

While there is a connection between climatic variability and conflict in Sudan, the effects are played out in interaction with other conflict-promoting factors as is clearly seen in Darfur. Vulnerability to environmental hazards has generally increased and growing competition between different livelihood groups promotes conflict as well as environmental degradation. However, ways out of the livelihoods-conflict cycle will require political and economic changes and the support of wider systems of good governance that do not exist today.

More complex conflict drivers than environment and climate

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Introduction

The most recent issue of *Journal of Peace Research* (Vol. 49, 2012) is devoted to climate change and conflict and contains a number of papers on African situations. Overall, the research reported ‘offers only limited support for viewing environmental conditions, resource scarcity and climate change as important influences on armed conflict’ (Gleditsch 2012: 3). Rather, other factors dominate, including agricultural encroachment that obstructs the mobility of herders and livestock, institutional factors and the politicization of access to resources (Benjaminsen *et al.* 2012; Adano *et al.* 2012).

Available evidence from Sudan largely confirms such findings, although with a few caveats. First, we simply do not know enough about possible climate change in Sudan. The glossary used by the Intergovernmental Panel on Climate Change (IPCC) defines climate as ‘average weather’, usually over a 30-year period. While climate *variability* is an important feature of the situation in most parts of Sudan, many studies are really about weather, not climate. Second, there is still a dearth of case studies explicitly addressing the interaction effects of environmental change - where this has been documented - with other conflict-promoting factors.

Climate and conflict in Darfur

While most observers note its complexity, the crisis in Darfur has often been talked about as being caused, at least partly, by climate change (Sachs 2006, Mamdani 2007). It is argued that declining rainfall and land degradation intensified struggles over access to pasture, farmland and water, culminating in civil war and humanitarian crisis in 2003. A similar narrative has been adopted by the Sudan government, attributing the conflict in Darfur to environmental change and increased pressure on natural resources. The corollary would seem to be that had there been more rain there would not have been war.

However, civil conflict is rarely grounded in single grievances or simple causes but commonly represents the accumulation of a complex set of interrelated factors (Richards 2005). Darfur provides an instructive example.

Regarding climatic factors, there is no evidence in the vegetation mapping for a worsening of the ecological situation around the outbreak of the Darfur conflict in 2003 (Brown 2010). Nor is it possible to claim that declining rainfall provoked wide-spread conflict. There was a 'structural break' to a lower level of rainfall in Darfur in the 1970s, but there is little systematic evidence that this led to a downwards spiral for large fractions of the Darfur population (Kevane and Gray 2008: 9). However, a sequence of droughts clearly contributed to destabilize an already conflict-prone region, especially when environmental pressures were compounded by unequal access and politicization of access to scarce resources (Ahmed 2009).

While prone to local conflict over resources, Darfur remained fairly stable until the late 1980s. Its stability was based on what has been termed the 'Darfur consensus' (Fadul and Tanner 2007). The ethnic groups that make up a central majority bloc (Fur, Baggara (cattle holding) Arabs, Masalit, Zaghawa, Tunjur and many smaller 'African' tribes) came together in enjoying access to land under the *dar* and *hakura* systems. They shared a common view on the legitimacy of the land ownership and management system, in turn based on the native administration system of local government. The largest group that was deprived of land rights was the Abbala (camel holding) Arabs (ibid.).

According to Fadul and Tanner, most Darfurians contend that the current conflict constitutes an assault on the Darfur consensus. To a large extent, the factors which pushed the region over the edge were external and include impacts of the Chadian wars, Libyan meddling, destructive interventions by the Khartoum government, and severe drought leading to migrations (ibid.). One of the primary traits of the Darfur crisis can be described as a split between those members of the population with territories (*hawakir*) and those who have none (Tubiana 2007).

As Tubiana has argued, one of the early warning signs of conflict was a dramatic increase in violent incidents between farmers and herders. One cause for these incidents was the droughts of the 1970s, 1980s, and 1990s, which forced herders to encroach on the lands of farmers. These clashes did not necessarily pit Arab versus non-Arab but they did lead, in 1987-1989, to a wide-ranging conflict between the sedentary Fur and a broad coalition of both cattle- and camel-herding Arab tribes. For the first time, nearly all the Arabs of Darfur came together, united by a new pro-Arab ideology which was backed by Libya and successive governments in Khartoum from 1986. It was during these conflicts that the term 'janjawiid' first appeared (ibid.).

