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RESEARCH BACKGROUNDER

Agricultural Change, Land, and Violence in Protracted Political Crisis

An examination of Darfur

Abdal Monium K. Osman, Helen Young, Robert F. Houser, and Jennifer C. Coates



CONTENTS

Oxfam America's Research Backgrounders	3
Author information and acknowledgments	3
Citations of this paper	3
Executive Summary	5
Introduction	7
Setting the Context for Potential Disaster: A Conflicting System of Land Tenure	11
Stabilization of Shifting Cultivation and the End of the Production Symbiosis	14
Land Rights: From Multiple-rights Systems to Single-right Ownership	17
The Privatization of the Commons: Animal Feed Resources in Darfur	22
Fencing in open rangelands.....	22
The diminishing role of the acacia	24
Crop residues: From an element of cooperation to an element of confrontation	25
Agricultural Change in Darfur: Competition, Exclusion, and Violence	26
Agricultural change: Implications for traditional structures, security, and stability	27
Agricultural change and ethnic/tribal polarization	29
Agricultural change: conflicts and violence	30
Conclusion	35
References.....	37
Research Backgrounders Series Listing	42

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EXECUTIVE SUMMARY

Small-scale traditional agriculture provides the foundation of economic, political, and social life in Darfur. It is of a subsistence nature and it is based on an extensive system of land use. It is composed of farming (staple production and small-scale gardening) in the form of shifting cultivation and of livestock herding in the form of pastoral livestock production. In this system, farming and herding are specialized activities practiced by ethnically different groups. However, the ethnic and the specialization boundaries set by this system are fluid. It allows a constant nomadization process from the cultivators, who are able to accumulate livestock, and a constant sedentarization process for herders who do not have a herd big enough for nomadic adaptation. The processes of nomadization and sedentarization involve adoption of nomadic and sedentary cultures.

Under this system, rights over land are usually not exclusive; various overlapping rights may prevail and land use is not permanent. For this reason, different groups of users could succeed each other in different seasons and times of the year. Moreover, rights over land under shifting cultivation are on a usufructuary basis, that is, use rights as opposed to exclusive ownership. In addition, rights to the common property resources are common. Such arrangements are particularly important in Darfur, and especially in the study area. They ensure the viability of the production systems, as these arrangements allow for the exchange of production inputs between the different production subsystems to maintain the production symbioses on which the overall production system is anchored. The arrangements also permit the subsistence of the different groups of the society in a cooperative manner for their mutual advantage and peaceful coexistence.

Against this background of the agricultural system, this paper examines:

- the agricultural changes and related changes to the land-rights and land-use system in the Kebkabiya area of North Darfur;
- the ways that these changes have affected the multiple and overlapping land rights in the area, the mutual interdependencies of the production systems of agriculture, and the local-level institutions for settling conflicts and disputes; and
- the implications of these changes for violence. Analysis and commentary on violence and social tensions in Darfur over the past three decades have neglected the dynamic of agricultural change in Darfur and its dimension in the area's violence.

Changes in land use, from shifting cultivation to permanent land use, have resulted in the evolution of a stable agricultural system of mixed farming and horticultural production, and in the emergence of individual control of land and land resources with an exclusionary dimension. These changes have taken place in a context of conflicting dual land tenure and have shaken the foundation of the society. We discuss the implications of these changes for access to agricultural resources in terms of the violent conflict in the region, the customary land management and conflict resolution authorities, and the ethnic trajectory the violence has taken. The paper argues for the need for further research on the changing nature of the agricultural system and land system to inform policy and peace processes.

INTRODUCTION

Traditional agriculture constitutes the backbone of Darfur's economy and the principal source of livelihoods for the population, and it forms the region's social and political foundation. It is composed of two separate systems: shifting crop cultivation and pastoral livestock production. These agricultural systems are practiced as specialized activities by different communities of different tribal backgrounds. However, there is significant interaction between these systems and between the groups that practice them, as experienced in other parts of semiarid Africa.¹ Traditional agriculture in Darfur is based on two principles: (1) corporate ownership of land tenure, involving a multiple and overlapping land claim system, and (2) the production symbiosis, which involves interdependencies between production activities and the peaceful interaction of the groups involved in these activities. These two principles support the economic, political, and social integration of the society.²

Under the system of multiple and overlapping land-claims, guaranteed access to land and landed resources is a general right granted to all individuals on a need and a usufructuary basis, with reversion to the common property on abandonment. This system entails the existence of various overlapping rights to land by the different resource users and does not confer exclusive ownership of land. The general right to land access by all individuals applies also to the common property rights. Such right to access the common property resources has provided these communities in general, and poor people in particular, with opportunities to appropriate a significant fraction of their livelihoods from these resources and to cope with environmental shocks.³

The production symbiosis is based on the interdependency of different production activities. It integrates them in a symbiotic process of production through a system of exchange of production inputs, such as fodder, investment, labor, and manure. For example, the production system is based on the transfer of nutrients, especially nitrogen, by grazing animals from the rangelands and pasture to the croplands.⁴ The production symbiosis is founded on extensive land use and on the use of land and landed resources by multiple resource users at different times of the year. The interdependence of the production

1. W.G. Matlock and E.L. Cockrum, "Agricultural Production Systems in the Sahel," in *The Politics of Natural Disaster*, ed. M.H. Glantz. (New York: Praeger, 1976), 232-255. A.M.K. Osman, *Agricultural Change, Land and Violence: An Examination of Darfur*. (PhD diss., Tufts University, Medford, MA, 2012).

2. Ibid.

3. B. Grosskinsky and C. Gullick, Exploring the Potential of Indigenous Wild Food Plants in Southern Sudan. Workshop proceedings, Lokichoggio, Kenya, 1999, The Mitchel Group/USAID, 2000. J. Humphries, "Enclosures, Common Rights, and Women: The Proletarianization of Families in the Late Eighteenth and Early Nineteenth Centuries." *Journal of Economic History* 50, no. 1 (1990): 17-42. N.S. Jodha, "Common Property Resources and Rural Poor in Dry Regions of India." *Economic and Political Weekly* 21, no. 27 (1986): 1169-1181.

4. Osman, "Agricultural Change."

systems has allowed for the different tribal and ethnic groups involved in these production activities to interact for their mutual advantages at both group and individual levels.

Although the production symbiosis and multiple land-rights system form the basis of traditional agriculture as a livelihood activity, they also form the framework within which the social system and social relations are established. This framework enhances the integration of people from different tribes and ethnic groups and those engaged in different livelihoods. Therefore, secure land-access rights within this framework amount to more than their material significance; they are intertwined with ideas of spiritual life and community membership. Moore succinctly captures the complexity of the right to land: "To say that someone has a right to land is to summarize in one word a complex and highly conditional state of affairs which depends on the social, political, and economic context. The place, the setting, the history, and the moment, all matter."⁵ In this framework, disputes and conflicts arise and are resolved as a normal state of affairs, and controls are embedded in the local norms and institutional arrangements. Disputes and conflicts are themselves a means of integration and provide opportunities for mutual interaction through which people set spatial and temporal boundaries that organize access to land and landed resources.⁶ In fact, disputes are of low intensity and are limited to crop destruction, trespassing, and animal theft of an individual nature. Their resolution cements the social harmony rather than undermining it. In short, the production symbiosis and the multiple-right land system have traditionally provided for a land-use system in which the right to access land and landed resources secures material benefits and inspires peaceful relations between groups and individuals.

Land rights and related patterns of land use have gradually changed since the 1960s, however,⁷ and these changes have provoked intensified conflicts that have become violent over time. Conflicts are no longer about crops damaged by livestock or access to land and landed resources. They have shifted to highly generalized violence of all sorts, including tribal conflicts fought along ethnic lines, armed criminal activities and lootings, and land-related disputes.⁸ These conflicts have become very difficult to settle satisfactorily. In practice, the principles of compromise and reconciliation that are embedded in the local norms and institutional arrangements, which form an important part of the indigenous social order, have become difficult to apply. Consequently, by the end of the

5. S.F. Moore, "Changing African Land Tenure: Reflections on the Incapacities of the State." *European Journal of Development Research* 10, no. 2 (1998): 33.

6. G. Elwert, "Conflict, Anthropological Perspective," in *International Encyclopedia of the Social and Behavioral Sciences*, ed. N. Smelser and P. Baites. (Amsterdam: Elsevier, 2001), 2542-2547.

