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EFFECTIVENESS OF FOOD SECURITY INTERVENTION IN CONFLICT AREAS OF NORTH DARFUR, SUDAN

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This study sought to analyze in detail food security interventions that were implemented by the Intermediate Technology Development Group (ITDG) - Practical Action in conflict rural areas of North Darfur to see how and why they were carried out, how well they were targeted and what impact the interventions had on food security. Intervention began in August 2005 and evaluation of the project was done between 2nd and 16th August 2006 by a team from the Sudanese Red Crescent, including one of the authors.

INTRODUCTION

Pastoralists have interacted with sedentary farmers for millennia. The increased conflict between these groups has been caused by population growth, expansion of agriculture onto formerly shared grazing lands, and increasing commodity production (Fratkin, 1997), as well as drought and political instability. In Sudan, conflict over resources has similarly occurred and has been exacerbated by high year-to-year variability in rainfall in North Darfur (Elagib, 2010, Hulme, 1990). Rapid population increase and State policies (Ayoub, 2006) have all contributed to conflict over water and grazing rights (Schance, 2007).

The current conflict in Darfur has displaced well over one million people distributed as 300,000 in South Darfur, 400,000 in North Darfur and 500,000 in West Darfur (UN, 2004). The majority (80%) were rural people (Population Census, 2003) who depend solely on traditional rain-fed agriculture and animal keeping. It has been estimated that 2.74 million were affected by these conflicts. Of these 1.8 million were identified as internally displaced living in 125 camps, or with their relatives in secure areas. In these camps, people depend on food aid and on firewood collected from the neighborhood. It was estimated that 62% of these affected people have been provided with food aid, but only 36% have clean water and 18% have access to sanitation services (UN, 2004) provided by United Nations agencies, including World Food Programme and UNICEF, and

NGOs including, for example, Sudanese Red Crescent and Save the Children/UK.

Food aid, in general, is concerned with providing food and related assistance in emergency situations or to help with longer term hunger alleviation and achievement of food security (Shah, 2007). Three types of food aid could be distinguished. They include programme food aid, emergency food aid and project food aid which is delivered as part of a specific project related to promoting agricultural or economic development, nutrition and food security (Anup, 2007). During much of the 1980s, work of NGOs tended to be associated with the notion of more empowering, more humanitarian, and more sustainable development alternatives (Bebbington, 2003). Anderson (1996) says that western NGOs seek to provide emergency humanitarian relief, promote long range economic and social development in impoverished nations, promote respect for human rights and monitor human rights abuses, promote peace, often by encouraging non-violent conflict resolution. Uvin et al (2000) suggest that the main activities now of NGOs include working directly with beneficiaries to have a direct impact on their lives, while indirect activities are to affect the behaviour of other actors who work with the poor or influence their lives and reach their target group through the actions and decisions of others.

However, until the 1980s, the majority of NGOs at work were international NGOs, but more recently local NGOs have become a prominent force in development. In many countries like India and Brazil, local NGOs now rival their international counterparts in terms of their size, impact and resources (Michael, 2002). These NGOs intervene not only to provide food but also to supply seeds, agricultural tools and to work on conservation of the environment. This is important as NGOs are less limited by political constraints and their diversity and independence allows them to work in very difficult places (Branczik, 2004). No discussion on poverty, equality or development to-day is complete without considering the role of NGOs (Michael, 2002). Such a relevant local NGO is ITDG – Practical Action.

This study sought to analyze in detail food security interventions that were implemented by the Intermediate Technology Development Group (ITDG) - Practical Action in rural areas of North Darfur, to see how and why they were

carried out, how well they were targeted and what impacts the interventions had on food security.

NORTH DARFUR

Figure 1 shows the position of North Darfur State in western Sudan. The general physical characteristics of North Darfur are essentially that the underlying rocks belong to the Basement Complex. Over this lies a covering of sands (*qoz*) interrupted with clays (here known as *gardud*) with the former the more prominent. The study area relies upon shallow wells for its water supply; though there are also a number of *hafirs* (excavated or natural hollows) where rainwater can collect and some valleys with a base soil of clay and associated sands. Rainfall is erratic and irregular, particularly in the northern part, and somewhat higher in southern parts with a long term annual average rainfall in the order of 300 mm here falling in three summer months of the year. Rainfall figures in the 20th century suggest that the 1930s saw a peak in rainfall and that since then rainfall has been generally in decline until the mid-1970s, when it seems to have levelled out at about 250 mm. The United Nations desertification map distinguishes the study area within the zone of having a "*very high risk"* of desertification (UN, 1977). Based upon figures available there seems little evidence of significant improvement since 1990 (Alredaisy and Davies, 2001). The population is a hybrid of different tribes who used to settle into small villages near water supply points and where soils are suitable for cultivation. The major crops were *dukhn* (bulrush millet: *Pennisetum typhoideum*) and *dura* (*Sorghum vulgare*), sesame, gum arabic and groundnut. *Dukhn* does well on light soils. The people of Darfur also rear livestock, including cattle, sheep, goats, and camels.

