerning natural resources has undermined governance of these resources.

While conflicts between farmers and herders were managed relatively successful in the past through customary land tenure systems, this is less and less the case today as a result of larger herds, reduced water and pasture, instability and prejudices stirred up by the war, and a proliferation of arms among herders. In addition, patron–client politics, weak natural resource management and development policies, and top-down government institutions have encouraged ethnic polarization and social divisions. The authors find that measures are needed to reform the process of natural resource management, making land use planning more comprehensive, building on local livelihood systems, and increasing public spending on infrastructure. In addition, sustainable property rights on farmland and on mobile resources should be redefined, and informal conflict management mechanisms restored to the extent that this is possible.

Keywords: Conflict management, Natural resource management, Small farmers, Land use, Livelihoods, Public spending, infrastructure, Property rights, Governance, Sustainability, Sudan, East Africa

1. INTRODUCTION

Conflict around natural resources has become a key preoccupation of development theorists and practitioners particularly since the end of the Cold War, which ushered in an era of growing instability in the developing world, notably in Africa (Kaplan 2000). Unlike conventional interstate conflicts or the proxy wars of the bipolar era, recent conflicts of this sort have been marked by a fragmentation of state-centered political economies and mechanisms for natural resource management, challenging some key presuppositions of development work. In addition, they have typically taken place not among armies fighting on behalf of national interests under the control of cohesive state administrations, but rather among military and paramilitary groups fighting for narrow interests without formal legitimate mandates. In this respect, these conflicts often bear witness to the limits of a Weberian understanding of the process of state building in many postcolonial countries. More specifically, they put in question the universal validity of a process whereby power over the means of violence is concentrated into sovereign hands for political and economic purposes formally legitimized through notions of public interest or national development.

Besides exacerbating the lack of military hegemony of state administrations in many countries, recent resource-based conflicts (or RBCs) in Africa seem to point to the inability of these administrations to perform certain economic functions conventionally associated with statehood. According to mainstream Western narratives of statehood, monopoly over the means of violence can in fact ultimately be sustained by state elites only if it serves a system of economic organization whose benefits may be widely, though perhaps not equitably, shared by the population of a country.¹ In Western Europe, in particular, the progressive imposition by early state makers of unified legal, judicial, police, and military systems over what were or would become “national territories” slowly resulted in the integration and regulation of “national markets.” The latter evolved in parallel with the establishment of unified regulatory environments that reduced transaction costs associated with economic activities and exchanges beyond the local level. In turn, enabling the creation of national markets allowed early state elites to turn power gained by military means into legitimate authority, gaining broad-based consensus around their monopoly of force by providing a robust physical and regulatory infrastructure for the economy, including the enforcement of property rights in a formally impartial manner.² In the 19th and 20th centuries, state investment in economic and social welfare also became an important pillar of political legitimacy in the West. In postcolonial societies, state-building processes and the personal or collective

¹ A classic reference in this regard is Polanyi 2001. See also Tilly 1995.

² On the key role played by institutions and property rights in the making and consolidation of changing political orders, the classic reference is still North 1981. An excellent re-reading of North (and others) that takes chiefly into account processes of expropriation also lying at the roots of state making is Chaudhry 1997.

power of state elites have also relied on a similar pillar. In addition, they have often relied on the promise not only to provide impartial rules for a national economy, but also to mobilize national resources to realize ambitious projects of socioeconomic prosperity for “the people” as a whole.

Against such state-building narratives, many recent African conflicts mark the failure of state elites to gain both military hegemony and developmental legitimacy – or even legitimacy as impartial guarantors of economic transactions. In fact, the political and economic logic of these conflicts is often a full reversal of the political economy of Weberian state building, since the strategies of warring parties tend to revolve around the establishment of local realms of economic transactions directly linked to transnational networks, where access to resources occurs neither on a pure market basis nor under a neutral regulatory authority, but rather on the basis of exclusionary ascriptive or military alignments. In the political economy of conflict, rent-seeking behavior and unsustainable use patterns vis-à-vis natural resources (whether point or eco-zonal) are encouraged, as opposed to productive work and long-term investment. Though the political economy of each conflict varies, most thus tend to transform the relationship between resources and wealth, investment and profit, economic exchange and violence so that the second term of each pair tends to become independent of the former. In this respect, the behavior of war elites may in some ways evoke, or even carry on, the predatory or rent-seeking behavior of colonial and post-independence state elites.³ Unlike the state elites, however, today’s “warlords” rarely feel the need to make even rhetorical gestures toward developmental projects to justify their violent reallocation of resource entitlements.

Western observers have often labeled this type of situation as an “identity” conflict, where an apparent absence of ideological and development projects is blamed for violence that disrupts productive livelihoods and replaces them with predatory or rent-seeking local and transnational economies. This has also been evident in many characterizations of the North–South civil war in Sudan, as well as in some portrayals of current violence in Darfur. The tendency to use this label follows in part upon a surge of scholarly attention to “identity politics” in the past couple of decades in the West and elsewhere. Whatever the origins, the growth of a discourse on “identity conflict” has often overshadowed simplistic “culture-based” approaches to conflict analysis. More rarely, this discourse has been accompanied by attention to the interplay of “tractable” and “intractable” factors in infrastate (subnational) conflicts, or to how identity discourses (the “intractable”) may be used by warring parties to challenge patterns of resource distribution skewed in favor of certain identity bearers. In relation to Sudan, for instance, Suliman (1997) argues that ethnic polarization in the Nuba Mountains slowly became an independent factor behind conflict, as a result of the exclusionary politicization of resource allocation and

³ On the link between development aid, contemporary African conflicts, and the emergence of predatory semi-autonomous economies and novel biopolitical forms linked also to humanitarian intervention, see Keen 1998 and Duffield 2001.

management, which threatened the livelihoods of Nuba farmers. In turn, such politicization resulted both from socioeconomic processes and from the politicization of identity cleavages in the North–South conflict. Suliman’s argument is supported by a substantial body of literature on conflict transformation, which suggests that subnational conflicts articulated in a language of identity are often symptoms of exclusionary political economies where “identity” is used as a discriminatory tool by state institutions or other influential actors (in patron–client relations, for example). From this perspective, infrastate “identity conflicts” like those that have plagued Sudan since independence can be seen as a variant of “resource-based conflicts,” given a significant degree of traditional (though now declining) overlap between livelihood systems and ethnoracial or tribal identities in much of rural Sudan, including Kordofan, the central region of Sudan, which lies between Darfur and the White Nile River.⁴

The RBC label is of course quite unspecific, since it fails to differentiate among various kinds of resources that have been at stake in the conflicts that have scarred the African continent over the last 20 years. For instance, the term RBC may refer to conflicts to control highly lucrative markets for precious minerals or to clashes over the use of pastureland and water among small farmers and pastoralists. Moreover, the label fails to specify the meaning of the term “based.” Does it suggest that resources are a cause or even *the* primary cause of conflict, or rather that they are its object, area of impact, or perhaps goal rather than motive? In reality, making a definite choice for one or the other alternative may not be necessary, as different interpretations are simultaneously relevant in most conflict situations, including local conflicts in Kordofan. Despite its ambiguities, what is valuable in the RBC label, both analytically and from a policy perspective, is that it calls attention to the fact that certain infrastate conflicts are “laboratories” for the redefinition of patterns of access to natural resources, in situations where state-building has failed to yield either viable or equitable mechanisms for secure and non-exclusive access to resources.

An important assumption that RBC analysts tend to make is that competition among resource users has grown in the past couple of decades across the developing world. Rather than triggering benign adaptations of livelihood systems, moreover, these analysts argue that competition has reached borderline or conflict situations in many areas, due to the crisis of alternative livelihood opportunities caused by failed development plans, predatory state policies, or the decline of local systems for resource and conflict management, or any combination of the three. For example, decreased availability of natural resources in areas affected by the Sahelian droughts of the 1980s has supposedly combined with “new” social and political conditions that prevent functional adaptation of local livelihood systems, so that *relative* natural scarcities have turned into *absolute* livelihood scarcities for many rural poor. Whether or not there is solid

⁴ See the growing literature on conflict analysis and management in projects that focus on natural resource management and conservation, particularly with a community-based approach. A good example of this literature is Castro and Nielsen 2003.

evidence for a generalization of this argument is an open question, which requires extensive research feeding back into both theory and policy interventions (Hussein 1998). As field research conducted for this study shows, however, in representations of ongoing conflicts by involved parties, growing competition is often a symptom of inequitable and unsustainable state management of natural resources, which pushes the rural poor to pursue “exit strategies” or to seek to reconfigure power relations underlying access. Given that these representations are concurrent factors in conflict, taking them seriously is thus important, even in the absence of conclusive evidence concerning the governance-related roots of livelihood scarcities or growing competition for natural resources (NR).

Also worthy of consideration in relation to the linkage between RBCs and failed or distorted statehood is the assumption that this linkage is affected by the growing penetration of the forces of economic globalization into postcolonial societies. Some authors see the apparent growth of infrastate conflicts across the developing world as a byproduct of authority crises due to the hollowing out of state sovereignty by globalization processes (Kaldor 2001). Others have focused on how regional and global market integration provide unprecedented possibilities for rent-seeking behavior by paramilitary groups controlling trade on precious minerals, drugs, or certain agricultural commodities.⁵ In Sudan, interference into the national economy by international financial institutions may also be seen as an aspect of globalization. The same can be said of the role played by foreign companies (particularly in the oil sector), shoring up increasingly rent-based state power. All of this suggests that economic and NR policies in Sudan are often at least in part responses to transnational forces. This is not to disregard the insights of RBC studies that highlight the importance and relative autonomy of local livelihood systems and political subjectivities, particularly those negatively affected by the forces of market liberalization and global integration. These may include livelihoods and subjectivities associated with forest people, small farmers, pastoralists, and other social formations often captured under the vague label of “community.” Similar to assumptions of growing stalemate competition among resource users, neither the causal power of globalization nor that of relatively self-contained “local” livelihoods and subjectivities with regard to conflict are demonstrated. Nonetheless, these assumptions also feature in the self-representations of local actors involved in resource-based conflicts in our case studies.⁶ In many cases, interviews with local villagers and policymakers reveal a keen awareness of both the differences and the interplay between local, national, and global processes that affect them locally and as citizens of Sudan. The same is true in neighboring Darfur, where people maintain livelihoods and sociopolitical structures that span interstate borders, and where the framework in which many socioeconomic transactions take place is smaller than Sudan, yet it exceeds the state. This suggests that we should be mindful of the

⁵ See Klare 2002; Bannon and Collier, 2003; and (with less of a focus on conflict) Strange 1996.

⁶ For a narrative of the case studies, see Appendix A.

simultaneous presence of global, national, and local factors in the economic, political, and cultural background of RBCs in Sudan, even though the relative weight of these factors may be very different in different localities.

Recognizing the complexity of RBCs also requires resisting the temptation to search for univocal “root causes” and solutions, whether these are focused only on resource poverty, on policy or governance problems, or on local dynamics and livelihoods in isolation from their national and transnational contexts. The case studies in this paper suggest in fact that appropriate “solutions” to these conflicts may only come from a reconfiguration of the economic, environmental, and political–institutional domains in any conflict situation at various levels, in line with the sustainable livelihoods approach of some RBC literature (Hussein 1998). Depending on context, such solutions are particularly likely to involve more effective *and* equitable governance of natural resources. Hence the great attention to devolution and participation in NR governance that pervades much of the literature. This partly reflects the fact that a great deal of this literature has been produced under the sponsorship of aid agencies working in situations where poverty and resource degradation are affected by a mix of insecurity and institutional weaknesses, both locally and at the state level. Furthermore, in many African countries like Sudan, rural areas face special challenges in terms of governance, due to their peripheral role in state development plans as well as in patron–client relations sustaining state administrations. Rural areas are also particularly dependent on natural resources for the survival of their population, given the low level of diversification of productive activities in most of rural Africa and the relatively underdeveloped structure of urban–rural market networks in many countries. Hence NR management is a particularly delicate but also promising laboratory for agencies interested in experimenting with governance solutions to poverty and resource degradation, and conflict itself may be an entry point into such analysis and “experimentation.”⁷

⁷ This is for instance the argument made by Buckles 1999.

2. DEFINING THE QUESTION: NATURAL RESOURCE-BASED CONFLICT AND THE STATE

The term “conflict” has a certain semantic fluidity in social science literature, where it is sometimes seen as an all-around negative phenomenon and sometimes as a normal occurrence or a catalyst of positive change. On the one hand, according to many students of the so-called new wars, conflict is a symptom of “global anarchy” (Kaplan 2000), of the breakdown of state authority, or of a rush to seize control over precious natural resources in an increasingly unregulated market.⁸ From these perspectives, conflict is essentially negative, as it leads to social disintegration, wastage of economic and human resources, and erosion of already weak government institutions. On the other hand, conflict may also be considered a natural part of the life of societies. According to Zartman, for instance, conflict (defined as contradiction among demands posed by the body politic to governments) is an intrinsic and even healthy part of social and political life. In turn, governance is nothing but conflict management, which means “reacting responsively to reduce demands in a manner consistent with human dignity so that the conflict does not escalate into violence” (Zartman 1997, 9).

Certain strands of sociological and economic literature have traditionally regarded open, though not necessarily violent expressions of “lack of harmony” among group interests in society as a symptom of structural problems and a potential catalyst for structural change. A classic version of this perspective is Marxist theory, but elements of it are also in some practice-oriented literature on the empowerment of groups that are marginal actors in the global market (for example, indigenous groups, landless people, and others). The point of this literature is generally not to propose revolutions or the escalation of structural conflicts into violence, but rather to give prominence to such conflicts and to focus attention on them as entry points to bring about structural changes. From a different standpoint, some authors instead regard conflict as a necessary trigger for change and adaptation of institutions that may otherwise become dysfunctional with time.⁹ The common element in these different perspectives is that conflict (and more specifically conflict rooted in structural/institutional disharmonies in society) does not always need to be contained or repressed, as it may point to structural factors that need to be addressed in a transformative way (Craig, Hall, and Mayo 1998).

As for the meaning of the term “conflict,” many texts use it loosely to encompass a range of phenomena like lack of convergence of goals, interests, and expectations among social groups; the intentional pursuit of actions or livelihood strategies that result in damage to others; open confrontations resulting from conflicting interests or damaging actions; and recourse to various forms of violence. An

⁸ See the cited works by Klare (2002), Strange (1996), and Bannon and Collier (2003), among others.

⁹ Mathieu (1995), quoted in Hussein 1998.

example of a broad formulation of conflict is given by the authors of a training package on community-based forest resource conflict management, used by the Food and Agriculture Organization of the United Nations (FAO), which defines conflict as “A relationship among two or more opposing parties, whether marked by violence or not, based on actual or perceived differences in needs, interests and goals” (Means et al. 2002, 13). While valuable for its flexibility and scope, such a broad definition may not be very conducive to clear analytical propositions concerning the mutual implications of political, economic, and other structural or circumstantial factors in determining or resolving instances of conflict, let alone to recommendations for conflict management or resolution. As a way to achieve some clarity in this regard, Hussein (1998) suggests that conflict of interest and competition are different phenomena and carry different policy and developmental implications than violent conflict, even when the latter is rooted in competition among interest groups. However, most authors prefer to consider nonviolent and violent conflict as different stages or manifestations of the same phenomenon, namely a relationship of “actual or perceived differences in needs, interests, and goals.” When natural resources are at stake, one may thus read RBC to mean competition (whether violent or not) over resources, open conflict between user groups (for instance farmers and herders, or smallholders and large farmers), and conflict between governments and insurgents funded through control of natural resources or fought in order to achieve it. In this paper, we mainly use the first two meanings of RBC, although the third may increasingly apply as well, particularly in oil-rich areas of Sudan. In addition, the data collected in our field interviews suggests that these two meanings of conflict should be further disaggregated to distinguish between:

- Continuous and stalemated competition or contradictory interests/needs (whether real or perceived) among different natural resource users, whether local or nonlocal;
- Open confrontation between the bearers of these contradictory or competing interests through nonviolent means (such as recourse to judicial institutions or customary mechanisms for natural resource and conflict management); and
- Violent confrontation among resource users or political or military forces supporting different groups, with the caveat that competition over natural resources may not be the primary factor triggering violence.

This distinction has implications for the role that formal and informal political institutions may be called upon to play in different kinds of conflict situations. In the first and second cases (stalemate competition and open confrontation), the task is essentially conflict management, whether directly (via judicial intervention or customary arbitration mechanisms) or indirectly (via effective and equitable NR management). In the third case, the task is conflict resolution proper, which may engage both informal and formal institutions with different governance implications than conflict management. In turn, this

distinction begs the question of the respective role of different (formal and informal) institutions in creating an environment more or less conducive to conflict, and in addressing conflicts in more or less equitable and effective ways. In order to frame this question, it is important to sketch some conceptual and normative referents of present debates on governance and resource-based conflict. Different views of conflict may in fact correspond to different ways of understanding the nature of government and the relationship between state and society, politics and economy.

One popular, rather simplistic way to characterize this set of issues is found in the literature on “predatory states,” a term originally suggested by political economist Deepak Lal to refer to the tendency of states to extract resources from society to benefit government elites (Lal 1985). Although Lal argues that predatory agents exist in all states, the term “predatory state” is commonly used in the literature to indicate the polar opposite of the state as “Platonic Guardian,” namely an entity governed by altruistic and enlightened powerholders whose primary preoccupation is to deliver public goods. Contrary to this ideal, the predatory state is usually defined as one where powerholders are not interested in the provision of public goods,¹⁰ but rather in the selfish appropriation of private goods from the economy. In extreme cases, this may mean plundering natural resources and investing little or nothing in their development. In Africa, for instance, many countries described as predatory states have had colonial and postcolonial regimes that have lived off natural resources requiring little or no investment in human, social, or physical capital. This is not the place to debate extensively the merits of the predatory state model, either in its original formulation by Lal (1985) or in its various popular adaptations, nor to do justice to Mancur Olson’s critique of the idea of a purely predatory state, based on the notion that the self-interested rationality of state powerholders dictates the provision of at least some public goods (Olson 2000).¹¹ However, a gesture in the direction of that model is inevitable, given its recurrent use in the literature to explain the “rationale” of operation of states in which governments play a role that is not impartial in both natural resource and conflict management. The Sudan case also needs to be analyzed from a position of awareness of such a model, but at the same time it may benefit from other, more nuanced models aiming to capture the logic of operation of states that are distant from the Platonic Guardian model.

Zartman (1997) offers an alternative way to define state elites as nonneutral bearers of interests, but he acknowledges that his notion of state governance as impartial management of conflict corresponds only to an ideal of statehood. This is particularly true of postcolonial states, where ruling elites tend to represent a (typically narrow) social group, rather than being impartial providers and administrators of conflict mediation as a public good. Zartman links this reality to the heritage of a colonial distinction between *pays réel* and *pays légal*, which may result in a delegitimation not only of government but even

¹⁰ Lal stresses in fact that even predatory states provide public goods.

¹¹ In Olson’s words, this would make states into “stationary bandits” as opposed to “roving bandits.”

of the state as a party that is neither neutral nor broadly representative. In a similar vein, Kaldor (2001) attributes the proliferation of today's local and transnational conflicts, including those apparently based on "greed" or "grievance," to the erosion of state authority, as the authority of institutions that are supposed not to be bearers of particular interests. In her view, this erosion is the result of the reversal of an earlier situation of legitimacy and "normal politics" (that is, a situation of neutral functioning of state institutions on behalf of public interest), which has resulted from globalization. For Zartman (1997), Kaplan (1994), and others, the problem has instead more distant roots in the political and economic history of colonial Africa.

For Kaldor (2001) and Zartman alike, an important implication of the fact that the state may not be neutral vis-à-vis social interests and natural resources is that it may not have sufficient authority to mediate in case of conflict. In fact, to Kaldor, the nonneutrality and crisis of authority of the state are such that conflicts today are often "procedural;" in other words, they are conflicts over who controls the state *as a primary economic resource*. A second important implication is that states perceived as "nonneutral" may be more prone to play negative or not constructive roles in a developmental sense. In the political economy literature on postcolonial states, "predatory states" are in fact often the polar opposite not only of the Platonic Guardian but also of the developmental state, because of their lack of interest in investing in broad-based and sustainable development. The issue is a complex one, and there is no reason to assume that a state whose powerholders have predatory interests will not be capable of investing in (market) development, as Lal also noted. Moreover, Evans (1995) has convincingly argued that there is no specific state form conducive to development, as different kinds of institutional systems and of relationship between government, society, and the economy may or may not lead to sound development policies. However, many have argued that one of the reasons why Sudan has suffered from NR-based conflicts at various times since independence is the fact that the state has generally been representative of narrow social groups, so that the developmental choices made by various regimes have mostly reflected a patron-client political culture.¹²

The third apparent implication of the combination of crisis of authority and increasing competition that fuels conflict in many African countries (including Sudan) is that a reversal of this situation may require democratization of political and policy processes and a profound transformation of the relationship between state and economy. In NR management literature, this idea is often expressed

¹² In Western democracies, the possibility that a mutual "contamination" between state and discrete social interests may lead to suboptimal political economy choices has been addressed in particular in public choice theory, which sees the political realm as neither neutral nor populated by institutional actors with "superior wisdom" about public affairs. In this theory, the political realm is populated by actors who operate as market agents maximizing private profit, which means for instance maximizing the number of votes one expects to obtain in the next elections or increasing the budget allocated to one's office or agency. In the case of non-democratic states, choices may be made instead to maintain political clients or control over assets that can generate significant rents.

through a call to strengthen local governance mechanisms for management of resources and of conflict, in order to prevent stalemate competition or to keep it from escalating into violence. In this vein, Craig, Hall, and Mayo (1998) write that community development has a vital role to play in managing conflict, and in some cases in addressing its structural causes, as it may enable individuals and communities to develop transformative strategies for development, including new patterns of NR access and use. Similarly, Warner (2000) notes that RBCs can be avoided or reduced by enhancing inclusive stakeholder participation in development projects and in the management of resources. Finally, in his attempt to sketch out the main requirements for a policy framework that may enable a constructive approach to NR conflict, Tyler (1999) stresses the need to redefine the role of the state so that it can become a more neutral mediator and recognize the legitimacy of multiple stakeholders. This process is to be accompanied by an effort to valorize local interests and capacities to prevent and manage conflict: in Tyler's words, "Policy responses [to conflict] should recognize and empower local stakeholders to become more effective in assessing their own needs, negotiating with other resource users, understanding and interpreting technical assessments of resource quality, and implementing consensus solutions. In short, much progress can be made in conflict management through policy responses that improve *governance* at the local level."

In what follows, we will investigate the resonance of these various implications of the interplay of a crisis of state authority and of stalemate competition over resources in Kordofan, an area of Sudan whose characteristics we briefly sketch in the next section.

3. GREATER KORDOFAN: GENERAL CHARACTERISTICS AND PREVAILING LIVELIHOOD SYSTEMS

Greater Kordofan includes the two states of North and South Kordofan, each of which absorbed part of the territory of a third state formerly named West Kordofan in January 2005. The two states have a combined size of 380,000 square kilometers and a population of about 3.8 million people; about 75 percent of the population lives in rural areas. Their social and ethnic composition is rather complex, with a variety of groups that can be differentiated on the basis of location, tribal affiliation, and form of livelihood (which in many cases is characterized by some form of mobility). The North–South conflict formally concluded with a Comprehensive Peace Agreement in January 2005 has resulted in internal displacement, particularly in South Kordofan and in the Nuba Mountains in particular. Parts of South Kordofan thus host a sizeable population of internally displaced persons (IDPs).

Human development indicators pertaining to literacy, healthcare, and life expectancy in Kordofan compare unfavorably with the averages for the Sudan. Based on unpublished figures obtained from the United Nations Population Fund in Sudan, for instance, in 1993 only about 29 percent of women and 52 percent of men in the region were literate (against 41 and 66 percent respectively at the national level). Rural poverty is widespread: according to a household survey conducted by the International Fund for Agricultural Development (IFAD) in May 2004 in Greater Kordofan, destitute households lacking both assets and labor power were around 25 percent of the total in North Kordofan, 30 percent in South Kordofan, and 17 percent in then West Kordofan. Poor households (those owning few assets and characterized by high vulnerability) were about 30 percent of the total in North Kordofan and about 45 percent in the rest of the region, while less poor households (households that can satisfy their basic needs but may be vulnerable to serious crises) were about 26 percent of the population in the region as a whole. Households headed by women were disproportionately represented among the poorest, and their numbers have grown over the past decade due to conflict and male migration.

