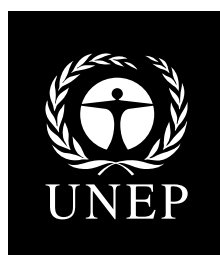




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Friedman School of
Nutrition Science and Policy

Strengthening the humanity and dignity of people in crisis through knowledge and practice



**Livestock, Livelihoods, and Disaster Response:
PART TWO: Three Case Studies of Livestock
Emergency Programmes in Sudan, and
Lessons Learned**

*Getachew Gebru, Hanan Yousif, Abdelhafiz Mohamed,
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Cover photo: A vaccination campaign. Source: Islamic Relief Agency (ISRA), Blue Nile state

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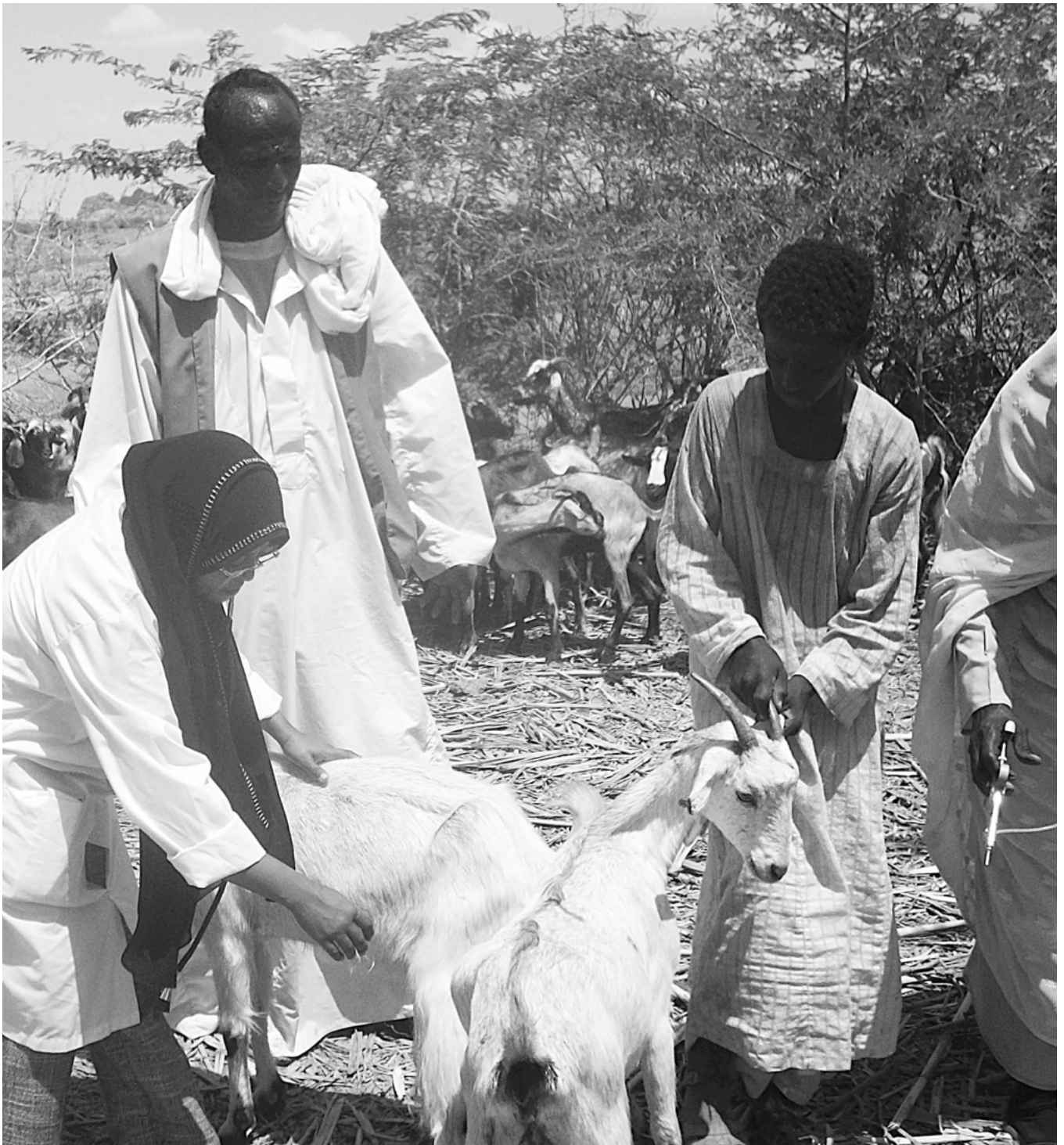
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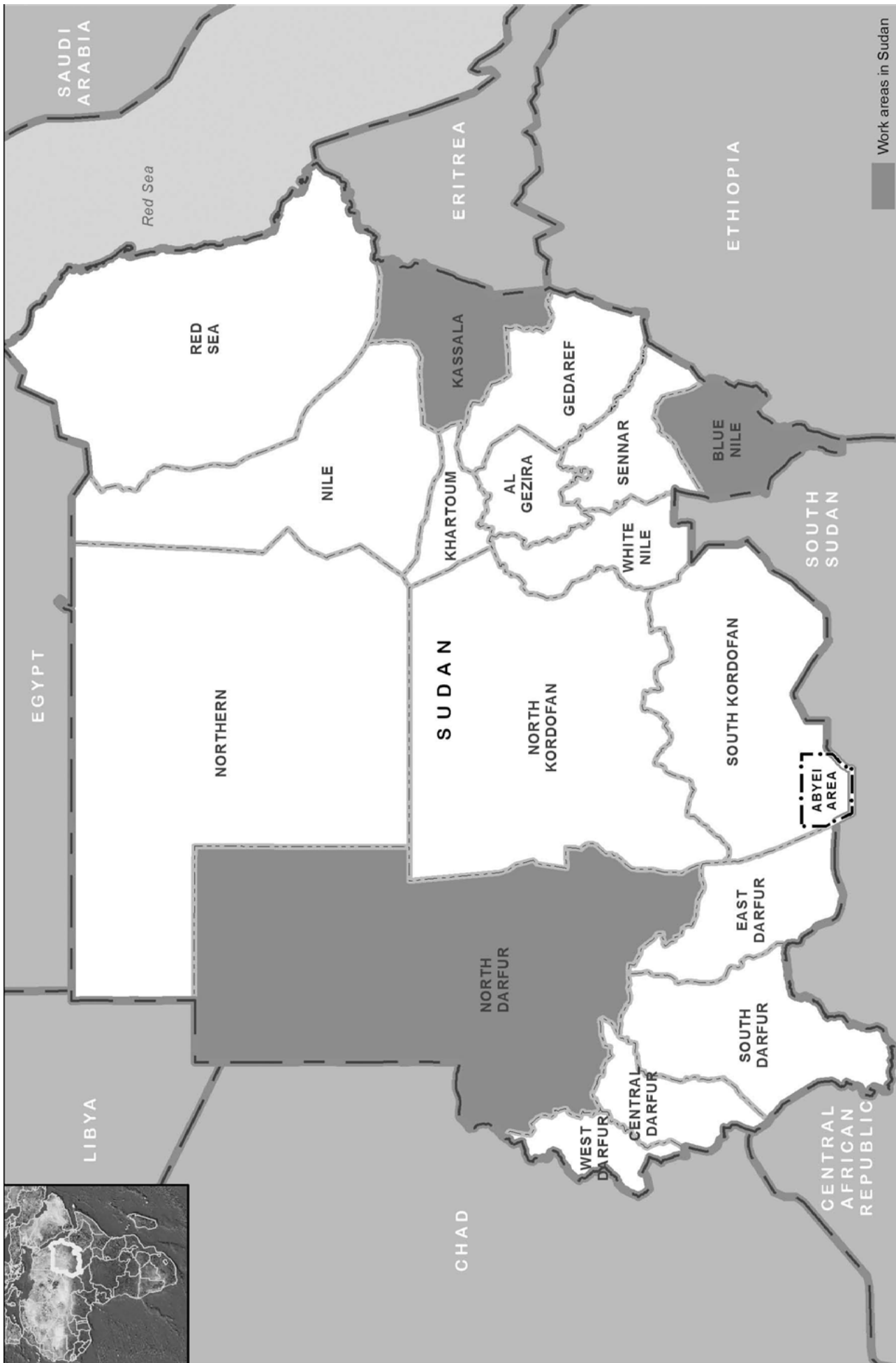
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A vaccination campaign in Kassala state. Source Sudanese red Crescent Society (SRCS) Kassala State