7. Osman, "Agricultural Change."

8. S. Harir, "'Arab Belt' Versus 'African Belt': Ethno-Political Conflict in Dar Fur and the Regional Cultural Factors," in *Shortcut To Decay: The Case of the Sudan*, ed. S. Harir and T. Tvedt. (Uppsala: Nordiska Afrikainstitutet, 1994), 144-185. Y. Takana, "Resources-Based Conflicts: North Darfur and Upper Nile Case." Khartoum, Sudan: Oxfam Great Britain, 2002. J. Flint, "The Other War: Inter-Arab Conflict in Darfur." Small Arms Survey HSBA Working Paper 22. (Geneva: Small Arms Survey, 2010).

1980s, widespread and persistent violence had torn apart the social fabric of Darfur. This resulted in ethnic tensions and polarizations that culminated in horrifying bloodshed and massacres in the early 1990s.⁹ These social divisions and tensions deepened during the 1990s and have given the way to more and more overt expressions of disharmony and violence. These social problems have provided the background for exploitation by political elites, who triggered the mass killing and the complex humanitarian emergency in 2003, as part of a political strategy employing violence to maintain their power. Yet there can be no doubt that the erosion of Darfur's economic, social, and political foundation has left large numbers of people desperate and encountering difficulty in earning their livelihood. It has thus resulted in pervasive tensions and motivated individuals to participate in different kinds of violence at different levels. At the heart of the economic, social, and political foundation in Darfur is the agriculture system and related land use and rights.

Although the violence in Darfur has attracted considerable attention and analysis, the local dimension of the crisis has remained a gap in these analyses. Most studies tend to limit their scope to the macro-level structures at the national and regional level and their interplay with economic neglect, climatic variability, and the political marginalization of Darfur. The local dynamics of the violence that have underlain the deepening social polarization and disharmony in Darfur for decades have drawn less attention. The most important elements that have been accorded little, if any, attention are the agricultural change and the related changes to the land-rights and land-use system. Our examination of these elements at the local level reveals the dynamics of agricultural change, the processes of competition and exclusion associated with this change, and the role of these processes in underlying the collective violence that has raged over the region for decades. Such an examination can also shed light on how agricultural issues have shaped the power strategies pursued by the different belligerents in the region.

This paper was originally written as the third in a three-part series on agricultural change, land, and violence in Darfur as part of a doctoral thesis at the Friedman School of Nutrition Science and Policy at Tufts University. The study took place in 2010 in the Kebkabiya area of North Darfur State, Sudan, which represents the northeastern extension of the Jebel Marra mountains.¹⁰ The paper builds on the earlier ones to examine the agricultural changes and related changes to the land-rights and land-use system in the study area; the ways that these changes have affected the production symbiosis, the multi-right land system, and the local-level institutions for settling conflicts and disputes; and the implications of these changes for violence. The next section addresses the conflicting elements of

9. M. Duffield, "NGOs, Disaster Relief and Asset Transfer in the Horn: Political Survival in a Permanent Emergency," *Development and Change* 24 (1993): 131-157. Harir, "Arab Belt." *News From Africa Watch*, "Sudan: The Forgotten War in Darfur Flares Again," 45th ed., 1990, 1-9.

10. Osman, "Agricultural Change."

land tenure in Darfur and argues that these conflicting elements have set the stage for a longstanding disaster. The subsequent section, drawing on the earlier articles and fieldwork for this study, discusses agricultural changes and the related changes in land use, including the stabilization of shifting cultivation, the end of the production symbiosis, and the breakdown of specific linkages (the manuring link, the herding contract, the role of the camel) that previously connected different livelihood groups. Then the paper focuses on the exclusionary practices set into motion as a result of the transformation of the land-rights system from multi-right land ownership into single-right ownership. The following section discusses the implications of these practices in more detail, focusing on the move from collective to individual control of previously shared animal feed resources (rangelands, acacia stands, and crop residues). The next-to-last section builds on the preceding discussion to explore the implications of change in access to agricultural resources—and the despair this change generates—in terms of the violence in the region, the customary land management and conflict resolution authorities, and the ethnic trajectory that the violence has taken. The paper closes with a section on the implications of the analysis for research and policy.

SETTING THE CONTEXT FOR POTENTIAL DISASTER: A CONFLICTING SYSTEM OF LAND TENURE

The incorporation of Darfur in the Anglo-Egyptian Sudan in 1916 marked a significant change in the region's land tenure systems. Since then, two distinct systems of land tenure have organized the ways in which people hold the land. These two systems are based on radically different principles derived from radically different origins. The first system is the customary law based on indigenous land tenure, which evolved in the interaction of cultures and environments over centuries.¹¹ The second one is the statutory system based on the British land codes.

The conceptions of land ownership or holding in these two tenure systems are different. The customary land law emphasizes two aspects. The first aspect is that land is owned by the community, with access to it organized through social identity. Individuals' rights to plots of land are use rights only.¹² The second aspect is the multiple-rights system, meaning that several groups or persons enjoy multiple rights over a parcel of land. These rights include, for example, rights of use, transfer, allocation, and management. Therefore, the customary law of tenure has no such conception of landholding as absolute freehold, such as exists under English law. Elias described the individual right in this system as "in a sense that of a part-owner of land belonging to his family,"¹³ and, therefore, the individual has no absolute power of disposition. Accordingly, the customary law focuses on property rights, not land ownership; the ownership is that of the group.¹⁴ In other words, the common property rights represent a bundle of rights in which either temporal use rights or access rights to specific parcels or both overlay territorial ownership.¹⁵ This could explain the fact that the customary tenure has no prescription or statute of limitation that sets a fixed period during

11. J.W. Bruce, "Land Tenure Issues in Project Design and Strategies for Agricultural Development in sub-Saharan Africa." LTC Paper no. 128. (Madison: University of Wisconsin, 1986).

12. C.D.Brian, "A Comparative Study of Legal Ideology: African Land Tenure Systems." *Boston College Third World Law Journal* 10, no. 2, (1990): 297-319.

13. T.O. Elias, *The Nature of African Customary Law*. (Manchester: Manchester University Press, 1956), 165.

14. S.S. Berry, "Debating the Land Question in Africa." *Comparative Studies in Society and History* 44, no. 4 (2002): 638-668. M. Gluckman, Ideas and Procedures in African Customary Law: Studies Presented and Discussed at the Eighth International African Seminar at the Haile Selassie University I, Addis Ababa, January 1966. (London: Oxford University Press: 1969).

15. J. Spiertz and M.G. Wiber, eds., *The Role of Law in Natural Resource Management*. (The Hague: VUGA, 1996). G. van den Bergh, "Property Versus Ownership," in *The Role of Law in Natural Resource Management*, ed. J. Spiertz and M. Wiber. (The Hague: VUGA, 1996), 167-176.

which recovery should take place. Instead, the customary law of land stresses that it should be returned to the ownership of the group after its abandonment for a fixed period of time.¹⁶ In addition, the customary land law is not written and is subject to reinterpretation.

The statutory law, on the other hand, places all land in the hands of the state. Accordingly, land is owned as private property by individuals with an exclusive right. The ownership is secured only as far as it is registered. In contrast to the customary tenure, the statutory law recognizes prescriptive claims to land. It also includes a statute of limitation.¹⁷ In short, the colonial and national governments of Sudan have instituted and maintained two overlapping and conflicting systems of land tenure. The coexistence of these systems makes disputes between land users more likely, and there is a potential for these disputes to turn into a disaster. The potential for disputes is embedded in the fact that one of these systems promotes a bundle of rights over land, whereas the other promotes individual control of land. Both ideas are, in fact, currently at the heart of struggles over land in the region.

Thus, in the early stages of its formation, the Sudanese state sowed the seeds for problematic tenure systems characterized by confusion over rights to land. One major problem caused by these overlapping systems of land tenure is the confusion ensuing from de jure state ownership of land and de facto authority over land allocation and use retained by local customary authorities.¹⁸ In addition, the coexistence of systems of rules based on different principles and origins has created serious ambiguities in the application of law and the insecurity of land tenure. Moreover, the coexistence of these systems of rules could make systems of arbitration more complex, raising land governance problems.¹⁹ Intracode ambiguities further exacerbate this confusion.