The majority of the population of the region depends on activities based on the utilization of natural resources. Cultivable land is used both by settled communities and by seminomadic agro-pastoralists for the production of food and cash crops. Settled communities include both smallholders, who represent the vast majority of farmers in the region, and owners of large mechanized farms, who are for the most part merchants and civil servants originally from the North or from Khartoum. Pastureland is also a key resource for both seminomadic pastoralists and settled farmers, some of whom raise livestock. Pastoralist communities in the region include nomadic and seminomadic (transhumant) camel and cattle herders, while settled agro-pastoralists usually own smaller animals or cattle. Water resources, including *wadis* and *khors*, are used by pastoralists and also for horticulture production, while agriculture is mostly rainfed. (A glossary of Sudanese Arabic terms such as *wadi* and *chor* is presented in Appendix B.)

Finally, rock excavations, termite mounds, and tree holes are used for honey production, and forests are used by both settled and seminomadic communities for fuelwood, building materials, edible fruits, and aromatic resin. Trees that produce gum arabic have traditionally been an important cash crop and a periodic source of replenishment for fallow soil for farming communities, as well as a source of nutritious foliage for the livestock of camel herders. However, this is less so in recent years, due to a growing practice among gum arabic tree owners of fencing off areas around trees to keep herders from grazing animals on foliage.¹³

Based on their livelihood systems or their institutional and practical relationship to local NR or both, local users are a nonhomogeneous group that includes farmers, seasonally migrant pastoralists (some of whom move along stock routes that cross the borders of their states),¹⁴ urban traders and other nonlocal investors in farming schemes, oil companies, and government agencies. All of these can be considered NR stakeholders in Kordofan, and all have an interest in influencing access to and management of resources, which are regulated by formal and informal institutions and authorities. However, not all stakeholders are primary resource users, nor do they have comparable capacity to influence access and management. In addition, they often have conflicting interests with regard to resources, so that stalemate competition is possible and in fact recurrent. One reason for this competition is the fragility of the resource base in the area, particularly water and pastureland: the livelihoods of both farmers and herders largely depend on rainfall, which follows a highly erratic seasonal pattern and goes from an average of 750 millimeters a year in the south to less than 200 millimeters in the north of the region. Drought has also become a frequent occurrence in the past couple of decades: the massive drought that hit the area in the mid-1980s triggered substantial population displacement and relocation of pastoralist groups closer to traditionally farming areas. In addition, the region has suffered considerable environmental degradation from man-made causes, such as deforestation to expand agricultural land, failure to replant trees on fallow soil, and the development of a petroleum industry that has necessitated the construction of pipelines through farmland and grazing areas. Demographic pressure and the relative inaccessibility of some areas due to war-related insecurity have also reduced the availability of good grazing land for pastoralists, whose growing numbers of livestock (owing in part to growing market demand for meat) have led to overgrazing around water points, stock routes, and villages. This problem has been compounded by growing practices among settled communities of setting fire to crop stubs, collecting them for their use, or preventing herders from grazing their animals on them. Small farmers

¹³ This practice is partly the result of growing awareness among farmers that animal grazing on gum arabic trees tends to limit the production of gum.

¹⁴ It is important to note that many pastoralist groups only migrate seasonally, while maintaining a home base (in other words, they are transhumant, though they may be regarded locally as nomads). Women, children, and the very old are often left behind in these home bases while men migrate; hence their position during much of the year is vulnerable both in terms of livelihood and security of their resource entitlements.

have suffered from decreasing soil fertility partly due to increasing land scarcity linked to the expansion of mechanized farming schemes and other factors that have led to a decline in the customary practice of shifting cultivation to allow plots to stay fallow and to benefit from fertilization provided by livestock grazing on crop stubs. The result has been soil degradation and intensified pressure on both water and land resources, fueling stalemate competition.

4. CONFLICTS OVER NATURAL RESOURCES IN KORDOFAN: SOME RECURRENT PATTERNS

To gain a sense of the range of conflictive relationships that exist among NR users in Kordofan, the authors investigated 20 case studies from different parts of the region. These studies are described in Appendix A. Information about the cases was compiled beginning with existing records, particularly those of the Archives of the North Kordofan State Ministry of Agriculture, records of the secretariat of the two states' governments, and those of the SOS Sahel Conflict Management Project in El Obied. Open-ended interviews were later held with politicians, senior government officials at the federal and state levels, Native Administration (NA)¹⁵ leaders, farmers, pastoralists, and civil society organizations. (A list of the persons interviewed is given in Appendix C.) Based on these records and interviews, 20 cases of stalemate competition or open conflict were chosen, and these were further investigated at field level to flesh out a narrative of their occurrence and development, with special attention to governance issues that may have been involved in them. Field interviews were conducted to solicit the perspective of a particular group of stakeholders, namely village communities, including women and men of various age groups. The interviews did not aim to provide a causal account of specific cases of conflict but rather to follow up on insights gathered from the desk review of various cases by bringing in the perspective of some of the people involved. Given the recurrence of governance-related issues in the narratives and in the desk review, interviews also served to investigate people's knowledge concerning government NR policies and their perceptions of the roles played by government and the NA in conflict management and resolution.

A review of the case studies yields a typology of conflicting relations that confirms the results of other studies of the region. The IFAD Western Sudan Resource Management Programme (WSNRMP) report for instance listed various types of conflict involving pastoralists and farmers along stock routes and in villages (mostly due to livestock encroaching on farmland or to farmers cultivating land meant for grazing), nomadic or transhumant pastoralists and leaseholders of mechanized farms (mostly because many farms have been set up on stock routes, in grazing areas, or around watering points), and camel herders and owners of gum arabic trees. A fourth kind of conflict listed in the Report centers around the use of *hafirs* (see glossary). Some of these were originally built as water points for livestock, but recently they have been fenced off by farmers, especially for horticultural production (IFAD 2004, 19–20). Such conflicts were of various degrees, from competition over shared resources to open friction and recourse to informal or, less often, formal mediating or judicial institutions. Sustained collective violence was largely

¹⁵ The Native Administration is an authority system that evolved on the basis of customary tribal institutions under British colonial rule. The main responsibilities of NA authorities were at the time related to natural resource management, conflict management and resolution, and more generally local governance in rural areas not central to the colonial economy in Sudan. More details on the NA are in a later section of the paper.

absent from the list, though such violence has been a significant phenomenon in parts of Kordofan over the past few decades. This may be because the link between natural resources and intergroup violence in the region (for example, in situations such as the conflict between Baggara and Nuba around the Nuba Mountains) has often been indirect, making it difficult to speak of “natural resource-based conflict” without qualifications. This is also true elsewhere in the Sudan, since user groups have usually taken up arms against each other only when there has been an overlap of political and resource-related factors fueling conflict on either the “push” or the “pull” side. Salient political factors have included the recently concluded North–South war, the influence of neighboring countries and rebel groups on intertribal relations, and the growing ethnic polarization of Sudanese politics. All of these factors have shaped and intensified resource competition as well as violence among certain groups with competing livelihood strategies. In Kordofan, for instance, relations between the Baggara (primarily pastoralists) and the Nuba (primarily settled farmers) turned into open conflict only when the state armed the former in the 1980s to fight as popular militias against the Southern rebels of the Sudan Peoples’ Liberation Army (SPLA), though their different livelihood systems and resource claims occasioned competition long before that time.

The overlap of these political and resource- or livelihood-related factors in encouraging or complicating competition over natural resources is evident also in the case studies and background research undertaken for this study. A good example is in the following excerpt from the narrative of a case study from the village of Al Tokma (Case Study 1 in Appendix A). The length of the excerpt is justified by the fact that it sums up different aspects of the predicament of many communities involved in different kinds of NR conflict in Kordofan.

“In 1992 the conflict between the Government and SPLM [Sudan Peoples’ Liberation Movement] forces intensified, and SPLM forces occupied the rich grazing areas in the far south of South Kordofan, which used to be a good grazing area for Hawazama pastoralists from South Kordofan and Messerya pastoralists from West Kordofan. The occupied areas contained important stock routes for the nomadic tribes of Hawazama and Messerya, who are allied to the government that has used them as militias in its fight against SPLM forces. The SPLM occupation forced Hawazama tribes to change their stock routes and start using new routes close to the village of Al Tokma, leading to progressive encroachment by livestock and by pastoralists into village lands. At the same time, and also due to the SPLM occupation of some of their grazing areas, Messerya pastoralists also began to enter the area of the village to graze their animals, although historically their stock routes had not been in its proximity. This has caused damage to the crops of village farmers, who are ethnically also distinct from the Messerya and Hawazama (who are of “Arab” origins) because they belong to the Delleng tribe, who is of Nuba origin. Despite a cease-fire agreement between the Government and SPLM since January 2001 and up to the last season of 2003,

pastoralists and their livestock continued to enter the area because their grazing grounds are still under SPLM forces, creating a situation in which competition over the same land has been compounded by ethnic and political factors encouraging attrition and complicating the possibility of recourse to the government as a reliable and neutral mediator. Field investigations indeed revealed that there were no official mechanisms in place to settle disputes originated in livestock encroachments, while traditional authorities such as the village Sheikh Gism Allah Bakhit found themselves lacking appropriate judicial or enforcement instruments (such as a police force) to resolve these disputes with the necessary authority. In addition, the Sheikh attributed his lack of enforcement authority (which his predecessors up to 1970 used to have) to his lack of affiliation with the ruling Congress Party, pointing at a weakening of tribal authority as at least in part a problem of formal governance. This was also evident in the fact that villagers did not approach their Amir because they claimed that he is a political appointee and the tribes with whom they are in conflict are allied to the Government, so they do not trust him to reflect their opinion or be keen to resolve the issue in a fair manner. As a result of their perceived inability to seek support from mediating institutions, the villagers resorted to burning pastureland, with considerable damage to the environment, so that the area would not attract pastoralists. Villagers also reported several incidences of threats by young herders carrying arms when confronted by farmers whose cultivated areas are encroached upon. In general, they feel that they are not part of the decisionmaking process and their conflict is with stronger parties who are armed and allied to the government. They feel that it is their rivals who make the rules, or perhaps rules are made to support their rivals. Those who are supposed to protect their interests are deprived of powers (the Sheikh) or allied to the Government, hence colluding with the group with whom they are in conflict. In sum, villagers expressed a feeling of being in a state of lawlessness, which in their view justified recourse to defensive mechanisms such as burning grazing areas, even if they are also negatively affected by this action...

This narrative, which was compiled on the basis of field interviews, is emblematic of the combination of factors surrounding stalemate NR competition or conflict in the area, including the range of causal factors that led to them and the many ways in which their resolution may be helped or impaired. Factors that are present in this case and in most others include proximity to areas of combat between Government of Sudan and SPLM forces, the effects of misguided government policies on both the military and developmental fronts, and politicization and loss of autonomy of traditional conflict management institutions. This combination, which is relatively “new” (contrary to Hussein’s contention that conflict among farmers and herders is “always the same”), has resulted first in increasing competition over land, water, and pasture, and second in a chronic attrition that can easily turn into violence due to the absence of effective mediating parties and the availability of weapons as a side effect of the North–South War. A similar combination of factors is also at play in virtually all of our case studies, suggesting some

uniformity among different situations of NR conflict both from a causal point of view and in terms of a crisis of mechanisms for conflict management and resolution. To the extent that different factors play a different role in the cases, a fluid categorization of conflict or quasi-conflict situations based on these case studies follows.

Conflict between Farmers and Herders

Conflict along stock routes and in gum arabic forests (cases 1, 6, 7, 8, 10, 14, and 19)

As mentioned in previous chapters, the livelihood systems of different pastoral groups (camel herders, cattle herders, sheepherders, and agro-pastoralists) demand more or less extensive seasonal movements in search of water and forage, the availability of which varies seasonally in different areas. Traditionally, settled communities have negotiated these seasonal movements with pastoralists in an institutionalized way (at times also with state involvement), identifying corridors for the passage of livestock and establishing rights and obligations to prevent damage to crops and to promote the complementary use of shared natural resources. Until the 1970s, when trespassing occurred, a variety of customary mechanisms were available to settle disputes, usually based on a principle of subsidiarity. Since the colonial period, repeated efforts have been made to give formal state recognition to annual or semipermanent stock routes (*maracheel*).¹⁶ Route maps have been developed and distributed in communities through local government offices. Up until the last civil strife, there were at least 20 formally recognized *maracheel* in Greater Kordofan. A number of changes have taken place over the last three decades, such as expansion of mechanized farming, the civil war, displacement of people, and lack or deterioration of services along existing routes; as a result many of the main *maracheel* have become less viable, and pastoralists have begun to stray into various bifurcations or alternative routes, often encroaching on farmland. These changes combined with increased demographic pressure and a lack of technology to improve the productivity of smallholdings has generated a tendency among settled farmers to expand into areas around traditional farmlands, sometimes leading them to encroach on established stock routes. A common type of conflict occurs as a result of such mutual encroachment. Although this is not an altogether new phenomenon, it is now occurring at a time when demographic, technological, and developmental pressures and environmental degradation are severe. A related, more recent type of conflict, pitting farmers against herders, results from the fact that gum arabic tree owners increasingly prohibit pastoralists from grazing their stock on foliage, since this limits gum production. This phenomenon has not been significant in North Kordofan, but it has grown as the gum arabic belt has migrated to the south since the 1983–85 droughts, particularly

¹⁶ The average length of a *murhaal* (plural, *maracheel*) is about 180 kilometers, ranging from a maximum of 450 kilometers when the territory of more than one state is crossed, to a minimum of 100 kilometers. Each stock route contains around 10 camping or resting stations, where stock and men can stop for one or two days before moving again.

on the eastern slopes of the Nuba Mountains. In the original location of the belt in the light savannah of North Kordofan, strong ties exist between nomadic and settled tribes, but in southern areas gum arabic tree owners are more likely to be from ethnic groups (the Nuba in particular) who are already at odds with nomadic tribes for reasons related to the North–South conflict, and who may therefore be particularly reluctant to allow them to graze on the foliage of their trees.

Conflict over the use of hafirs (cases 4, 9)

Some of our cases are about *hafirs* built to water livestock that have been taken over by agriculturalists (notably nonlocal farmers) to water horticultural crops, which are increasingly cultivated to take advantage of growing market demand for horticultural products. These farmers generally fence off *hafirs* to prevent pastoralists from watering their livestock there, forcing them to travel greater distances than planned in order to access water. The result is not only tension between farmers and pastoralists but also overgrazing on pastureland surrounding unfenced watering points and unsustainable distribution of livestock around them. In a number of instances, pastoralists have in turn misused *hafirs* built for villages and damaged them, threatened villagers claiming primary rights over these water points, and caused environmental degradation around them. In some cases, the sedentary population's growing awareness of the health hazards of allowing animals into *hafirs* meant for village use has intensified tension between villagers and pastoralists, particularly because in such situations no compromise solutions, such as negotiated sharing of water ponds, may be possible.

Conflict around gardens (case 13)

Some farmers (notably but not exclusively nonlocal) grow horticultural crops along *wadis* and *khors*, which carry considerable amounts of water and silt in the rainy season. In the dry season, these farmers depend on shallow ground water aquifers. Due to the growth of market demand for horticultural produce, an increasing number of local farmers have also started to engage in this kind of production, which was traditionally in the realm of women's activity in home gardens. Many have established fences around their gardens for protection from livestock encroachment, blocking the passage of livestock toward *wadi* and *chor* watering points and igniting conflict between garden owners and pastoralists.

Conflict between new settlers and dar owners (cases 16, 17, 18, and 20)

In North Kordofan the most important *dars*, or tribal homelands, are those of the Bederyah (around El Obied), Gawamma (Rahad and Um Rawaba), Hamid (Bara), Kababish (Sodery) and Kawahla (Um Badir). Other non-*dar*-holding groups enjoy the status of affiliated tribes, which means that they can live

in a *dar* and use its resources, but their leaders are subordinated to the authority of the local *nazir*, or tribal chief, according to customary law. Similar to other parts of Sudan, affiliated tribes mainly practice mobile pastoralism, though this may have been more likely when the *dar* system was consolidated than at present, when *darless* tribes may well have evolved into semisedentary agro-pastoralist groups. In Kordofan, such tribes include the Showihat, Daju, Manasir, Bargo, Fellata, and Shanabla. This does not mean that pastoralists from non-*dar*-holding tribes, or indeed pastoralists in general, can only move through and use resources in the territory of the tribe to which they are affiliated. Rather, pastoralists in general often acquire the right to pass through and temporarily reside on the land of other tribes, depending on a series of customary norms based on negotiation among concerned groups. In this system, open conflict may arise only when a group settles in the *dar* of another group without agreeing to abide by local traditions and authority structures, or when it encroaches upon a *dar* without the consent of its traditional leaders. While this type of situation was not unknown during the precolonial period, under British domination and the NA this type of conflict became relatively rare. However, some legislation passed by the Government of Sudan in the 1970s and the early 1980s (see the next section of this paper) paved the way for more occurrences of this type of conflict, partly by changing the land tenure system based on the notion of the *dar* and partly by directly weakening the NA. In the case studies reviewed for this study, the weakening of the *dar* system has encouraged *darless* tribes to claim right of settlement over areas traditionally held by others. When brought before state courts, such claims have at times been supported by the judicial system, not necessarily out of lack of impartiality or out of a policy of favoring nomadic or seminomadic groups (though some of these were “enrolled” by the state to fight against Southern rebels at various points in time), but rather because the system upholds resource entitlements based on statutory law. Accordingly, legally enforceable entitlements regulating settlement should depend only on state ownership of all unregistered natural resources, on private property, and on the (formally) equal rights of settlement of every Sudanese citizen anywhere in the national territory.

Conflict between Pastoralists/Small Farmers and Government/Large Private Investors

Conflict over mechanized farming areas (cases 2, 11)

In the research area there are approximately 2.3 million feddans of demarcated mechanized farms and about the same amount of undemarcated mechanized farms. Mechanized farms have been installed since the 1970s, particularly in areas considered as “empty” and hence as rightful state property based on the criteria of the 1970 Unregistered Land Act and the 1983 Civil Transaction Act (both of which regarded as state property essentially all land not registered as a private holding). In many cases, these were areas

previously used as seasonal grazing lands and stock routes by pastoralists, so that their seizure and allocation to mechanized farming schemes has often resulted in a reduction of access to pasture, water, and passage areas for livestock owners (except for scheme leaseholders complementing farming with livestock production). As noted by Shazali (2002), who conducted research on the effects of scheme concessions on the livelihoods of traditional farmers and herders, schemes often “crossed the colonial grazing lines, blocked access to watering points, and disrupted numerous important pastoral routes. As pastoral routes and corridors in the farming areas were narrowed, incidents of crop damage proliferated with a consequent intensification of disputes between farmers and pastoralists.” In addition, mechanized farming schemes at times took over land traditionally used for rainfed farming by individuals or on a communal basis, particularly when this land was not continuously farmed but rather used in rotational cycles. The result has been a significant blow to the livelihood strategies of many small farmers in poor rainfed areas, who often already operate in fragile subsistence economies. Overall, crop production is traditionally a risky business for these farmers, who have historically developed various mechanisms to reduce risk and adapt to difficult environments, including customary norms regulating farmers’ access to large tracts of land to practice shifting cultivation. The government’s decision to seize lands to allocate them for mechanized agriculture has deprived traditional producers from this risk-reducing strategy, gradually creating the conditions for increasing competition among local farmers, between pastoralists, farmers, and mechanized agriculture scheme holders, and finally between traditional local farmers and scheme holders, most of whom are urban merchants or civil servants with political ties to the federal government.

Conflict over oil infrastructure (cases 3, 5)

Investment in oil-related infrastructure has increased considerably since Sudan began to exploit its oil resources in the 1990s, in cooperation with foreign (notably Chinese) companies. Because this is a promising sector for economic development, Sudan’s government made the obvious choice in initiating and encouraging investment in oil extraction. However, the construction of oil-related infrastructure damaged the natural and social environments of areas directly or indirectly affected by the oil industry. Observers and interviewees argued that construction was carried out without taking into consideration externalities such as the impact on rural livelihoods. Therefore, the government commissioned several assessments of the environmental impact of oil production and transportation, including an August 1998 report on the Muglad Basin Oil Development Project (including the oil pipeline system) for the China Petroleum Engineering & Construction Corporation (CPECC). This report was noteworthy because it included a section with recommendations for compensating affected rural communities for damages caused by the project. In some cases, it even recommended that communities be resettled. However, the

recommendations of this and similar reports have not been fully implemented by the government agencies in charge of developing the oil sector. On the contrary, oil investments, including development of oil fields, roads, and a pipeline, have blocked stock routes, reduced forest areas and farmland, and obstructed access to good water sources for both sedentary and mobile populations, without adequate planning for alternatives or compensation. More evidence comes from a report produced by Talisman, a foreign oil investment company, which features a series of satellite images collected in 2001 that show how the water table in Sudan was affected by the construction of roadbeds on the Mujlud–Heiglig route. Despite their economic importance and the positive impacts they have had on the area, these roadbeds have negatively affected the flow of water into farmland and pasture areas. However, adequate planning has not been done to obviate the problems of affected resource users, including communities interviewed for this study and living around the Ballila–Kadogli road (which was also built in relation to the oil industry). The oil pipeline has had significant negative externalities, especially because it crossed village farms in many areas without local communities receiving adequate compensation, if any. In some cases, open confrontations have occurred between affected groups and pipeline/government authorities that required the intervention of police forces. With more oil investments envisaged for the future, more local conflicts of this kind can be expected unless adequate provisions are made for minimizing the impact of such investments on local communities.

Conflict over other private investments (case 15)

Another form of conflict can be traced back to governance problems such as unresponsive, top-down policymaking and lack of planning to minimize negative externalities. Conflict is linked to a series of private investment schemes set up under the 1990 Investment Encouragement Act. These investments often encompass areas formerly covered by village farms, pastoral routes, and rainy-season grazing settlements, depriving local people of their usufruct rights. Similar to the oil sector, the importance of these investments to the development of the region is not in question. Nevertheless, concessions for such investments can lead to conflicts within and among local resource users because they create new entitlements to resources that go against customary arrangements. Similar to mechanized farming schemes, these concessions typically bring in outside stakeholders on privileged terms, whose interests are often at odds with those of local resource users and who, unlike the local population, can rely on clientele ties to Khartoum-based elites.

Conflicts around catchments of seasonal running water (case 12)

Runoff from torrential rains generates a number of ephemeral streams all over the research area: the tendency is growing for individual states to establish catchments along these streams for irrigation

purposes. However, assessments of the social and economic impact of such interventions are rarely conducted, and in general mechanisms to regulate and ensure adequate provision of water for all affected users are not planned. Hence attrition may occur between downstream users and those concentrated in the catchment area, particularly during periods of water scarcity. To date, no violent conflicts of this sort have occurred. However, case study 12 indicates that NR management decisions affecting the relative availability of water resources can drive a wedge between groups of resource users not only around water ponds (*hafirs*) but also around catchments.¹⁷

Table 1. Distribution of case studies among categories of conflict

	Type of conflict	Number of cases studied
I	Conflict between pastoralists and farmers over	10
	Land and pasture around stock routes and in village lands	7
	Use of <i>hafirs</i>	2
	Plots cultivated as vegetable gardens	1
II	Conflict between “new settlers” and <i>dar</i>-holding tribes	4
III	Conflict between pastoralists/farmers and large private investors and the state over	5
	Mechanized agriculture schemes	2
	Areas covered by oil investments	2
	Areas covered by other private investments	1
IV	Conflict between upstream and downstream water users	1
	Total	20

¹⁷ Based on the sample of case studies reviewed for this paper, the most common category of conflict is that between farmers and pastoralists, followed by conflict caused by settlements in *dar* land and by disputes over mechanized farming schemes and oil infrastructure. However, this has no statistical value beyond the sample.

5. SOME ENVIRONMENTAL AND SOCIOECONOMIC IMPLICATION OF NR CONFLICT IN KORDOFAN

The many years of civil war and ethnopolitical strife that Sudan has witnessed and is still witnessing in areas like Darfur have had a devastating impact on the natural and socioeconomic environment, notably in areas directly affected by fighting and also those, like Kordofan, that have mostly been on the fringes of the civil war. As some case studies reveal, ongoing conflicts over natural resources in some of these areas (notably in “transitional” areas between government and SPLM-controlled territory) have resulted from the war and its reverberations. Conflicts have been generated, for example, by a divide-and-rule, patron–client policy by both the state and the SPLM and a government de facto preference for military rather than development expenditures. Environmental degradation has further fed these conflicts, but it has only done so in the context of a complex interdependence of mutually reinforcing factors, rather than in the form of a univocal causality. This interdependence is evident, for instance, around the phenomenon of overgrazing, which is generally considered to be one of the major signs of environmental degradation in the area. In part, overgrazing is a consequence of reduced availability of grazing due to the expansion of mechanized agriculture, oil investments, and so forth. Moreover, many traditional grazing areas have become unavailable because of climatic changes, desertification, and the more or less temporary inaccessibility of certain areas as a result of insecurity caused by the civil war and by small-scale conflicts. Since the mid-1980s, this combination of factors has put pressure on pastoralists to seek pasture away from traditional stock routes and to concentrate livestock in the relatively few areas that are available as pastureland. In some cases, such concentration has in turn caused lasting damage to the plant cover around water points, reducing or halting the process of plant regeneration traditionally made possible by customary practices. While harmful in the medium and long term, many nomadic groups have felt compelled to choose such concentration and the resulting overgrazing in the absence of better short-term alternatives. Moreover, up until the late 1980s, mobile pastoralists formed small camps and traveled with relatively small groups of livestock. Later on, the insecurity generated by the civil war and by more localized conflicts began to push them to move in larger groups, which in turn leads to overgrazing *and* to a greater likelihood of conflict with other resource users. For instance, growing numbers of farmers are reported to deliberately burn pasture to keep pastoralists away from their land, ostensibly to defend themselves and their crops and to avoid conflict. The Range and Pasture Administration estimates that 20 to 30 percent of the herbaceous biomass of the rangeland is burned and destroyed annually (not all deliberately, however).