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Projection: Geographic Spheroid: WGS84
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Introduction

Livestock are a crucial livelihoods asset to millions of households throughout Sudan. Only recently have livestock interventions featured as a regular component of humanitarian response programmes, and this has prompted the development of the international “Livestock Emergency Guidelines and Standards” (LEGS) for the implementation of livestock interventions in disasters. Recognizing the value of livelihoods approaches, LEGS aims to promote more long-term thinking and response in emergencies. This approach is particularly important as climatic trends are causing more frequent and varied humanitarian crises, with pronounced effects on communities who rely heavily on livestock.

From the start, LEGS was a collaborative undertaking of multiple UN and non-governmental agencies that brought together a wide range of practitioner experiences and expert reviews, both of which ultimately have contributed to the guidance in the final LEGS Handbook. An international Steering Group comprises representatives from the African Union/Department for Rural Economy and Agriculture, the Food and Agriculture Organization (FAO), the International Committee for the Red Cross (ICRC), the World Society for the Protection of Animals (WSPA), and a LEGS coordinator, supported by Tufts University. The development of LEGS and its application in Sudan are described in more detail in the first report.¹

In Sudan, FAO, the Ministry of Livestock Fisheries and Rangelands (MLFR), and a number of international agencies have participated in LEGS Training of Trainers. In 2012, Tufts University and partners also supported a national workshop targeting personnel drawn from twelve State Ministries of Livestock, including Director Generals, Pasture Inspectors, and Veterinarians. These key professionals clearly recognized that the LEGS approach is both a means to wider livestock sector development and a tool to support technical staff and policy makers, as well as its obvious role as a means to improved practice in emergency response.

In follow-up to this workshop, Tufts FIC and partners have undertaken a study on “Livestock, Livelihoods, and Disaster Responses in Sudan.” Part One was a desk-based review of the livestock-based livelihood projects in Sudan, with a focus on the introduction of the LEGS approach as well as the characteristics and trends in recent emergency livestock

programming in Sudan, including an analysis of expenditure.

This study, Part Two, reviews three case studies of livestock emergency responses and current practice in three different disaster-affected states in Sudan, using the Livestock Emergency Guidelines and Standards. The broad aim is to develop three in-depth retrospective case studies of emergency-related livestock programme experiences in Sudan, in order to provide examples of Sudan praxis. Based on these case studies and the current LEGS guidelines, lessons are drawn to promote better practice by drawing lessons that can be used to improve future planning and implementation of livestock emergency response in both Sudan and globally.

Each case study starts with a background on the state and the context of the livestock emergencies, and what role the state plays in addressing the emergencies. The case study also provides an overview of the agencies (government and non-government) that play a major role in addressing situations related to livestock emergency interventions. The coordination and targeting of these interventions by the various actors are documented, along with a review of the responses to livestock emergencies in each state. The focus group discussion held with beneficiaries allowed the generation of information on the communities’ perspective on their situation. Where possible, efforts were made to capture information on the level of inclusion of environmental considerations in the implementation of the livestock emergency responses. Lessons are drawn from each case study in concluding remarks.

This report presents the summary findings from each of the three case studies, followed by a discussion of lessons learned and specific recommendations on the way forward.

Methodology

Identification and selection of case studies

The process of identifying and selecting case studies started at the national workshop in April, where recommendations were made, after due consideration, by the participants. They identified a number of international and national NGOs who have long experiences of implementing emergency programmes, and extensive knowledge of the areas where they are working.

¹ See Merry Fitzpatrick and Helen Young, 2013, “Livestock, Livelihoods, and Disaster Response: PART ONE: A Review of Livestock-Based Livelihood Projects in Sudan,” Feinstein International Center, Tufts University, UNEP Sudan, SOS Sahel Sudan, and Ministry of Livestock, Fisheries and Range.

The following criteria were considered in the selection of specific states to serve as case studies:

- Diversity in geographic coverage (i.e., covering east and west Sudan)
- A range of emergency settings, including both acute and protracted crises
- Diversity in institutional arrangements, ensuring both national and local institutions are well represented, including links to national and international coordination mechanisms
- A range of sectoral responses to ensure that the case studies reflect a range of interventions. Where possible, case studies have tried to capture local or community-based responses to crises and how these are complemented by agency responses.
- Choice of case studies was influenced by pragmatic concerns of fitting in the busy schedules of partner agencies, security, and access.
- Case studies include those programmes that have actively incorporated LEGS principles and guidelines into their programmes, and also those that have not.

In view of the above and based on round-table discussions held with diverse groups in Khartoum, and key informant interviews, the three states, Blue Nile, North Darfur, and Kassala, were identified for the case study. In each state, focal persons were identified from the state Ministries of Livestock to accompany the study team throughout the field work. These focal persons were also mandated with setting up meeting schedules for the study team with the relevant government representatives. Prior to the start of meeting key implementers of livestock interventions, the study team conducted a brief session in each state to clarify the objectives of the study, provide background to LEGS, and agree on a time frame and schedule.