THE PROJECT

This project was launched by ITDG-Practical Action in North Darfur State. The project was committed to the distribution of sorghum and millet seeds; agricultural hand tools; energy saving stoves; and cooking pots among targeted households living in conflict rural areas and camps in North Darfur. These areas were held by either the Government or Sudan Liberation Army. The targeted villages were already ranked as the poorest by local administrative authority

between November 2002 and March 2003. Information on reduction or loss in crop production, shortage of seeds and the need for agricultural tools was collected through Village Development Committees (VDCs) and was used to determine those households actually in need of intervention. Seeds were provided from various parts of Darfur and western parts of North Kordofan State. Agricultural hand tools were manufactured locally, and similarly cooking pots and improved stoves. A pre-sowing test was done to ensure seed viability before being distributed. The improved stoves component was implemented through training of groups of women in the targeted villages.

ITDG-Practical Action adopted a participatory approach. Beneficiaries have trained each other through village-based organizations which were already trained by the project's staff on how to select beneficiaries and distribute relief. Practical connections were initiated with local government partners in North Darfur State to ensure feasibility of the project. Prior to the intervention in August 2005, various data were collected. Firstly**,** individual meetings were held in Khartoum with the Coordinator of the Darfur Programmmes in Practical Action Organization. In North Darfur State, meetings were held with affiliated governmental administrations and managers of operating NGOs in Al Fashir and Kabkabia including, for example, OXFAM and the Sudanese Red Crescent. Also**,** collective meetings were held, firstly with beneficiaries of the project in Abu Shouk camp to evaluate training on the proper use of improved stoves, and secondly with blacksmiths in Al Fashir market to determine their benefit from manufacturing agricultural tools. A monitoring system has been applied throughout the implementation phases of the project. Evaluation of the project was carried out between 2nd and 16th August 2006 by a team of SRC including one of the authors. A one day workshop was held with 28 participants representing Village Development Committees and community based organizations from Al Fashir, Dar el Salam and Korma localities, entitled by their local committees and organizations. They have evaluated the project using SWOT (strengths, weaknesses, opportunities and threat) analysis.