A complex interplay of factors also links conflict and degradation of water sources. As noted, some conflict stems from pressure over existing water points not fenced off or blocked by mechanized farming schemes and from horticultural gardens. But some stems from decisions by communities to stop

maintaining water points, so as to avoid conflict around them. Among the communities visited during fieldwork, for instance, is Al Korogol in South Kordofan (case 4), which reported that it has deliberately neglected maintenance of its *hafirs*, because these tend to attract pastoralists. In the community's view, this is a necessary measure to avoid conflict that may ensue from the arrival of pastoralists in the area, an occurrence that would have been regarded as normal until the early 1990s, when there was less mutual acrimony and suspicion between farmers and herders. Similarly, many reports state that forest cover in the research area is declining, though quantitative estimates of this phenomenon differ. This is due partly to the cutting down of trees to make room for oil concessions, infrastructure, and farming schemes, and partly to conflict between pastoralists and owners of gum arabic gardens, following the decision by the latter to fence off trees. This is not yet a statistically significant occurrence, but it has already pushed some groups of pastoralists to force their way into gum arabic forests by felling trees. Moreover, farming groups have been engaging in tree cutting to take advantage of growing urban market demand for forestry products (mainly charcoal and wood), partly shielded by the absence of clear and efficient law enforcement mechanisms for forestry control. This is particularly a problem in South Kordofan, where deforestation is not only an environmental concern but also a process fueling conflict because forest products are important in the livelihoods of both nomadic pastoralists and settled communities.

On the social level, the case studies evidence the importance of the intersection of resource-related and social factors behind NR conflicts in Kordofan. In many cases, local NR disputes result from population displacement from areas of fighting and from their failed integration into the socioeconomic fabric of local communities. Alternatively, groups that have engaged in combat elsewhere may return to their areas of origin carrying weapons, with a more contentious attitude toward their neighbors than they (or their elders) had in the past, and with decreased respect for local elders or customary authorities. In other cases, pastoralists who have lost grazing land in their homeland or in traditional stock routes for various reasons may become “permanently” displaced, losing their place in the social fabric of their region and finding themselves with little alternative to moving more or less continuously across *dars*, often entering into conflicting relations with the various groups they encounter on their path. This phenomenon is compounded by the ethnicization of social divisions rooted in livelihood systems or in competition over shared resources. The government's decision to mobilize certain ethnic groups (notably “Arab” pastoral groups) in its fight against Southern rebels has for instance been a factor in the ethnic polarization of resource-based competition in Kordofan, particularly in areas traditionally inhabited by Nuba peoples. Somewhat paradoxically, this ethnicization has in turn compounded the social fragmentation effects of the crisis of customary NR management institutions like the *Dar* system since the 1970s, and more substantively since the 1990s. Against this background, the government has not always played a constructive role by choosing more often than not to pursue a practice of political, economic, and

military patronage to the disadvantage of many (though not all) rural groups. The results of these overlapping factors have not only led to deterioration of NR management and conflict management in rural areas but also to the erosion of social trust within and among rural communities. Collaborative relations among groups have declined and people's trust in social and political authorities has eroded. The politicization, fragmentation, and ineffectiveness of NA authorities have undermined their credibility as representative and authoritative entities for many rural people, particularly younger generations growing up in the shadow of continuous conflict. Moreover, the nonneutral role played by the Government of Sudan and federal political elites in some cases of conflict has eroded whatever beliefs people may have held in previous decades concerning the relative neutrality of the state and its genuine commitment to promoting national development. Field interviews suggest that many people in Kordofan view the state as an instrument of power wielded by a specific group or party, which is mostly used to maximize the welfare of that group and its clientele. This is particularly the case among communities that have seen government institutions working against local interests, for instance in areas where the army has cleared forests for trading (case 9), where the Water Corporation has taken over water facilities established with community resources (case 4), where the State Ministry of Agriculture has distributed land to outsiders without local involvement, thereby disrupting local livelihood systems (cases 2 and 15), or where the legal system has challenged the principles of the *Dar*, on which local tenure security depended (case 18).

In spite of this deterioration of social trust and of the crisis of conflict management institutions, many communities are still able to find mechanisms to prevent disputes from escalating into open violence, and some have been able to continue to use either NA or government institutions to seek a resolution of open conflict situations. In other cases, affected communities have entertained the idea of taking up arms to defend their livelihoods (case 7), and others have decided to abandon their land and to migrate, despairing of a successful resolution of ongoing conflicts (case 2). In all cases, interviews suggest that a combination of factors is at play whereby increasing competition over natural resources or an increasing tendency to address competition through conflict are partly related to policy decisions, whether these concern NR management, developmental choices, or institutional interventions concerning conflict management. At the same time, neither NA nor government institutions are generally able to steer stalemate competition, let alone contain cases of open conflict, both because of their ineffectiveness and because of the erosion of social trust. To examine further the governance implications of these different factors, we will now turn to a review of mechanisms for NR and conflict management, encompassing the realm of "traditional" institutions as well as formal policies and government.

6. POLICIES AND INSTITUTIONS CONCERNING NATURAL RESOURCE AND CONFLICT MANAGEMENT IN KORDOFAN

Governance factors may be implicated in NR conflict in various ways. In particular, they may contribute to the causal factors behind conflict or they may be either conducive or obstacles to successful conflict management.¹⁸ Our review of Sudanese government policies, laws, and institutions from the perspective of resource-based conflict thus attempts to consider both kinds of implication. In the next few pages, we will first look at laws, policies, and institutions related to access to natural resources in Kordofan.¹⁹ Second, we will examine policies and institutions related to changing configurations of power and authority over NR and conflict management, since these affect both the distribution of entitlements and the allocation of authority to manage conflicts resulting from changes in this distribution.²⁰ Since we have suggested that misguided development policies have played a role in changing the distribution and use of natural resources in ways that have contributed to conflict, we have also reviewed various government plans related to development and use of natural resources.²¹ A combined analysis of such documents and policies yields the following picture concerning the governance structure of natural resources in Kordofan:

1. *A constant interplay of (broad-based) developmental logic and (narrow) patron–client motivations behind natural resource policies:* At least since the 1970s, the Government of Sudan has adopted policies to strengthen the power of certain social groups (state elites or their clients) and to relatively insulate the state financially and politically from

¹⁸ Another key factor behind patterns of NR governance and conflict in Sudan is the analysis of the policy and political processes in which governance is embedded. Though we only indirectly touch on these issues in this paper, this analysis has been conducted as part of the project Empowering the Rural Poor under Volatile Policy Environments, and the results are presented in a forthcoming IFPRI Discussion Paper by El Harizi et al.

¹⁹ Regarding land, the primary laws and policies are the 1899 Title to Land Ordinance, the 1925 Land Settlement and Registration Ordinance, the 1970 Unregistered Lands Act, and the 1984 Civil Transaction Act (amended in 1990). Concerning water, the most relevant legislation includes the 1995 Water Resource Act, the 1996 State Water Corporation Act, the 2001 South Kordofan State Water Corporation Law, and the 1998 North Kordofan State Water Corporation Law. Laws regarding forestry and pasture include the 1996 Protection and Pasture Resources Development Bill and the 2002 Forest and Renewable Natural Resources Bill. Those concerning a range of resources sustaining pastoral livelihoods include the 1999 North Kordofan State Law of Stock Routes (amended in 2003), the 2002 South Kordofan State Law Organizing Agriculture and Pasture, and the 2000 Law Organizing Farming and Pastoralism in South Kordofan.

²⁰ In this regard, the most relevant policy documents are those concerning the ongoing process of devolution of powers, starting from the 1971 People's Government Act and going as far as the 1991 4th Constitutional Decree, the 1998 Constitution of the Republic of Sudan, the 1998 Local Authorities Act, and the 2003 Local Government Act. In relation to the NA, laws and policy documents also exist that define its role as part and parcel of a particular way of understanding the state, its role, and its relationship with society. These include the 1932 Native Courts Ordinance, the 1970 Native Administration Act, the 2000 Law Organizing Native Administration in South Kordofan, and the 2004 Law Organizing Native Administration in North Kordofan.

²¹ These include the Strategic Plans of Northern and Southern Kordofan (2004–28) and their Five-Year Plans (2004–08) and the National Water Policy (2000). Reports concerning such policies and their implementation include a report on Performance of the State Water Corporation of North Kordofan (1999–2004), records from the Consultative Annual Meetings of State Ministers of Finance, and the annual reports of the State Support Fund. Each of these was reviewed in document form as well as discussed with government officials, so as to gain insight into the rationale of policies concerning natural resource use as well as into government perspectives on the impact of such policies, including conflict.

the rest of society, notably the rural poor. Such policies have by and large been adopted in a top-down fashion, with little or no consultation with primary stakeholders such as local communities. In addition, even when developmental concerns have ostensibly driven the policy process, the primary objectives of development plans have rarely been the welfare and empowerment of local communities and the social, economic, and environmental sustainability of their livelihood systems (including small farming and pastoralism).

2. *A hesitant and partial process of deconcentration/decentralization of NR*

management: Recent policy developments suggest a clear formal orientation toward decentralization and even devolution in government plans for Sudan's future. This is not a new phenomenon, since the NA system already represented a form of decentralization of NR-related authority. In addition, since the weakening and quasi-demise of the NA in the 1970s, a different process of decentralization has taken place. This process has mainly consisted of the creation of a series of local institutions with unclear or overlapping authorities and insufficient capacities, often linked to the national government by patron–client ties and rarely capable of penetrating into the social and economic fabric of the countryside. Despite recent progress, local government agencies rarely reflect their constituencies or local livelihood systems, and they are generally not very responsive (let alone accountable) to local resource users. This is partly due to hesitation on the part of the national government to proceed to a robust devolution of authority to the states and localities, despite its federalist orientation and the provisions of the 1998 Constitution and the 2005 Comprehensive Peace Agreement (CPA).

3. *Weak capacity of NR governance institutions:* Partly as a result of the above, but also due to misguided fiscal policies, state and locality level government institutions often suffer from understaffing, lack of information, narrow technical focus, and inability to sort through conflicting policies and legislation concerning natural resources. These problems are not limited to government institutions, but the latter are particularly affected because of their lack of political and financial autonomy, the deteriorating quality of civil service outside the capital city, and the low human, technical, and enforcement capacity of local agencies.

This broad picture can be broken down into the two main components of NR governance in Sudan, namely its legislative and administrative/political dimensions, with cross-cutting attention given to the issue of decentralization of NR management.

The Legislative Basis of NR Governance

The legal framework governing access to natural resources is crucial for NR management and to determine the entitlements of different resource users and their capabilities to access resources that are important in their livelihood systems. These entitlements and the degree to which they can be upheld vis-à-vis formal institutions are in turn important in order to prevent, contain, or resolve potential conflict among different stakeholders—individuals or groups, local or nonlocal resource users, and the state. Similar to most other postcolonial states, in Sudan the legal framework governing NR access and use has evolved against the background of preexisting norms, some of them of colonial origin and others (notably those historically most relevant for rural areas in nonriverine Sudan, such as in Kordofan), based on the institutionalization of custom during precolonial and colonial times. Though customary norms in particular may have been integrated into some kind of formal body of laws at some point (as was the case with the NA), they have mostly been upheld by social consensus within communities and in larger social formations, as well as in their peaceful interaction or in conflict situations. As a result of this normative legacy, independent Sudan confronted from the very beginning a situation of institutional/legislative dualism with respect to natural resources. This meant that state elites aiming to build a unified system of NR legislation were almost bound to make decisions concerning access and use rights that would alter some established equilibriums, violate existing entitlements, and possibly pave the way for unprecedented forms of competition. To paraphrase Paul de Wit (2001), the problem that Sudan faced was not only one of “legislative dualism,” but also one of actual or potential conflict between stakeholders whose interests were catered to either by norms of customary “legitimacy” (such as holders of communal tenure rights) or by those of formal “legality” (notably private landowners and the state). In such a situation, people’s perception of what was rightfully theirs ran the risk of not only remaining distinct from the letter of state law in areas so far ruled by customary institutions, but also of entering into open conflict with the holders of entitlements sanctioned by the law, including the state itself (deWit 2001). This problem was compounded by the fact that, unlike colonial powers, postindependence elites faced the challenge of regulating NR entitlements in such a way as to make legitimacy and legality coincide as a precondition for a “modern,” development-oriented, and well-integrated national economy, which would bring even rural areas marked by subsistence-oriented livelihoods into the mainstream of socioeconomic growth.

Against this background of legal/institutional dualism, the development of a unified legal framework for land tenure in nonriverine Sudan has perhaps been the most complex domain of NR legislation and governance since independence. This is partly because land is vital for a variety of livelihood systems and forms of power, and partly because prior to independence there already existed a relatively well-developed system of land ownership and use rights in these areas. During the colonial period, this system was rather effective and enabled the preservation of relatively stable livelihood

systems in areas not involved in the cotton production enterprise. Colonial authorities had a vested interest in maintaining a dual-policy system in land tenure, whereby they would directly control land in riverine and Northern Sudan and would only codify and discipline customary practices in other rural areas, thereby consolidating tenure and use patterns that had been previously negotiated with great fluidity by tribal leaders, notably *sheikhs*, *nazirs*, and *omdahs* or *mandoubs*. Two documents form the cornerstone of colonial legislation concerning land tenure: the first was the 1899 Title to Land Act, which recognized private property in the cultivated areas of extreme north and central riverine Sudan and disregarded the rest of the country. The second was the 1925 Land Settlement and Registration Act, which set criteria for land registration and declared that all land not claimed for registration was to be considered government property. To this effect, section (c) of the document stated that: “All waste, forest, and unoccupied land shall be deemed to be the property of the Government until the contrary is proved.” Most of the land of Sudan was thus effectively declared to be government property. In practice, this Act was essentially meant to affirm government claims to urban and agricultural land around the Nile and in the north of the country. However, communities holding customary rights to land were given a chance to register such rights, whether as individuals or as villages or tribes. In this respect, the Act simultaneously affirmed government entitlements over “unoccupied” land and the desire of colonial authorities to give a legal basis to the possibility of codifying customary entitlements, so long as these could be “visibly” demonstrated for instance through continuous cultivation, occupation, or infrastructural investments. In practice, few communities and tribes took advantage of this opportunity to demonstrate their entitlements, partly due to lack of information about the legislative process and registration mechanisms and partly to the difficulty of demonstrating entitlements for communities practicing mobile forms of land use. Hence the 1925 and the 1899 acts together formed the legal basis for subsequent claims by the state that it should “own” all Sudanese land not registered as private property. In addition, the primacy of government entitlements was not limited to land. In particular, the 1932 Central Forest Act and the 1933 Royalties Act extended it to forests to facilitate government access to wood to fuel a transportation system (including a railway and steam ferry boats) serving extractive industries and exports.

After independence, the primacy of state entitlements to natural resources (notably land) was stated in several pieces of legislation that accompanied the process of state building. The most important and perhaps best-known piece of legislation in this regard is the 1970 Unregistered Lands Act, which declared that all unregistered land in all regions of Sudan was state property of which the government could dispose as it saw fit. The Act aimed to facilitate then-President Nimeiri’s plan to boost the production of food crops through a massive reorganization of the agricultural sector, so as to turn the country into the “bread basket of the Arab world,” notably of those food-dependent Gulf countries benefiting from the 1973 oil boom. Despite progressively abandoning his “socialist” orientation and

turning toward relatively market-driven politics and to Islamic law, the *shari'ah*, as a key institutional referent, this policy lasted more or less through Nimeiri's rule, partly as a result of external factors including pressure from the World Bank and the U.S. Agency for International Development. In line with contemporary thinking on development, these agencies encouraged Sudan to undertake ambitious programs of technological transformation in the agricultural sector, including large-scale investments in irrigated areas and the introduction of extensive mechanization in rainfed areas like Kordofan. Such programs required the Government of Sudan to radically transform existing patterns of tenure and resource use in rainfed areas. As noted, these areas were mostly characterized by subsistence farming and pastoralism based on customary institutions like communal holdings, shifting cultivation, and land allocation on a usufruct basis by *sheikhs*. Such arrangements were functional to a subsistence economy in a changing, often unfriendly environment, thanks to their ability to recognize different mobility needs and the complementarities of local livelihood systems. Moreover, particularly since the codification of NA institutions under the British, such arrangements had been rather effective in preventing and managing NR conflicts. However, they could hardly be capable of sustaining an organized, large-scale effort to exploit natural resources through modern technologies for increased food production, nor did they stabilize tenure sufficiently to encourage the investments in land resources needed to achieve that goal. Consequently, government elites deployed a discourse of development and "public interest" to justify their introduction of legislation that built on certain preexisting laws from the colonial period (notably the two acts mentioned above), legitimizing state takeover of land in rainfed areas.

The 1970 Unregistered Lands Act granted no transitional period during which customary stakeholders could register their land entitlements under the 1925 Land Settlement and Registration Act. On the contrary, section 7.1 stipulated that all registration processes pending completion at the time of the 1970 Act would cease upon its becoming effective. Furthermore, the Act did not provide any compensation for customary title-bearers, nor did it provide any legal basis to support their claim that they should be regarded as legitimate stakeholders in future agricultural projects on land they had been occupying or using. On the contrary, the Act authorized the state to use a "moderate degree of force" if customary users needed to be evicted from unregistered land, as was sometimes the case in areas taken over to establish mechanized schemes. In sum, the 1970 Act empowered the state at least formally to take control over land in rainfed areas, and the state had a developmental incentive to actually do so wherever it found environmental conditions favorable to the establishment of mechanized farming schemes (in Southern Kordofan, for example). Although most of the population did not then begin to look upon the state as the legitimate owner of unregistered land, the Act has had very significant effects, notably because, during the same period, the state also abolished the NA and stripped tribal and customary authorities of their functions concerning NR and conflict management.

In its early years, the “bread basket policy” mostly resulted in a reallocation of land entitlements to urban supporters of the government. Eventually, however, the policy failed, perhaps primarily because of the fading out and then reversal of the effects of the oil boom in the Gulf, but also because of the Sahelian droughts of 1983–84. Regarding natural resources, one of the last initiatives of the Nimeiri government (which ended in 1985) was the attempt to reinstate the NA to regulate relations among resource users and prevent or manage small-scale disputes over natural resources, without thereby relinquishing any of the state claims over these resources. A key piece of legislation in this regard is the 1983 Civil Transaction Act, which was subsequently amended in 1990 under the al-Bashir government. The Act reaffirmed that the state is the legal owner of all nonregistered land, but it also acknowledged, at least in theory, the value of customary usufruct rights and reopened the possibility of registering these rights, as British rule attempted to do in 1925. Perhaps most importantly, the 1983 Civil Transaction Act formally recognized the status of registered usufruct rights as having legal weight comparable to that of ownership rights proper. This was a key provision for the vast majority of resource users in rainfed areas, given that the customary system of land tenure, and indeed the whole customary system of natural resource management, rested on relatively flexible relations between users and resources, as well as on the possibility that customary authorities may revoke individual or household entitlements (notably in case of prolonged nonuse of land). Despite this and other provisions going in the same direction, the dominant feature of the Act was the reassertion of the fact that the state was not only the preeminent owner but also the highest manager of Sudanese land, a responsibility that it lacked the legitimacy to bear effectively. Moreover, despite being formally superseded by the new act, the by-rules of the 1970 Act often continued to be applied by courts even after 1983, resulting in procedural confusion.

Concerning pastoral livelihoods, the 1983 Act bore witness to state efforts to provide a solid legal framework to regulate access to pastureland. In section 565, it was stated that although the state could place restrictions on grazing in any particular circumstance, fallow land in general should be considered as pastureland, and the state could allocate more land to pastoral communities for grazing if needed. Moreover, this Act made it possible to register pastureland as communal, rather than individual holding, thereby acknowledging the prevalence of communal modes of access to resources among pastoral groups. Unfortunately, as in 1925, pastoral groups rarely took up the opportunity to register communal entitlements, possibly due to bureaucratic constraints and insufficient information. This failure to seize the opportunity had lasting consequences, since in the following decades the state made no significant effort to regulate and even to acknowledge the specific NR needs of pastoral groups, even while the droughts of the 1980s and the resumption of the civil war placed unprecedented stress on the livelihood systems of pastoral communities, particularly in Western Sudan. Indeed, despite great changes in the natural and social bases of both sedentary and nomadic livelihoods in many parts of the country during

the 1980s and 1990s, there has been no significant government effort to develop a comprehensive policy on pastoralism and on its role in the economy of changing rural ecosystems. Rather, issuing laws and policies concerning pastoralism remained until 2002 the prerogative of local councils in collaboration with tribal authorities. The 1996 Range Protection and Pasture Resources Development Bill was the first attempt of the state to come to terms with this changing reality and more particularly with the growing vulnerability of subsistence pastoralism. The bill attempted to define different types of pastureland and pasture management, and it proposed some form of popular participation in resource management, whereby the management of pastoral reserves would be entrusted to communities under the supervision of state-level Range and Pasture Departments. However, the bill was not ratified, and it was only in 2002 that the government passed a Forest and Renewable Natural Resources Bill that addressed the key question of how to prevent conflicts between pastoralist groups and other stakeholders in forest management. To this end, the bill laid out a system of sanctions and enforcement mechanisms to ensure sustainable practices in the use of forest resources. Though recognizing at least in principle the grazing and passage rights of pastoralists, the bill subjected these rights to the discretionary power of Forestry Corporation authorities, ostensibly to ensure sustainability and environmental conservation. However, given the set up and political and economic clientele of the Forestry Corporation, the bill ended up being perceived by pastoralists in affected areas as an instrument to affirm the rights of sedentary communities (including gum arabic tree owners) over their own, and this limited its popular legitimacy and also the success of its enforcement mechanisms. Indeed, many saw the bill as proof of the preference of the federal government for sedentary livelihoods over mobile or semi-mobile livelihoods. Whether or not this holds true in all of Sudan is debatable, especially considering the important role that the livestock sector has played in Sudanese exports particularly during the 1990s. Whatever the case, several efforts to establish sustainable mechanisms to harmonize different livelihoods have actually been made at the state level, particularly in areas like Kordofan, where pastoralism is an important component of the rural economy. In these areas, state legislation has sometimes made a clear effort to integrate elements from customary institutions into formal regulations and management institutions, so as to accommodate existing forms of resource access and entitlements that characterize mobile pastoralism. In the past few years, state authorities in Greater Kordofan have issued a number of laws to organize management of farm and pasture lands. For instance, the state of North Kordofan issued a Law of Stock Routes in 1999 (amended in 2003) and the state of South Kordofan issued a Law Organizing Agriculture and Pastoralism in 2002. These laws define stock routes, spell out duties and responsibilities of farmers and pastoralists, and establish penalties for trespassing or other violations such as stealing animals or polluting water points. However, neither law has been adequately enforced, partly due to lack of clear enforcement mechanisms and partly to lack of adequate state investment in water points, pasture, markets, and

veterinary services along newly demarcated stock routes. As a result, these routes do not usually meet the needs and preferences of either farmers or pastoralists, who have little incentive to follow them.