Data collection and gathering of information by the study team was done through:

- a) Review of relevant project documentation and literature
- b) Key informant interviews with CAHWs and pastoralist groups/associations; with management and planning staff of NGOs; and with selected government officials (for example, State Ministers for Livestock and veterinary and livestock officers, range and water officers), and project staff from field sites

- c) Focus group discussions with representatives of beneficiaries from target localities
- d) Briefing session in the state with representatives from key government bodies and international and local organizations to present and validate key findings and recommendations.

Limitations

There are some limitations of this approach and challenges that were encountered during fieldwork that should be considered when reading the case studies. First, the wide geographic coverage including three states had implications for the time available in each. The security situation and need for permits further limited access to field-based projects and meetings with beneficiaries. In response, agencies endeavored to bring people to meet with the team in the state capitals.

A further limitation was the restricted availability of in-depth analysis and actual data, and there were no evaluations or impact assessment reports available to the team.² Most of the data were based on feedback from participants during the field studies and were therefore essentially anecdotal, making it difficult for the study team to critique their validity and reliability. So while the team could note examples of good practice and perspectives of local communities, this did not constitute “evidence-based success.”

² FAO has carried out an evaluation in 2012 of its CHF-funded projects implemented in Sudan since 2006 and shared key findings with the team by email.



Watering of camels in North Darfur. Source: Nomads Development Council, Khartoum

NORTH DARFUR CASE STUDY

Getachew Gebru, Hanan Yousif, Abdelhafiz Mohamed, Belihu Negesse, and Helen Young

Summary

North Darfur State has a history of drought and famine and, in the past decade, has experienced a complex emergency, prompting an international humanitarian response on an unprecedented scale. All livelihood systems have been affected, especially IDPs, many of whom lost livestock when they were first displaced. Other livestock producers, including pastoralists and agro-pastoralists, have also been seriously affected.

The case study identified more than 15 humanitarian agencies currently supporting livestock-based livelihoods projects in North Darfur. Of these, eight were interviewed: the International Committee of the Red Cross (ICRC), four international NGOs (Practical Action, German Agro-Action, Oxfam America, Cooperazione Internazionale), one regional African NGO (Africa Humanitarian Action), and two local NGOs (Dar Es Salam Development Association and Charity for Voluntary Veterinary Medicine Association).

Livestock responses

A diverse range of livestock-related responses are implemented in North Darfur, including: livestock

health services (including both preventative and curative activities); restocking of goats and sometimes sheep and donkeys; rangeland rehabilitation and pasture production; demarcation of livestock routes; provision of animal fodder; and provision of water.

Livestock health projects, including livestock vaccination and treatment, and training of Community Animal Health Workers (CAHWs) are the most common livestock responses in North Darfur State. Importantly, animal health services are also provided to IDPs.

Restocking is usually provided as part of a “package,” alongside training of paravets or CAHWs and provision of salt licks and free drugs. The experience of donkey restocking is probably unique, and reflects the importance of donkeys in Darfur as a mode of transport. According to ICRC, there remain outstanding issues regarding restocking, concerning targeting, species selection, numbers of animals to support livelihoods, and impact on markets.

Another unique livestock intervention not described in the LEGS handbook is the demarcation of livestock routes. This helps to ensure access for seasonal livestock migration and also contributes to positive farmer-herder interaction. It also attracts service provision along the route, especially water. That the local

administration and CBO (Community-based Organization) network oversee the routes helps to ensure they are open, and also that there is no damage to the farmer's crops by the moving herds.

Provision of fodder and water is another livestock-related response implemented in North Darfur. COOPI has distributed feed concentrates as part of flood response, and PA has distributed fodder (hay) to IDPs to bridge the gap during the hot dry season. While the provision of water is potentially the most important support to livestock producers, it can have negative social as well as environmental consequences unless well planned. A reported problem with dam construction in North Darfur was the increased water availability over five months, drawing pastoralist cattle herds away from their regular migratory routes, which caused the loss of crops of many farmers.

Coordination

The most important coordination mechanism for livestock-based responses is the Livestock Working Group (LWG) which evolved as a "sub-cluster" of the Food Security and Livelihoods (FSL) Cluster led by FAO since 2009. The FSL cluster continues to play an active role and is co-chaired by the State Ministry of Agriculture, with a UN agency co-chair.

CBOs, local networks, and the need for capacity building

Significant progress has been made in developing and supporting community-based institutions and networks, which is impressive given the constraints. Establishing networks and forming village/locality level committees can help promote social cohesion, co-existence, stability, and peace building among communities in the locality. In general, capacity building is needed to enable committees to better address the emergency issues as well as link the emergency interventions with long-term livestock development.

Targeting

Selective targeting of households or individuals is based on targeting criteria, such as women-headed households and the "needy" (based on the Zakat³ lists). While general, these criteria can be improved when applied by local committees in an open and transparent manner. In North Darfur, the overriding factor influencing selection was said to be the level of funding

available and the local security situation.

Monitoring and evaluation

There are no standardized monitoring and evaluation tools, and a variety of M&E procedures are currently in place. M&E is limited given the challenges of short project durations (one year for emergency livestock projects) and restrictions on access because of insecurity.

Anecdotal reports indicated that implemented livestock projects had positive results. Agencies described outstanding challenges and lessons learned, reflecting the technical expertise and experience in some agencies.

Procedures for targeting and participation were reasonably well developed, while more attention is needed on monitoring and impact assessment, as well as on harmonization of approaches on initial assessments, targeting, and implementation of interventions.

Donor funding has steadily declined over the past three years, despite a perceived increase in both chronic and acute humanitarian needs,⁴ as well as ongoing needs related to building resilience and transitioning to recovery. To ensure that funding decisions are evidence based, there needs to be more investment in monitoring, evaluation, and impact assessments.

1. Background

North Darfur State, in the western part of Sudan, borders Chad, Libya, and Egypt to the west and north, and the states of West Darfur, Central Darfur, South and East Darfur to the south. To the east, North Darfur shares a border with North Kordofan and Northern State. More than 50% of its area is desert, and rainfall gradually increases from the desert borders, where it is less than 75 mm, to 800 mm per year in the southern woodland savanna.⁵ Precipitation and climatic conditions vary seasonally and geographically within the state. The low rainfall savannah, south of the desert zone, is suited to pastoralism and further south agro-pastoralism, given the highly variable rainfall. Agro-pastoralists cultivate cereals (millet and sorghum) and groundnuts, and raise livestock. Livestock producers form a part of the wider population in North Darfur, and these are commonly camel and sheep pastoralists, found throughout the state.⁶ The main towns in North Darfur are Um Keddada, Kebkabiya, Mellit, and El Fasher, which is the capital of the state. The main water resources for the state are surface water, seasonal

³ Zakat is the payment made under Islamic law on certain kinds of property and used for charitable and religious purposes.