Up until the early 1980s, the availability of land exceeded the need, which worked as a safety valve against these problems and the potential resulting conflicts.²⁰ Downs and Reyna commented on the availability of land amid the agricultural crisis in the 1980s. They wrote, "A comforting point, however, has seemed to be that Africans, regardless of their current farming woes, were secure in their traditional, communal land tenure systems, which assured them access—and equitable access at that—to their lands."²¹ However, with the

16. Elias, *The Nature*. Gluckman, Ideas and Procedures.

17. Brian, "A Comparative Study," Elias, *The Nature*. C.F. Thompson, *The Land Law of the Sudan: Cases and Materials*, vol. 1. (Khartoum, Sudan: University of Khartoum: 1965). A.B. Miskin, "Land Registration." *Journal of African Administration* 5, no. 2 (1953): 72-80.

18. K. Hussein, J. Sumberg, and D. Seddon, "Increasing Violent Conflict Between Herders and Farmers in Africa: Claims and Evidence." *Development Policy Review* 17 (1999): 397-418.

19. Brian, "A Comparative Study," Elias, *The Nature*.

20. Thompson, *The Land Law*.

21. R. Downs and S. Reyna, eds., *Land and Society in Contemporary Africa*. (Hanover, NH: University Press of New England, 1988), 1.

increasing pressure on the land during the last three decades as a result of growth in livestock and human populations and population movement to the different parts of the region, in a context of conflicting codes, conflicts over land and land resources have become inevitable.

The confusion caused by coexistence of multiple codes governing land rights should not be taken at face value as a technical failure on the part of the legislators. Rather, the legislation should be considered within the wider political-economic context. Tenure changes or reform are engineered not only to realize social justice in land systems but also to maintain and enhance power. The elite who have held both political and economic power in Sudan have sought to define and enforce the rules of access and exchange as a way to ensure control over rural (periphery) resources, whether they be land, crops, livestock, or, more recently, oil.²² In this process of controlling and managing land, these elite power holders have played a direct role, as Berry has discussed,²³ in processes of agricultural production, accumulation, and income distribution.

22. Coalition for International Justice, *Soil and Oil: Dirty Business in Sudan*. (Washington, DC: Coalition, 2006).

23. S.S. Berry, *No Condition Is Permanent: The Social Dynamics of Agrarian Change in Sub-Saharan Africa*. (Madison: University of Wisconsin Press, 1993).

STABILIZATION OF SHIFTING CULTIVATION AND THE END OF THE PRODUCTION SYMBIOSIS

Land use in the study area has traditionally been based on an extensive system of shifting crop cultivation and pastoral livestock production. These systems of production overlap spatially and interact ecologically, socially, and politically, though they tend to take place as specialized activities typically practiced by different ethnic groups.

Land use in the study area has, however, undergone fundamental changes since the 1960s. Osman has discussed the changes in land use in the arable rain-fed land and the alluvial land, where rain-fed cultivation and gardening horticulture are practiced.²⁴ Extensive land use in the form of shifting cultivation in the rain-fed arable lands was abandoned over time, giving way to continuous cultivation with no fallow periods by the early 1980s. Irrigated agriculture in the alluvial lands bordering the wadis, or seasonal rivers, has expanded and grown into intensive cash-cropping with heavy external inputs. Both the winter-irrigated agriculture and the rain-fed cultivation in the alluvial land have transformed the land-use system in these plains into a permanent one. The United Nations Environment Programme's (UNEP) *Sudan Post-Conflict Environmental Assessment* has shown rapid and consistent change in land use in Darfur since the early 1970s.²⁵ At the same time, the pressure to emphasize cash-cropping tends to intensify the use of the land. By 1980, permanent use of land had stabilized shifting cultivation, which has since evolved into an agricultural system of either mixed farming or specialized horticulture. The evolution of stabilized agriculture on land where farming and pastoralism overlap has undermined the multiple land-use system and production symbiosis, and it has shifted the interaction of the groups and individuals involved in these systems of production into a competitive one. Osman has discussed the implications of these changes in the interdependence of cultivation and pastoralism and the interaction of the groups involved in these patterns of production.²⁶

One significant change in the interdependence of cultivation and pastoral livestock production is the erosion of the connection between crop residues and manuring. According to Osman, this manuring link takes place after the harvest

24. Osman, "Agricultural Change."

25. United Nations Environment Programme, *Sudan Post-Conflict Environmental Assessment*. (Nairobi, Kenya: UNEP, 2007). http://postconflict.unep.ch/publications/UNEP_Sudan.pdf

26. Osman, "Agricultural Change."

season, when livestock are allowed free access to feed on crop residues as part of a tradition called “talag.”²⁷ The other form of the manuring linkage took place until the early 1980s as part of an arrangement called “diyara.” The cultivators welcomed the pastoralists and sometimes paid them to camp for several days on their farms just prior to the cultivation season. Many scholars have noted that similar arrangements existed in other parts of Africa.²⁸ This linkage provided a base for a symbiotic relationship from which the cultivators had their farms fertilized and pastoralists’ herds had access to good quality animal feed. Manures played an important role in maintaining and improving the fertility and nutrient status of the soil in the systems of agriculture in Africa and, accordingly, enabled the farmers to engage in shifting cultivation for longer periods than they normally could.²⁹ Under shifting cultivation, a herd of 30 cows could produce enough manure to keep one “mokhamas” (4,370 square meters, or 1.04 acre) of the rain-fed arable land permanently fertile if the herd was kept for 18 nights on the fields (three days on the same campsite, six campsites on one mokhamas).³⁰ In West Darfur, farmers could grow millet continuously for 15 to 20 years rather than the usual three to five years.³¹

The role of the manuring linkage in enhancing the relationship between farmers and pastoralists has weakened and completely eroded since the mid-1990s. Agrochemical and modern technology have replaced the use of manures and the tradition of the diyara in irrigated agriculture. At the same time, the role of the pastoral herd in manuring the farms of rain-fed cultivators has diminished. The manures for these farms have become available from the farmers’ own herds. Consequently, according to Osman, the diminishing role of the migratory herd as a source of manures and the increasing use of crop residues by the farmers have eroded the role of this link in the production symbiosis and as an element of mutual interaction between cultivators and pastoralists.³²

The evolution of shifting cultivation into a stabilized form of agriculture also results in the growth of a sedentary herd and the demise of the “herding contract” between the cultivators and pastoralists. Cultivators invested the surplus of production they accumulated in livestock. Up until the early 1980s, they entrusted their livestock to the pastoralist groups to keep it as part of the pastoral herds. Both partners benefitted from this arrangement; the cultivators devoted their labor to cultivation, placing their livestock under a competent management

27. Ibid.

23. H.G.T. Van Raay, *Rural Planning in a Savanna Region*. (Rotterdam: Rotterdam University Press, 1975).

29. G. Benneh, “Systems of Agriculture in Tropical Africa.” *Economic Geography* 48, no. 3 (1972): 244-257.

30. G. Haaland, “Social Organization and Ecological Pressure in Southern Darfur,” in *Problems of Savannah Development: The Sudan Case*, Occasional Papers in Social Anthropology 19 (1980), 55-106. G. Haaland, “The Fur,” in *Muslim Peoples: A World Ethnographic Survey*, ed. R. V. Weekes. (Westport, CT: Greenwood Press, 1984).

31. R.L. McCown, G. Haaland, and C. De Haan, “The Interaction Between Cultivation and Livestock Production in Semi-arid Africa,” in *Agriculture in Semi-Arid Environments*, ed. A.E. Hall, G.H. Cannell, and H.W. Lawton. (Berlin: Springer, 1979), 297-332.

32. Osman, “Agricultural Change.”

system, while the pastoralists kept the milk and received other rewards from the farmers. By the 1980s, though, this relationship, had changed significantly. Cultivators abandoned the herding contract they had with pastoralists and instead entered into individual or group arrangements that involved the cooperation of other farmers in the village or the use of hired herders. In fact, pastoralists themselves are increasingly using hired herders.³³ These changes meant that cultivators had withdrawn their livestock from the migratory herd. In turn, the end of the herding contract and withdrawal of the cultivators' livestock from the migratory herds, as Osman points out, "meant that the investment interaction through herding contract linkage has also been abandoned."³⁴ Consequently, the demise of this contract arrangement has further weakened the mutually beneficial relationship between these groups.