A weak legislative framework also characterizes water governance in rural areas, despite formal clarity in the letter of related laws. According to the 1998 Constitution, all surface and subterranean resources, including water, are a public good whose utilization must be regulated and managed by the federal government and used by citizens in conformity with government laws. However, the legislative cornerstone of water governance is the 1995 Water Resources Act, which affirmed government ownership and regulatory rights over groundwater and entrusted the federal Ministry of Irrigation with the responsibility of overseeing national water resources and state governors with responsibility over state resources. The 1996 State Water Corporation Act regulated management of water resources at the state level, with the Ministry of Irrigation delegating de facto responsibility to the State Ministries of Engineering Affairs. State Water Corporations, set up under the 1996 Act, are responsible for setting policy and planning use and development of water establishments, setting tariffs, and developing all management initiatives concerning groundwater (including water that is formally national property, given the lack of a clear definition of boundaries between state and interstate waters). However, the authority of these various corporations often overlaps with that of localities and provinces. For instance, the 2002 Local Government Act empowered localities to manage the development of local water resources, and laws and agreements also exist at the regional level for water usage and protection. Duplications of responsibilities also exist at a higher level: for example, between the Higher Council for Environmental and Natural Resources and the National Council for Water Resources. In 2000, a National Water Policy was formulated with a view to improving water governance through devolution of water management responsibilities based on principles of subsidiarity, a demand-driven approach to water development, participation of all stakeholders in water management, and efficient and transparent institutional arrangements. However, such policy has not yet been translated into a unified legislative framework that may facilitate coordination among the various agencies that have responsibility over water resources and ideally give a voice to local stakeholders in the definition of appropriate legislation. Conversely, in the realm of environmental conservation the Environmental Health Act of 1975, which was repeated in 1997, addresses in a comprehensive way environmental problems that may affect natural resources, including water. However, local and state-level agencies entrusted with environmental assessments and conservation rarely work in consultation with groundwater authorities or include groundwater specialists. Moreover, despite the 2002 Regulations for the Protection of the Environment in the Petroleum Industry, oil drilling is often conducted without competent supervision or involvement of groundwater authorities. In practice this amounts to a weak, fragmented legislative and policy framework for water governance, which does not provide a solid basis for the organization of sustainable rural livelihood systems.

In sum, while many laws and regulations have been passed at both national and state levels to regulate NR management, many suffer from weaknesses that make them precarious foundations for sustainable resource use and at times turn existing regulations and enforcement mechanisms into concurrent factors behind conflict. To recapitulate:

1. Post-independence legislation has affirmed a system of *NR rights and management mechanisms based on state ownership and on registered (mostly individual) property* as the normative modality of access to certain resources (notably land). This has weakened the entitlements of a large number of stakeholders, whose access to natural resources was traditionally based on unregistered entitlements and nonexclusive property rights. Moreover, since the 1970s the state has increasingly been able to distribute access rights to groups other than traditional stakeholders, such as urban merchants and civil servants in the 1970s and 1980s and oil investors, members of the military, and private entrepreneurs in more recent times.
2. Despite its affirmation of the primary rights of the state over natural resources, existing ***legislation does not reflect the state's actual ability to access and manage such resources in an effective, let alone equitable way.*** In part this is a problem of incomplete or slow development of certain government institutions needed for NR management. In part it is also a consequence of the failure of certain development policies (notably the bread-basket policy and the more recent food security policy), which did not focus on the socioeconomic needs, perspectives, and aspirations of local resource users. Furthermore, existing legislation formally entrusts various actors with overlapping or conflicting responsibilities for the implementation of regulations and management mechanisms, yielding an inefficient and overly bureaucratic institutional environment for resource management. Finally, natural resource legislation has suffered from the same problems of policy volatility (that is, frequent and relatively unpredictable changes, though not always of serious consequence) and lack of coordination among legislators and more generally powerholders as other policy domains in Sudan.
3. Existing legislation has generally ***undermined or openly delegitimized the authority of "traditional" institutions for conflict and resource management.*** Moreover, it has not established clear alternative references for conflict management, since formal institutions like courts are not easily accessible or trusted by local stakeholders in need of arbitration or other services. The recurrence of duplications, conflicting responsibilities, and lack of clarity in

existing legislation has also created a legal system that is liable to political manipulation. As a result, local stakeholders often regard the establishment of patron–client relations with the ruling party or with urban merchant elites as the only way to have access to the legal and judicial systems. When that is not possible, local incidents can easily escalate or link up with broader conflicts. Even when it is possible, however, the relatively frequent occurrence of divisions or rivalries among members of the ruling establishment reduces the durability of benefits accruing to clientele ties for rural people.

The Administrative and Political Basis of Governance

The administrative and political aspects of NR governance in Sudan are characterized by two mutually contrasting tendencies: affirming the control of the national state over resources and at the same time multiplying agencies and institutions entrusted with practical responsibilities for resource management. As noted above, this phenomenon is not new in Sudan, where already the colonial administration attempted to centralize political authority, while also nurturing local administration mechanisms that would enable the government to control a large territory without being directly present in peripheral areas. Both of these tendencies are still typical of the Sudanese state today, culminating in recent efforts to decentralize authority under the framework of a federal constitution and, even more recently, under the provisions of the CPA. Since this has important implications for NR management as well as for understanding resource-based conflict in rural areas, we will now sketch a brief historical overview of governance mechanisms in Sudan.

The Native Administration (NA) and Customary Authorities

The NA was created under the British in the 1920s-30s because the colonial state wanted to assert authority over vast areas of rural Sudan, where it had neither the ability nor a strategic incentive to establish a direct presence. Hence the frequent contention that NA was merely an indigenous (“native”) veneer over a system of colonial domination. The 1932 Native Administration Ordinance provided the most comprehensive legal sanction of the system. It recognized tribal authorities as part of the NA and granted them formal judicial powers to manage natural resources and conflicts through a parallel court system. The setup of this system varied somewhat from area to area, but the NA essentially consisted of a series of local and regional authorities linked to tribal groups, with some variation in names and responsibilities depending on whether they were sedentary or nomadic (or seminomadic). In general, a *sheikh* was the head of a village or small nomadic unit, an *‘omdah* or *mandoub* oversaw a group of villages, a tribal clan, or a large encampment, and a nazir stood at the head of a tribe (see Appendix B).

These leaders were generally chosen based on tribal norms that predated the constitution of the NA, such as hereditary transmission and consensus among tribal elders. Colonial authorities at times intervened to support the appointment of one or the other leader, especially to a position of intermediate authority, but in general NA authorities followed local norms of allegiance and relatively stable lines of tribal power.

The NA's responsibilities during the colonial period coincided partly with those that tribal institutions had had up until then (Youssef 2004). These responsibilities traditionally included the negotiation of stock routes, passing and grazing rights, and farming and grazing calendars among sedentary and nomadic groups, supporting allied tribes in conflict situations, and resolving disputes both within and among tribes. All this was done on a rather ad hoc basis during the precolonial period, resulting in frequent conflicts among tribes. Under colonial authority the exercise of customary norms and authority became more stable, partly due to the formal definition of the contours of various tribal homelands and the main stock routes. Moreover, under the British, NA authorities took on the role of tax collectors (which some of them had already done on behalf of local sultans under the Funj, for example). This role made them agents of the state and thus part of its formal system for resource extraction. A certain percentage of taxes were kept by the NA itself, which provided it with some financial autonomy. The NAs primarily managed resources on the basis of a system of customary arrangements that evolved through many centuries of negotiation and adaptation, particularly during the Islamic Kingdoms that preceded colonial domination. Since traditional farming in many parts of Sudan is based on shifting cultivation and since pastoralist groups may need to move across large expanses of territory, management of mobility was a key element in this system. At the village level, customary arrangements traditionally upheld by the NA gave the *sheikh* the leading role in managing land resources among farmers. The *sheikh* also had (and in some cases still de facto has) the power to distribute land for temporary settlement to outsiders, who could not settle in a village without his permission and without paying him a percentage of their farm yield (usually one tenth). The *sheikh* also managed communal grazing by the members of small units of pastoralist herders, although grazing agreements were made at the level of tribal *nazirs*.²² At the level of the *dar*, population changes resulting from resettlement of groups from other territories also had to (and in some cases still have to) be negotiated with the relevant *nazir*, and newly settled groups had to comply with the customary norms of the *dar* in which they settled. In particular, these groups could set up villages and choose their own *sheikhs* but remained under the authority of local *'omdahs*.

Customary norms were no doubt often violated either willingly or by accident both during precolonial times and under the NA. Hence, many tribal and NA institutions were set up precisely to manage conflicts with prevention, arbitration, and punishment mechanisms. The legal instruments that

²² In the original Native Administration system this required formal acknowledgment by the state.

were available to the NA for conflict prevention via resource management included annually issued Local Orders that set the calendar and direction of pastoral movements, as well as the last harvest date, after which pastoralists were free to enter the cultivated areas to graze on crop stubs. Moreover, settled NA leaders had the authority to open and close water points to influence the timing and route of nomads' movements to prevent conflict in situations of environmental or social fragility. NA authorities like the *mandoub* also had the responsibility to plan seasonal movements by evaluating the availability of forage and water along a previously defined route, so as to prevent problems and, if necessary, to adjust movement patterns to avoid conflict. At the local level, taking the Sudanese Baggara pastoralists as an example, conflict prevention mechanisms included the construction and management of livestock enclosures, or *zara'ib al-khadar*. Stray animals that caused damage to farmland could be confiscated by a local authority called *mudir* (literally, "director") and confined until they were reclaimed by their owners or sold at an auction. If owners reclaimed their livestock, they paid the cost of both temporary stabling of their animals and of the arbitration that the *mudir* offered between them and the owners of the damaged fields (Braukaemper 2000). Other conflict prevention or management practices available to the NA included confiscating weapons, patrolling grazing areas to resolve small-scale conflicts on the spot, and offering arbitration based on the principle of subsidiarity.²³ If a conflict escalated to the level of whole tribes, tribal conferences (*zufur*) were organized to negotiate agreements on resource access among tribal groups and to settle outstanding disputes requiring arbitration, blood money, and so forth. These served to reestablish trust and a sense of equity among the tribal population, which provided an incentive for people to abide by negotiated rules and avoid a perpetuation of tensions and cycles of revenge over various grazing seasons. Similarly, conflict management and resolution at lower levels within and between tribal groups aimed mainly to maintain social trust and confidence in the validity of norms and negotiated agreements. The customary principles upon which conflict management and resolution rested revolved in fact around mediation as a tool to reestablish social harmony. Conversely, there was not much emphasis on establishing the truth about a particular incident, allocating specific responsibilities, or meting out punishment or compensation "equal" to damage.²⁴ More generally, the principle that dominates conflict management and resolution in customary law in Sudan is not one of retribution, but rather one of arbitration, mediation, and adjudication. In the words of Adam Azzain Mohamed (2004), this often made

²³ Note that conflict resolution mechanisms at different levels of the NA hierarchy had different degrees of formal legal recognition. When conflicts took place within the same tribal group the state rarely interfered and customary arrangements and arbitration mechanisms were enough to solve problems. When the intervention of the highest tribal authority was required, state courts might be involved, generally to support the pronouncements of the *nazir*. Government authorities were and still are frequently involved in intertribal conferences either as observers or as sponsors (though they may fail to respect or to give practical support to the resolutions and recommendations issued in these conferences).

²⁴ This does not mean that fixed norms for punishment and compensation did not exist in customary Sudanese law. For instance, in the case of theft, the Baggara leave it up to the local sheikh and village elders (or *ajawid*) to determine adequate compensation (or *gharama*) for the lost asset, which was usually twice its value.

the role of tribal and NA institutions one of conflict transformation rather than resolution, whether through intertribal conferences (where NA authorities were directly involved) or through local *judiya*, or mediation (where NA authorities may or may not have been involved).²⁵

In its time, the NA managed intertribal disputes well, compared with the periods before and after it. This suggests that the integration of customary norms and tribal authorities into the administrative fabric of the state did not weaken customary institutions, thanks to the state's recognition of the relative autonomy of Native Administration authorities and its practical – financial, operational, and even military – support of their administrative role. The situation, however, changed greatly with the creation of an independent state in 1956: the NA was formally abolished at the beginning of the 1970s and later re-created in a hollowed-out version of the system in the 1980s (a situation that in some areas persists today, though the current picture is quite varied and confused). Some attempts to do away with the NA actually preceded the 1970s: the Nimeiri government repealed the 1932 Native Administration Ordinance and passed a People's Local Courts Act whereby tribal courts were integrated into the formal judicial system as subordinates to the authority of the judiciary. Since the affirmation of exclusive state authority over NR and conflict management did not reflect the state's authority and capacity on these fronts, NA institutions (particularly at the lower levels of the hierarchy) continued to perform similar functions after 1970.²⁶ However, the explicit delegitimization of their authority by the state paved the way for the gradual erosion of NA authority among rural communities. When the legality of the NA was reinstated in 1987 with the passage of the Native Administration Bill and more importantly with the 1998 Local Government Act, which enables the states to enact their own NA acts, the federal government did not so much seek to revitalize NA institutions as to turn them into instruments to maintain patron–client ties in rural areas.²⁷ The result has been a politicization of Native Administration elites, culminating in the replacement of the *nazirs* with *amirs* and the redefinition of the boundaries of territories that should be

²⁵ According to Mohamed (2004), the *judiya* is a primary mechanism to manage conflict based on the mediating role of volunteers recognized as wise men or elders (*ajawid*) by their community. It can operate at different stages of conflict, working to prevent the declaration of hostilities between individuals, families, or larger groups; to contain violence once it has begun; to address its causes; and to promote conflict transformation. Prior to the establishment of the NA, the *ajawid* were usually local elders and their pronouncements as mediators carried weight mostly out of customary respect for elders. After the establishment of the NA, its leaders came to be regarded by the state and gradually also by communities as the primary *ajawid*, thus taking on more conflict resolution functions than tribal leaders had in the past. Moreover, after the establishment of Native Courts in the 1930s, the role of informal *ajawid* was gradually integrated into their work, hence into the process of state building, without abandoning the principles of the *judiya* and its distinctive character vis-à-vis judicial law. Contrary to the latter, the *judiya* aimed in particular to facilitate reconciliation (or *sulh*) even in the absence of material evidence. Such principles were taken up by NA judicial institutions, sometimes with the added element of tribal leaders invited as outside mediators.

²⁶ Indeed, according to the Appraisal Report of the IFAD WSRMP (IFAD 2004), the temporary formal delegitimization of the NA by the state from 1970 to 1987 made many rural people forget the colonial origins of the Administration and turned it into a “genuine grass roots type of structure, well able to be an effective link between the formal modern administrative structure of government and the more or less isolated local people” (from Working Paper 6 of the Appraisal Report, “Community Development and Extension,” p. 2).

²⁷ Conversely, the 2003 Local Governments Act does not mention Native Administration.

placed under each of these “tribal” authorities, most of whom are actually political appointees chosen on the basis of their loyalty to the ruling party.

This progressive politicization of NA authorities has fed into the crisis of customary conflict management mechanisms in rural areas, despite the recognition in the 1987 Act that the NA should have judicial as well as security powers, at least among pastoral groups. Many groups do not recognize the legitimacy of authorities appointed by the government and are wary of using the modern judicial system, which they view as expensive, lengthy, complicated, and biased toward political supporters of the ruling party.²⁸ However, it is not just politicization that has led to further reduction of the authority of NA members since the mid-1980s, but many other factors, some already mentioned, including the emergence of nontribal, educated leaders in many rural areas, disrespect for customary authorities by many rural youth (notably those who were involved in the civil war), and the large amounts of small weapons now carried by individuals in many rural communities, which makes it difficult to maintain security and encourages violent escalation of local disputes. The process of decentralization of government authority has also undermined in some ways the power of the NA. In particular, the creation of Popular Committees to assist local governments has often resulted in conflict between the committees and the Native Administration. Finally, a key factor behind the weakening of all customary institutions in Sudan is the socioeconomic transformation that Sudanese society has undergone over the past 20 years, even in remote rural areas. This transformation has been brought about by environmental changes, the growth of underregulated markets, sustained internal migration, and the effects of the civil war, all of which have helped alter livelihood systems in rural areas. For example, formerly mobile groups are now settled and many pastoralists (and farmers) have turned into agro-pastoralists. Growing demographic pressure and market demand for certain agricultural products also played a role in encouraging the progressive abandonment of livelihood strategies based on communal tenure, and in transforming individual or household-based usufruct rights into private property, particularly in fertile areas of Kordofan as well as in neighboring Darfur. The customary institutions have also eroded because they depended on livelihood systems based on flexible usufruct rights and relative mobility. Since these and other related phenomena that directly affect prevailing livelihood systems are likely to continue in the foreseeable future, prospects for the revitalization of NA mechanisms are limited, despite the provisions of the CPA.

²⁸ For instance, in the case of Al Gagror in North Kordofan, the village community could not afford the expensive lawyer fees, so it was unable to defend its rights. On another front, the case of Aradyah in North Kordofan shows how adjudication in the absence of deep-rooted traditional considerations turned a conflict over land into an ethnic problem (see Appendix A).

*State Authorities and the Current Process of Devolution of Authority*²⁹

During the colonial period, the simultaneous drive to centralize state authority and control of resources and to allocate administrative responsibilities to local institutions led to the creation of the Native Administration and also to local councils (in the late 1930s) and provinces headed by commissioners (in the early 1950s). After independence, a similar policy was pursued, as demonstrated by the 1971 People's Government Act, which divided provinces into districts and urban and rural councils. These councils were endowed with weak authority and lacked organic ties to their territorial bases. At present, Sudan is a federal system whose legal foundation is the 4th Constitutional Decree of 1991. The decree established the current system of states (with modifications, such as the incorporation of West Kordofan into South and North Kordofan) and subdivided them into provinces and localities. Article 2 of the 1998 Constitution refers to the country as a federal republic, where supreme authority lies at the federal level. States and localities are entrusted with governing the people and administering the law, ideally ensuring popular participation and equitable distribution of power and wealth. The system is thus three-tiered, but ultimate authority over most matters rests both formally and financially at the federal level.³⁰

At each level of government below the national one, authority is based partly on suffrage and partly on the power of the highest federal authorities to select and appoint candidates. According to Article 97 of the 1998 Constitution, at the state level, legislative authority is held by an assembly that is partly elected and partly nominated by the People's Congress and the President of the Republic. Executive authority is held by a governor, or *wali*, who is chosen from a list of at least six candidates presented to the President by a nomination college composed of National Assembly members from the state, members of the state council, and presidents of locality councils. The President of the Republic selects three candidates from the list who then run for election in the state, based on a simple majority system. Hence the *wali* is formally accountable to the President rather than to state constituencies, though in practice there is much room for discretionary behavior on his part as well as on the part of other state authorities vis-à-vis the federal government.³¹ Similarly, in localities there are elected legislative councils,

²⁹ Devolution is here meant as the reallocation of responsibilities and capacity to lower levels of government or to nongovernment actors, with the understanding that "the devolved unit shall enjoy a substantial amount of autonomy and discretionary powers, both legislative and executive, that enable it to pursue its self-defined objectives for matters that are recognized of its exclusive competency under the control of the people who elect it." (El-Harizi 2003, 20).

³⁰ Recently the CPA introduced a new level of government in Southern Sudan, namely the Government of Southern Sudan (GOSS), which stands one level above the states located in the South. The implementation of the CPA will in time lead to the adoption of a new constitutional structure for the Sudanese federation, which is likely to involve a more robust system of decentralization and adoption of mechanisms ensuring greater accountability of political institutions.

³¹ Despite the prevalence of patron–client relationships between federal and state-level authorities and indeed at all levels of government in Sudan, principal-agent problems are also built into these relationships. This is due to the weak capacity of government authorities to gather and process reliable information about the effectiveness of individual and institutional performance at lower levels of government. This problem mirrors in a way the gap between government assertion of overall

but executive power is held by a commissioner appointed by the *wali* in consultation with the President of the Republic, together with a locality steering committee whose members represent National Administration and Village Popular Committees. The commissioner is formally accountable to the legislature; the legislature can recommend his removal from office with a two-thirds majority vote, but removal itself can only be decided by the *wali* in consultation with the President. Furthermore, administrative responsibility at the locality level is held by an executive director appointed by the *wali* at the Commissioner's recommendation. State governments can dissolve locality councils together with the state legislature, which in turn can veto the councils' decrees within 15 days of their deposit at the state legislature chamber.

This intersection of local and top-down sources of authority of government institutions is particularly evident in the system of financial resource generation and allocation at various levels of government. This is an essential aspect of any governance system, since the source of funding and degree of financial autonomy of any agency or institution inevitably affects not only their capacity to plan and implement programs, but also determines to whom they will ultimately be accountable. Some of the literature on the political economy of state-building suggests that government agencies are more likely to be held accountable if they extract resources from their constituencies, contrary to agencies that rely on rents. This argument is particularly common in the literature on rentier states, namely states whose GDP depends to a significant percentage (usually the agreed upon figure is 40 percent) on resources whose market value reflects only minimally the result of productive activities. Rents supporting such states may be derived from the extraction of oil or other natural resources (if these are directly owned by the state), but also from money granted to the state by external parties, such as patron states, and any other form of revenue that can be collected directly by the government without taxation. In Sudan, the rentier label can to some extent be applied to the federal government in light of the oil sector's significant contribution to the federal budget, but also to individual states in light of their dependence on financial transfers from the federal government.

This is not to say that states do not extract any revenue from their constituencies: on the contrary, they raise certain taxes, stamp duties, and other fees and charges, and even localities can raise revenues from livestock taxes, fees, and charges. However, the resources that accrue to states through these forms of taxation are far from sufficient to sustain their operations. Moreover, the recent trend has been in the direction of increasing dependence of states on intergovernmental transfers. For instance, excise and sales taxes, which used to be collected by the states, were replaced by a federal value added tax in 2000 (which

control over natural resources and practical inability to manage such resources partly due to lack of knowledge and of knowledge-generation mechanisms to support natural resource management. One of the consequences is that resources channeled by the federal government to states in support of specific policies may be diverted toward other objectives.

is redistributed by the federal government). An agricultural tax, which used to be a major source of revenue for agricultural states like Greater Kordofan was abolished by presidential decree in March 2001 and replaced by an intergovernmental transfer by way of (vastly insufficient) compensation.

Overall, the direct income of the states has become smaller and more unpredictable from year to year, while their responsibilities have increased due to the transfer of many services to the state level. As a result, the total expenditures of states have remained very low over the last three years (2002–05), amounting to only 2–3 percent of GDP, compared to 13.5 percent for the federal government. In each of these years, the actual expenditure of the states has remained about 40 percent below budget, due to the unavailability of funds to implement planned activities and policies. To make matters worse, an increasing percentage of these expenditures has been for administrative expenses, such as salaries (from 41 percent in 1999 to 60 percent in 2002), leaving very limited resources for operational expenses and development activities. Moreover, it is impossible to calculate how much of the amount of resources channeled to states by the federal government is actually diverted to other uses, such as rewards given by individual policymakers to their clientele, through preferential service contracting. The situation is more critical at the locality level, when even paying staff salaries is often a challenge without state support. Nonfederal authorities in general heavily depend on funding channeled through the State Support Fund (SSF), which enables the federal government to allocate funds to states on terms that many observers regard as highly discretionary. As a result, states and localities either lack incentives to perform effectively and develop a strategic vision for investments in various domains of administration, including natural resource management. Moreover, this system discourages the accountability of state and locality authorities, regarding their local constituencies or higher levels of government. Rather, much of the time and energy of state and locality authorities is devoted to cultivating clientele ties with federal elites who spend time in Khartoum and lobby to obtain resources for their staff and clients. This problematic situation has not changed significantly with recent decentralization reforms, such as the Local Government Act. This Act renamed provinces as localities and former localities as administrative units, reduced the number of localities from 543 to 137, and merged many rural and urban localities, ostensibly to reduce bureaucracy and to improve services in poor areas. In reality, the provisions of this Act have not increased the amount of resources available to localities, nor have they altered their distribution among localities in the direction of greater equity. On the contrary, in newly merged localities the allocation of public resources tends to favor the group that constitutes the majority or has better access to decisionmakers (generally urban groups). The merger has also not resulted in a significant reduction in the costs of bureaucratic machineries at the locality level, because redundant staff has generally been retained.