⁴ For example, in 2011, drought caused a heavy loss of animals, and the available resources were not enough to address the problem. An outbreak of septicemia in sheep in east El Fasher was also a crisis that caused heavy mortality.

⁵ MoARF report, and also M. O. El Sammani, ed., 1987, "Baseline Survey for Darfur Region," Institute of Environmental Studies (IES), University of Khartoum, and the Government of Darfur Region.

⁶ The population of North Darfur in the 2008 census was estimated to be 2,391,176, with 1,195,588 16 years of age or younger (Sudan Census, 2008).

streams, and *hafirs*⁷ and alluvial, deep sedimentary and weathered basement groundwater aquifers. Unlike other states in the region, North Darfur is not rich in surface water resources, due to relatively low and unreliable rainfall. Some large *wadis* (seasonal riverbed), however, have potential water sources.

According to key informants from the State Ministry of Animal Resources, the geographic position of Darfur State is disaster prone as a result of:

- The arid and semi-arid climate, which makes it prone to climate variability, including scattered and unreliable rainfall, and high incidence of extreme climatic events (flooding and drought)
- The prevalence of epidemic livestock diseases and the lack of animal health provision in most areas
- The aggravated crisis resulting from the Sudan civil war, the international conflict with Chad, and the internal Darfur conflict since 2003.⁸

The combination of conflict and insecurity, recurrent drought and acute floods, and prevalent endemic and epidemic livestock diseases severely affects the day-to-day life of the people, damaging livelihoods and hampering early recovery. As a result, the food security and livelihoods of IDPs, returnees, pastoralists/nomads, and rural resident communities are continually undermined by the prolonged disruption and loss of economic activities, challenges facing agricultural and livestock production, and limited income-generation opportunities.

Over the past 10 years, armed conflict has caused significant population displacement. Large populations of IDPs are currently living in camps and within both rural and urban hosting communities. In recent years, there has been a serious deterioration of basic services, especially in locations with high IDP concentrations.

Forced displacement to IDP camps usually meant that livestock producers (including farmers and agro-pastoralists) were unable to keep their herds intact. Many herds were looted, some animals died on the way, some die in the camps, and the few that reach the camps do not have adequate space.⁹ Some households were left with one or two milk cows, which are insufficient to build a viable herd.

While the impacts on the displaced are profound and

highly visible, less obvious and also critical are the effects on the livestock owners whose livelihoods depend on livestock migrations between their wet-season grazing areas in the north and their dry-season grazing areas further the south. Nomads report being displaced as a result of conflict, but they usually do not move towards camps; rather, they migrate to “safe” rural areas where other members of their tribe are located.

The state has suffered a long history of drought and famine, which has negatively affected livestock development.¹⁰ The major livestock epidemic diseases occurring in the state are HS,¹¹ sheep pox, PPR,¹² black quarter, and anthrax. Despite the instability due to conflict-related insecurity since 2003, there have been appreciable efforts by the State Ministry of Animal Resources and Fisheries to revitalize the livestock sector in collaboration with NGOs, UN agencies, and CBOs through: training of CAHWs and producers, restocking; vaccination campaigns; fodder provision; and demarcation of livestock routes. This has had positive effects and has lessened the negative impacts of recurrent natural disasters and protracted conflict.

Disaster-related livestock losses have severely impacted the pastoralists and has significantly affected livestock production by settled farmers as well as nomads. Respondents in the study pointed out that there are clear signs of increase in the desert area and domination of unpalatable grass species. As a result of conflict, changing land use, and reduced mobility and shrinkage of grazing land, livestock reportedly stay longer in one area, resulting in localized degradation. In some instances, the livestock concentrate in small areas in big numbers, which results in the spread of disease. Insecurity along the Chad border forces livestock movements via illegal routes, which exposes them to theft and raiding.

The expulsion of a number of international and national NGOs in 2009 reduced the capacity of the humanitarian community and contributed towards a gap in humanitarian responses in meeting the needs. Although there is an encouraging presence of national NGOs and CBOs (for example, El Fasher Rural Development Network), their institutional capacity remains low compared to the needs and demands of the complex emergency.

⁷ *Hafirs* are dam structures intended to collect surface water for cattle and other livestock, sometimes with a separate outlet for humans.

⁸ It was noted during the discussion that because of the poor veterinary services in Chad, there is added pressure on the Sudanese vet services to ensure that the animals coming from Chad are vaccinated and also attended to for diseases.

⁹ Households are allocated a 10 x 10 m area in the camp, which is insufficient space to keep animals.

¹⁰ For example through deaths of cattle and sheep which are less drought resistant; shortage of fodder and pasture; longer distance migration of livestock keepers searching for pasture and water; shrinking of pasture increased the risk of over-grazing, and localized degradation as a result of animals staying longer than usual in specific locations; combined with decreased production of grains and thus agriculture residues for use as fodder.

¹¹ Hemorrhagic Septicemia.

¹² *Peste des Petits Ruminants*.

The remote areas of North Darfur State—Mellit, Malha, and Dar Zaghawa—pose particular challenges to humanitarian response in terms of the security, logistics, and transportation requirements. Humanitarian access has become increasingly limited as a result of ongoing hostilities, which has seriously affected the local engagement and presence of humanitarian actors, especially INGOs.

2. Emergency response in North Darfur State

There has been a major international humanitarian response in North Darfur State, building on a long experience of famine relief that dates back to the seventies and eighties. In 2003, there were less than a handful of agencies in the entire Darfur region. This number mushroomed with the signing of the humanitarian peace agreement in early 2004. Out of the total of 15 or more agencies operating in North

Darfur, the team interviewed 8. These are listed in Table 1, with examples of activities by agency.

International Committee of the Red Cross (ICRC)

ICRC take a livelihoods-based approach and aims to intervene before the crisis or alert stage. At the beginning of the Darfur crisis in 2004, they focused on both IDPs and farmers; they soon discovered that the animal health system was not operating. They decided to support livestock vaccination among pastoralists and agro-pastoralists, the training of CAHWs and auxiliaries,¹³ and the rehabilitation of health clinics. As rural affected areas were not secure, especially for government personnel, ICRC decided to support the Ministry of Animal Resources and Fisheries, by providing private vehicles for them to travel in (as an alternative to identifiable government vehicles), so they then could take the lead in campaigns, etc.