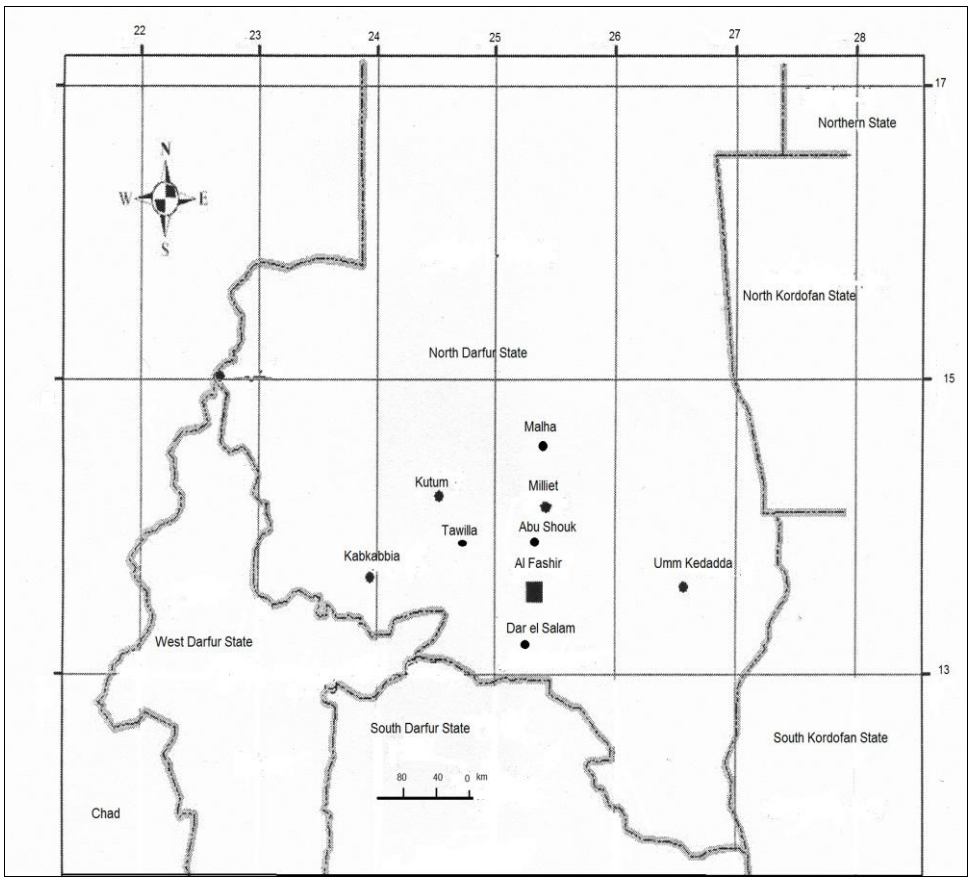

Fig.1: Location of the study area
Source: After Department of Survey, Al Fashir town

RESULTS

The project was committed to the distribution of 176.7 metric tons of sorghum seeds and 252.42 metric tons of millet seeds among 25,242 households (151,450 persons), distributed as 3,750 in Tawilla; 2,500 in Tina; 2,500 in Karnoy; 2,500 in Umm Buru; 12,167 in Meillet and Malha; and 1,825 in Sanam Ennaga camp for internally displaced people (Table 1). These villages belong to Al Fashir and Kabkabia localities (Fig.1). The majority of the beneficiary households were concentrated in Milliet and Malha, while there were few in Sanam Ennaga but equal numbers in the remaining three locations. The committed amounts per household were 10 kg of millet and 7 kg of sorghum seeds, equally distributed among targeted households by geographic setting (Table 1).

Table 1: Committed amounts of sorghum and millet seeds by household by geographic area

Location	No of households	Amounts (metric tons)			
		sorghum	percent	millet	percent
Tawilla	3750	26.25	14.8	37.50	14.8
Tina	2500	17.50	9.9	25.00	9.9
Karnoy	2500	17.50	9.9	25.00	9.9
Umm Buru	2500	17.50	9.9	25.00	9.9
Milliet and Malha	12167	85.17	48.2	121.67	48.2
Sanam Ennaga IDPs	1825	12.78	7.3	18.25	7.3
Total	25,242	176.70	100	252.42	100

Equal amounts of sorghum and millet were distributed during 2005. In 2006, the amount of millet distributed exceeded fivefold the amount in 2005 while for sorghum it was 25% only (Table 2). The amount of millet eventually distributed was almost equal to threefold the amount of sorghum distributed. It also exceeded the committed amount by 22 metric tons while for sorghum it was less by 10 metric tons. Although the committed amount per household was 10 kg of millet and 7 kg of sorghum seeds, it was reduced to 6 kg for millet and 3 for sorghum (Table 2) resulting from a reduction by 40% for both due to high demand because of the run down of the seed bank.

Agricultural hand tools included ploughs, shovels, *jerrayah* (hand tool for planting seeds), pick axes, *krenkew* (a traditional plough), *tagadi* (small tool for harvesting some crops including *dura*), *najama* (tool for weeding and harvesting some crops) and hoes. Most of the tools were distributed in 2006 apart from *jerrayah* and pick axes which were widely distributed in 2005 and *krenkew* which, in the event, were not distributed at all. Generally, more tools were distributed than originally anticipated: over 50% for ploughs, shovels, *jerrayah* and pick axes, but the intended figures for *tagadi, najama* and hoes were not reached, though the shortfall was hardly significant. One plough was

allocated between 5 – 7 households to be exchanged among them, while for all other tools it was one per household. In addition cooking pots, improved stoves

Table 2: Amounts of seeds, agricultural hand tools, cooking pots and cooking utensils distributed among targeted households