Overall, this situation undermines the capacity of state and local government institutions to manage natural resources, particularly because of lack of autonomy and of financial and human capacity and partly because of overlapping authority in various domains. As noted, the federal government has legal ownership of all unregistered land and other natural resources. However, states also have direct say over state lands and other natural resources, based on the 2001 Presidential Decree 68, which gave state Ministries of Agriculture, Animal Resources and Irrigation (MAARI) jurisdiction over natural resources. The 1998 Constitution stipulates the establishment of councils representing federal and state executive authorities to allocate responsibilities among concurrent powers. However, in relation to certain assets (notably water), it is not always clear where the dividing lines can be set between the domains of one state and another, or between individual states and the federal state. Moreover, the 2003 Local Government Act also gives localities some responsibilities in natural resource conservation and protection, including improving and demarcating pastoral areas in consultation with concerned authorities, forest protection, and maintenance of water sources in rural areas. In Kordofan, several agencies are responsible for NR management at the state level. For instance, the Ministry of Finance and Manpower is responsible for development planning and fund allocation, as well as supervision of projects funded by international donors. Its financial basis lies primarily in the SSF, though the Ministry can also derive revenue from land sale fees and commodity price differentials. Agencies concerned with environmental and resource protection include the State Ministries of Health, Engineering Affairs, and the State Water Corporation, along with federal institutions, such as the Higher Council for Environmental and Natural Resources. Each state's MAARI is the main agency responsible for its agricultural and extension services, as well as for development and conservation of land, forestry, and animal resources. Its activities are generally conducted with autonomous human and technical resources, except for those related to plant protection, animal epidemic disease control, forestry, and research. All of the latter are carried out by the staff of federal agencies, such as the Federal Ministry of Agriculture and Forestry, the Federal Ministry of Animal Resources, the Agricultural Research Corporation, and the National Forestry Corporation (IFAD 2004, 4). Hence, though the state MAARI is responsible for most activities pertaining to natural resource management in both North and South Kordofan, in reality it lacks autonomous technical and staff capacity to undertake all of its activities and depends on federal institutions in some key areas of its work. Moreover, and similar to the Ministry of Finance and Manpower, the MAARI also suffers from limited financial resources, which makes its ability to plan and implement development and conservation projects precarious. As a result, both the Ministry of Finance and Manpower and the MAARI are unable to maintain institutional autonomy vis-à-vis the federal government or to focus their efforts on planning and implementation, rather than on keeping financially afloat.³²

³² This institutional weakness is particularly evident in the work of some MAARI departments, such as the Animal

One sector in which resource management has been characterized by weak governance but also by positive dynamism is water management. At the level of formal government, key roles are played by the Ministry of Engineering Affairs and Physical Planning (MEAPP), which has overall responsibility for state civil works, including rural roads and water supply, and by State Water Corporations (SWC), which are responsible for water provision including operating boreholes and maintaining pipelines and hand pumps in rural areas. SWCs also issue licenses for water facilities, set water prices, and arbitrate conflicts with users. However, neither SWCs nor the MEAPP are supported by clear legislative mandates and adequate financial and technical resources. Groundwater legislation allocates responsibilities to various ministries and government agencies with little integration of their mandates. Moreover, water management institutions have been in a state of flux for years. In 1969 the Rural Water Corporation became part of the Ministry of Rural Development and Community Services, but in the following decade it evolved into a national corporation under the Ministry of Energy. Today SWCs are part of a national corporation that is also responsible for urban water under the Ministry of Irrigation and Water Resources. Despite several efforts to reengineer and reform formal water management institutions, the capacity of these agencies remains limited, water-related research is weak, and little attention is given by policymakers and administrators to the socioeconomic dimensions of water management. Overlap and fragmentation of responsibilities for water provision have led to the deterioration of many rural water facilities, particularly along traditional stock routes, creating a situation of relative water scarcity that is conducive to conflict among resource users. However, and perhaps in no small part due to the existence of such problems, water management has also been a promising realm of experimentation for community-based initiatives, partly in the context of donor-supported development projects and partly independent from them. For instance, community-level institutions set up in the context of Village Development Committees to collect fees for access to water and for the maintenance of water infrastructure for domestic use, as well as to regulate patterns of use among community members accessing water for different purposes, have been rather successful in various parts of Kordofan. In fact, villages where there have been donor-funded projects often have various kinds of community-based organizations, such as agriculture, livestock, health, and women's committees, which are usually part of the umbrella Village Development Committees that may include representatives from the (former) Native Administration or government agencies.

Resources Department, where veterinarian services offered to stock owners are scant and irregular both in the field and in the department centers. The consequences are not just poor veterinary care, but also poor animal health education among herders, which leads to smuggling of inappropriate or expired drugs and vaccines for livestock on local markets. Another example of poor capacity and performance of the MAARI is the Range and Pastures Department in South Kordofan, where staff lacks the capacity to implement the Farming and Herding Organization Act brought into force in 2000 as a tool for conflict management.

Despite the relative novelty and important contribution of initiatives like the Village Development Committees for natural resource governance at the local level, these initiatives generally do not face a vacuum in village- and encampment-level government structures. Indeed, for a long time the administrative structure of the Sudanese state has included various institutions representing rural and urban localities, urban centers, villages, and nomadic encampments. Their respective roles of these have been redefined several times, notably through various Local Government Acts, the latest of which was issued by the federal government in 2003.³³ Under the current government, the main administrative structure at the village level is the Popular Committee, which typically includes subcommittees entrusted with some forms of resource management, notably management of water sources located in the village and used for human consumption. At the level of individual villages, community-based water management mechanisms coexist with private and cooperative ownership and management of water sources, such as wells, water yards, and hand pumps. Moreover, in many cases Village Development Committees operate in coordination with Popular Committees in livestock or farmland management, depending on the livelihood base of each village. It is within such committees that local resource users find a relatively representative channel to express their interests and find some room for participation in resource management; hence cooperation between them is crucial both for governance and for improved resource management. Such cooperation may grow in the future thanks to the 2002 Rural Development Organizations Act, which paved the way for the legal recognition of village-level organizations operating in various realms of community development, including Village Development Committees as well as users' groups and microfinance institutions like the *sanduqs*, or savings-based "village banks."

The emergence and relative success of community organizations has contributed positively to the governance structure of natural resources in Kordofan, despite the still precarious sustainability of many of them in terms of financial resources and of formal status, which makes them sometimes subject to attempts at cooptation or appropriation by government agencies. This positive contribution is an important counterpoint to the role played by larger resource users' associations that operate at the national and state levels, such as the Farmers' Union and the more recently constituted Pastoralist Union. Despite formally representing the interests of farmers and pastoralists, these mostly operate as lobbying agents on behalf of rich farmers and livestock owners, and at any rate they are generally poorly represented in the policymaking process and enjoy little legitimacy among traditional resource users. Hence such unions (as well as other resource users' unions, such as those of horticulturalists and gum arabic producers) do not participate directly in NR management, nor do they provide significant input on natural resource policies.

³³ An important, though now superseded reference for community-level government in Sudan was a 1971 Act, which established a four-tiered system of councils that included elected councils in villages, encampments, and urban neighborhoods. Though these councils mainly served to channel downward policies initiated by the ruling party, they represented an important stage in the effort to organize and integrate communities into the formal governance system of Sudan.

7. CONCLUSION

This overview of the governance framework in which NR management initiatives have so far taken place constitutes the backdrop against which future scenarios concerning resource-based conflict are likely to unfold in Sudan in general and Kordofan in particular. Another important component of this scenario is, as noted, the Comprehensive Peace Agreement (CPA), which has a number of provisions concerning devolution of authority, accountability, reform of the land tenure system, customary conflict management institutions, and wealth redistribution. However, the CPA is essentially a document about power sharing between the newly constituted government of Southern Sudan and the federal government, and more specifically between two political forces (namely the ruling party and the SPLM) that dominate the political scene in the country.³⁴ The Agreement has clear limits as a blueprint for radical reform in the direction of democratization of governance, including the future evolution of the political economy of rural areas in Sudan. For instance, while the CPA calls for general elections to be held no later than the fourth year of the interim period at federal and state levels (something that is unlikely to happen on schedule given the present stalemate in organizing a census), these are to be preceded by a reallocation of seats in key government offices (including state legislatures) to reflect the power balance between the ruling party and SPLM. Many observers have voiced concerns about the possibility that such reallocation may help perpetuate a political culture based on patron–client relations. However, if power sharing and the division of policymaking positions on the basis of political affiliation are undertaken in tandem with the democratization of government institutions, in line with the spirit of the CPA, these initiatives may actually lead to a transformation of such culture in the direction of more accountability. Also very important in this regard is the planned reorganization of the civil service, including affirmative action for people from disadvantaged groups and peripheral regions. Finally, a key CPA provision concerning natural resources is the planned constitution of various Land Commissions at the national, southern Sudan, and state levels, which will deal with outstanding tenure conflicts and with the land entitlements of displaced groups and other populations affected by the conflict. Though it is not possible to determine what kind of tenure arrangements will be favored by these commissions, it is important to note that, as an accompaniment to their work, the Agreement envisions the development of a legislative process that may amend land laws to incorporate customary norms whenever legislatures deem it appropriate. This process may evolve in ways more or less functional into ongoing changes in the direction of a market-led, increasingly sedentary, and private property-oriented approach to rural livelihoods and resource use. However, given the experience of other countries that have undergone a simultaneous transition from

³⁴ Note that South Kordofan, along with the Blue Nile state, is the subject of Chapter 5 in the Agreement.

authoritarian government to decentralization and power sharing and from state-led to market-led economies marked by fragmentation of livelihood systems, the resort to customary institutions to search for inputs into equitable NR policies may temper some short-term negative effects of such transitions. In sum, while the CPA does not provide guarantees of positive changes in the future for natural resource governance in Kordofan, future scenarios based on an effective implementation of the Agreement justify some positive expectations concerning the future occurrence of NR-based conflicts.

While implementation of the Agreement remains pending, our discussion of cases of resource-based conflict in Kordofan and our brief analysis of governance institutions in Sudan suggest that poor governance may continue to contribute to this kind of conflict at least in two ways, namely as a direct or indirect cause of their outbreak (notably due to misguided resource management, property right, and developmental policies), and by fostering an institutional, policy, and legal environment that is not conducive to efficient conflict management. This does not mean that governance factors are the only or primary cause of conflict, as is also evident from the case studies. In particular, phenomena such as repeated droughts, desertification, and environmental degradation have contributed to resource scarcity, paving the way for competition. To this must be added the consequences of instability and war in Sudan and in neighboring areas, which include displacement of population, inaccessibility of farm and pastureland in certain areas, inability or unwillingness on the part of various groups to respect stock routes, and deterioration of social capital. Other concomitant factors behind competition include expansion of farmland due to population as well as market-driven increases in animal stocks. While the resolution of the war between North and South Sudan is evidently a governance issue, not all the other mentioned factors immediately appear as such, particularly if governance is seen as primarily a function of state institutions rather than as encompassing the activities of a variety of stakeholders. However, our research suggests that policies, legislative choices, and both formal and informal governance institutions play a role in either paving or complicating the way for conflict resolution even when the main causal factors behind conflict are not directly governance-related. This role sometimes amounts simply to an intensification of the negative effects of other factors and sometimes to a failure to defuse them, for instance through appropriate development planning or through equitable and stable systems of access and use rights.³⁵

³⁵ To give some concrete examples of the intersection of environmental or economic factors and governance issues in creating conflict-prone situations, it can be noted that one of the reasons why small farmers have been enclosing farmland and excluding pastoralists from access to traditional grazing land is the unavailability of technologies that may increase the productivity of available holdings, so as to meet the needs of a growing population without extending the surface of cultivating plots and reducing or eliminating fallow periods. This is in turn largely a reflection of misguided policies on the part of the state, which have privileged developmental strategies that marginalize livelihood systems based on small-scale farming. Another economic factor that has paved the way for greater competition over resources, namely the increase in the number of livestock maintained by

To refer back to the earlier discussion of different problematic models of state politics, it could be argued that our case studies suggest the relevance of a combination of traits marking different models in the case of Sudan, notably the predatory and authoritarian developmental state models. On the one hand, state legislation and policies concerning land in Sudan have been consistently marked by the state's desire to assert not only sovereignty, but actual ownership over all land not registered as property in a modern sense, that is, with a connotation of exclusivity. This assertion has generally been presented in public discourse as a necessary precondition for postcolonial state building and as a necessary step in the direction of economic modernization and development. At the same time, this same assertion and the particular modalities of its occurrence have enabled state elites to undertake predatory actions vis-à-vis land resources by distributing them as political rewards to their clientele, thereby extracting political rents from them, or by using control over land as an enabling factor in the pursuit of rents from other resources, notably oil. In principle, there is no solid reason to doubt the sincere intention of the state to promote certain developmental policies, which would also shore up the process of state building and broaden the constituency of various ruling elites. Nevertheless, reliance on rent-seeking and consequently on some predatory practices with respect to natural resources has been a dominant aspect of Sudanese politics, and it may be growing further today as the oil industry takes on increasing importance in the federal budget. Even when predatory practices toward natural resources that are particularly salient for rural livelihoods are not involved in rent generation, reliance on rents (oil rents, for example) tends to allow the state to insulate itself from the real economy, making investment in sound NR management and in rural development far from a priority. The cases reviewed in this study suggest that so far, whenever the state has faced a choice between facilitating the development of the oil industry and protecting local livelihood systems, oil interests have been given priority, without serious consideration for the likely impact on rural livelihoods.

Finally, two aspects of Sudanese politics that must be taken into consideration in envisioning future governance solutions less conducive to resource-based conflicts are the geopolitical and ideological connotations of the ruling party in contemporary Sudan. First, at various stages in its development, developmental socialism, pan-Arabism, and political Islamism have played a role in marking the attitude

pastoralists and agro-pastoralists in Kordofan, may be partly linked to economic liberalization policies promoted by the government in 1992. These have resulted in increasing production of livestock to meet rising demand on export markets, which has not been accompanied by appropriate measures to buffer the impact of increased animal production on the socioeconomic and natural resource environment of regions such as Kordofan or Darfur. While the share of animal products in total exports increased from 11.6 percent in 1990 to 28.7 percent in 1998, data from the Animal Resource Department in Kadugli shows that cattle and camel numbers increased by 17 and 71 percent from 1993 to 2001, respectively. The resulting pressure on land and pastures has been accompanied (and partly caused) by lack of development of technical packages that may encourage investing to improve quality rather than to grow quantities of livestock, as well as of government investments in improving and protecting rangeland and water resources.

of the Sudanese state vis-à-vis the mosaic of populations and livelihood systems that characterize the country. This has had important implications in terms of the state's attitude toward the Native Administration and customary systems of land tenure and access to resources, which developmental socialism perceived as an obstacle on the path of postcolonial emancipation and modernization. Second, the Arab nationalist orientation of various Sudanese regimes has sometimes led to policies that privileged certain livelihood systems associated with Arab populations in areas like Darfur, while elsewhere the tendency has been to favor the interests of sedentary farmers, most of whom are of non-Arab origin, over those of pastoralists. In the context of the civil war, Islamist ideology and Arab ethnopolitics have combined to yield a distinctive pattern of alliances between government elites and different ethnic groups in states more or less marginally involved in the conflict, including Kordofan. At the local level, moreover, the ethnoreligious character of the civil war has resulted in changes in the local political economies of NR management, not only by causing population displacement and movement of stock routes along ethnic lines, but also by disintegrating complementary relations between groups of resource users that the war placed on opposite sides, sometimes due to ethnoreligious affiliation or to participation in the fighting. In such cases, a sort of "war clientelism" nurtured by both the government and rebel forces has affected the balance of power among resource users so as to force changes in patterns of access and resource use, which have sometimes taken root despite not being sanctioned by any formal developmental plan or institutional authority. Thereby a sense of lawlessness has been fueled among local populations that may ignite, or re-ignite, conflict.

In sum, the main traits of Sudanese state politics that appear chiefly responsible for creating an environment conducive to resource-based conflicts from the review of the case studies are a patron-client approach to politics, failed or ineffective natural resource management and development policies, top-down government institutions, and an ideological/military orientation that has encouraged ethnic polarization and social divisions. While it is important to stress once again that poor governance is not the only cause for competition and conflict among resource users in areas of rural Sudan like Kordofan, it seems reasonable that improving governance may help contain conflict by providing more favorable environments in which NR and conflict management problems can be addressed efficiently and equitably without escalating into violence. Put differently, improving governance at various levels of formal and informal government is a necessary though probably not sufficient step to remove some of the concomitant causes of conflict and to improve mechanisms to manage it. Hence appropriate governance reforms should focus on improving both the capacity and the equity of natural resource management and conflict management institutions. They should reflect a desire to reconcile as much as possible the entitlements of local users with government concerns about the needs of an integrated national economy. In turn, the latter should remain a key goal of Sudanese politics despite the current rentier orientation of

the state. In this endeavor, the Government of Sudan has a primary stake in addressing governance problems resulting in conflicts, given its current commitment to the CPA and the continuing state of conflict and devastation in Darfur. Moreover, the Government of Sudan also has an economic and developmental stake in promoting rational and inclusive natural resource and resource-based conflict management, in order to strengthen the Sudanese economy and provide a more solid and autonomous basis to local institutions than what can be provided by the federal budget. Perhaps most important, appropriate governance reforms concerning natural resources and conflict management are key to a broadening of the legitimacy of the state and of the CPA process, which requires a developmental project where rural populations play an equitable role.

Mirroring the structure of this analysis, our recommendations for improving the governance framework of NR and conflict management address the three interrelated realms of legislation, policy, and institutions/agencies, bearing in mind that not all initiatives can be undertaken by the state and require instead collaboration among various stakeholders. These recommendations are summarized in a table in Appendix D.

Reforming the Process and Content of Planning for Natural Resource Management

1. Invest systematically in information gathering, scientific research, and regular update of resource mapping.

One of the main problems of existing policies concerning NR management is the lack of adequate knowledge about available resources, patterns of use, and the potential for resource development that exist in different areas. Such knowledge requires appropriate investment on the part of agencies at various levels, starting from the federal government but not limited to it. In the context of decentralization initiatives and in line with the provisions and the spirit of the CPA, the Government of Sudan, states, and international agencies should join efforts to build the institutional capacity to gather quantitative and qualitative data concerning natural resources, their problems and potential, and their patterns of use and rights. This should be done with a view to feeding into effective policy: hence research units should operate on the basis of clear, policy-oriented plans; cooperate as effectively as possible with each other; disseminate results as widely as appropriate; and adopt a participatory approach to information gathering. Furthermore, information gathering and systematic mapping of resources and resource management should be accompanied by research on appropriate technological solutions to improve resource sustainability and productivity, in a participatory way and with collaboration among the federal government, states, and donor agencies.

2. Formulate comprehensive rather than sectoral NR policies.

Avoiding or managing NR conflicts in a sustainable manner requires NR development policies that take into consideration the dynamic interplay of different resources and users, planning ahead with an informed sense of likely future scenarios. Though it is difficult to identify one particular level of decisionmaking as the one most likely to play this role effectively and comprehensively, the institutional scenario hinted at by the CPA suggests that responsibility for comprehensive NR management policies may rest with states in the near future, though the federal government will continue to play a coordinating role in economic and environmental policies. At both state and federal levels, the current practice of elaborating sectoral policies independently of each other should be complemented as much as possible by their integration into umbrella NR management policies, so as to maximize positive externalities and to limit problems due to lack of coordination or contradiction among the priorities of different agencies. Rather than focusing on natural resources as such, policies should also target livelihood systems based on natural resources and their interactions with each other (including conflict).

3. Formulate NR policies that build on local livelihood systems.

As seen from the case studies, one cause of conflict in Kordofan has been NR policies that privilege “new” or relatively “foreign” patterns of resource use (such as mechanized farming or the oil industry) over local patterns (for example, various forms of smallholder farming, pastoralism, or agro-pastoralism). More sustainable policies should attempt to strengthen and build upon “local” patterns of use, appreciating the entitlements that they generate but also working with local users to seek more productive and sustainable patterns. In the process, the political leadership should attempt to build as broad a constituency for change as possible, bearing in mind that policy and use changes are likely to have unequal costs for users and interest groups. Hence, the likelihood that policy changes will actually be implemented depends on how broadly legitimate such changes (and costs) appear to a majority of local users. In this regard, the realization that certain groups are likely to bear greater costs than others from changes in NR policies should lead the government, states, and possibly donors to plan for adequate compensation for these groups in consultation with them, not only in money, but in terms of envisaging new livelihood opportunities.

4. Adopt NR management policies that set infrastructural investment as a priority for public spending.

In particular, rehabilitate stock routes, provide adequate infrastructural services both in villages and in areas used by pastoralists, and define clear mechanisms (including responsibilities and resources) for the maintenance of such infrastructure as needed to enable a sustainable combination of farming and pastoral

livelihood systems and also to reduce practices that currently occasion conflict, such as herders' abandonment of nonviable stock routes or the deterioration of existing water points.

5. Utilize land use plans as a tool to harmonize policymaking on NR management.

Land use plans should provide a basis for the definition of NR management policies and reflect precise knowledge about the location, state, and potential of various natural resources.³⁶ In Kordofan, existing documents that could help to develop such use plans are a range management study recently conducted in Southern Kordofan in the context of an IFAD co-funded project (the South Kordofan Rural Development Project), the Khor Abu Habil catchments study financed by the North Kordofan Rural Development Project (also co-funded with IFAD), and a mapping of underground water and stock routes financed by the European Union, World Bank, and SOS Sahel. These and other studies currently underway should form the basis for use plans defined in consultation with stakeholders and focused on issues of strategic concern to them. These may include a reassessment of the location and size of grazing lands, demarcation of stock routes in light of changes in the sociopolitical and environmental map of Kordofan, land zonation to determine expansion of agriculture (including leaseholds with rents set to encourage investment in productive and sustainable land use), forestry development and registration of forests in areas where the plant cover has regenerated because farmland was inaccessible during the war. Moreover, relevant issues may include water infrastructure, water resource management geared to preserving both local ecosystems and prevailing livelihood systems, and planning and management of transboundary water catchments with attention to their socioeconomic impact.

Legal Reforms

1. Redefine property rights on farmland in a sustainable way.

Given that the state is the primary holder of property rights over land and nonmobile natural resources, one main area of action for improved governance is the definition and reallocation of property rights over land, including exclusive ownership rights and rights of usufruct. Contrary to the rights-allocation policy that has governed past initiatives such as mechanized farming policies, a sustainable, nonconflict-conducive definition of rights would reflect a developmental vision that does not sacrifice local needs and long-term sustainability to a patron–client or rentier logic. This would require land rights regimes that strengthen the capacity of local resource users to improve food security, providing incentives to adopt

³⁶ One of the factors contributing to local conflict among resource users has apparently been the disappearance of landmarks such as small rocks, trees, and streams that were traditionally used to demarcate villages, tribes, and grazing boundaries. The result of time and natural erosion, such disappearances are of course nothing new. In the past, however, knowledge about these landmarks was passed on by community elders, and other landmarks replaced them, if needed. Today, the declining authority of elders makes it necessary to replace these landmarks with government maps that can give legal support to different entitlements.

livelihood strategies that put less pressure on existing resources. This does not mean focusing only on smallholders and communal holdings: for instance, support to mechanized agriculture schemes may continue, so long as it is rationalized in such a way as to improve sustainability, encourage productive use and environmental protection, and enable fair access to local stakeholders. In this regard, important measures to be undertaken include setting rent to a level that reflects the potential profits that can be achieved through proper land use and imposing sanctions or devising forms of compensation for environmental degradation and negative social impact. In relation to land affected by the civil war, the CPA may offer a framework conducive to reform. At the state level, in particular, the peace protocols signed for Southern Kordofan and the Blue Nile stipulate the establishment of a State Land Commission with the same responsibilities as the National Land Commission, plus the responsibilities of reviewing existing land leases and contracts, examining criteria for present land allocation, and recommending to the state any necessary changes, including land restitution or compensation. The agreement stipulates that in case the findings of the two commissions conflict, the Constitutional Court should resolve the matter. The GOS also intends to apply this arrangement in North Kordofan.

2. Redefine rights regimes on mobile resources in a more sustainable manner.

Much of the resource base of livelihood systems in Kordofan is mobile, in the sense that it is more or less present in different areas at different times. Though efforts to regulate users' rights over such resources have been made by states, generally targeting primarily pastoralists, much still needs to be done to harmonize mobile and nonmobile rights regimes so that the rights of settled farmers are not privileged over those of mobile groups and legal spaces are clearly marked. Some help in this regard may come from customary laws. However, changing social and environmental circumstances may require much innovation with respect to norms and practices upheld by customary authorities. As a result, formal legal regimes should generally not be altered to reflect customary norms. Rather, certain entitlements of primary resource users currently underrecognized in legal terms should be given legal recognition so as to encourage sustainable use practices. In some cases, this may not require changes in the letter of the law, but rather a more participatory approach to its implementation: for example, by encouraging stronger and better informed involvement of both pastoralists and farmers in the implementation of the current Law Organizing Agriculture and Pastoralism.

3. Make the legal system more transparent and democratic

Redefining property rights regimes is not enough if right-bearers and more generally resource users do not have a chance to interact fairly and confidently with the legal and judicial system. Therefore, the legal system as a whole must be reformed in such a way as to gain broader legitimacy, which requires a

democratization of the governance structure in its legislative and judicial functions and an effort to educate people to their rights and obligations (notably as resource users). In particular, it is important to set up a legal and judicial system whose impartiality, respect for human rights, and independence from party politics people can trust, or else they will not resort to it for impartial adjudication over conflicting claims. Related to this, the capacity of legislators, lawyers, judges, law enforcement officers, tribal leaders, civil society organizations, and communities to work in a framework of legality and transparency must also be enhanced, which requires education and a reform of the system particularly to ensure sanction of abuses and judicial partiality.

4. Restore a space for NA-based and informal conflict management mechanisms.

Particularly since the outbreak of war in Darfur, many observers and concerned parties have called for a revitalization of NA and tribal authorities as mediators and NR managers. Though it is not clear what role these institutions may play in the future, the current weakness of state institutions in parts of rural Sudan suggests that it is imperative to address a current vacuum of legitimate authority in these areas in the administration and enforcement of justice. To this end, the development and reform of statutory law and courts could proceed hand in hand with the revitalization of traditional structures, notably mediation institutions, and these may be legally and financially empowered to perform their roles, particularly since their traditional authority is far from uncontested and requires demonstrations of effectiveness.