Since 2005, ICRC has supported vaccination

Table 1: Types and examples of interventions by agency

Partners	Area of operation (North Darfur State)	Major activities
Government Agency		
State Minister of Animal Resources, Rangeland and Fisheries (SMoARF)	Across the state	All activities related to animals, rangelands, and fisheries
UN organizations		
FAO	Across the state	Animal health, CAHWs, restocking, rehabilitation of pasture and water points along migratory routes, livestock feeding
International NGOs		
Practical Action	Kuma and El Fasher rural	Animal vaccination and water harvesting
COOPI	Mellit, Malha, El Taweisha, and Al Lait localities	Animal vaccination, animal treatment, CHAWs training, restocking
Africa Humanitarian Action	Kelamando, Dar Es Salam, and Wada area	Animal vaccination, animal treatment, CAHWs training, restocking, cheese making, emergency livestock feeding (fodder)
ICRC	Dar Zagawa, Dar Es Salam, North Kutum	Animal health, CAHWs training

continued on next page

¹³ In 2007 they supported a three month intensive/residential Auxiliary Animal Health course at the University of Nyala, and targeted those CAHWs recognized for their good performance. A total of 295 were trained, of whom 230 are currently active or operational. Gold mining is drawing them away from the duties.

Partners	Area of operation (North Darfur State)	Major activities
Oxfam America	Kebkabiya and Shangil Tobay, Alsalam, and Abisihi localities	Goat restocking; provision of donkeys and cart, and in some cases horse cart; providing grant to support Income-Generating Activities (IGAs); distribution of seeds and tools accompanied by rural extension services; water provision for animals and irrigation via hand-dug wells, and use of water harvesting interventions.
Local NGOs and CBOs		
Dar Es Salam Development Association (DDA)	Dar El Salam and Kalimendo localities	Agriculture, livestock (restocking of donkeys, goats), women development and social services, establishment of livestock drug store
CVVA	ZamZam, Abu Shouk, and El Salam IDPs camps.	Animal vaccination, animal vaccination, CAHWs refresher training

Source: Food Security and Livelihoods cluster (FAO, 2012)

campaigns for all species of livestock in Um Buru and Kornoï localities (Dar Zagawa), Dar El Salam, Kalimando and Kutum localities. ICRC, in partnership with the State Ministry of Animal Resources and Fisheries, provided tailored training to CAHWs and Assistant Veterinary Technicians.¹⁴ ICRC, with SMARF, trained 58 AVTs and 95 CAHWs, supplied them with equipment and kits,¹⁵ and implemented a refresher course¹⁶ annually. ICRC also supports the rehabilitation of animal health clinics, which includes buildings, fencing, staff residences, and barns for keeping sick animals and for livestock treatment. Extension activities were further supported by: developing manuals; establishing CAHWs units, equipped with books and training materials; transporting vaccines, and establishing cold storage through the use of solar fridges. ICRC also supported

three LEGS trainings in 2011, 2012, and 2013.

Practical Action and three CBO networks

Practical Action (PA) has been operational in North Darfur since the eighties, and the current programmatic focus covers food security, livelihoods, environment,¹⁷ and capacity building. They have implemented a wide range of activities including: water harvesting techniques, distribution of seeds and other agricultural inputs, training (extensions agents, farmers, agro-pastoralists, pastoralists, paravets), support of midwifery, fuel-efficient stoves, rehabilitation of dams, *hafirs*, and watering points, provision of fodder for livestock in IDP camps, rehabilitation of pastures, and establishment of fire lines and demarcation of animal routes. Funding is from a range of sources, including, for example, the Darfur Community Peace and Stability Fund (DCPSF)

¹⁴ This is to fill the gap created by the lack of veterinarians in many of the localities; many left the area following the conflict, and ICRC and MARF agreed to find ways to fill this gap.

¹⁵ The contents of the kits vary. ICRC estimates the cost of a complete kit to be close to 700 USD.

¹⁶ The refresher course is designed to address the challenges faced in the field practice—disease, administrative issues, relations with the community, etc.

¹⁷ Some of the environment-related engagements of PA are: the introduction of fuel-efficient stoves; supplying liquid petroleum gas burners; supporting community forests and village nurseries for tree seedlings; and introducing alternative building materials that exclude straw and woods.

FAO, Common Humanitarian Fund, and UNEP.

PA works through and with networks of grassroots partners. With the ongoing conflict and insecurity in Darfur, access to rural areas is difficult for INGOs, and one way of reaching out to the rural communities is through CBOs, namely the Village Development Committees (VDCs) and Women Development Associations (WDAs). Practical Action supports their local partners and uses these CBOs as entry points for reaching rural communities. The VDCs and WDAs decided to establish a network, and all activities of PA were subsequently implemented through these networks. These have also served as entry points for other implementing agencies, including UNICEF, WFP, Oxfam America, and UNDP.

Three specific livestock-related interventions of PA and its network partners are livestock interventions in IDP camps, goat and donkey restocking, and demarcation of livestock migration routes.

German Agro-Action (GAA)

GAA was founded in 2001 as a follow-up to the initiative “world against hunger” by FAO, and its capacity and coverage increased following their response to the Darfur conflict. GAA activities in North Darfur include: emergency food distribution, support of agriculture and other livelihoods activities, school rehabilitation, shallow well construction for irrigation, and a range of direct livestock interventions (restocking, vaccination and treatment), and establishing a CAHW system through training and support of CAHWs.

Cooperazione Internazionale (COOPI)

COOPI has worked in Sudan since 2004, supporting healthcare and emergency response in the south of the country, while operating emergency projects in North Darfur, with a focus on food security and water supply, and, in parallel to that, the management of hygiene-healthcare services. Their projects aim to resolve relatively critical situations in rural areas affected by combinations of conflict, recurrent drought, environmental degradation, limited access to basic services, and extreme poverty.

After an initial short intervention phase in IDP camps in North Darfur, COOPI preferred to concentrate its efforts in rural areas on interventions aimed at increasing potable water supplies for humans and livestock, and improving livestock living conditions, as well as support to crop production and practical approaches to combating desertification, so as to “open the road” to rehabilitation. Protecting and increasing livestock production,

promoting diversified and regular sources of income, and improved environmental management for communities are all part of COOPI’s food security and livelihood sector intervention objectives. Specific livestock-related interventions since 2004 implemented by COOPI include: preventative and curative animal health activities; restocking; provision of livestock feed (concentrate, fodder/hay); and extension services on animal health and husbandry. COOPI is the main livestock implementing partner of FAO in the State and operates in three localities in North Darfur—Malha, Mellit, and Sayah.