Intervention		planned	Achieved				Area covered	Amount per household
			2005	2006	Total	%		
Agricultural seeds	**Millet** **sorghum**	**94 MT** **54 MT**	**40 MT** **40 MT**	**218 MT** **50 MT**	**258 MT** **90 MT**	**274.5** **166.7**	**Milliet - Malha** **Al Fashir – Kabkabiya**	**6 k\ HH** **3 k\ HH**
Agricultural Tools	Ploughs	1000	-	1390	1390	139	Al Fashir Kabkabiya Milliet	1 Pl = 5-7 HH 1 Sh = 1 HH 1 Je = 1 HH 1 Pi = 1 HH - 1 Ta = 1 HH 1 Na = 1 HH 1 Ho = 1 HH
	Shovels	3000	-	3012	3012	100.4		
	Jerrayah	5000	2000	5000	7000	140		
	Pick axe	5000	2000	5000	7000	140		
	Krenkew	2000	-	-	-	0		
	Tagadi	6000	-	5500	5500	91.7		
	Najama	2000	-	1050	1050	52.5		
	Hoes	3000	-	2742	2742	91.4		
Cooking Pots	Big Pots	7530 HH	-	2433	2433	81,1	Milliet _ Tawilla – Dar EL Salam	1 = HH
	Small pots	3000 HH		2433	2433	81,1		1 = HH
				4886	4886	81,1		2 = HH
	Dishes			4886	4886	81,1		2 = HH
	Tea cups			4886	4886	81,1		2 = HH
	Water cups			4886	4886	81,1		2 = HH
	Spoons							

and kitchen utensils were distributed among targeted households (Table 2). Cooking pots are durable, made of heavy mud, could retain heat and are usually preferred by the community. The project was committed to the distribution of 25,242 sets of large and small sized cooking pots. Each household was provided with one set of both sizes as well as two pieces of kitchen utensils. The amount of cooking pots distributed was less than what was committed. However, training on the proper use of improved stoves started in 2005 by including 200 beneficiaries only. By 2006, beneficiaries rapidly increased to 2000. Training on proper use of improved stoves was focused on women's groups, methods of manufacturing, and awareness of their environmental benefits into reducing the amount of consumed biomass, time spent on food cooking, and reducing health hazards related to indoor smoke.

ASSESSMENT OF IMPACT ON FOOD SECURITY

Reports from the Village Development Committees (VDCs) and Women's Development Associations (WDAs) were encouraging. Many groups of people came to ask how to access activities and to obtain information about the dissemination of innovative ideas on environmental conservation *vis-á-vis* the use of improved stoves and social cooperation on using some shared agricultural hand tools. Most of the beneficiaries agreed that targeting was essential. SWOT analysis by stakeholders identified strengths, weaknesses, opportunities and threats as well as future recommendations for effective interventions in cases of emergency or conflict. Concerning strengths, the project achieved its various objectives which have contributed to improving the humanitarian situation. ITDG became well known to local people in North Darfur. It has trained small farmers in agricultural techniques, established seed banks, trained women's groups in the proper use of improved stoves that contributed to the reduction of expenditure on fuel purchase. It developed good co-operation with government officials. This experience also gave Village Development Committees (VDCs) and Women's Development Associations (WDAs) the opportunity to determine their own preferences and to facilitate practical interventions. Moreover, ITDG Darfur has had considerable success in facilitating the formation and development of VDCs and WDAs, despite the problems of staffing in this area. Sustainability has been the main objective of

the capacity building for VDCs and WDAs; hence there was emphasis on institutional development, training in management, finance and planning as well as in technical skills and access to services. The development of VDCs and WDAs has made a significant contribution to the development of social cohesion and norms of co-operation and action for mutual benefit. The remaining funds were used to cope with the high demand for seeds and tools for beneficiaries. This also could be considered as a positive flexibility. The consequence was that the total number of project beneficiaries could reach up to 310,326 people. The target figure for cooking sets was 7500 households, but this figure had to be reduced to 3000 households to enable more families to get essential pots and other utensils. This goes in line with project positive flexibility which was considering the needs of the internally displaced people (IDPs) and the general complex political emergency situation within which the project operated.

The implemented activities were generally more than what had been planned. Specifically, the agricultural seeds and hand tools which could in part be attributed to a good estimation of transport cost from Al Fashir to the targeted areas. The technology part of the programme was good at focusing on practical skills, for example the improvement of tools for farmers made by blacksmiths. The present project focus on Al Fashir Council area gives an opportunity for consolidating these groups with further training, during the project extension. Furthermore, ITDG's efforts were highly appreciated for the ability to reach an increased number of communities in secure areas and, similarly, to have maintained contact with communities difficult to access and to provide support for displaced groups (IDPs).