5. Define a legislative basis for cooperation among water agencies and users.

In particular, an agreement should be reached and given legal force concerning collaboration among the state and national water commissions and user communities. This arrangement could then constitute the basis for future amendments in water legislation to ensure more sensitivity of water development planning to socioeconomic impact and users' entitlements.

6. Restore neutral enforcement mechanisms based on state monopoly over violence.

Massive circulation of small arms as a result of the civil war sustains tribal in-fighting and impedes effective law enforcement. A strong Demilitarization, Demobilization, and Reintegration program is thus an immediate priority. This requires both unequivocal government commitment and the active involvement of communities in the collection of small arms. Given the proximity of Sudan to other areas of instability and conflict, control over smuggling of weapons across borders should also be a government priority. In the process, the government should make an effort not to pursue a policy of rewarding groups it has enlisted and armed in its military effort against Southern rebels in ways that may reinforce their claims to natural resources to the detriment of those of others.

Organizational Reforms

1. Strengthen mechanisms for government accountability.

This should begin with a constitutional review, as stipulated in the CPA, which should be as participatory and inclusive as possible in order to achieve broad-based legitimacy for future changes in the governance system of Sudan. With regard to NR management, a review of concurrent powers held by states and the GOS should pay explicit attention to subsidiarity and should promote the welfare and rights of people who depend on such resources. If such considerations are taken as guiding principles in the review of concurrent powers, NR state laws will tend to take precedence over national laws. This precedence will need to be institutionalized and supported by adequate reorganization, for instance by setting up a series of independent commissions as stipulated in the CPA. Per the Agreement, these will include a Land Commission; a Fiscal, Financial, and Monitoring Commission; a Constitutional Review Commission; and an Election Commission to ensure real devolution of authority. Concurrent with the establishment of these commissions, state constitutions should also be drafted and ratified to further expand and institutionalize the autonomous powers of states. The notion of democratic accountability through fair elections should of course be institutionalized in both constitutions.

2. Clearly define the NR management responsibilities of states and the federal government.

As discussed above, one of the factors impeding efficient NR management notably at the state level is the lack of clear NR responsibilities vis-à-vis the federal government and the lack of well-delineated boundaries for certain resources. According to the CPA, state responsibilities include management, lease, and utilization of lands belonging to the state; development, conservation, and management of other state natural resources, including forests; and legislation concerning agriculture, irrigation, and embankments. Moreover, states should hold primary responsibility for water resources other than interstate waters, environmental management, conservation and protection, and animal and livestock control, animal diseases, and pasture. However, the provisions of the CPA alone are not enough to initiate a redefinition of responsibilities between states and the federal government, as this requires a number of enabling actions, including mapping resources and demarcating boundaries between the resources of each state and those of others; devising appropriate institutional structures both at the federal and state levels to enable them to meet their respective responsibilities; and making it possible for these structures to generate adequate and stable resources to sustain their operations.

3. Institutionalize collaboration within and among states for NRM.

Good NR governance requires collaboration among state agencies for planning and investment, particularly since rural livelihood systems are often characterized by mobility and integration across state

boundaries. Since collaboration is particularly important with regard to water policies, stock routes, and forestry, states should define common policies in these realms for sharing resources and monitoring their use and they should establish specific mechanisms for coordinating transboundary activities. Again, one should refer to the CPA, which declares that states should promote coordination of their governmental functions and seek amicable settlement of disputes among themselves. Within states, recommended interventions include the alignment of all agencies responsible for NR management, including range and pasture, land use, and irrigation under one NR department at the state level, with strong linkages to water commissions for development planning. Moreover, institutional reforms should reorient the role of these agencies to become facilitators in a participatory process of information gathering and sharing among stakeholders, which should lead to public debate and feed into policy planning.

4. Institutionalize the financial and human resource autonomy of states and localities.

Real financial powers should be granted to states and localities in order to make their autonomy, based on constitutional reform, meaningful in practice. This will require: restructuring government expenditure in favor of development and away from military expenditures; redesigning the intergovernmental grant system to be more equitable and transparent, with oversight from the independent Fiscal, Financial, and Monitoring Commission mentioned above; planning for a solid and sustainable fiscal system at the lower levels of government, including fees on access to natural resources and, most important, based on a system of incentives for investment in the rural economy. Allocation of resources should be done in an open and transparent way both at the intergovernmental and at the state and locality levels, with public access to information concerning resource availability and patterns of allocation among communities. To this goal, building the capacity of states and localities for financial planning and management is also essential. Furthermore, effective institutional reform should include human capacity building to enable civil service to manage decentralized functions in relation to NR management. This would include not only NR management policy planning and implementation training for civil servants at various levels of government, but also the depoliticization of civil service and the establishment of a clear and transparent system regulating access, professional standards, and career incentives, with a view to promoting a culture of competence and impartiality.

5. Empower states and local governments to regulate the oil industry.

With regard to oil investments, the CPA formally empowers states and localities to ensure that the development of the petroleum sector is consistent with their environmental policies, biodiversity conservation, and generally the interests of affected states and populations. The Agreement also calls for empowering the appropriate levels of government to develop and manage in consultation with

communities the various stages of oil production. In particular, people holding rights over affected land should be consulted and their views taken into account in developing oil infrastructure and related activities. Moreover, affected communities have a right to participate in oil contract negotiations through their respective states, and they can even block these contracts and resort to arbitration by the Council of States if they perceive them to be harmful to their interests. However, in order to translate all this into practice, oil-producing states need institutional capacity building to be able to adequately capture and uphold the point of view of concerned communities through the oil investment process. Moreover, communities affected by oil investments also need training, legal counseling, awareness raising programs, and the establishment of representative units that may uphold community interests in consultations with states and oil investors.

6. Institutionalize devolution of resources and responsibilities down to the local level.

Recent experiences in other developing countries suggest that the allocation of at least certain responsibilities for NR and conflict management to local agencies may have good results, so long as there is coherent integration of informal and formal agencies and institutions at the most appropriate local level. In relation to the Sudan, this means that in the process of devolution of NR and conflict management, a significant role should be assigned to agencies at the locality (and possibly also the village) level, with appropriate provisions for capacity building, resource generation, and inclusive planning and enforcement within relevant agencies.

7. Strengthen grassroots organizations and local stakeholders in NR management.

Informal or semiformal stakeholder groups can play a key role in enabling governments to work effectively and responsively in NR and conflict management, though they cannot be a replacement for formal agencies nor for organizations working on a larger scale. However, local stakeholder groups tend to be weak in Sudan in general, and this is particularly true of groups representing traditional farmers and pastoralists. Such groups therefore require capacity building both in NR and conflict management, so that they can become more effective in presenting their perspectives during the process of policy setting and implementation and in conflict situations. To this goal, the GOS, states, and donors should support organization building, leadership training, and training of representatives from farmers, pastoralists, NA authorities, and other relevant community organizations concerning the policy process and existing policies affecting NR management and resource-based conflicts. Moreover, the government should facilitate the development of consultative and conflict management bodies such as stakeholder networks.

APPENDIX A: CASE STUDIES

South Kordofan

CASE 1	
Name of the village	Al Tokma,
Locality	Eldelling
Administrative Unit	Habila
Longitude	29:44:41
Latitude	12:00:00
Type and degree of conflict	Competition between settled communities and pastoralists, compounded by involvement in GOS--SPLM war.
Consolidated narrative of the conflict	<p>In 1992 the conflict between the Government and SPLM forces intensified, and SPLM forces occupied the rich grazing areas in the far south of South Kordofan, which used to be a good grazing area for Hawazama pastoralists from South Kordofan and Messerya pastoralists from West Kordofan. The occupied areas contained important stock routes for these nomadic tribes, who are allied to the government, which has used them as militias in its fight against SPLM forces. The SPLM occupation forced Hawazma tribes to change their stock routes and start using new routes close to the village of Al Tokma, leading to progressive encroachment by livestock and by pastoralists into village lands. At the same time, and also due to the SPLM occupation of some of their grazing areas, Messerya pastoralists began to enter the area of the village to graze their animals, although historically their stock routes had not been in its proximity. This caused damage to the crops of village farmers, who belong to the Delleng tribe of Nuba origin. They are ethnically distinct from the Messerya and Hawazama (who are of "Arab" origins) because Despite a cease-fire agreement between the government and SPLM in January 2001 and up to the last season of 2003, pastoralists and their livestock continued to enter the area because their grazing grounds were still under SPLM forces, creating a situation in which competition over the same land was compounded by ethnic and political factors encouraging attrition and complicating the possibility of recourse to the government as a reliable and neutral mediator. Field investigations indeed revealed that there were no official mechanisms in place to settle disputes originating in</p>

	<p>livestock encroachment; traditional authorities such as the village <i>Sheikh</i> Gism Allah Bakhit found themselves lacking appropriate judicial or enforcement instruments (such as a police force) to resolve these disputes with the necessary authority. In addition, the <i>Sheikh</i> attributed his lack of enforcement authority (which his predecessors had up to 1970) to his lack of affiliation with the ruling Congress Party, pointing at the weakening of tribal authority as at least in part a problem of formal governance. This was also evident in the fact that villagers did not approach their <i>amir</i> because they claimed that he was a political appointee, and the tribes with whom they were in conflict were allied to the government; therefore they did not trust him to reflect their opinion or be keen to resolve the issue in a fair manner. As a result of their perceived inability to seek support from mediating institutions, the villagers resorted to burning the grass on their own lands, with considerable damage to the environment, so that the area would not attract pastoralists. Villagers also reported several incidences of threats by young herders carrying arms when confronted by farmers on whose cultivated areas the herders were encroaching. Villagers felt that they were not part of the decisionmaking process, and they were in conflict with strong parties allied to the government and armed. They felt that their rivals made the rules, or in another sense, the rules were made to support their rivals. The persons who are supposed to protect their interests have been either deprived of powers (the <i>sheikh</i>) or allied to the Government and hence colluding with the party with whom they have conflict. Villagers expressed a feeling of being in a state of lawlessness, which in their view justified recourse to defensive mechanisms such as burning grazing areas, even if they were also negatively affected by this action. Their image of the government was particularly negative: in their view, former President Nimeiri (1969–84) distributed their land to mechanized agriculture schemes without consulting them, while the existing government has also taken some of their land in nondemarcated areas to give to mechanized farms and also encouraged “Arabs” to encroach on their land. In their opinion, the only good government they have known is the Abboud government (1958–64), which brought them a degree of development. Villagers said that their only hope is for the SPLM to come to power to protect their interests. This conflict is a clear case of how a conflict over natural resources could turn into ethnic conflict if fueled by the sense that the Government is siding directly or indirectly with one party in the conflict.</p>
<p>Causes of conflict as given by villagers</p>	<ol style="list-style-type: none"> 1. Villagers were not aware of the laws and policies governing natural resources and were not consulted in the design or implementation of these laws and policies. 2. The Native Administration could not play its traditional regulatory and mediating role, because the leader of the tribe to which the villagers belong (the <i>amir</i>) was politically appointed, hence considered by the villagers to be an imposed leader who did

	<p>not reflect the opinion of his community and was not keen to promote their interests. As for the village leader (<i>sheikh</i>), he claimed that he had no judicial powers because he did not belong to the ruling political party, hence his decisions carried no practical weight as far as managing the competition and preventing it from escalating into violence.</p> <p>3. The war has narrowed and changed pastoralist routes, leading to encroachment of livestock and herders into farmlands.</p>
<p>Policy framework and policymaking process: level of local awareness, participation, and access to policymakers</p>	<ul style="list-style-type: none"> • A policy of distributing land for mechanized agriculture schemes, without consultation with villagers, started in the 1970s and continued with the distribution of undemarcated areas for mechanized farming in the 1990s. • Forest conservation was regulated with norms and policies about which local Native Administration authorities such as the <i>sheikh</i> had no say. The role of the <i>sheikh</i> in particular has been limited to implementation, as he is granted permission by forestry authorities to allow permit holders from the community to cut wood. • The <i>sheikh</i> of the village had no judicial powers, and villagers regarded his lack of decisionmaking power and of access to the policymaking process as a consequence of the fact that he did not belong to the ruling Congress Party. Higher Native Administration authorities (notably the <i>amir</i>) were regarded as unrepresentative and imposed upon villagers by external political forces. • Villagers said they were unaware of laws and policies governing the land.
CASE 2	
Name of the village	Engarko
Locality	Eldelling
Administrative Unit	Habila
Longitude	29:43
Latitude	11:54
Type and degree of conflict	Competition over land between settled communities and mechanized farming schemes and clashes between settled communities and pastoralists.

<p>Consolidated narrative of the conflict</p>	<p>First, under the 1970 Unregistered Land Act, since 1976 the Government of Sudan has distributed village land to large farmers for mechanized agriculture schemes. In 1997, it decided to reduce the existing size of mechanized farms from 1,500 feddan per farm to 500 feddan per farm, and to redistribute the surplus to other farmers, with priority given to members of local settled communities. Nevertheless, the communities did not benefit from this decision due to their inability to meet some of the conditions set by the government. Consequently, this surplus land was given to investors from outside the area. Moreover, the land and facilities of the IFAD co-funded South Kordofan Rural Development Programme, which were leased to the Farmers’ Union and used to house about 22 farmers, were confiscated in 1977 and redistributed to mechanized farmers from outside the area. This was done with the promise to compensate affected farmers from the local communities, but that promise went unfulfilled. As a result, available village land was reduced and it became the object of increasing competition among villagers. Community members were forced either to migrate or to rent what they regarded as their own land (namely village land) from outsiders who had such land on lease from the government.</p> <p>Second, on a separate front, the village has also suffered from attacks on farmers’ crops by pastoralists who stray from their stock routes and use local streams as resting points, despite the fact that such “resting points” are not marked as such on the existing stock route maps as currently attached to the Law of Organizing Agriculture and Pastoralism. Local villagers raised the issue and voiced their complaints at a conference held in El Garad in 2001. According to them, however, nothing was done to follow up on their case because of a lack of mechanisms to implement decisions made at the conference. Third, some tension existed surrounding the local water point of the stock route company. The villagers regarded this point as a facility that did not belong to them because they have not been called to participate in its management or been consulted concerning its location. They in fact believed that the point was placed in the wrong location, which resulted in degradation of the area around it.</p>
<p>Causes of conflict as given by villagers</p>	<ol style="list-style-type: none"> 1. The government used the Unregistered Land Act against the interests of villages, distributing village land to people from outside the area. 2. There was no appropriate information, awareness raising, or consultation in designing policies and laws that govern people’s lives.
<p>Policy framework and policy-making process: level of local awareness, participation, and</p>	<ul style="list-style-type: none"> • Villagers seemed to be aware of the Law of Organizing Agriculture and Pasture issued by the state because they quoted in the interview the exact locations of the routes and the resting points defined in the law. Villagers were

access to policy-makers	<p>not consulted about the distribution of their land to mechanized agriculture because no committee was formed for this purpose, nor were they consulted about the location of a water point.</p> <ul style="list-style-type: none"> • There seemed to be some access to decision makers, as the villagers were recently called to a conference to discuss agriculture and grazing problems, but no action was taken as a result.
CASE 3	
Name of the village	Al Samasim, South Kordofan.
Locality	Eldelling
Administrative Unit	Habila
Longitude	29:39:04
Latitude	11:48:48
Type and degree of conflict	Outstanding dispute between settled communities and government caused by the creation of an oil pipeline
Consolidated narrative of the conflict	<p>In 1998 an oil pipeline was constructed that passed through the village farms. The villagers were not consulted or involved in the planning of this pipeline but merely learned about this initiative when it was already underway and construction was taking place on their own farmland. When they complained, the person responsible for the construction work told them that the project was undertaken by the government, and indeed after construction was completed, some government vehicles reached the village and representatives of the authorities asked after owners of land that had been crossed by the pipeline. To these farmers, they offered cash payments equivalent to the value of the crop lost for one season, ignoring villagers' requests that compensation be given on the basis of the value of land that was lost to the pipeline. The estimate of the value of lost crops was also made unilaterally by the oil authorities, who refused to address the arguments of the villagers simply by stating that this was a government decision. Villagers did not file any official complaints as a result of this occurrence, because they claimed that they were afraid that they might be regarded as a sort of "Fifth Column," an expression used in the area during the civil war to indicate supporters of the SPLM and later extended to anyone who objects to government decisions. They feared that being thus labeled might give authorities a reason to send them to jail.</p>

	<p>Villagers did not object to the construction of the pipeline as such, because they realized its importance. However, they objected to the way in which authorities treated them by not informing them of the construction beforehand, nor giving them fair compensation after the fact. The damage itself is actually very limited, because the pipeline crosses little land and affects a narrow passage; hence it did not significantly affect the livelihoods of any community members.</p> <p>The discontent of the community, however, was compounded by other perceived injustices done to them: for one thing, some of their lands were given to mechanized agriculture schemes in the 1970s, and many said they now rent in some land that they regard as village land. The government also took part of their land to establish a pasture project in the 1980s, and they have no information as to who is benefiting from this project. Third, the Nile Company (one of the mechanized, private agriculture companies) constructed a <i>hafir</i> for the community in a location that the villagers warned was not suitable for that purpose. Indeed, the <i>hafir</i> was mostly dry, so the company abandoned it two years ago. The villagers attempted to repair it but to no avail. Hence they now depend on an older <i>hafir</i> built in 1998, which is insufficient to meet their demands. Finally, the village also suffered from pastoralist encroachment on their farmland, and villagers claim to have made several complains to the pastoralists' <i>mandoub</i> to no avail. In sum, the community considered itself as being at odds with and a victim of injustice by the government (due to appropriation of their land for mechanized agriculture and unfair compensation for lands affected by the pipeline), the private sector (the Nile Company), and pastoralists, without having recourse to an effective justice system that might resolve these outstanding disputes.</p>
<p>Causes of conflict as given by the villagers</p>	<ol style="list-style-type: none"> 1. Compensation for land lost to the pipeline was not fair. 2. Villagers were not consulted regarding the construction of a pipeline, nor in the planning of a <i>hafir</i> built supposedly for them. 3. Villagers are powerless to challenge state authority.
<p>Policy framework and policymaking process: level of local awareness, participation, and access to policymakers</p>	<ul style="list-style-type: none"> • Villagers appeared to be aware of their rights; hence they resented as an injustice not being consulted in decisions affecting them and their land, as was the case in the pipeline construction, the distribution of mechanized farms, and the building of the <i>hafir</i>. • Villagers had no access to an effective justice system, as demonstrated by the behavior of the oil company and by the weak role played by local Native Administration (NA) members and by the Joint Monitoring Committee. • People's access to the policymaking and judicial system

	<p>was impaired by their fear of being accused of being a Fifth Column to the SPLA or government opponents on a political level.</p> <ul style="list-style-type: none"> Villagers said that they were not fully aware of the functions of the Joint Monitoring Committee, and their only encounter with them was when they passed by the village and distributed a map of the stock routes.
CASE 4	
Name of the village	Al Kurgal
Locality	Eldelling
Administrative Unit	Habila
Longitude	29:45:01
Latitude	11:41
Type and degree of conflict	Competition and clashes over a village-built water point taken over by state authorities
Consolidated narrative of the conflict	<p>In 1984, this Nuba-populated village built a water point with self-help means and no government assistance. In early 1990, the water point broke down, and villagers raised the money to fix it by selling their sugar rations (traditionally given by the government to villages at a below-market price. Villagers could consume their ration or sell it on the market and spend the difference). In 2001, villagers said that a decree was issued instructing them to hand over the water point to the State Water Corporation, which they did despite the fact that the government had made no investment in this facility. After that, under the impression that this village water point had become public property, pastoralists began to cut across farmland, straying from stock routes where water was scarce, to water their livestock at this point. The pastoralists encroaching on village farmland in order to reach the water point mostly came from war areas, where they fought on behalf of the Government against Southern rebels. Since many of the rebels and their supporters are of Nuba origin, pastoralist groups had a negative attitude toward Nuba settled communities, despite relatively good relations between the two groups in the past. Pastoralists were able to access the water point regardless of the objections of farmers because they were still armed from participating in the conflict, and they threatened the farmers.</p> <p>Villagers claimed that nobody consulted them or their NA representatives about the need to change stock routes to</p>

	<p>accommodate changing circumstances over the past 15 years. A government representative, the Director of the State Ministry of Agriculture in South Kordofan, confirmed this claim. He said that existing stock routes (including water point locations) were designed years ago for a livestock population of 3 to 4 million, whereas now actual livestock numbers using these and other (unofficial) stock routes are far larger. He added that livestock owners do not report the actual number of heads they own to avoid full taxation; hence, planning for new stock routes to avoid clashes between farmers and herders is based on unrealistic figures.</p> <p>To respond to the challenge posed to their farmland and water point by herders, village farmers said they complained to the NA, but these authorities did not consider their case, contrary to what would have been expected in the past. However, this claim was weakened by the villagers' admission that they also refrained from responding to any calls for meetings issued by the NA, because they regarded these authorities as powerless, since they cannot detain violators and have no legal right to punish them (in other words, they have no mandate to enforce the law). They also perceived that these authorities are not representative of local farming communities, since they mostly live in urban areas, far from the communities.</p> <p>Based on their perception that there was no way to resolve their dispute with pastoralists, either through the judicial system or through traditional mediation mechanisms, community members resorted to refusing to maintain the water point, in the hope that it would cease to attract pastoralists. (The villagers usually call the pastoralists "Arabs," which suggests that the conflict has an ethnic origin, whereas it is mostly resource based).</p> <p>The impression of villagers is that the government ignores their development concerns, and as a result makes ill-informed decisions and policies that lead to conflict even when they make an effort to address their problems with their own resources, as they did with the water point. Conflicts, in their view, may sometimes occur directly as a result of government actions, but even when that is not the case, the government lacks the means to resolve conflicts.</p> <p>From the villagers' point of view, disarming nomads is the first step to restoring legality. As for the substance of this particular conflict, the dispute over a water point, they felt that the government should not take over community water points but should construct adequate water sources for pastoralists, appropriately located along stock routes.</p>
<p>Causes of conflict as given by the villagers</p>	<ol style="list-style-type: none"> 1. Nomads are armed, which makes law enforcement difficult. 2. NA leadership is powerless due to lack of judicial powers. 3. Water sources are inadequate along stock routes, resulting in

	unmanageable competition over village water sources.
Policy framework and policymaking process: level of local awareness, participation, and access to policymakers	Villagers were aware of the current location of official stock routes, and they even had a map that showed that location. However, they considered this map outdated (15 years old) and complained that they were not being consulted in the decisionmaking process to identify new routes. Similarly, local villagers were not involved in the government decision to take over management of a facility that they had built, and they were unable to identify ways in which they could regain a say in either matter.
CASE 5	
Name of the village	Kiga Jirru
Locality	Eldelling
Administrative Unit	Habila
Longitude	29:36
Latitude	11:23
Type and degree of conflict	Conflict between farmers and oil investment companies
Consolidated narrative of the conflict	In 1998 an oil pipeline (see case study 3) was built, passing through the lands of some farmers in the village. These farmers were not consulted in the planning process, nor were they consulted about determining appropriate compensation for the damage they incurred as a result of the pipeline. There were 15 farmers affected, half Hawasha and half Makhamas. Pipeline authorities passing through the village paid farmers whose lands were affected the value of the lost crop only, not for other damage such as loss of land. The villagers said they asked that compensation include the value of lost land, but their request was not met. They did not pursue the matter further because the pipeline authorities reportedly stressed that this was a government project; hence resistance to it could expose villagers to the risk of imprisonment. As additional compensation to the village, pipeline authorities unilaterally decided to build a village clubhouse equipped with a generator, though the villagers did not consider this a priority and would rather have had a new school. As a result, the farmers felt victimized, regarding themselves as a weak group confronting a stronger adversary—the government itself. While they regarded the institutions that were supposed to provide security and justice as directly responsible for their victimization,

	<p>they considered other authorities and institutions as ineffective in obtaining justice.</p> <p>In the future, the village as a whole does not intend to pursue the matter further, preferring to leave it in the hands of the affected farmers. No action is likely to be taken, since competition over land is not a problem in this village. Loss of land due to the pipeline has not endangered people's livelihoods or created unbearable competition among land users in the village. As for other disputes over use of natural resources, villagers did not report any confrontation with nomads, despite being located in a transit area for pastoralists (<i>makhraf</i>). This supports the impression that the village has strong adaptive mechanisms and ample resources. Although they felt unhappy about their unresolved dispute over the pipeline, they were not willing to take action that might turn into an open conflict because of their ample resources.</p>
Causes of conflict as given by the villagers	Pipeline was built with no consultations, and compensation for damage was not fair.
Policy framework and policymaking process: level of local awareness, participation, and access to policymakers	<ul style="list-style-type: none"> • The villagers were aware of the location of <i>makhrafs</i> and resting points for the nomads, they adhered to these boundaries, and they were provided with a stock route map. • They were also aware of the State Law Organizing Farming and Pastoralism, but they only became informed about it after it was approved. • Villagers were not aware of the pipeline and were not consulted either on individual compensation or on the type of service they would like to have in the village as collective compensation. • They had no access to places where they could appeal the decision of the oil company concerning compensation, and they did not know ways in which they might seek justice in this regard.
CASE 6	
Name of the village	Tillaow
Locality	Kadugli
Administrative Unit	El Petrol
Longitude	29:43