Oxfam America

Oxfam America in Sudan started to support humanitarian programs in North Darfur, not as an implementer, but as a provider of support through partners—known as “Oxfam affiliates,” mostly via Oxfam GB. As well as funding support, Oxfam America provides technical support, as needed, through seconding experts to Oxfam GB or providing other technical assistance. Following the expulsion of Oxfam GB in 2009, Oxfam America faced a serious challenge, according to their Humanitarian Program Manager in North Darfur: “*We were faced with a challenge. ... we did not have the comparative advantage over Oxfam GB ... but situations forced us and we turned out to be implementers.*”¹⁸ Thus, Oxfam America became both an implementing and also a funding agency, with local NGOs, charitable organizations, and rural extension organizations as partners. Up to the end of 2010 the programme focus was on water, sanitation, and hygiene, while from 2011 Oxfam gave more emphasis to supporting livelihoods in an emergency response, with support to food security in IDP camps and in rural areas.

Oxfam America’s interventions have included: goat restocking, provision of donkeys with carts and, in some cases, horse and carts, cash grants to support income-generating activities, distribution of seeds and tools accompanied by rural extension services, water provision for animals, and irrigation via hand-dug wells, and use of water harvesting. Oxfam America supports three local implementing agencies, The Rural Development Voluntary Network (RVDN),¹⁹ the Darfur Relief and Reconstruction Agency (DRA),²⁰ and the Sustainable Action Groups (SAC).²¹ Based on the study team’s discussion with PA, Oxfam America, and the network coordinating bodies, the networks, and the NGOs are well connected and work in coordination. Moreover, the networks are working with the village-level management structures.

¹⁸ Personal communication with Mr. Mohammed Hamoda, Humanitarian Program Manager for North Darfur.

¹⁹ This is a local NGO that coordinates the 52 CBOs that report to it.

²⁰ In partnership with DRA, donkeys were distributed, along with carts.

²¹ SAC is a smallholder charitable society focusing on IDP and rural livelihoods.

Africa Humanitarian Action (AHA)

AHA is an African regional NGO established in 1994 at the time of the Rwanda genocide. Operating in 13 countries, its programme emphasizes rehabilitation, primary health care, reproductive health, and HIV/AIDS. In North Darfur, AHA targets IDPs with provision of animal health services in the form of vaccination and treatment, and provision of seeds and tools to vulnerable people in its operation area. AHA collaborates with WFP and FAO in the distribution of humanitarian food assistance and support of food security. Its main activities focus on dam rehabilitation, animal restocking, and product processing, e.g., cheese making, and treatment and vaccination.

Dar Es Salam Development Association (DDA)

The Dar Es Salam Development Association is a community-based organization, established in 1983, that aims to improve the livelihood of agro-pastoralists. The areas of operation are Dar El Salam and Kelamando localities, serving about 1,000 households in 120 villages.²² Their partners, past and present, included various organizations, and recent sources of funding are mainly from the Canadian embassy, Near East Foundation, the Netherland embassy, Practical Action, UNICEF, FAO, Oxfam America, Christian Aid, CORDAID, UNAMID, UNMIS, the British embassy, and WFP. The broad areas of emphasis for programs are agriculture, livestock, women's development, and basic social services.

Charity for Voluntary Veterinary Medicine Association (CVVA)

The Charity for Voluntary Veterinary Medicine Association (CVVA) is a registered local charity established in 2009 to fill the gap created as a result of the NGO expulsions. CVVA describes itself as “a members-led organization” in North Darfur consisting of 131 veterinarians. Its area of operation started in the IDP camps in El Fasher rural and Kuma locality, and there are plans to expand to other localities. The main objectives of CVVA are: to provide veterinary services in IDP camps;²³ reconstruction and or rehabilitation of veterinary clinics; and training of CAHWs, where the

SMARF provides the curriculum and training materials and CVVA provides the experts to deliver the training. CVVA's funding source includes FAO²⁴ and Practical Action.²⁵ CVVA is a member of the FAO Livestock Working Group and the OCHA coordination meeting, where CVVA provides input focused on the livestock situation in IDP camps including animal health and status of zoonotic diseases.

3. Review of livestock responses

A diverse range of livestock-related responses are implemented in North Darfur including: livestock health services (including both preventative and curative activities); restocking of goats and also sometimes donkey ; rangeland rehabilitation and pasture production; demarcation of livestock routes; and provision of animal fodder and provision of water.

Livestock health

Livestock health interventions include both preventative and curative activities, and these are the most common livestock response in North Darfur State.

COOPI implements livestock vaccination and treatment, and conducts training and equipping of CAHWs. Insecurity in the rural areas resulted in limited access for the government and NGO animal health staff. Consequently, the MARF veterinary services are confined to the areas around Malha, Mellit, and Sayah localities. COOPI is the main veterinary service provider to the rural areas of these localities. Government veterinary staff and CAHWs conduct periodic vaccinations, de-worming, and treatment campaigns.

CAHWs are selected using criteria agreed to by the community, local administration, and animal health officials from the target area. COOPI vet experts and SMLFR veterinarians jointly conduct the training using the standard CAHWs guidelines prepared by Federal MLFR. COOPI started by conducting the CAHW basic training in coordination with FAO and SMLFR, and, given the increased demands for CAHW services, COOPI in coordination with MARF have started advanced training for CAHWs, with additional

²² DDA villages are organized into village centers (CBOs), and each village center comprises of 7–14 villages. Each village center CBO elects one representative (man or woman) to represent their respective villages on the DDA management board. The role of these CBOs is to participate in planning and management of the project activities at their village levels. The management board discusses and agrees on project plans and follow-up implementation and resolves any problems that arise.

²³ These camps are Abu Shouk, Al Salam, and ZamZam IDP camps, located around El Fasher, and are the IDP camps in North Darfur. CVVA has three clinics in these camps; these clinics provide treatment, vaccination, and extension services to the community.

²⁴ FAO provides in-kind donation in the form of drugs and equipment (surgical kits and vet kits). It also provides logistic support in carrying out the vaccination and treatment work.

²⁵ CVVA has signed an agreement with PA to implement vaccination programs and also to treat the animals in El Fasher rural area, and also in Al Kuma locality.

modules on top of the basic training courses.

COOPI will conduct a free mass vaccination campaign for the last time in December 2012, before initiating a new cost-recovery system. Federal and State MLFR regulations are clear that vaccination activities in Sudan should be on a cost-recovery basis²⁶ except for areas and communities facing a severe emergency situation and unable to pay due to the disaster.

COOPI has started to establish a cost-recovery veterinary drug store to facilitate drug replenishment for CAHWS in Malha, Mellit, and Sayah localities. The cost-recovery system is designed to ensure continued access to drugs by CAHWs, and to make sure the system maintains consistent and sustainable services to the community. The drug cost-recovery system²⁷ is managed by CAHWs associations. COOPI, in collaboration with SMLFR, has conducted drug management training for five people from Malha and for 15 people from the Sayah locality.