The change in the herding labor investment link combined with changes in labor arrangements associated with the transportation of the agricultural produce within and outside Darfur, including in the study area. The long history of using pack animals, especially camels, had provided an investment linkage whereby pastoralists rented their camels to transport agricultural products to the different weekly markets in the study area. By the 1970s, the change in the agricultural system and land use encouraged a gradual shift toward the use of commercial trucks to replace the pack animals. Morton has commented on the impact of the introduction of the motor trucks. He writes, "The arrival of motor vehicles undermined one of the great strengths of the North [North Darfur], its fast camel herds for transport."³⁵ By the early 1990s, with the introduction of animal traction technology, cart animals had completely eroded the pack animal linkage. Both the trucks and the cart animals had taken all aspects of transporting agricultural produce and "replaced the pack animals that existed up to the end of the 1970s as the means of transport of the agricultural products in the region," as Osman points out.³⁶

In short, extensive land use in the form of shifting cultivation and pastoral livestock production had established the basis for the interdependence of these two systems of production. This interdependence cemented a trusting relationship between the different resource users and enhanced their peaceful cooperation for their mutual benefit from the production process. This relationship, however, has changed from a symbiotic one to a competitive one blended with mistrust, tension, and grievances. As Osman writes, "Confrontation rather than cooperation has become the norm, with an increasing likelihood of conflict between the resource users."³⁷ We discuss this further later in the paper.

33. Ibid.

34. Ibid., 89.

35. J.F. Morton, *The Poverty of Nations: The Aid Dilemma at the Heart of Africa*. (London: British Academic Press: 1994), 70.

36. Osman, "Agricultural Change," 91.

37. Ibid., 92.

LAND RIGHTS: FROM MULTIPLE-RIGHTS SYSTEMS TO SINGLE-RIGHT OWNERSHIP

The evolution of shifting cultivation into permanent land use of a stabilized form of agriculture and the development of the latter into mixed farming and specialized horticulture has disrupted the production symbiosis and transformed it into a competitive and confrontational system. Moreover, it has disrupted the cyclic use of land and transformed the traditional multiple land right system into one of a single right owner. The following section discusses the mechanism of the change in land tenure and its implications for resource users, including resource competition and violence.

Land tenure in the study area has evolved from a system of multiple rights belonging to several different people or groups to individual land tenure of an exclusive nature. Osman has discussed the development of individual land control and the dualistic legal system within which individual ownership has developed.³⁸ He points out that traditional means of land allocation by the village chief (the sheikh), and allocation by clearance of land have disappeared in the study area. These types of land allocation were made on the basis of need and membership in the community and the ethnic group or tribe. The land allocated was usually large enough to provide for the livelihood of the person who received it.³⁹ New, non-customary means of land acquisition have developed in the context of the conflicting government law and customary system discussed earlier. These mechanisms include inheritance, sale, and rent, and practices such as land fencing have also emerged. The result, writes Osman, is that “there are unclear property rights and tenure security, and a deficient private property legal framework. Moreover, there is overlap and friction between the customary and statutory law over authority in land dispute cases.”⁴⁰

The development of exclusionary individual control has taken place through changes in the indigenous land tenure and the market. As we have mentioned, the growing pressure on land and the evolution of shifting cultivation into a stabilized form of agriculture have led to incremental adjustments in the indigenous land tenure system. These adjustments have gradually resulted in the

38. Osman, “Agricultural Change.”

39. G. Halaand, “Systems of Agriculture in Western Sudan,” in *The Agriculture of the Sudan*, ed. G.M. Craig. (Oxford: Oxford University Press, 1991), 230–251. F. Barth, *Human Resources: Social and Cultural Features of the Jebel Marra Project Area*, Bergen Studies in Social Anthropology no. 42. (Bergen, Norway: Department of Social Anthropology, University of Bergen, 1988).

40. Osman, “Agricultural Change,” 127.

evolution of individual ownership of an exclusionary nature. Table 1 illustrates means of land acquisition and transfer in three different villages. In these villages, inheritance-based acquisition in accordance with Sharia Islamic law has become the dominant means of land transfer and acquisition. This means that the several rights over a parcel of land under the customary multi-claims system have concentrated in the hands of a single individual or group of individuals to the exclusion of others. This concentration of rights has taken place through adjustments in the customary land tenure in response to high pressure on land. These rights include the right to allocate, access, use, and transfer land. These different rights to a parcel of land are held and exercised by different people under the multiple-rights system.⁴¹

Table 1. The dominance of inheritance-based land acquisition in three villages in the Kebkabiya area

Village	Date of village establishment	Tribal group	% of land acquired through inheritance	% of land acquired through a gift	% of land acquired by sale	% of land rented
Birgi	1900	Fur	70	30	0	0
Serifya	1960	Arab	95	0	3	2
Fuldong	1810	Fur	100	0	0	0

Source: Authors' field research.

In addition to inheritance, individual land tenure has developed through an informal land-sale and land-rental market. The increasing pressure on land and the transformation of agriculture into a market-oriented economy have resulted in the development of an informal land market in rural Sudan, as in other places in sub-Saharan Africa.⁴² People in the study area have acquired land through the market as well. Table 2 illustrates land acquisition in three different villages established in different eras and inhabited by different tribal groups. Land acquisition in these villages is limited to nontraditional means, with land sale and rental together ranging from 40 percent to 60 percent of the means of acquisition. The other means of land transfer in these villages is inheritance-based acquisition, which ranges from 40 percent to 60 percent. In short, in addition to inheritance-based acquisition, land sale and rental have evolved to become important means of land acquisition in the study area. This means that land

41. Berry, "Concentration." Spiertz and Wiber, *The Role of Law*.

42. J.-P. Colin and P. Woodhouse, "Interpreting Land Markets in Africa." *Africa* 80 (2010): 1-13.
doi:10.3366/E0001972009001235. M. Kevane, "Land Tenure and Rental in Western Sudan." *Land Use Policy* 14, no. 4 (1997): 295-310. D. Zhang and E.A. Owiredo, "Land Tenure, Market, and the Establishment of Forest Plantations in Ghana." *Forest Policy and Economics* 9 (2007): 602-610.

property rights in the area have become concentrated in the hands of single-right owners within the system of small-scale agriculture.

Table 2. Market- and Inheritance-based land acquisition in three villages in Kebkabiya

Village	Date of village establishment	Tribal group	% of land acquired through inheritance	% of land acquired through a gift	% of land acquired by sale	% of land rented
Girgo	1920	Fur	60	0	20	20
Margoba	1948	Tunjur	40	0	50	10
Ora Shimal	1920	Tama	50	10	30	10

Source: Authors' field research.

The concentration of rights in the hands of a single owner has resulted in increasingly exclusionary practices. These practices undermine the multiple and overlapping system of land rights. In contrast to the customary land tenure, the evolving individual ownership limits or reduces the number of social identities eligible for access to land and excludes others. The guiding principle for land allocation in the customary land law is that membership in the community ensures proper access to land for cultivation. Membership includes strangers or migrants who have been accepted as members of the community. Individual ownership, on the other hand, places restrictions on land ownership by other people. Inheritance-based acquisition is made according to the Sharia Islamic law of inheritance. In this system of law, only sons, daughters, and parents can inherit. Women's land ownership is further restricted, with daughters, for example, receiving half the share of their brothers. Similar restrictions on land access are put on the land of migrants or absent cultivators, whereby the land remains the migrant's or absent cultivator's with no changes in the ownership.

By contrast, under the customary tenure arrangement, the right to land for migrants and cultivators absent from the village for more than three years lapsed, and the land could be allocated by the village sheikh.⁴³ Restrictions on land access are not limited to the individually held parcel of land, but also include common property resources. Exclusion of some users from common property resources will be discussed in more detail later, but at this point one can mention that by the end of the 1980s, some North Darfur groups started to prohibit or place fees on the pastoralists grazing their herds on the village common pasture

43. Osman, "Agricultural Change."

and on crop residues, respectively.⁴⁴ Ensminger has also pointed out the development of such exclusionary practices among the East African pastoral Orma, in Kenya,⁴⁵ who have prohibited other nomadic groups from grazing their herds on the village common pasture.

The concentration of rights in the hands of a single right owner places restrictions on the use of and access to land. It blocks the system of multiple and overlapping claims to land. This in turn undermines the cyclical use of land, which allows successive use of land by different users over different times and seasons. Thus, the concentration of rights in the hands of a single right owner deprives other resource users of their traditional rights to access land resources. For example, women are no longer able to access land to practice their smallholding traditional irrigated agriculture. Similarly, talag, or the access of pastoralists to graze agricultural residues, is no longer guaranteed, as the cultivators reserve the residues for their livestock or sell them as a source of income.