Latitude	11:03
Type and degree of conflict	Conflict between farmers and pastoralists, including some degree of physical violence against individuals.
Consolidated narrative of the conflict	<p>Historically three stock routes passed close to the village: El Homara – Dalco - Um Hitan; Shair – Dara – Delleng; and a third running just east of the village. In the past, pastoralists were not allowed to move along stock routes that passed through this area after crops were planted, and they were not supposed to reenter the area on their way home before crops were harvested. Until the beginning of the 1970s these arrangements were strictly enforced through Local Orders by local authorities and implemented by the NA. The purpose was to avoid the presence of pastoralists in villages when seasonal crops were on the ground, hence preventing damage caused by livestock to crops and reducing conflicts. In 2003, however, to the village’s surprise, the pastoralists created a fourth stock route, not part of the existing routes, agreed upon through consultations and tribal agreements. The new route ran through the middle of the village, and the pastoralists entered the area during the planting period. Their animals therefore destroyed some of the crops. Several farmers who stood in their way were beaten and threatened with weapons. Villagers turned to their <i>sheikh</i>, who went through the customary NA process of filing a complaint, turning to the <i>omdah</i> (Omdah Meddeni), who was however unable to convince the pastoralists to return to their regular routes. The village <i>sheikh</i> then bypassed his <i>omdah</i> and talked to the <i>omdah</i> of the pastoralist group (Omdah Hashim), but that too led to nothing. Then the <i>sheikh</i> talked to the pastoralists’ <i>mandoub</i> (named Dahie) to convey the villagers’ complaint to the pastoralists’ <i>amir</i>, Osman Bilal. However, this too did not resolve the issue. In the end, villagers were convinced that past laws made to organize relations between nomads and farmers had deliberately been abolished or weakened to favor pastoralists, because the pastoralists helped the government fight SPLM forces. This was also the opinion of the village <i>sheikh</i>, who lamented the absence of clear and enforced laws and responsible officials as a sign that higher political authorities support pastoralists. On their part, villagers believed that NA leaders were ineffective, but they nonetheless refrained from turning to the formal judicial system because that would require money to hire private lawyers, which they could not afford (unlike those they regard as “rich pastoralists”). Moreover, villagers feared that pastoralists would take revenge for formal complaints by waging actual “attacks” against their crops. They perceived that pastoralists were so empowered by the existing lack of laws and weak law enforcement and so full of anger as a result of intensive government recruitment in their ranks to fight SPLM forces (many of them Nuba) that they would attack the crops of Nuba farmers</p>

	<p>even if adequate grass were available elsewhere.</p> <p>A workshop discussing these problems was convened in Kadugly in 2004, but in the opinion of villagers, farmers were poorly represented. Those who were invited to the workshop in fact belonged to Farmers' and Pastoralists' Unions, and villagers felt that the Farmers' Union did not represent them. In their opinion, such conferences should have taken place prior to the current situation, and with a view to preventing conflict rather than handling present complaints and incidents after the fact. Moreover, they believed that such conferences should include a balanced representation of both farmers and pastoralists. Meanwhile, some villagers privately admitted that they sometimes cultivated inside the stock route, seeking direct redress for a situation that they perceived to be victimizing.</p>
Causes of conflict as given by both parties	<ol style="list-style-type: none"> 1. Powerless Native Administration 2. Lack of representation of farmers in the decisionmaking process 3. Lack of clarity in laws
Policy framework and policymaking process: level of local awareness, participation, and access to policymakers	<ul style="list-style-type: none"> • The villagers showed good awareness of the regulations regarding stock routes and when pastoralists should enter the area. They saw the main problem as a lack of consultation, in the sense that they did not feel that the Farmers' Union represents them. • The villagers' options for recourse to justice were perceived as limited, since in their experience, the NA was unable to achieve justice, and the formal justice system was unaffordable for them. Plus they felt that there were no law enforcement authorities to protect them against the revenge of pastoralists, if they were to raise a formal complaint.
CASE 7	
Name of the village	Kohlleyat
Locality	Kadugli
Administrative Unit	El Petrol
Longitude	29:38:27
Latitude	11:01:58
Type and degree of conflict	Dispute between farmers and pastoralists with encroachment upon farmlands and forests on the part of pastoralist groups.

<p>Consolidated narrative of the conflict</p>	<p>The village is close to the transitional zone between areas formerly controlled by the Government of Sudan and by SPLM forces. During the North–South War, especially from 1990 to the end of 2000, conditions in the area were dangerous, within gun reach of the SPLM forces. Hence no livestock could enter the area for grazing from outside. The village itself was the subject of attacks by the SPLM, which forced its population to move out. However, the war had a somewhat beneficial impact on the natural environment in the area; since this was virtually a closed area, the war gave vegetation a chance to regenerate.</p> <p>Following the cease-fire agreement between the government and the SPLM in the Nuba Mountains in January 2001, pastoralists attracted by the good vegetation started to enter the area, where previously no stock routes existed. These pastoralists mostly came from the Messeryah tribe of West Kordofan State and other tribes from <i>Dar Jamea</i> in North Kordofan. These pastoralists entered the area when seasonal crops were almost ready to be harvested, contrary to arrangements between farmers and herders regulating livestock movement in previous decades. The result was damage to crops and a clash between herders and farmers that villagers say is a novelty for the area. In addition to this clash of interests, a group from the Shanablah pastoralist tribe, from North Kordofan, also attracted by the forest regeneration, started to cut wood and send it to Kadogli and El Obied for sale on these urban markets. Villagers were opposed to this encroachment on local forest resources, but they stated that their <i>sheikh</i> had no judicial power to enforce a resolution of this situation. Since the villagers’ <i>omdah</i> was appointed by the <i>amir</i> through a process that they considered inappropriate, they did not regard him as representative and in fact asked that he be removed from his office. Nor did the villagers ask the <i>amir</i> to resolve the situation.</p> <p>Given their lack of confidence in NA institutions, villagers approached instead the police, who did not intervene, claiming that it was up to the NA to resolve the problem. Meanwhile, armed young herders who, in the villagers’ own words, did not listen to the advice of their elders, complicated a peaceful resolution of the situation by provocative actions and by refusing to recognize the authority of NA institutions. According to villagers, the main reason that pastoralists encroach on farmlands is that these youth often possess arms, rather than any resource-related need per se. Hence it is not surprising that one villager suggested that the best way to resolve the conflict is for villagers to also arm themselves, so as to reach a balance of power that will allow them to enforce their rights.</p>
<p>Causes of conflict as given by farmers</p>	<ol style="list-style-type: none"> 1. Armed young herders are undisciplined. 2. Grazing periods are not enforced.

	<p>3. Number of pastoralists is increasing.</p> <p>4. Farmers are confused as to who should enforce the law, the police or the NA.</p>
<p>Policy framework and policymaking process: level of local awareness, participation, and access to policymakers</p>	<ul style="list-style-type: none"> • Villagers had not heard of the new law organizing agriculture and pasture lands, nor were they consulted about it. • They did not get help from the police or from the native system and claimed that their <i>omdah</i> and <i>amir</i> did not represent them.
<p>CASE 8</p>	
<p>Name of the village</p>	Dara
<p>Locality</p>	Kadogli
<p>Administrative unit</p>	El Petrol
<p>Longitude</p>	29:45:15
<p>Latitude</p>	11:08:04
<p>Type and degree of conflict</p>	Conflict between farmers and pastoralists, leading to confrontation before NA authorities and to a formal court case.
<p>Consolidated narrative of the conflict</p>	<p>In 2002 a group of pastoralists encroached on farmland held by sharecroppers and owned by the Zakat Chamber (Islamic taxation authority that can invest taxes collected from rich people on behalf of the poor to yield regular incomes to be distributed to them). The Village Development Committee, which was a beneficiary of the project, filed a case with the police and the violators were arrested. The <i>amir</i> of the tribe to which villagers belonged then ruled that violators should pay fines, but the pastoralists refused to accept the ruling and appealed to a formal court, then to the court of appeal, where judicial procedures are a lengthy process. The pastoralists employed a lawyer, who reportedly prolonged the procedures, but the final verdict was in favor of the Village Development Committee; hence the pastoralists were jailed till they paid their fines.</p> <p>Besides this particular incident, the area is recurrently exposed to the risk of conflict between farmers and pastoralists, partly due to the lack of clear and univocal legislation. In particular, people are confused as to who should have the final authority to pass judgment, whether NA <i>amirs</i> or conventional courts.</p>

	In this case, villagers wondered if violators were finally punished because it was the Zakat Chamber, a strong government institution that was in charge of the farm that was damaged by pastoralists' animals. Would this have happened if the farm had belonged to a poor farmer? And would the <i>amir</i> have been so bold in punishing violators, even if his decision was subjected to an appeal, if the Zakat Chamber had not been involved? According to the villagers, in previous cases he was not able to carry out his judicial functions effectively, because pastoralists threatened to burn his farms under fire and even placed a land mine on his path.
Causes of conflict as given by farmers	<ol style="list-style-type: none"> 1. The arbitration system in the country is not clear, and the system traditionally known to the people no longer functions effectively. 2. Legal procedures are lengthy.
Policy framework and policymaking process: level of local awareness, participation, and access to policymakers	Villagers were aware of laws, though they were not consulted in their making. However, their main concern is lack of clear and strong enforcement mechanisms, which do not automatically favor the stronger party (in this case the Zakat institution). Hence, one villager's remark that "in the past there was a law and there was punishment for violators, unlike nowadays."
CASE 9	
Name of the village	Taise Abdelsalam
Locality	Kadogli
Administrative Unit	El Petrol
Longitude	29:47:04
Latitude	11:07:41
Type of conflict	Conflict between farmers and pastoralists
Consolidated narrative of the conflict	This village hosts a Nuba community. Villagers said that the SWC used to manage a fenced <i>hafir</i> in the area, then turned its management over to the community because the <i>hafir</i> does not generate adequate revenues for the Corporation. Villagers admitted that they had managed the <i>hafir</i> poorly. When pastoralists started to destroy the fence to allow their animals to drink, the farmers completed the destruction in order to let the <i>hafir</i> dry out, so as not to attract pastoralists, who were

	<p>encroaching on farmland on their way to the <i>hafir</i>. Villagers admitted that they also set fires on the rangeland to avoid inflows of pastoralists, although they fully realized that this practice also harms them. They said that sometimes when the grass is burned, the nomads turn to the trees, causing damage to the forests. Villagers also reported illegal woodcutting by both nomads and the villagers themselves for charcoal. They also reported that the armed forces cleared a valuable species of trees from a nearby forest. They attributed their participation in illegal woodcutting to the fact that the “government” (meaning the Forestry Administration and the army) also practiced illegal cutting. The village <i>sheikh</i> said the government does not care about legal or illegal woodcutting as long as the <i>gibana</i> (a tax on some goods including charcoal and wood) is paid. Villagers were aware of the damage they do to their environment but said that some of them need alternative energy sources and alternative income opportunities to supplement farm income.</p>
Causes of conflict as given by farmers	<ol style="list-style-type: none"> 1. Lack of law enforcement 2. Lack of adequate water sources for nomads
Policy framework and policymaking process: level of local awareness, participation, and access to policymakers	<p>The village is participating in the South Kordofan Rural Development Project co-funded by IFAD. The <i>hafir</i> is in bad condition. The village lost hope in justice and therefore behaved in a manner contrary to the principles of sustainable use of natural resources. They destroyed their water source, illegally cut their forests, and set fire to their pasture.</p>
CASE 10	
Name of the village	El Shaer.
Locality	Kadogli
Administrative Unit	El Petrol
Longitude	29:43:01
Latitude	11:08:19
Type and degree of conflict	Conflict between farmers and pastoralists, with recourse to NA authorities for arbitration.

<p>Consolidated narrative of the conflict</p>	<p>The May Revolution Government constructed the Kadogly Airport in the beginning of the 1970s, and the present government completed a massive modernization and expansion plan for the airport in 2003. The new plan has taken away land from villages surrounding the airport, including the village of Saraf El Daie, which is inhabited by a community of Nuba origin. The village of this case study, which belongs instead to a seminomadic community of Arab origin, is located next to Saraf El Daie. Being in need of land, as their land was being taken over for the airport, the people of Saraf El Daie claimed part of the lands of El Shaer, and the ensuing dispute between the people of the two villages was taken to the leader of Saraf El Daie (both villages have an <i>omdah</i>), who supported his community and ruled that the land belongs to whoever cultivates it. At the same time, El Shaer people began hearing statements from their Nuba neighbors that their land originally belonged to the Nuba, and not to groups of Arab origin. The matter was eventually taken to the higher authority in the NA, namely the <i>amir</i>, but at the time of these interviews it had not yet been resolved.</p> <p>In interviews, the semi nomadic inhabitants of El Shaer admitted that they encroached on farmland, but they also claimed that farmers frequently cultivate inside the stock routes and even turned some routes into farming areas, thus depriving pastoralists of their rights and pushing them to resort to open confrontation. An example of this situation is given by the stock routes that run along Mashga Gammer, Bardab, and Sarraf El Diea, all of which are now cultivated areas. As for pastoralists' encroachment on farmland, they claimed that part of it was unintentional, occurring when herders crossed farming areas to reach the fields of farmers who sell crops to them when pasture is poor due to low rainfall.</p> <p>Finally, villagers stated that before the war (1986) they had very good cooperation with their neighbors of Saraf El Daie, but lately that has not been the case, not only because of the airport but also because they believe the government wants to gain the support of the Nuba to keep them from joining the rebel forces. As a result, the government is said to have favored the Nuba villages in development initiatives such as solar energy panels and other projects, which they believe has encouraged the Nuba to be antagonistic toward their Arab neighbors.</p>
<p>Causes of conflict as given by villagers</p>	<ol style="list-style-type: none"> 1. Government is perceived as biased toward the Nuba as far as development investments go. 2. Farmers are blamed for encroaching on the stock route. 3. Land tenure system is not clear.
<p>Policy framework and policymaking process:</p>	<ul style="list-style-type: none"> • Villagers were unaware of laws, and they were not consulted on the airport expansion plans or informed of

level of local awareness, participation, and access to policymakers	<p>their impact on them, and they only knew that they had been targeted by a resettlement plan because of the airport expansion and security.</p> <ul style="list-style-type: none"> • Villagers believed that the government distributes services according to favoritism and purely political considerations. • The combination of the war and bad government decisions has created an ethnic divide between two communities that used to have good relations in the past.
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North Kordofan

CASE 11	
Name of village	Hegerat (and Kondokoro)
Locality	Um Rawaba
Administrative Unit	Rural Er Rahad
Longitude	30:51:28
Latitude	12:39:36y
Type of conflict	Conflict between settled farmers, mechanized agriculture schemes, and the State Ministry of Agriculture
Consolidated narrative of the conflict	<p>In 1995 a private company was given some areas of village land to plant <i>gowar</i> (a tree that yields a product similar to gum arabic), but villagers complained to the state authority and the company left the area. In the beginning of 2000, the State Ministry of Agriculture demarcated an area of 7,500 feddans, which was to be used by villagers for mechanized farming. Villagers confronted the Survey Department Authorities who had come to demarcate the area and filed a complaint with the State Ministry of Agriculture, stating that the marked areas belonged to the village, which needed them for its members because of recent population growth. The Ministry promised to accommodate villagers regarding this land, but when the list of eligible applicants was issued, the villagers found that only 10 feddans per person were allocated to about 73 village inhabitants. Sixty-three villagers were denied any allocation, whereas about 300 to 400 feddans per person were given to people from outside the area, mainly merchants, retired members of the police force, and university professors. Villagers then complained that this was their land and their only area for future expansion, which entitled them to receive adequate allocations before the land</p>

	<p>could be distributed to outsiders. Furthermore, villagers refused to accept the results of the allocation and threatened to use force. The State Minister of Agriculture visited the area in 2003 and instructed that fair allocation be made, meaning 75 percent of land to villagers and 25 percent to investors from outside the area. However, the situation is still unresolved pending a response from villagers to the solution offered by the State Minister. In general, the villagers feel that the government is on the side of people from outside the area, and they claim that they are ready to cooperate with the Ministry if it treats them fairly; otherwise they are willing to use force against any party that takes their land. They claim that the village <i>sheikh</i> is the only authority they recognize and the only one entrusted with distributing the village land in accordance with known traditions. Nevertheless, villagers are willing to make compromises, accepting that the State Ministry of Agriculture may allocate land, so long as the Ministry is fair to them. Since they do not feel that this is the case, and in fact think that they were exploited when a compromise solution was devised, they are now considering taking a stand against any percentage of land be given to people from outside the area.</p> <p>Incidentally, villagers noted that this struggle and negotiations should be between them and the government; land beneficiaries from outside the area should not play any role in the process, since the government is fighting on their behalf. It should also be mentioned that the village is inhabited by Nuba, but it is administratively part of Um Rawaba Locality, which is an area populated by the Gawama tribe. Villagers previously attempted to be annexed to South Kordofan, where the Nuba tribes mostly live.</p>
<p>Causes of conflict as given by farmers</p>	<ol style="list-style-type: none"> 1. Villagers were not consulted when the government decided to allocate the area, and they only learned about it when a list of allocated plots was posted on the advertisement board of the Ministry of Agriculture or when they saw the Survey Department personnel. 2. The area demarcated and distributed to outsiders is the only area available for future expansion of agricultural land in the village. 3. Government was not perceived as being fair to farmers, even though they were willing to make compromises.
<p>Policy framework and policymaking process: level of local awareness, participation, and access to policymakers</p>	<ul style="list-style-type: none"> • There were no consultations and no access to decisionmaking in matters affecting the livelihood of villagers, except when the village took a strong stand against the state authorities. • Villagers claimed that the government has no developmental interests in the area, only self-serving interests. Hence they hope to be annexed to South Kordofan, where they may perhaps find justice under the SPLM, which is expected to partly rule the state. One item that the SPLM insisted on

	including in the peace agreement is that existing land leases in South Kordofan and Blue Nile will be reviewed.
CASE 12	
Name of the location	Sud Borbor (Borbor water catchment)
Locality	Sheikan
Administrative Unit	Kazgeil
Longitude	30:19
Latitude	12:50
Type of conflict	Conflict of interests between upstream and downstream water users, due to the construction of water catchments upstream
Consolidated narrative of the conflict	<p>In these states there used to be a well-equipped office for water programming, staffed with personnel with socioeconomic training. However, authority for water affairs has now been given to the State Ministry of Irrigation and the State Water Corporation, both concerned only with technical issues and having no department for socioeconomic studies. As part of the 2003 SWC plan, it was decided to build a water catchment in Borbor, near the town of El Obied. This was one of six catchments whose construction was planned by the SWC to store 35.8 cubic meters of water. The goals of the project were to reduce evaporation and pollution and enable extension of water pipes to towns and villages. The catchment was built over a total spread area of 3 kilometers with a storage capacity of 12 million cubic meters. Studies undertaken in preparation for the project did not consider its socioeconomic implications and only focused on devising appropriate engineering solutions, in line with the capacities and orientation of the institution responsible for the catchments. However, even the engineering side of the project was not carried out properly in terms of design and execution, due to a lack of transparency and accountability in the tendering and procurement processes. The end result was a collapse of the structure that led to flooding of some farms and blocking of some stock routes. Farmers who depended on the seasonal water flow downstream were also negatively affected, since the catchments deprived them of the flow of water. The SWC admitted that it had not conducted any consultations prior to construction, neither with the State Ministry of Agriculture nor with the affected groups. No serious action has been taken by the latter.</p>
Causes of conflict as identified by the	1. Lack of appropriate capacities in institutions undertaking projects

researcher	<p>that may have great impact on many people</p> <p>2. Lack of coordination among different departments in government agencies affected by the impact of water infrastructure interventions</p> <p>3. Lack of consultations with stakeholders in water infrastructure</p> <p>4. Emphasis on technical or engineering solutions in the work of agencies supposed to manage water resources and infrastructure, with no attention paid to socioeconomic factors</p>
Policy framework and policymaking process: level of local awareness, participation, and access to policymakers	<p>None of the downstream users or affected groups and individuals was consulted, as admitted by the government authorities themselves. No impact analysis was conducted by the agency planning and undertaking the project.</p>
CASE 13	
Name of the location	Rahad Torda
Locality	Um Rawaba
Administrative unit	Er Rahad
Longitude	30:15
Latitude	12:45
Type and degree of Conflict	<p>Increasing competition over water source between garden owners and pastoralists, without open confrontation</p>
Consolidated narrative of the conflict	<p>One of the two major tributaries of the Khor Abu Habil, one of the largest ephemeral streams in Sudan, is the Tagerger. Before joining the Khor, the Tagerger passes through a natural depression where it forms a small lake called Rahad Torda, which constitutes a source of water for pastoralists' livestock. Some farmers also have the right to cultivate the flood land along the Torda during the dry season, and several farmers and larger private investors have obtained rights to establish fruit gardens. At some points, these establishments have blocked access to the lake for pastoralists who use it in the dry season. So far, animals have been able to find other paths to reach the lake; however, if horticultural plots continue to expand, this may lead to serious confrontation with pastoralists.</p> <p>In a different location in South Kordofan State, on the occasion of a meeting at the Ministry of Agriculture, the Director of the Horticulture Department Haj Ibrahim Tirab said that the Department is conducting a study to block all lands around seasonal streams</p>

	(Khors) for horticultural crops, because these areas are suitable for this type of production. However, he admitted that by establishing horticultural gardens, farmers block seasonal stream inlets, impeding access to water by nomads, who in turn sometimes destroy these gardens to reach the water, thereby entering into conflict with the farmers. This seems to suggest that government officials tend to have little ability to plan ahead to prevent negative social phenomena resulting from changes in resource use patterns. This also seems to have been the case in government decisions regarding allocation of land around the Torda for horticulture.
Causes of conflict	<ol style="list-style-type: none"> 1. Lack of appropriate access roads to the Torda 2. Absence of mechanisms to ensure that all stakeholders abide by rules to minimize damage to others
Policy framework and policymaking process: level of local awareness, participation, and access to policymakers	State authorities decided to allocate investments around the Torda by state authorities with no consideration for all of the stakeholders involved, let alone consultations with them.
CASE 14	
Name of the village	Masalameya, West of El Daier Mountains
Locality	Um Rawaba
Administrative unit	Rural Er Rahad
Longitude	30:32:42
Latitude	12:26:30
Type of conflict	Dispute over land between settled farmers and government agency responsible for demarcation for mechanized agriculture schemes
Consolidated narrative of the conflict	In 1992, when the government was facing the possibility of an embargo by the international community, it declared a policy of food security, which involved among other things replacing large areas so far used for irrigated cotton cultivation with the production of food crops, notably sorghum. The government then started looking for gardoud soils to expand mechanized agriculture, allocating vast areas to large private investors. Gardoud soils are actually considered the best kind of land for grazing, and they could be spoiled if subjected to the disc harrow plow used in mechanized agriculture. However, this environmental consideration did not stand

	<p>in the way of the new government policy. In this particular area the government demarcated 39,000 feddans, out of a total of 92,000 feddans that it planned to allocate for mechanized agriculture in the central part of North Kordofan. State authorities were pleased with the decision because they expected that it would generate a source of revenue for them.</p> <p>The state took on responsibility for locating and distributing land through a Committee of Land Disposition, formed by state decree under the Law of Urban Planning. The Committee comprised seven members, all government officials. State authorities claimed that they followed the right procedures in this process by contacting the NA, ensuring that the demarcated lands would not be the object of disputes, undertaking a social survey, securing stock routes, excluding forests, and allocating 40 percent of the demarcated land to the local population.</p> <p>Despite this claim, the local population complained, saying that license fees were beyond their reach (100 SD per feddan, equivalent to less than 50 cents in US money). Most important, they did not understand why they should pay for their own land and do so at the same price as rich investors from outside the area who could afford to pay that price. Some community members, aware of how expensive mechanized agriculture could be, thought they might eventually prefer to sell their land to traders and other rich outsiders.</p> <p>At the time of the interview, the community was still resisting handing over to state authorities those of its lands that had been demarcated by the Committee, and no solution had been reached.</p>
<p>Causes of conflict as given by villagers</p>	<p>The usufruct rights of local farmers were not addressed before giving land to outsiders (however, it should be noted that because of the absence of clear governance mechanisms for natural resource management, all stakeholders wanted free access to resources).</p>
<p>Policy framework and policymaking process: level of local awareness, participation, and access to policymakers</p>	<ul style="list-style-type: none"> • Consultation was not carried out when the government of the state enacted the Law of Urban Planning, nor did local stakeholders have access to the decisionmaking process, since the committee of seven charged with land allocation did not include a member from the affected village. • No evaluation was made of the fees charged for the acquisition of the allocated land, particularly from the point of view of their being affordable (or unaffordable) for local villagers.
<p>CASE 15</p>	
<p>Name of Location</p>	<p>Al Ain (and several other affected locations in the area)</p>
<p>Locality</p>	<p>Sheikan</p>