ICRC's livestock health projects are implemented in close collaboration with SMARF, their long-term government partner. The activities are carried out on the ground by CAHWs with the active engagement and supervision of MARF staff. ICRC designs the programme and plans the implementation of the animal health intervention with MARF. Because the

CAHWs²⁸ are people from the rural communities, and MARF is a permanent institution, the exit strategy for ICRC is expected to be smooth. Once MARF has fully established itself, ICRC moves into new localities. It is also anticipated that, in the long run, opportunities will be created for private service providers and ICRC envisages supporting private veterinary stores.

Vaccination on a cost-recovery basis is an approach that ICRC and its partner MARF are envisaging in the near future. There is sufficient awareness, but the process needs to be introduced gradually. They propose to start with partial cost recovery and gradually move to 100% cost recovery. See Box 1 below. The speed with which this proceeds is dependent on the local context and extent of disaster, including conflict. Prior to the conflict of 2010 to 2011, there was optimism about moving forwards, but, subsequently, plans changed. In Nyala, according to ICRC, 50% cost recovery has been achieved. In the cost recovery process in Nyala, the CAHWs are tasked to prepare the community for the cost recovery, and they also administer the vaccination. The cost recovered will be collected by MARF and deposited in a separate account, and is transferred to the Veterinary Center for Vaccine Production. The vaccines will then be dispatched to MARF, which in turn stores these until needed.

Box 1.

Developing an exit strategy and the role of cost recovery

To some extent, ICRC's solidarity and support of the SMARF was thought to have created an expectation of ongoing support. Such emergency projects cannot be sustained indefinitely, so now ICRC has developed an exit strategy linked to cost recovery. ICRC are prepared to implement three consecutive years of vaccination at no charge, in order to reach a level of strengthened immunity, after which they move to full (100%) cost recovery in a phased way. They started vaccination in 2006, although vaccination campaigns have not been possible every year as a result of limited access. The Federal and State Ministries of Livestock have their own pre-existing cost-recovery mechanism, which they have been repeatedly advocating for despite the support of humanitarian organizations for free vaccination. Following several years of support of free vaccination campaigns, the ICRC shifted from free campaigns to the re-introduction of vaccination at a cost, in compliance with the Ministries' pre-existing cost-recovery set-up. The ICRC came up with a design for achieving full cost recovery within a five-year period, which started in 2012, in order to enhance the sustainability of vaccination campaigns.

²⁶ This is not a new policy or directive. It existed in the past and could date back to 2009/2010 and even earlier (personal communication, Belihu Negesse), although it was not as effective as it should have been due to various limitations or reasons, including the continued emergency, the capacity of the Ministry to follow up, absence of a system for operationalizing the cost recovery, and low understanding of its direct and indirect results in sustaining animal health service.

²⁷ The drug cost recovery is still functional under direct support and supervision of the MoARF. However, due to some problems, the Malha drug cost recovery is suspended, while the Mellit system is still functional. FAO and the livestock working group have taken the step to foster the establishment of the CAHWs network. This is ongoing and aims the process of establishing the drug cost recovery system. The legal process involves passing through HAC and other government institutions.

²⁸ ICRC has developed criteria for selecting candidates for CAHW training.

CAHWs were selected and expected to serve their respective communities. If the community is mobile, the CAHW moves with it. The criteria to participate in a CAHWs training included: between 18 and 40 years old; willing to serve the community; and willing to reside in the village. In addition to vaccination, CAHWs handle minor treatments such as de-worming activities. CAHWs are trained by an MLFR veterinarian and will report to the Ministry after graduation.

ICRC developed a follow-up three-month refresher training for the more active CAHWs. The existing CAHWs are screened using a questionnaire form filled in by both the CAHWs and the community representatives. Selection depends on the degree of engagement in vaccination campaigns, number of animals treated per day, diagnosis, and drugs given.

CAHWs who work under the cost-recovery system receive a one-time free drug and equipment kit. They, together with the vet, decide on the prices of the drugs and set markup of the profit for the services they provide. CAHWs will be organized in groups with three to four members, and the leader will communicate with MLFR. They provide disease outbreak information to the MLFR and also to the NGO that is working in their area. Previously, GAA functioned as a link between the CAHWs and the SMLFR.

The issue of the high dropout rate of the CAHWs was raised by some of the implementing agencies. Reasons for this include poor coordination of the livestock emergency response by different partners, lack of a standardized approach in the provision of animal health services, poor monitoring and support provided to the CAHWs after graduation, absence of drug replenishment to the CAHWs operating in remote villages, insecurity that drives the CAHWs to migrate to the main towns, engagement of the CAHWs for various emergency response activities by different humanitarian organizations which compete with their animal health services in their village of origin, and the absence of a drug supply control system. Animal drugs are found in local markets at a very low price and are of poor quality.

Animal health services for IDPs

Importantly, animal health services are also provided to IDPs. Although the area allocated for each household is small within camps, IDPs often keep a donkey, a few goats, and sometimes chickens. Very few IDPs have cows. The agency CVVA have provided veterinary services to this community free of charge, and local host communities also bring their animals for treatment and vaccination. Treatment services include de-worming for sheep and goats and vaccination against anthrax for donkeys, black quarter for cattle,

septicemia, sheep pox, and PPR for sheep and goats, and rabies for dogs. Zoonotic diseases, especially rabies because of stray dogs, are a big concern in IDP camps.

Disposal of waste from the slaughter of animals is a major problem in IDP camps. IDPs are reluctant to travel the long distance to the El Fasher slaughterhouse. Cost and security issues also play a role in not using the El Fasher slaughterhouse. Animals are therefore slaughtered in locations adjacent to the camp, which can cause serious human health problems. According to the LEGS handbook (p. 79), doing so can contribute to the spread of highly contagious diseases such as anthrax. There is a strong case for establishing slaughter slabs in IDP camps, which has not been done before.

Restocking

Goat and donkey restocking has been implemented in North Darfur for many years. The animals are usually distributed to target households as part of a package that includes training of paravets or CAHWs and provision of salt licks and free drugs to treat animals. This intervention requires a close collaboration between the NGO, the State MLFR, a vet, and the local village development committee. The beneficiary agrees not to sell, trade, or give away the animals, and in some schemes, is bound to pass on a gift of a certain number of offspring within two years. Based on interviews with the beneficiaries, this has been a success.

Donkey restocking

Donkeys play a crucial role in the Darfur region, providing a means of transport for people to their agricultural areas, markets, and water sources or to collect and carry firewood, fodder, and other natural resources. The donkey is referred to as the “backbone of the family,” and the vast majority of rural households own a donkey. As a result of displacement, many households lost their donkeys, and from the early stages of humanitarian response, donkey restocking has been implemented.