Because the majority of NGOs working in Darfur are more concerned with humanitarian relief rather than with development, ITDG's approach was highly acknowledged by beneficiaries as it generated income for blacksmiths, improved stove makers, aluminum casters and seed importers. The stoves component has developed a curriculum for training which was a good contribution to future efforts in energy saving and environmental conservation. In addition, the multiplier effects of the training of trainers in stove making skills will continue to have an impact on people's lives as women are training others. Although the findings about the impact of interventions by ITDG varied

between Community Based Organisations (CBOs) and VDCs, there was evidence of sustainable food security and increased local capacities and diffusion of innovation such as improved stoves. Stakeholders have perceived that, in the long run, seeds and tools will induce self-reliance and improve household income.

Weaknesses have included the slow flow of information from Community Based Organizations (CBOs) and VDCs to ITDG regional office in Al Fashir town and problems relating to transport and communication. Other weaknesses were related to the selection of beneficiaries which required standardized targeting criteria, and the need for more networking among partners. Although VDCs and WDAs have made great progress in improving social relations among different tribal groups, they were unable to extend such efforts beyond their immediate organizations. With the performance of the current project and the need for follow up and monitoring of activities at CBO and VDC level, these seem to be one of the project's main weaknesses. Also, there was no inherited experience from the 1984/85 drought and displacement in Darfur to help into more effective work, partly because the majority of current operating NGOs were unfamiliar with the recent situation which is more complicated. In addition, traditional coping mechanisms against drought as well as work on livestock marketing systems and stock routes, and water provisioning were not included in the ITDG approach, though a participatory approach was indicated.

The plan for the project included opportunities to build upon the positive image of ITDG-Practical Action and its partners in post-conflict recovery programmes. The aim was to create links with other organizations including NGOs and to obtain international recognition for the idea that all could learn from each other. In their viewpoint, determination of those who really need relief intervention in such conflict areas should depend on the most vulnerable groups to food insecurity. The targeted communities also have suggested the build up of VDCs in all localities to ensure that local communities will accept relief intervention. Threats to relief intervention include desertification, delays of the rainy season, pests and diseases and military actions.

NORTH DARFUR IN CONTEXT

Linking relief and development was an essential part of the intervention in conflict areas of North Darfur. Provision of seeds was to induce agricultural activity, ensure a good harvest and secure food for households as well as surplus for sale. This is similar to Bujumbura in rural Burundi and Central Region of Ghana where NGO interventions in agriculture have improved performance (Buadi, 2011). Distribution of non-food items was essential for development sustainability and environmental conservation. Such type of intervention, according to Levine and Chastre (2004), has environmental advantages in re-establishing crop production and strengthening agricultural systems in the longer term. The environmental benefit of improved stoves will reduce the biomass consumption by 40% compared with traditional stoves which consume 50% to 60% more. This is particularly important where firewood is the main source of energy for households as in Darfur. Here the per capita consumption is above the national average of 0.27 m^3 (Forest Products Consumption Survey, 1995). Also, the intervention has been implemented in close collaboration with other projects concerned with food security, pro-poor market linkages and goat restocking. In all, this has provided an excellent opportunity for linking the project with other rehabilitation and development efforts. This agrees with a cash for relief approach which includes local availability of food, proximity to markets, adequate transport infrastructure, and thereby reducing dependency on food aid, and stimulates local markets and empowers women (Brandstetter, 2004).

The community based or participatory approach adopted by our intervention example has helped people to organize and depend on themselves in developing their communities. This is very important as Darfur presents an extremely difficult operating environment, according to Anema (2001), where in-depth understanding of the context of such intervention can only be achieved through consultation and communication with stakeholders, careful assessments of the economic situation and nutritional circumstances. Furthermore, the project's dependence on local blacksmiths, aluminum casters and local seed suppliers, as requested by the community, has also contributed to building local manufacturing and suppliers' capacity and so generating income. High yield

productivity is the main goal for both the intervention and beneficiaries in the study area and thus priority of selecting seeds was built on best local varieties and for tools was based on locally made ones. This shows that, during emergencies or conflicts, interventions can be more efficiently managed by NGOs than by government (Khan et al 2003). The unique role of NGOs is not confined to the delivery of social services and pro-poor advocacy. They have developed commercial ventures in order to link poor producers with input and output markets, as well as to develop a source of internally generated revenue for the organizations (Chowdhury, 2008), though it has proved difficult to reach the very poorest sections of rural communities through such interventions (www.helsinki.fi/university. 2008).