Individual land ownership is contested by the different resource users whose access to land and landed resources is restricted. It has deprived other resource users of their traditional right to access the land and its resources, and it has presented real challenges to their livelihoods. Both elements—the exclusionary processes and the threat to the basic livelihoods—exacerbate the grievances and inflame the anger of the groups excluded. Consequently, as Osman points out, these groups have continuously challenged and contested the rise of exclusive possession of the land in the area.⁴⁶ This resistance to exclusive land possession is manifested in the violent alternative livelihood choice that some individuals and groups resorted to and the frequent disputes and conflicts between and within the different livelihood groups in the study area. Some of these disputes are over land boundaries and ownership; others represent conflicts over pastures and grazing on the stubbles and agricultural residues.

Exclusive individual land control creates complicated and chaotic situations in the study area. Those whose access to land and land resources are being squeezed out are losing access to the resources on which they depend for their survival, though they resist this dynamic. For those who have maintained access to and control over parcels of land, their exclusive control is not a secure right. First, it is contested and disputed by those who have lost access. Second, it has evolved on the basis of the customary law, which does not provide for individual land ownership. Third, it is established on state land; so it is not registered and thus is not recognized by the statutory law. The rise of an insecure and contested individual land possession, Osman argues, drives the cultivators to seek ways to

44. M.O. El Sammani, ed., *Baseline Survey for Darfur Region*. (Khartoum, Sudan: Republic of Sudan Ministry of Finance and Economic Planning; UNDP–Khartoum; Institute of Environmental Studies, University of Khartoum; and Government of Darfur Region, 1987).

45. J. Ensminger, "Co-opting the Elders: The Political Economy of State Incorporation in Africa." *American Anthropologist* 92 (1990): 662-675.

46. Osman, "Agricultural Change."

emphasize their ownership and the boundaries of their parcels.⁴⁷ Accordingly, land fencing has spread and become the sign of exclusive land ownership and boundary making. Moreover, it has established a system whereby violent access and appropriation of resources have become the norm in the region.

47. Ibid.

THE PRIVATIZATION OF THE COMMONS: ANIMAL FEED RESOURCES IN DARFUR

The main forms of livestock feeding in Darfur are natural grazing, consumption of crop residues, and acacia tree browsing, which are used in succession.⁴⁸ Pastoral livestock move from the rainy-season natural grazing areas into the farming areas to graze on the stubble of the harvested fields. The sequential use of these resources allows the interaction of the pastoral livestock production and cultivation as well as the cooperation of the people involved in these modes of production for their mutual benefit. Up to the mid 1980s, farmers welcomed pastoral herds' grazing of their harvested fields, because of the manures that the livestock provided. After the pastoral herds have exhausted the harvested fields, they remain in the plains and the valleys of the seasonal rivers. The acacia stands along the wadis, or dry riverbeds, are a good source of shade and protein-rich pods during the hot season, when livestock feed is normally in short supply. Osman explains that "any loss in any of these resources could result in serious impacts on the livelihoods and interaction of the different groups that use the resource."⁴⁹ This section discusses the changes in access to and control of animal feed resources and the implications of these changes for the interaction of the resource users.

FENCING IN OPEN RANGELANDS

Changes in land use and control have included the rangelands. Osman has discussed these changes and the processes of competition and exclusion that they have generated. A major change in rangeland use is the spontaneous development of range enclosures, fenced territories in the rangelands that are safeguarded as a source of fodder and forestry products for direct individual use, for sale at times of scarcity of these products, or both. El Sammani has pointed out that range enclosures first started in South Darfur in the homeland of the pastoralist groups of the Beni Helba.⁵⁰ As different groups and individuals have tried to protect their interests, these enclosures have expanded over large areas. In fact, they are part of a general fencing movement in the different kinds of land in the study area.⁵¹

48. Ibid.

49. Ibid., 78.

50. El Sammani, *Baseline*.

51. Osman, "Agricultural Change."

Range enclosures represent two patterns of change in rangelands management in the study area.⁵² The first change is in property rights, whereby parts of rangeland are taken out of communal access and brought under private or individual use. The second change is in rangeland use, whereby parts of the rangelands have been taken from an open system of livestock production and put in use as a sedentary production system. Under extensive livestock production, herders practice a system of rotational grazing. With the development and growth of a sedentary herd as a part of a mixed farming system, herders no longer use rotational grazing. Instead, the members of the settled population keep their sedentary herds permanently in the village to raise them on the crop residues of the arable lands and the grasses and browse of the enclosures, thus maintaining a year-round high pressure on pasture. In other words, the fencing of the rangeland is “a process setting the stage for ranching Darfuri rangelands; this process excludes other range users. Yet the customary system accommodates neither the enclosed system of rangeland nor its private use.”⁵³

These enclosures mark the development of a new system of livestock production.⁵⁴ Cultivators who accumulate surplus and invest in livestock pursue an enclosed livestock production system. Under this system, they tend to integrate livestock production with their arable farming in a pattern of mixed farming. This represents a departure from the open livestock system and nomadic careers that traditional cultivators pursued when they invested their surplus in livestock and became part of the pastoral production system, the process that was characteristic in the region for so long.⁵⁵ According to Osman, “from the cultivators’ perspective, pastoral livestock production is no longer a trustworthy and viable system of production fortunate cultivators could pursue.”⁵⁶ Therefore, they have sought a more innovative and lucrative system of livestock production. Under this new system of livestock production cultivators have relied on wage labor or village group arrangements to replace the herding arrangements they used to make with pastoralists to combine their livestock with the migratory herd, as we have mentioned. These shifts are driven by the pressure on land resources in general with the consequences of mounting pressures on the grazing resources.

52. Ibid.

53. Ibid, 70.

54. Ibid.

55. Haaland, “Nomadism.”

56. Osman, “Agricultural Change,” 81.

THE DIMINISHING ROLE OF THE ACACIA

As we have seen, land in the alluvial zones is now used on a permanent basis. Osman has examined the impact of this change on the traditional agriculture in the study area.⁵⁷ The permanent use of the alluvial lands has undermined two important aspects of the interaction of pastoral livestock production and cultivation. First, it has undermined the ecological link between pastoral livestock production and cultivation. Second, since the 1960s, it has increasingly restricted the access of the pastoral herds to the acacia stands in the wadis, which represent the main source of animal feed during the hunger season. The cultivators started to expand their winter gardening and rain-fed cultivation into the alluvial plain in response to the drought and food deficits of the 1960s and 1970s. This trend in the use of the alluvial land has intensified over time, with the increased introduction of irrigation technologies and dependence on external agricultural inputs.

The intensive land use and expansion in the acreage under irrigated agriculture involve the removal of the acacia stands along the seasonal rivers. The acacia species are nitrogen-fixing plants with a critical role in enriching soil fertility along the wadis. The green foliage is a valuable source of animal feed during the dry season, when green fodder is otherwise in short supply. Moreover, the pods of the tree are very rich in protein. The supply of pods from twelve trees of *Acacia albida*, for example, has a crude protein equivalent to that of a hectare of peanuts.⁵⁸ In addition, the acacia stands along the wadis are an important source of shade for the livestock during the dry, hot summer. The growth of commercially oriented agriculture since the 1960s has overtaken small-scale irrigation in the alluvial areas and brought the land under intensive use. Consequently, the manure of the livestock that feed on these trees and the nitrogen-fixing property of the tree itself are replaced by industrial fertilizers. Therefore, removal of the tree itself has become a necessity for efficient horticultural production. Also, as Osman has stated, commercialization has transformed land use in these plains into a male-dominated form of intensive irrigated agriculture, with three serious effects.⁵⁹ First, it has removed the role of the acacia tree and pastoral livestock in maintaining and enriching the soil fertility. Second, it has excluded women, the traditional gardeners, and limited their role to paid agricultural labor. Third, it has diminished, if not cut off completely, the access of livestock to the large tract of the acacia stands in the valleys.

57. Osman, "Agricultural Change."

58. Jebel Marra Rural Development Project, *Land Use Planning Studies*. (Hemel Hempstead, UK: Hunting Technical Services Ltd., 1995).