From 1994-1995 onward, the Masalit of western Darfur became the next victims of Arab militias seeking access to land. By the time the two new rebel groups, the Sudan Liberation Army (SLA) and the Justice and Equality Movement (JEM) appeared in early 2003, widespread intercommunity violence over land had already begun taking place across Darfur. While they made regional, and even national, claims that aimed at transcending ethnic

cleavages with demands for a more equitable distribution of power and wealth for all of Sudan, their base was for the most part non-Arab, with heavy representation from the Zaghawa and the Fur (ibid.).

Since 2003, local conflicts in Darfur started spinning out of control and, among SLA and JEM, issues of land came to take second place to the overall development of Darfur. Part of the reason for this is that many of the rebel leaders had lived outside Darfur for long stretches of time.

Over time, the fault-lines of conflict became increasingly complex. Political and livelihood landscapes changed dramatically. The number of rebel movements proliferated and sent the message that it is less important to have a constituency than taking up arms if you want to be invited to meetings and peace talks.

Moving down to local levels, there have been a series of violent intra-Arab conflicts between the Baggara and Abbala. Whereas until around 1970, both Baggara and Abbala remained almost separate in their habitats and annual cycles of movement, things started changing when drought hit Darfur for several years, both during the 1970s and 1980s. The Abbala started moving south, at a time when others did the same (particularly Zaghawa) and the Baggara Arabs themselves were facing trouble with coping with drought. Because the Zaghawa and others settled to cultivate, Baggara animal routes were blocked and these changes took place during the absence of an effective native administration.

Material collected by Yusif Takana shows that grazing and water rights have been the main causes of internal conflict in Darfur. As from the early 1990s, the Abbala as well as other groups started to change their strategy. Acquiring lands for settlement could be done by political allegiance and support for the Khartoum government. This strategy worked and a number of new administrative subdivisions (*nazirates* and *omodiyas*) were established at the expense of groups who had recognised traditional rights to lands and authority. Many violent, often intra-Arab conflicts have accompanied such changes, with great losses of life (Takana 2008).

A study of Rizaygat camel nomads in northern Darfur shows that their livelihoods have gone through rapid transition due to restricted access to pastures which, to a large extent, are controlled by the Zaghawa. Some have diversified into 'maladaptive' strategies, including rapid militarisation and the use of intimidation and violence as a means of getting access to natural resources while the majority have been displaced. Nomadic camel-based pastoralism is under threat as a livelihood system as a result of the developments sketched out above, and young men increasingly seek power through militarization and education rather than through camels and camel herding (H. Young *et al.* 2009a: 9).

In the case of the Zaghawa whose traditional homelands are in northern Darfur, their southward migrations were not uniquely caused by hunger and drought. As Jerome Tubiana has argued, the educated Zaghawa elite, while promoting the development of their region of origin, quickly saw the possibility of massive movements to more productive areas in South Darfur (Tubiana 2008).

These snapshots indicate a connection between climatic variability (droughts) and conflict in Darfur, mainly through the impacts of movements and migration on access to resources and livelihoods. The effects, however, are played out in interaction with other conflict-promoting factors. One important point to be made is that events and developments in Darfur must be understood in the context of a number of factors at different scale levels; another that there are multiple conflicts in Darfur. Some of them are primarily local inter-ethnic and intra-ethnic conflicts, often between long-settled landowning groups and ‘newcomers’ with no traditional rights to land, but also between groups with rights competing for scarce resources. Then there is the conflict played out between different rebel groups and the Sudanese government, and, beyond them, between ethnic groups favorable to the rebellion and groups favorable to the government.

A peace agreement with one movement was made in 2006, and the Doha Darfur Peace Document was signed with another movement in 2011. While local conflicts concerning access to resources dominated during the 1980s and 1990s, the Darfur crisis was quickly internationalized after 2003. International actors also came to play a crucial role in framing the conflict and their representations of the Darfur crisis can in fact be seen as integral aspects of the conflict. A third point to be made, then, is that conflicts at different levels are increasingly interconnected. Conflicts that are essentially local have increasingly become absorbed into, enmeshed with, or at least affected by the wider struggles between the government in Khartoum and rebel movements as well as by a number of international actors and factors.