The ITDG's efforts at peace building were not accepted by the government as it is generally argued that the political implications of NGOs' work have in many cases exacerbated the very conflicts and violence they were seeking to relieve as they might bring new resources into a conflict situation where each side tries to acquire and control, and NGO aid can present a new focus for struggle (Anderson, 1996). Aid administered through government favours those in power, while channelling aid in a way that by-passes central government can decrease a government's power (Branczik, 2004). Nonetheless, the method of analysis used to evaluate the benefits of the intervention in our example, might be similar to in-depth livelihoods analysis, which was to investigate the effects of the current conflict and humanitarian crisis on livelihoods of selected communities in Darfur (Levine and Chastre, 2004).

CONCLUSIONS AND RECOMMENDATIONS

The main findings of this study are as follows:

1. Food security interventions have achieved their operational objectives.
2. Participatory approach proved successful during interventions where beneficiaries, community leaders, women and village committees were highly involved.
3. There was meaningful local economic stimulation through local purchase of seed and tools.
4. ITDG intervention has scaled-up the community peace building and post-war recovery activities in cooperation with other agencies in Darfur.

5. Previous experience of NGOs in a geographic setting is important as proved by the previous work of ITDG in Darfur.
6. Food security interventions were not the sole solution for conflicting communities.

Though food security interventions play a crucial role in the alleviation of hardship, there must also be a way forward to overcome conflict. This is particularly needed as *''humanitarian aid and development assistance are not straightforward, and they mask many political failures''* (Branczik, 2004). The conflict in Darfur is particularly vital for a conflict riddled country like Sudan where resource based conflicts have seriously affected rural societies. Some scholars have proposed solutions for natural resource based conflicts. One example is that by Mekonnen (2006) who recommended the building of an early warning system that should be adopted at local, national, and regional levels for mitigating impacts of drought, famine and conflict. Here, the authors argue that human, environment and resource utilization should be interrelated to resolve and curb conflicts. Community based knowledge is essential as it includes social norms and cultures which respect others' rights into use of resources. This will contribute to building good relationships among and across communities by diminishing the frequency and intensity of conflict, and so encouraging co-operative solutions to other problems. Building capacity of the institutions of the nomadic and settled populations, including traditional administrative systems, culture of raising animals and use of water points; mobility in search for pasture and knowledge sharing will make these communities more aware of the misuse of resource utilizations and their impacts. Addressing specific needs of local populations, enhancing local knowledge and skills, building the capacity and preparation of traditional mechanisms for combating drought are essential such as collecting/harvesting rainwater in man-made ponds, diversifying grazing lands, and planting trees.

Rehabilitation of degraded rangelands, establishment of green belts, creation of a rainfall database and permanent water points are major axes for environment sustainability. Rehabilitation of degraded rangeland increases moisture holding capacity. Research on drought and desertification is essential. Here the role of official authorities is most important through monitoring or making people aware of the situation. Reservation of green belts will make people aware of the

need to respect natural resources and other people's rights to resources. A rainfall database will provide information for the agricultural season, expected pasture, locations for good agricultural production and vulnerable areas to crop failure and expected food shortages in order to avoid excess use by farmers or herders. Permanent water points have to be in accordance with rainfall database results and population density taking physical characteristics of an area into consideration. Resource utilization should include mobile extension teams, community resource management bodies, secondary data for cattle routes and pastoralists' movements, participatory demarcation with concrete posts for livestock routes, particularly long distance ones, to avoid conflict. In addition, maps and secondary data for cattle routes and pastoralists' movement should be introduced with local patrolling teams comprising representatives of pastoralists, farmers, tribal leaders and local administration. The introduction of small credit finance systems and agricultural co-operative societies is needed. The empowerment of farmers' and pastoralists' institutions to strengthen their capacity to understand tenure rights and share knowledge on natural resource management is also essential.

Managing the relationship between people, the environment and resource utilization is important as civil wars in southern, western and eastern Sudan are ignited by issues of marginalization, lack of development and poor infrastructure. However, understanding how communities access natural resources and tensions and rivalries entailed in this process is critical not only for discerning livelihood systems, but can also inform sustainable development policy in Sudan.

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