59. Osman, "Agricultural Change."

CROP RESIDUES: FROM AN ELEMENT OF COOPERATION TO AN ELEMENT OF CONFRONTATION

Agricultural change has driven the competitive relationship and the exclusionary practices that have developed among natural resources' different users. It has also affected the crop residues, the third component of the animal feed resources in the study area. Osman has examined the exclusionary practices involving these residues.⁶⁰

One key element in the changing use of crop residues has been the growth of a sedentary herd as part of the stabilization of shifting cultivation. As we have seen, cultivators and settled groups in the study area have invested in livestock as an integral part of their continuous land use. The sedentary herd feeds on the rangelands in the high areas around the villages and the farms. These herds deplete local pasture and turn to the leftovers from the crop residues of the rain-fed arable land before the pastoralists' herd arrives for dry-season grazing and talag. By then, stalks may already have been collected and stored as a fodder, for building houses, or as a source of income. The area represents a primary market that attracts livestock from other parts of Darfur for export to other parts of Sudan and North Africa. The sedentary and commercial herds now consume a great part of the crop residues. The crop residues in the alluvial plains are restricted in their use to the farmer or village herd. When they graze crop residues of irrigated farms, these herds are very well guarded to prevent damage to irrigated crops. Another new element that diminishes the availability of crop residues and stalks as a livestock feed is their new use in irrigated agriculture as windbreaks. These windbreaks improve yield, protect irrigated crops from damage caused by strong wind, and enable the plant to maintain moisture. In addition, they help reduce topsoil erosion.

The limited access and availability to pastoral herds of the crop residues has turned the talag into a period of fierce competition for the crop residues. In fact, the talag has become a period of tensions and conflicts between farmers and pastoralists. It is now branded it as "el-talag el-jaeir," or "the forcible talag."⁶¹ Osman concludes, "The role of talag as an element of cooperation between pastoral and cultivation groups has turned it into an element of competition and conflict that involves bloodshed."⁶²

60. Ibid.

61. The Civil Forum to Limit the Forcible Talag was organized in Saraf Omra, North Darfur, from October 25 to October 26, 2008.

62. Osman, "Agricultural Change," 77.

AGRICULTURAL CHANGE IN DARFUR: COMPETITION, EXCLUSION, AND VIOLENCE

The evolution of the traditional agricultural system into one characterized by competition, exclusion, and ethnic/tribal polarization has taken place in a context of limited off-farm income opportunities, climatic variability, and a general marginalization of the region. Young and her colleagues have discussed the wider political, economic, and environmental context of the conflict in Darfur.⁶³ They note that the region has experienced 16 drought years since 1972. Those that stand out include 1983-1985, 1987-1988, 1990-1991, and 2000-2001. The mid-1980s famine caused the largest loss of life. De Waal estimated that death rates were three times higher than normal (a total of 176,900 actual deaths, including 95,000 excess deaths).⁶⁴ In addition, the region has suffered economic neglect since the pre-1956 colonial era. An example of this economic neglect is the limited development that has taken place in the region. The only two development projects in Darfur to be financed by international organizations, the Western Savannah Development Project and the Jebel Mara Rural Development Project, came to a complete halt when their administration was transferred from the central government to state governments in the late 1980s. Between 1958 and 2003, the international community provided a total of \$13.4 billion for development projects in Sudan. Darfur accounted for only 10 projects, which constituted a share of 2 percent,⁶⁵ but the region is home to more than 20 percent of Sudan's population (excluding what is now independent South Sudan). All this means that exclusion and deprivation from the agricultural system, the principal source of livelihoods that anchor social and political life, could lead to destitution. Exclusion and deprivation, driven by changes in agricultural practices and land use, have taken place in a context where there are few other opportunities. Accordingly, tensions and a deepening sense of grievance and despair have arisen in Darfur. These express themselves in violence and conflict.

63. H. Young, A.M. Osman, Y. Akilu, R. Dale, B. Badri, and A.J.A. Fuddle, *Darfur—Livelihoods Under Siege*. (Medford, MA: Feinstein International Famine Center, Tufts University, 2005).

64. A. de Waal, *Famine that Kills: Darfur, Sudan, Revised Edition*. (Oxford: Oxford University Press, 2005).

65. Young et al., *Darfur—Livelihoods*.

AGRICULTURAL CHANGE: IMPLICATIONS FOR TRADITIONAL STRUCTURES, SECURITY, AND STABILITY

The agricultural system and use and control of land have been managed by the political and judicial systems of indirect rule and its executive authority in the form of the native administration. The indirect rule system was established by the British colonial administration that lasted from 1916 to 1956. It is based on the “hakura,” or concession or estate, system of the Fur Sultanate, which ruled Darfur for almost three centuries, from 1650 to 1916.⁶⁶ The native administration system of indirect rule adopted and formalized the traditional tribal governing structures. Each tribal head is assisted by “omdas,” executives who conduct local courts and act as spokesmen and negotiators with other groups over matters of land, grazing, and water rights. Sheikhs are executives at more local or village levels; they have a variety of duties, including land allocation, tax collection, and responsibilities for poor people. Accordingly, the native administration manages both the territory itself and the people living within it. As the customary authority, the native administration makes and enforces the rules, allocates and administers rights, and arbitrates conflicts. In other words, within its respective ethnic/tribal geographical territory the native administration has provided a system of local governance of land use and landed resources and allowed various groups to live in relative peace and stability.

However, the relevance of the native administration to the governance system is highly disputed in the postcolonial literature. Moreover, experts argue that government policies and interventions have transformed and eroded the native administration’s capacity. These policies have stripped chiefs of their authority, abolished the native administration altogether in 1971 and reinstituted it in 1984, and even co-opted it.⁶⁷ Despite these changes, the native administration has continued to operate as the custodian of customary law and communal assets, especially land. Yet it operates largely in an informal setting, without clear definition of its authorities, and at times it functions with a politicized mandate.

But change in land tenure and its impact on the capacity of the native administration to manage land have received no attention in the literature. The evolution of exclusive land tenure is likely to undermine the authority and role of the native rule system to manage land and maintain security and stability. Communal tenure and the administrative reallocation of land to members of the community on the basis of status and need is the foundation of native rule. For this reason, the system does not accommodate permanent private rights to land.

66. M.I. Abu Salim, *The Fur and the Land: Documents of Ownership*. Paper No. 10 (in Arabic). (Khartoum, Sudan: Afro-Asian Studies, University of Khartoum, 1974). G.M. La Rue, *The Hakura System: Land and Social Stratification in the Social and Economic History of the Sultanate of Dar Fur (Sudan), ca. 1785-1875*. (PhD diss., Boston University, Boston, MA, 1989).

67. World Bank. *Sudan, West Savannah Project—Phase II*. Staff Appraisal Report. Report No. 5814-SU. (Washington, DC: The World Bank, 1985).

The only recognized individual right is the right to use of the land under the supervision of the tribal authority.⁶⁸ Accordingly, the authority of the native administration is bound up with the land. The link between the land and native rule is succinctly expressed by the land commissioner in Southern Nigeria. He has stressed the political importance of upholding pure native tenure: "If individual Africans acquired freehold rights to land," he warned, "this would weaken the authority of chiefs and undermine indirect rule."⁶⁹ The link between the land and the native administration was also stressed by the West African Land Committee that was set up to examine colonial land policies; as Chanock reports, the Committee concluded: "[T]ogether they stand or fall."⁷⁰ Similarly, Meek has confirmed that in many parts of Africa, land use rights are dependent on allegiance to a chief or chiefs.⁷¹ He has pointed out that if chiefs were to sell tribal land indiscriminately or grant absolute rights of ownership, that would tend to disrupt the native rule. He adds, "The control of alienation of land has in consequence been one of the main planks of the British system of 'Indirect Rule.'"⁷² To conclude, change in land tenure to individual control undermines the authority and the role of the traditional structures of the native administration, from the sheikh at the village level to the "shartaya," or paramount chief, at the upper level.

The native administration's role is to manage and maintain both social and political security through the native tenure system. First, it organizes and manages access to land for all members of the community according to their need. This access is managed on the basis of the usufruct right through the redistributive communal tenure system. Although this redistributive mechanism does not necessarily alleviate poverty or ensure social equality, it is essential to reducing rural unemployment, poverty, and inequality, and to safeguarding food security and thus social security. In addition, the system ensures people's sense of identity and belonging.⁷³ Land is associated with identity, and thus native tenure not only maintains social security and political stability, but also ensures that people maintain their identity. This is why the British kept the system in place.

Third, the native administration organizes the system of multiple and overlapping land rights in which different users succeed one another over the course of the year. This land right system requires extensive coordination within and between

68. Osman, "Agricultural Change."

69. Quoted in S.S. Berry, *No Condition is Permanent: The Social Dynamics of Agrarian Change in Sub-Saharan Africa*. (Madison: University of Wisconsin Press, 1993), 106.