Livelihoods under siege

‘*Livelihoods under siege*’ is the title of a report on Darfur (Young *et al.* 2005), but is an apt description of the situation in many other parts of Sudan as well. It is important to note that most of the violence in the country has taken place in pastoral and agro-pastoral areas. They include (a) the areas struck by drought and famine during the 1970s and 1980s; (b) the areas that saw an expansion of mechanized, rainfed farming during the same period; and (c) the former ‘closed districts’ during the colonial period, i.e. present-day South Sudan.

Land is a central issue for both rural and urban communities in Sudan, as a means for livelihoods and survival, and with profound cultural and socio-political dimensions. Land is also fundamental to understanding the way in which the Sudanese conflicts and humanitarian crises have evolved and has been fought over in many different ways (de Waal 2009).

Since the colonial period, the Sudanese state has owned, managed or effectively controlled the modern economic sector. State resources have been concentrated in the central Nile areas in the North, reflecting the longstanding political dominance of groups from this area. A process of uneven development and economic dislocation began during the colonial period and became particularly massive in the 1970s. The shift from subsistence agriculture to export-oriented, mechanized agricultural schemes had its greatest impact in the so-called ‘Transition Zone’ between North and South – along Southern Kordofan, Southern Darfur, Blue Nile and

the Sudan-Ethiopian border region, resulting in the dispossession of small-holding farmers from their customary rights of land, the erosion of land-use rights by pastoralists, and the creation of a large force of agricultural wage-labourers, whose numbers were increased through displacement by drought and war in the 1980s and 1990s. While the transfer of assets, which began before the war, was accelerated after 1989 when the current regime came to power through a military coup, the development strategy has essentially been the same (Johnson 2003).

A vital factor was the passage of laws undermining the control that local authorities and local people were able to exert over land. The 1970 Unregistered Land Act abolished customary rights of land use and the authority vested in native administration with respect to land allocation, thereby allowing for the leasing of land to large farms by the state.

From the 1970s onwards, the agricultural growth model adopted in Sudan gave little or no consideration to those who were displaced or otherwise affected. The strategy also caused serious problems. Yields were hit by falling fertility, which in turn reflected continuous cropping and the expansion of semi-mechanized farming into increasingly marginal areas. Since the 1970s, there have been massive population flows out of the ailing traditional sector into urban centres. When the Islamist movement came to power in 1989, they launched the ‘civilisation project’ which advocated self-sufficiency in food production and manufacturing (Elnur 2009: 83). However, the agricultural sector continued to decline and unsustainable policies within rain-fed farming continued as before.

Thus, the very serious conflicts that have spread throughout so many parts of Sudan since the 1980s should be seen as part of a pattern of violence where the Sudanese state – as a vehicle for special interest groups – has played a major role. In brief, the country continues to suffer from two sets of crises that are closely interrelated: (a) a crisis of governance, and (b) a livelihoods crisis. The conflicts that result from these crises take place on different levels and are also interrelated.

Based on an analysis of the trends outlined above, the ‘post-conflict environmental assessment’ made by UNEP argues that there are strong linkages between environment and conflict in Sudan, and that these linkages are twofold. On the one hand, Sudan’s long history of conflict has had significant impacts on the environment, through population displacement, lack of governance, conflict-related resource exploitation and underinvestment in sustainable development. On the other hand, it is argued that environmental issues are contributing causes to conflict. Competition over oil and gas reserves, Nile waters and timber, as well as land issues related to agricultural land, are important causative factors, and confrontations over rangeland and rain-fed agricultural land in the drier parts of the country are ‘a particularly striking manifestation of the connection between natural resource scarcity and violent conflict’ (UNEP, 2007: 8).

Concluding remarks

While it may be too early to state that Sudan is undergoing climate change, climate variability has always been an important feature of the environment, to which different production systems have traditionally tried to adapt more or less successfully. Because of the developments discussed above, including a lack of environmental governance, vulnerability to environmental hazards has generally increased and growing competition between different livelihood groups promotes conflict as well as environmental degradation. However, the interaction effects are often complex. Thus, the most vulnerable areas in terms of environmental hazards do not harbour more conflict than others (IIED 2009).

While conflict and livelihoods are inextricably linked to one another in places like Darfur, the vulnerability of people's livelihoods remains deeply embedded in the policies, institutions and processes that influence their access to means of production, and the power relations between different livelihood groups and production systems (Young 2009b). An important message, therefore, is that while many conflicts have serious environmental dimensions, ways out of the livelihoods-conflict cycle that is experienced by a growing number of people in Sudan will require the support of wider systems of good governance that simply do not exist today.

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