Administrative unit	Kazgil
Longitude	30:24
Latitude	13:01
Type of conflict	Conflict between settled farmers and pastoralists, on one side, and large private investors on the other
Consolidated narrative of the conflict	<p>In 1997, a concession to plant 38,000 feddans with acacia trees for export was given by the government to a private company called Malaysian-African Agriculture Company (Jandeel) in Shikan, a locality 40 kilometers east of El Obied toward Er Rahad, south of the railway line. The concession was to last for 25 years, and it gave the company access to a vast area, going from Kasgil to Rahad. This affected the Gawama and Bedirya tribes and other small tribes associated with them, based in the area covered by the concession, as well as nomadic tribes periodically entering the area. More specifically, the concession deprived pastoralists of two of their most important wet grazing areas (Mugshasha and Ghanama), blocked some pastoral routes, and also encompassed several village farms.</p> <p>The concession was granted through a federal law, namely the Investment Encouragement Act of 1990. Although the state also has a Committee of Land Disposition, which should in theory grant concessions to private investors on state land and work in harmony with federal investment authorities, this particular concession did not pass through the committee. At the local level, the traditional leadership of nomads was not consulted, but there were rumors that some village <i>sheikhs</i> of settled farming groups did not object to the concession because the company bribed them.</p> <p>The company tried to placate the population by making token donations for social and community services, but continuous complaints found their way to state authorities from different locations. The company itself resorted to using guards and security personnel to prevent animals from entering the concession area, while farmers as well as pastoralists continued to regard this investment as an infringement upon their customary rights. Most of the resistance, however, came from pastoralists whose routes were blocked: both state authorities and the company realized somewhat belatedly that pastoralists could stage a serious confrontation because they were armed. Hence around the time of the interviews, an agreement was concluded between the state of North Kordofan and the company, stating that (1) 1,500 feddans of land would be deep-ploughed and seeds would be disseminated in this area as grazing land, so as to make it an alternative stock route for affected nomads; (2) sheep and cattle would be allowed to graze in the company's plantation, as they would not cause harm to <i>hashab</i> trees;</p>

	<p>and (3) <i>hafirs</i> would be built for settled communities affected by the plantations.</p> <p>One of the lessons learned in this case is that lack of transparency and consultations could lead to dangerous speculation. In this case, “Some pointed to a conspiracy and hidden agenda behind the grant, as acacia is not normally planted on, or even suited for clay soil. The natural site for such trees is said to be sandy soil. They thus doubted the developmental objectives of the plantation and tended to think that it might be a form of land speculation or else to lay claim over an area (known but not yet disclosed that it is) rich in minerals.” (Shazali 2002)</p> <p>Due to the frequent reoccurrence of complaints, it seems that a partial solution, like the one provisionally suggested by the agreement, may not hold beyond the short term; hence the conflict is as yet unresolved.</p>
Causes of conflict	<ol style="list-style-type: none"> 1. The formulation of development objectives and policies such as export promotion via the private sector, without due consideration for the rights of other stakeholders, notably pastoralists and small farmers 2. Lack of state authority over its land, as this particular concession was given by the government without consulting state authorities 3. The regulatory framework, in which such laws as the Investment Encouragement Act of 1990 exist, gives absolute authority to the government. 4. Lack of arbitration mechanisms to which affected groups can resort
Policy framework and policymaking process: level of local awareness, participation, and access to policymakers	<p>In this particular case the government bypassed the state and reportedly colluded with some NA leaders to favor large private investors in a project lacking clear and stated objectives.</p> <p>Having been granted by a federal law, the Investment Encouragement Act that does not envision corrective mechanisms, the concession offers few alternatives to redress damage it causes to affected communities, other than partial and ad hoc solutions at the state level.</p>
CASE 16	
Name of village	Abu El Ghur (east El Obied)
Locality	
Administrative Unit	

Longitude	
Latitude	
Type of conflict	Conflict of settlement between settled community and pastoralists
Consolidated narrative of the conflict	<p>(This case is written up based on preexisting records.)</p> <p>A branch of Hawazma pastoralists called Tuffyah settled in the area of Abu El Ghur, which is part of the Gawama <i>dar</i>. The settlement was conducted according to traditional norms accepted by the tribal leadership of the Gowama, which allowed the newly settled tribes to practice cultivation. However, the Tuffyah <i>omdah</i> wanted to exercise his authority as <i>omdah</i> in the <i>dar</i> in which his people had settled, which actually belonged to the Gawama, and this contravenes local traditions and customary norms. Hence the amir of the Gawama asked the <i>omdah</i> either to leave the <i>dar</i> and go and practice his authority as <i>omdah</i> in his own land, or to accept his status as an ordinary member of the community and abide by the traditions governing the Gawama <i>dar</i>. The dispute was resolved, but it may be an indication of the fact that some <i>dar</i>-less tribes are increasingly attempting to assert their authority in territories traditionally held by others, taking advantage of the weakening (if not destruction) of the <i>dar</i> concept.</p>
Reasons for conflict	<ol style="list-style-type: none"> 1. Tribes felt that that the <i>dar</i> concept is no longer recognized by the government. 2. <i>Dar</i> owners felt that if they started to compromise on small settlements and the traditional rules governing it, their claims to their own land would eventually be at risk.
Policy framework and policymaking process: level of local awareness, participation, and access to policymakers	This case shows that people can still be empowered by the traditional system, which in this instance was able to provide a basis for resolution of a conflict (which nevertheless may also have originated from a weakening of the same system).
CASE 17	
Name of village	Al Gaghror
Locality	Um Rawaba
Administrative Unit	Er Rahad
Longitude	30:29:55

Latitude	13:05:32
Type of conflict	Conflict of settlement between settled community and pastoralists
Consolidated narrative of the conflict	<p>The Shanabla nomadic tribe has been a guest tribe of the Gawamma since the British colonial government banned animal grazing in the Gezira scheme, which used to be their grazing land in the early 1920s. This ban forced the Shanabla to cross the White Nile into North Kordofan, where a client bond between them and the Gawamma, sponsored by the British, enabled them to access local rangelands and pass through to other rangelands southward to the Nuba Mountains. The Shanabla then started to move between the <i>makharifs</i> of rural Er Rahad and rural El Obied, the capital of North Kordofan, and areas located in the far south and north, depending on the type of animals they had and on the characteristics of each rainy season. Part of the tribe applied for settlement in the area between the highway El Obied – Khartoum and the Gaghror village, which is part of Gawamma <i>Dar</i>. The application was submitted to the <i>amir</i> of the Gawamma tribe, and subsequently the Shanabla claimed that they had papers indicating that they had obtained the <i>amir</i>'s approval, which enabled them to start settling in 1997. When they started expanding the initial settlement (especially in 2001), breaching the village <i>makhraf</i> by clearing the area for cultivation and settlement, villagers from the Gawamma tribe objected to this on the ground that the area was part of their land. The pastoralists claimed that they bought the land from the <i>amir</i> of the Gawamma tribe, but the villagers contested the decision through their <i>omdah</i>, who had not been involved in the deal with the <i>amir</i>. Villagers complained that the <i>amir</i> did not stand by their side and challenged his authority by going to court, supported by their <i>omdah</i>. The court procedures were lengthy and expensive for the villagers, however, and villagers worried that they might lose the case due to their poor financial means. The case was still in the court of appeal at the time of the interview for this case study.</p>
Causes of conflict	<ol style="list-style-type: none"> 1. Failure or loss of authority of native arbitration mechanisms has forced stakeholders to resort to a very expensive alternative, namely the courts. 2. Weakening of the NA has resulted in the emergence of a leadership that is not sensitive to the demands and rights of its own people, and instead pursues its own interests.
Policy framework and policymaking process: level of local awareness, participation, and access to	

policymakers	
CASE 18	
Name of village	Aradayah
Locality	Sheikan
Administrative Unit	Abu Haraz
Longitude	
Latitude	
Type of conflict	Conflict of settlement between settled community and pastoralists
Consolidated narrative of the conflict	<p>(This case is based mainly on preexisting records.)</p> <p>To put this case in perspective, it is essential to understand the concept of tribal <i>dar</i> in North Kordofan. The tribes who have acquired <i>dars</i> have usually done so through a long history of tribal wars, which eventually led to recognition of tribal <i>dar</i> boundaries by all tribes. Within the <i>dar</i>, natural resources are primarily the entitlement of tribe members; however, others can also use them for grazing, temporary cultivation, and even settlement. This is possible provided that outsiders get permission from the leadership of the tribe to access its resources, and that access is based on certain known conditions. Moreover, demarcated and well-known areas established either by tribal alliances or by the government (generally since the colonial era) are used by pastoralists from outside a given <i>dar</i> for grazing, provided that they leave the <i>dar</i> by the end of the grazing season.</p> <p>In this particular case, a conflict situation developed when part of the Zagawah pastoralists settled in the Um Bashar in the rural Rahad area, which belongs to Gawamma cultivators. Several clashes ensued between these pastoralists and settled farmers and NA leaders, due to the fact that the former attempted to establish their own villages and farms. Orders were then issued to the pastoralists to evacuate the area, and they did so by moving into a wet grazing area in Aradayah, in rural Khazgil. However, <i>Omdah</i> Alloba, who had authority over this area, issued an order in 2000 stating that this is a common grazing area, hence the pastoralists had to leave it, based on the 1998 Stock Route Law that prohibits settlement in common grazing areas. In reality, the <i>omdah</i> probably wanted mostly to prevent the pastoralists from having their own village, and possibly later establishing their own NA system and therefore acquiring part of the <i>dar</i> forever. Given the stalemate, the State of North Kordofan Security Committee issued a resolution ordering the evacuation of the pastoralists from the Aradayah area, but this was</p>

	<p>not implemented. The <i>wali</i> also issued an evacuation decree, but this was also not respected and indeed challenged by the pastoralists. The pastoralists then filed a charge in court, and the court adjudicated that the Zagawah are Sudanese citizens and therefore they have a right to settle in any part of the country. Despite having thus been settled by a court, the situation remains tense and could erupt into open conflict at any time, as the settled population in the area as well as its NA feel that the government has taken the side of pastoralists and that their defeat by this group of pastoralists represents a precedent encouraging other groups to challenge <i>dar</i>-based rights.</p>
Reasons for the conflict	<ol style="list-style-type: none"> 1. A regulatory framework ignored traditional rights. 2. Weakening of NA, causing local arbitration mechanisms to be ineffective
Policy framework and policymaking process: level of local awareness, participation, and access to policymakers	<p>Villagers of Aradyah appear helpless in the face of the only option of justice left to them, the statutory law, with which they are not largely familiar and do not regard as impartial and fully legitimate.</p>
CASE 19	
Name of village	El Kebeiri
Locality	Shikan
Administrative unit	Kazgil
Longitude	
Latitude	
Type of conflict	Conflict between settled farmers and pastoralists
Consolidated narrative of the conflict	<p>Transhumance movement is an annual practice performed by pastoralists in search of pasture and water along stock routes that are known and demarcated by marks or pegs. During the transhumance movement, pastoralists stay in wet grazing areas which are known as <i>makhraf</i> for a period of 2–3 months to allow animals to graze. The strategic location of the <i>makhraf</i> enables pastoralists to sell their products and buy what they need while their animals are grazing. Pastoralists also stay in transit areas known as <i>manzalah</i>, where resting is for shorter periods (1–5 days), mostly to care for sick or injured people, assist pregnant women, treat sick animals, or deal</p>

	<p>with any other emergency. These transit points have also traditionally been known, marked, and agreed upon, based on a very long history of negotiation and joint decisionmaking.</p> <p>El Kebeiri is a wet-season grazing area, camping site, and transit resting point for Baggarah pastoralists, who move from here toward Habail through Bulken and Eddidat, or directly toward El Lebnya. Farmers in the area, however, have started to cultivate inside the boundaries of the wet-season area, claiming that pastoralists had encroached upon cultivated areas and arguing that pastoralists do not need the area as a transit resting point because they can directly proceed along their route to Bulken and Eddidat. In reality, farmers are facing shortages of land for cultivation; hence they have started to look for more land, which has put them on a collision course with pastoralists, since this location has been historically agreed upon as a wet-season grazing and resting area.</p> <p>State authorities have intervened in this issue by demarcating the <i>makhraf</i> based on the historically known signs, in the presence of both pastoralists and farmers, and they have also issued warnings to farmers who encroached upon the area. The NA in this case has not taken any initiative and has preferred to wait for the government to act. This has prompted comments such as that offered by the Amir El Zein of the Bedderiah, who, when interviewed regarding his opinion of the role of the NA in this sort of conflict, said “Native Administration has not developed, and the laws governing it are not stable, so that every time we face a different set of arrangements.” The conflict is now resolved.</p>
<p>Reasons for conflict</p>	<ol style="list-style-type: none"> 1. Lack of development leading to a rush to acquire and cultivate more and more land to compensate for low productivity and population pressure 2. Government weakening of the Native Administration, whose members are unable to act except in the presence of government authorities
<p>Policy framework and policymaking process: level of local awareness, participation, and access to policymakers</p>	
<p>CASE 20</p>	
<p>Name of location</p>	<p>Foja</p>
<p>Locality</p>	

Administrative Unit	
Longitude	28:02
Latitude	13:43
Type and degree of conflict	Violent conflict among nomadic tribes
Consolidated narrative of the conflict	<p>This case is based on records as well as on an interview in El Obied with Amir El Zein Morgni Zakielldin of the Bederria tribe and with Hamid Bashir, Commissioner of Soderi.</p> <p>In 1982, three large tribes from Darfur, namely the Ziadiyah, Meidob, and Berti, entered the lands of the Kababish and the Kawahala, two major tribes living in North Kordofan, in an attempt to escape a situation of deteriorating grazing land and lack of services along their normal routes. The tribes of North Kordofan considered this intervention as trespassing on their land, and the two sides entered a period of intense fighting, which resulted in many casualties. A tribal conference was then held in the town of Malliet in Darfur to resolve the situation. Several measures were recommended there, including the revitalization of the NA, awareness campaigns for nomadic group <i>mandoubs</i>, equitable distribution of services, revival of annual tribal conferences (<i>zufur</i>), demarcation of stock routes, and investment in these routes, especially in terms of water sources. Another recommendation was to strengthen the enforcement capacity of police forces. The conference managed to resolve the issue and both parties signed an agreement to this effect. However, the recommendations were not fully implemented and the authorities had to organize another conference in 1987, when conflict broke out again.</p>
Causes of the conflict	<ol style="list-style-type: none"> 1. Lack of proper investment in stock routes, demise of the NA without a suitable alternative for arbitration, unequal distribution of services, weak enforcement mechanisms, and lack of coordination among government units all lead to conflict. 2. The conference recommendations, if applied, may have greatly mitigated this and other conflicts of this type. However, the government preferred to deal with issues in an ad-hoc, piecemeal fashion, hence preventing a lasting resolution of the situation. 3. An ad-hoc conference alone cannot resolve the bases of a conflict; hence an indirect cause of conflict is the need for change in the governance structure of natural resources in the direction of sustainability.

APPENDIX B: GLOSSARY OF RELEVANT SUDANESE TERMS

<i>ajawid</i>	Community elders.
<i>amir</i>	See <i>nazir</i> .
<i>dar</i>	Arabic for “home.” It refers to the tribal homelands of different ethnic groups. Not all groups are endowed with a <i>dar</i> of their own; however, most settled and even nomadic groups have a tribal homeland, where they are considered to be the primary resource users, according to customary law. The Government of Sudan formally abolished the <i>dar</i> as an institution in the 1970s, but it still plays a major role in the normative discourse of most rural communities.
<i>feddan</i>	A measure of land size equal to 1.03 acres.
<i>gibana</i>	Local tax on some goods, including charcoal and wood.
<i>hafir</i>	A man-made water pond built to capture rainwater runoff, with a water capacity between 10,000 and 60,000 m ³ . It may be used for human consumption, livestock consumption, or irrigated horticulture.
<i>jellaba</i>	Term used locally to refer to the supposed descendants of Arab traders who originally brought Islam to the Sudan, who have traditionally played a dominating role in the economy of riverine Sudan as well as in civil service and political administration. The term may be used with a specific ethnic connotation or refer more generally to urban merchants of Arab origin.
<i>Judyah/judiya</i>	Traditional institution for conflict resolution through mediation or arbitration by community elders (<i>ajawids</i>). The <i>judyah</i> mechanism still exists in many communities, albeit weakened by loss of authority of the elders and Native Administration institutions.
<i>chor</i>	Ephemeral or nonperennial water course. The term is usually employed in savannah areas.
<i>makhraf</i>	Location where nomads spend the rainy season.
<i>mandoub</i>	Representative of the nomadic camps along the stock routes. His authority is somewhat similar to that of the <i>omdah</i> in settled communities, but his responsibilities are mostly limited to the interaction between the nomadic group he represents and government authorities.
<i>manzalah</i>	Resting site along pastoralist routes.
<i>murhaal</i>	Livestock route, along which pastoralists lead their animals in search of pasture following seasonal cycles (plural is <i>marahel</i>).

<i>nazir</i>	Under the Native Administration and the earlier tribal system, the <i>nazir</i> is the head of a tribe. His position is usually hereditary, but during the postindependence period the state has played an increasingly significant role in the selection of authorities at the <i>nazir</i> level, leading among other things to a change of their appellation to the current “ <i>amir</i> ”. <i>Amirs</i> are often directly appointed by the government on the basis of political loyalty, and they may be members of the National Assembly. In any case, the <i>nazir/amir</i> cannot perform his role in the tribal system unless he is recognized by the state.
<i>omdah</i>	Head of a group of villages or nomadic camps (<i>firqan</i>), which are collectively referred to as an “ <i>omdiya</i> .” He is usually chosen by open vote by a group of sheikhs, but he also needs to be recognized by the government in order to be able to perform his role. <i>Omdahs</i> are sometimes members of government institutions such as the National Assembly or, more frequently, advisory councils at the locality and state levels, or popular committees at the village level. Within the hierarchy of the Native Administration system, the <i>omdah</i> stands one level of authority below the <i>nazir</i> .
<i>sheikh</i>	Head of a subclan, nomadic camp (<i>fariq</i>), or sedentary village. He may be chosen by the community or inherit his position, and his primary role under customary law is to regulate land distribution and land use among community members and in relation to newcomers or outsiders. Under the Native Administration system, the <i>sheikh</i> is subordinate to the <i>omdah</i> in the authority structure.
<i>torda</i>	Natural depression with good storage capacity to collect surface runoff water.
<i>‘urf</i>	The complex of traditional norms and customs regulating tribal life, including conflict management and resolution. Each tribal group may have its own <i>‘urf</i> , which it often shares with allied or ethnically related tribes even when the latter live in distant areas.
<i>wadi</i>	Ephemeral or nonperennial water course, a term usually employed in the Sahel and in desert areas.
<i>wali</i>	Appointed state governor heading a wilayah (state) in the Sudanese federal system. The <i>wali</i> has chief executive power at state level, and he is assisted by six ministers also appointed by the President and charged respectively with the portfolios of finance, education, health, agriculture, cultural and social welfare, and engineering and planning.
<i>zakat</i>	Islamic tax, often used by the state or private foundations to finance poverty alleviation programs.
<i>zufur</i>	Annual tribal meetings to define stock routes among nomadic groups and between nomads and settled communities, as well as to resolve outstanding disputes and mediate conflicts among tribes.

APPENDIX C: PERSONS MET

State Governors (*Wali*)

Somi Zeidan Governor, South Kordofan State

State Ministers

Khalid Abdulla Marouf, State Minister of Agriculture, Irrigation and Animal Resources, North Kordofan

Adam Hamid, Minister of Finance, North Kordofan

Bashir Korsi, Minister of Social Affairs, North Kordofan

Ibn Omer Saboon, Minister of Engineering Affairs, South Kordofan

Commissioners

Hamid Bashir Commissioner of Soderi, North Kordofan

State Government Secretariat

Hamadtalla Ahmed El Tahir, Secretary General of the Government of North Kordofan

Government Officials

Federal:

Hassan Naserallah, Chamber of Federal Affairs

Wasfi El Gamri, Director of Planning, State Support Fund

Dr. Hassan Mohamed Nour, Director of Planning, Ministry of Animal Resources

Mohamede Baher Eldin, Undersecretary of Ministry of Irrigation and Water Resources

Mohamed El Hassan Ibrahim, Director, Underground Water Resources, Ministry of Irrigation and Water Resources

Karori El Hag Hamad, Director of Planning, Ministry of Irrigation and Water Resources

Hasim Mohamed El Hassan, Director of Natural Resources Department, Ministry of Agriculture

Fateh El Rahman Ahmed, Director of Range and Pasture Department, Ministry of Agriculture

Adil Mohamed Ali, National Forestry Corporation

Adil Mohamed Ali, High Council for the Environment

North Kordofan:

Hashim Mirgani, Director General, Ministry of Finance

Suliman Gabir Agib, Director General, Ministry of Agriculture, Animal Resources and Irrigation

Hamid Adul Mohamed Ali, Director of Animal Resources

Mekki Abdullah Adem, Mechanized Rainfed Agriculture Department

Rodwan, Director, Range and Pasture

Anwar Sir Elkatim, Chief Attorney

Isa Ahmed Suliman, District Attorney

Abdalla El Raiah, Director, State Water Corporation

South Kordofan:

Dr. Salama, Director General, Ministry of Agriculture (MOA)

Elhag Tirab, Director, Horticulture Department, MOA

Mohamed Ibrahim, Director, Agriculture Extension Department, MOA

Hamza El Shafie, Director, Land Use Department, MOA

Rodwan Ando, Director, Range and Pasture Department, MOA

El Shafie Abu El Naw, Director, State Water Corporation

Native Administration

El Zein Mirghani Zakieldin, Amir

El Sadig Herika, Amir

Abdallah Hassan Isa, Omdah

Dawood Fadl Allah, Omdah

Gismallah Bakit, Sheikh

Hanowa Abdulrahman, Sheikh

Ibrahim Sheikh

Magoy, Sheikh

Civil Society

Hamdan Ali Bolad, Farmers Union, South Kordofan

Bakri Abdullah Suliman, State Legislative Council, South Kordofan

Fisal Hassab El Rasoul, SOS Sahel

Ibrahim Karshom, Youth Union

Yousif Ali Al Balal, Chairman, Pastoralists Union, North Kordofan

APPENDIX D: OVERVIEW OF RECOMMENDATIONS

Type of recommendation	Recommendation	Target
1. Reform of the process and content of planning on natural resource management (NRM)	<i>1. Invest systematically in information gathering, scientific research, and resource mapping</i>	GOS, states, donors, NGOs
	<i>2. Formulate comprehensive rather than sectoral NR policies</i>	GOS, states, donors
	<i>3. Formulate NRM policies that build on local livelihood systems, rather than aiming to replace them altogether</i>	GOS, states, donors
	<i>4. Set infrastructural investments as priorities for public spending</i>	GOS, states
	<i>5. Use land use plans as tools to harmonize policymaking on NRM</i>	GOS, states, donors
2. Legal reforms	<i>1. Redefine property rights on farmland in a sustainable way, not conducive to conflict</i>	GOS, states
	<i>2. Redefine rights regimes on mobile resources in a sustainable manner</i>	GOS, states
	<i>3. Make the legal system more transparent and democratic</i>	GOS, states, localities
	<i>4. Restore a space for NA-based and informal conflict management mechanisms</i>	GOS, states, localities
	<i>5. Define a legislative basis for cooperation among water agencies and users</i>	GOS, states
	<i>6. Restore neutral enforcement mechanisms based on state monopoly over violence</i>	GOS, states, localities

3. Organizational reforms	<i>1. Strengthen mechanisms for government accountability</i>	GOS, states, donors, civil society
	<i>2. Clearly define NRM responsibilities of states and federal government</i>	GOS, states
	<i>3. Institutionalize collaboration within and among states in NRM</i>	GOS, states
	<i>4. Institutionalize the financial and human resource autonomy of states and localities</i>	GOS, states, localities, donors
	<i>5. Empower states and local government to regulate the oil industry</i>	GOS, states, donors
	<i>6. Institutionalize devolution of resources and responsibilities down to the local level</i>	GOS, states
	<i>7. Strengthen grassroots organizations and local stakeholders in NRM</i>	States, localities, donors, civil society

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