70. M. Chanock, "Paradigms, Policy and Property: A Review of the Customary Law of Land Tenure," in *Law in Colonial Africa*, ed. K. Mann and R. Roberts. (Portsmouth, NH: Heinemann and James Curry, 1991), 64.

71. C. Meek, *Land Law and Custom in the Colonies*. (Oxford: Oxford University Press, 1946).

72. *Ibid.*, p. 10.

73. T. Sikor and C. Lund, "Access and Property: A Question of Power and Authority," in *The Politics of Possession: Property, Authority, and Access to Natural Resources*, ed. T. Sikor and C. Lund. (Chichester, England: Wiley-Blackwell, 2009), 1-22.

groups (e.g., the seasonal movement of the pastoralists and the resolution of disputes). The evolution of exclusionary individual possession of land has removed authority from the village and tribal chiefs. In turn, these changes have lessened the native administration's ability to settle disputes between and within communities. In short, the changes in land tenure undermine the native administration's authority and role and thus stability and security in the area. It is therefore no surprise that resource conflicts, as we have seen, have ravaged the communities in the study area in the wake of the development of individual land ownership, continuous land use, and diminishing capabilities of the traditional structure of native administration to mitigate resource-based conflicts.

AGRICULTURAL CHANGE AND ETHNIC/TRIBAL POLARIZATION

Ethnicity and tribalism, land, and local power struggles are all part of the history of the region since 1916. This tight link is in fact a colonial construction that has been maintained by the Sudanese state up to the present day. Mamdani presents an interpretation of post-independence African politics.⁷⁴ He has addressed the connection between ethnicity and indirect rule and the failure of the African state to decolonize the local state apparatus. He has pointed out that the colonial administration exerted control through ethnicity and tribalism, and that these factors have also shaped the native authority's power as the local state apparatus. Accordingly, he adds that colonial-era "[i]ndirect rule reinforced ethnically bound institutions of control." The administrative unit of indirect rule is the tribal land (the "hakura," or "dar"). This is an ethno-geographical tribal territory that is managed by a hierarchal political system, the native administration. Within such a system of ethnically bound control, the native administration of the tribal hakura or dar administratively allocates land to individuals on the basis of a usufruct right. This allocation of the usufruct right to members of the community (tribe members) is bound to political allegiance to local authorities.⁷⁵ The preceding section of this paper has illustrated the intimate link between the authority of the native administration and the control over land. Such a structural link between land, power, and ethnic/tribal affiliation makes people prone to severe ethnic tensions when conflicts over land or power rise. At the same time, this structural link makes people susceptible to ethnic manipulation for political support and makes political struggles over land utilize divisive ethnic appeals to mobilize supporters.

But land availability, more than need or the production symbiosis, has facilitated a consistent contact and mutual relation between the different ethnic/tribal

74. M. Mamdani. "Indirect Rule, Civil Society, and Ethnicity: The African Dilemma." *Social Justice* 23, no. 1-2 (1996): 147.

75. Meek, *Land Law*.

groups. This interdependence created an environment in which ethnic/tribal identities were accommodated and expressed without being a source of major instability. While power struggles between the elites of tribes and sub-tribes were there before the 1960s, they had not translated into violent conflicts. For example, the colonial and postcolonial governments were unable to organize the different camel herding groups of the Northern Rizaygat under one native administration because of the struggle over power among the elites of these groups. Until recently, this power struggle among the Northern Rizaygat had not resulted in violent conflicts between sub-tribes of this group, however.⁷⁶ In the last four decades, agricultural change associated with social exclusion and competition over land has disrupted the production symbiosis and the interdependence among the different groups, as elaborated earlier.

Simultaneously, there has been a growing struggle over local power linked with claims of tribal autonomy by many tribal groups. The claim to tribal autonomy is often associated with a claim to a tribal land. The struggle over land and power has triggered and intensified ethnic/tribal tensions and conflicts over access to land and landed resources. Grievances related to land competition, disputes, and exclusion have transferred into ethnic/tribal conflicts through discourse utilizing tribal affiliation between and within tribal groups, but particularly between groups such as Fur versus Arab, Fur versus Zaghawa, or Zaghawa versus Arab. In this respect, Haaland argues that the population's attachment to ethnic, tribal, or kinship groups always constitutes a potential basis for mobilization of political support.⁷⁷ Moreover, changes to administrative units for political interests and manipulation of ethnic tensions have contributed to the micro-level conflicts and have led to the affirmation of ethnic/tribal division at the local level. In brief, land is structurally linked to power and ethnicity/tribalism. This link between ethnicity, land, and power has facilitated micro-level conflicts when land scarcity has become a pressing issue. These micro-level conflicts could easily transfer into ethnic/tribal polarization. Equally, conflicts over power or land at the political level could be used for mobilization of ethnic/tribal groups and could turn into ethnic/tribal conflicts.

AGRICULTURAL CHANGE: CONFLICTS AND VIOLENCE

The roots of contemporary violence reach far into the past of the study area and Darfur. First, the violence has socioeconomic causes related to the agricultural change and access to land and landed resources. Second, it has its political

76. H. Young, K. Jacobsen, and A. Osman, *Livelihoods, Migration and Conflict: Cases Studies from West and North Darfur, 2006-2007*. (Medford, MA: Feinstein International Center, Tufts University, 2009).

77. Haaland, "Social Organization."

causes related to the struggle over power at the local and national level. Third, it has its underlying cause in the intimate link of ethnicity/tribalism, land, and power. The blend of these three causes has generated a wide range of social conflicts and violence of different forms. These different forms of violence include disputes and conflicts, violent conflicts, and non-conflict armed violence. Yet all of them are connected.

Disputes and conflicts

These conflicts include disputes over parcels' boundaries, ownership of land, and crop damage. Conflicts over farm boundaries and ownership of land take place among the traditional cultivators in the villages. Conflicts over crop damage occur when animals trespass crop fields. The latter conflicts are usually between cultivators and nomads, and they have the potential to develop into violent conflicts. These disputes and conflicts are usually addressed by the sheikhs, a mediation group locally known as "ajaweed," or local courts.

Boundary disputes are associated with the division of farms between households or individuals. In the traditional agriculture systems, a community member establishes a right to cultivate plots of land by marking the trees that constitute the boundary of the land he intends to cultivate, and disputes over boundaries are rare.⁷⁸ But they have grown more common with the changes in land tenure, the permanent use of land, and land fencing as a means to mark boundaries and indicate individual private ownership.⁷⁹

In addition to disputes over parcel boundaries, we also see conflicts over land ownership. These arise because of the inconsistencies in the traditional system as to when use rights pass from one person to another. Haaland provides an example of an inconsistency that arises when one person (for example, when going on a labor migration) allows another to use his or her fields.⁸⁰ The problem occurs when the original user wants the land back: Does he or she still have the right to take it back, especially if the new cultivator has paid money? These issues have given rise to new practices, such as the use of witnesses and written contracts to secure such kinds of dealings in land.

Another major form of dispute in the study area involves crop damage by animals encroaching onto farms. For the most part, these kinds of disputes involve the nomadic Arabs and the sedentary cultivators, mostly Fur or other non-Arab groups. These disputes are usually addressed through the traditional system of the ajaweed or local courts. The resolution usually includes fines paid by the nomad whose herd encroached on the farm to compensate the cultivators for

78. M. A. Al-Amin, *Between Two Eras: Memories of a Sudanese Administrator: February 15 to January 11, 1973*, vol. 1. (Khartoum, Sudan: Elshariff Academic Bookshop, 2003). Haaland, "Social Organization."

79. Osman, "Agricultural Change."

80. Haaland, "Social Organization."

their crop loss. These disputes have increased in frequency and intensity as a result of the evolution of the exclusionary practices associated with the development of a sedentary agriculture system. At the same time, the fines for damaged crops have become exorbitant. Local courts in South Darfur are dominated by and represent the interests of the local farmers and livestock keepers.⁸¹ They have routinely enforced fines against nomadic livestock owners whose stock grazed the crops. The high fines and the increased intensity and frequency of the disputes have generated grievances that often have led to bloodshed and violent conflicts.

Violent conflicts

There is a long history of violence in the study area. Violent and devastating conflicts have become common in the study area, and Darfur as a whole, since the early 1980s. These conflicts take place in a context of increasing competition, exclusion, and grievances over access to land and common property resources, as we have seen. They have taken place between and among the different livelihood groups, and they have become more frequent and intense in recent decades. There were only three tribal conflicts in Darfur between 1956 and 1976; eight between 1976 and 1980; and 30 between 1980 and 1998.⁸² By the time of the rise of the contemporary rebellion in Darfur, widespread intercommunity violence over access to land and landed resources had already taken place in Darfur. *News From Africa Watch* describes the tribal war between the Fur and Arabs as “a full-scale civil war without rebels.”⁸³ Flint describes the conflicts among pastoralist Arabs as the largest single cause of violent death in Darfur. She attributes the fighting to conflicts over “use of, and access across, the land from which government-backed militias, or ‘*janjaweed*,’ drove farming tribes perceived to be aligned with the armed movements.”⁸⁴ With the increased intensity of these conflicts, different groups have organized themselves militarily, such as Bashmerga (named for the Kurdish “peshmerga” militias of northern Iraq) and Torabora (referring to the Afghan militia of the Tora Bora Mountains). These military forms of organization have formed the basis for both the rebel groups and the para-government militia, respectively.

The literature on conflicts in Darfur fails to examine the dramatic changes that have taken place in the conventions that organized access to land and common property resources in the last decades. This is because investigations on conflict in Darfur have been dominated largely by theoretical models. A prominent paradigm is the herder-versus-farmer model, which tends to describe these

81. R.H. Behnke, *Open-Range Management and Property Rights in Pastoral Africa: A Case of Spontaneous Range Enclosure in South Darfur, Sudan*. ODI paper no. 20f. (N.p.: Overseas Development Unit, 1985).

82. Y. Takana, *Report on Tribal Conflict in Darfur*. Submitted to the Higher Committee for the Promotion of Societal Relations. (In Arabic). 1997.

83. *News From Africa Watch*, 3.

84. Flint, “The Other War,” 5.

conflicts as farmer–herder conflicts or tribal conflicts over a diminishing natural resource base.⁸⁵ Such description implies that these conflicts are inherent in the coexistence of farmers and herders and of the different tribes in Darfur. Moreover, it implies that the conflicts could be resolved through the traditional mechanism of tribal reconciliation conferences, but we have shown that the traditional dispute resolution mechanisms have broken down in the face of agricultural change. The type of theoretical model used is not the only problem. There is also a lack of data and empirical research. These issues limit the effectiveness of the research in enhancing evidence-informed policymaking. Moreover, the current models and research distract attention from and fail to account for other serious forms of violence of the same social origin as the conflicts we have discussed.

Non-conflict armed violence

One form of violence that has devastated all aspects of life in Darfur since the 1980s is “non-conflict armed violence,” that is, violence that does not involve disputes over access to land or restrictions on practicing livelihoods. Large-scale violence in the form of organized armed raiding and plunder has become more common in the study area since the early 1980s. The most dominant form is gang violence, locally known as armed banditry, which is carried out in the highways, markets, and villages by organized weapon-carrying gangs and which has distressed livelihoods and destroyed lives. An estimated 1,053 incidents of armed banditry have been filed with the Darfur police from the time when the banditry started in 1983 to 1987. In these incidents, 204 civilians were killed; 586 civilians were injured; 32 policemen were killed; 7,350 head of livestock were stolen; and 55 million Sudanese pounds, or \$11 million, were looted. Between 1990 and 1992, these gangs committed about 30 armed robberies a day.⁸⁶ Armed robbers have even targeted tribal leaders. In August 1987 they assassinated Shartay Adam Ahmady of Fur with his wife and son in his home in Kebkabiya.

This form of violence has taken place in a non-conflict setting, and it falls outside the scope of violent conflicts. Accordingly, debates on armed banditry have framed it as criminally motivated violence. International organizations and donors operating in the region since the early ‘80s have paid little or no attention to non-conflict armed violence in Darfur. This is probably because the policy responses to armed banditry lie within the criminal justice system, which can address prevention and reduction of criminal activities. For these reasons, non-conflict armed violence does not fit within the humanitarian and development mandate

85. Hussein, Sumberg, and Seddon, “Increasing Violent Conflict.”

86. H.I.A. Dinnar, *Darfur Blaze: A Story of Civil and Political Conflict*. (In Arabic). (Khartoum, Sudan: New Khartoum Corporation Press, 2005).

of the international organizations working in Darfur. Consequently, the immediate and underlying social origin of armed banditry in the study area, and Darfur in general, has not been well researched. In particular, there has not been enough exploration of the ways in which exclusion, competition, and struggle around access rights to resources, and of the ensuing grievances, in driving non-conflict armed violence.

The lack research on non-conflict armed violence in Darfur as a social outpouring prevents drawing a direct connection between non-conflict armed violence and the exclusion and competition associated with access to land and common property resources. However, studies in similar settings could probably shed light on the non-conflict armed violence in Darfur. For example, in Congo, many smallholders are forced out of farming because of a lack of land. For these groups, Boas writes that “militia formation, or joining an existing one, becomes an alternative survival strategy.”⁸⁷ El Mahdi argues that gang violence in Darfur is bred out of the competition and conflict over the diminishing resource base.⁸⁸ He points out that it is mainly carried out by the youth of Zaghawa and Arab background, both of whom are displaced and impoverished by the droughts. Africa Watch argues along the same lines as El Mahdi: “They [Arab and Zaghawa youth] saw banditry as a quick way of regaining them [their herd].”⁸⁹ In short, agricultural change and the associated competition and exclusion processes in Darfur might contribute directly or indirectly to the region’s non-conflict armed violence.

87. M. Boas, “‘Just Another Day’: The North Kivu Security Predicament After the 2006 Congolese Elections.” *African Security* 1 (2008): 53–56.

88. S. El Mahdi, *Towards Establishing Rules of Justice, Peace and Equity in Darfur*. (In Arabic). (Cairo, Egypt: Cairo Center for Human Rights Studies, 2007). Sadiq El Mahdi was the prime minister of Sudan (1966-1967 and 1986-1989). He was removed from power in June 1989 by a military coup led by Brigadier Omer Elbashir.

89. *News From Africa Watch*, 3.

CONCLUSION

At the heart of the crisis in Darfur is the transformation of agriculture and the related land use and land rights. The agricultural dimension of the crisis has been in the making since the end of the 1960s. For centuries, the traditional agricultural system formed Darfur's economic, political, and social foundation. It is composed of shifting cultivation and pastoral livestock production, both of which are practiced as specialized activities by different communities of different ethnic backgrounds. Traditional agriculture in Darfur is based on two principles: first, the corporate ownership of land tenure based on a system of multiple and overlapping land claims; second, the production symbiosis. These two principles have ensured the peaceful coexistence of the different ethnic groups involved in agriculture to their mutual advantage.

The rapid economic and demographic changes and climatic variability in Darfur, within a context of a deepening national governance gap in Sudan, have shaken the foundations of the traditional agricultural system, the multiple land right system, and the production symbiosis. Shifting crop cultivation has evolved into stabilized agriculture that integrates cash crop, livestock, and staple crop production. Accordingly, land use has become continuous, and access to land and landed resources is becoming exclusionary. This change in land use and land control has led to the erosion of the multiple land rights and production symbiosis and has dismantled the political and social relations and institutions that have prevailed for centuries. As a consequence, the unwritten social constitution that organized these social relations and institutions is torn apart. At the same time, change in land use and land control has generated competition, exclusion, and contest, and has broken the traditional twinning of farming and pastoral livestock production. All these changes together have driven the collective violence that has raged over Darfur, undermined its social fabric, and provided the background for the current protracted political crisis.

The agricultural dilemma in Darfur cannot be isolated from the protracted political crisis in the area. It has become enfolded within, and contributed to, a nexus of collective violence and civil war in Darfur. Many factors have challenged the traditional authority structures: the spontaneous change in land use; the individualization of land, landed resources, and common property rights; and the ensuing disputes and violence. As a result of these challenges, these structures can no longer manage land disputes and conflicts. This means that the agricultural dilemma in this context is not subject to technical fixes. Peace processes and political solutions sponsored by the international community need to address local-level issues, but they are usually left to be unraveled by the power holders in the post-conflict era.

Agricultural interventions are a major component of international aid organizations. These interventions run the risk of actually doing harm, because they are not rooted in knowledge of the agricultural systems. This lack of knowledge is due largely to the fact that the agricultural roots of the crisis have so far not attracted the attention of academic and policy research. For this reason, we urgently need empirical and field research studies on the agricultural dimension of the crisis to inform the political and policy debates in Darfur.

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