Donkey restocking activities are not commonly carried out as livestock emergency interventions. A unique exception in this case is DDA. It implemented donkey restocking in Dar Es Salam and Kalimendo localities. In this intervention, DDA targeted 300 of the 500 households, who were identified as “needy” based on an initial assessment. These target groups included disabled people, women-headed households, and those without any livelihood assets. Although a total of 300 households were targeted, close to 5,000 people in the locality directly and indirectly benefitted from the intervention, because of the many diverse functions of donkeys within the community. Another intervention related to donkeys carried out by PA was

emergency feed provision to donkeys in IDP camps during the serious shortage of feed in the hot dry season.

The donkeys for restocking, which were not bought in the same locality where distribution took place, were purchased at the El Fasher market, in the presence of the local vet officer. Recipients signed an agreement with DDA, agreeing that they would not trade, sell, or give away the donkeys as gifts. The animals were checked and treated by a veterinarian prior to handing them over to the households. The CBOs undertook periodic monitoring (every two to three months) and reported back to DDA. There was no specific format for reporting, and no systematic evaluation was done at the end of the project. However, based on qualitative information collected from the communities during visits by DDA staff, the donkeys made a significant contribution to serving the households. These animals also helped reduce the workload on women. A lack of participatory impact assessment means that implementers miss out on learning from mistakes, and the wider community of practice potentially misses out on examples of good practice like this one. The need for a participatory monitoring system that works well is one of the areas of attention identified by the study team.

Goat restocking

PA initiated a goat restocking project following a participatory needs assessment in El Fasher rural locality. Communities were affected as a result of severe drought and the assessment showed losses to livelihoods. PA approached the communities and discussed ways to help them recover. Their response was livestock intervention, and particularly goats, to help them regain their livelihoods. Goat restocking was chosen primarily because goats were the animal they owned before the drought, goats are considered to be easily manageable, they can subsist on the available feed resources in the locality, they are productive and can quickly multiply, and they can be a good source of immediate cash, and, additionally, produce milk.

PA facilitated the formation of an Animal Loan Committee (ALC) as a sub-group of the Village Development Committee. Members included a paravet and the Sheikh. PA trained the ALC in bookkeeping and process monitoring. Target groups were identified based on criteria jointly agreed by the VDC, ALC, and PA. The criteria included: female-headed households with children; orphans; widows; disadvantaged male-headed households, such as those where the wife has died and there are children. Each targeted household received five female goats, one male goat, and a donkey to help transport feed and water. The package also included paravet training and the provision of salt licks and free drugs to treat animals. The restocked

households cannot sell, transfer (gift or otherwise), or slaughter the goats given to them. They are also required to pass on a gift of six animals to a waiting family two years after they have received the goats. This restocking intervention is referred to as Kids-for-Kids, after the name of the funding agency. In total, 69 villages have received 32,000 goats as primary recipients, and through passing of the gifts, the number has reached 150,000 goats.

Restocking interventions were conducted by GAA in Malha, Mellit, Kutum, and Tina, from November 2009 to 2011. During this period, 8,000 goats were distributed to the communities and vulnerable households affected by the conflict. Procurement is made locally, and priority is given to indigenous species from the target area. This is to avoid additional pressure on the existing natural resources by bringing in additional animals from other areas. Moreover, the local species is adaptive to prevailing situations and there will be no risk of loss due to disease and hard weather conditions. An open tender was floated to interested vendors from the local market. The community leaders of the target area are responsible for the selection of households for the restocking. GAA prepared a set of criteria and discussed it with the community for their endorsement. The criteria considered the prevailing socio-economic, vulnerability, and crisis situation of the target areas. Thus, the targets were vulnerable households who lost more than three to five goats, with prior knowledge in raising livestock and women-headed HHs (priority to widows). The MLFR supported the restocking project activities by vaccinating the animals, training CAHWs on animal health and husbandry practices, and verifying the restocked goats have reached the beneficiaries by co-signing the restocking document.

GAA has a good knowledge of the community needs, given their experience working in the region. Moreover, the periodic project-based assessments, monitoring reports, and community discussions provide the backdrop for project design.

ICRC's plans for restocking

ICRC plans to engage in restocking as a recovery intervention in the emergency phase of response, but, before embarking on this, has undertaken an assessment to gain a full understanding of the ongoing process. They reviewed the ongoing restocking activities in North Darfur and shared the following issues and lessons with the study team:

- Targeting of beneficiaries is challenging, in terms of establishing whether the restocked animals bring about sustainable livelihoods for the targeted households, including, for example, IDPs and others
- Given the shift in species composition in some

areas, it is important to align restocking with those emerging trends

- The challenge of how best to determine the optimal number animals restocked that are needed to support livelihoods
- The possible effect of local procurement on price of animals in the market and how this might be stabilized. If livestock procurement is from outside the locality, adaptation becomes a concern.

These points capture some of the major outstanding questions regarding restocking, including: targeting strategies; selection of species to align with locally adapted breeds; numbers of animals to support livelihoods; and effects of livestock purchases on livestock prices. ICRC work shows that some implementing agencies are critically reviewing ongoing practice in order to learn and improve.

Rangeland rehabilitation and pasture production

Pasture production has been undertaken as part of “cash for work” projects, with a revolving fund component. For example, COOPI have implemented a revolving fund on pasture production and distribution of improved pasture seed to the community. Targeted members of the community collect hay in their village to be sold during the dry season when feed is scarce. The project has a dual advantage of providing income-earning opportunities from the cash for work and at the same time providing animal feed for livestock. The income from the sale of the hay is to be used as a revolving fund (village level) for replicating similar activities during the next harvest season.

Under the Darfur Community Peace and Stability Fund, PA implements two activities, namely rangeland rehabilitation and demarcation of livestock migratory routes. The range rehabilitation aims to cover more than 1000 feddans,²⁹ to establish fire lines so as to prevent manmade or natural fire hazards. It also trains communities and herders on rangeland management (identification of range condition, identification of palatable grass species, conservation of fodder for the dry season, methods of seed broadcasting, construction of fire lines) in partnership with the State Rangeland Department. Re-seeding of rangelands is another aim.

Demarcation of livestock routes

There are traditionally 11 migratory routes recognized for pastoralist animals in North Darfur. Demarcation of migratory routes for livestock is not only about opening the passage, but is also about creating a positive social interaction among the actors

affected by these. Consensus must be built between the nomads and pastoralists and the farmers on the use of the routes, and for provision of services along the route. A win-win situation needs to be created. The approach adopted by PA in villages adjacent to a demarcated route was to engage the main local actors in the development of an action plan through “Participatory Action Plan Development” (PAPD). Pastoralists were invited to join in prioritizing the problems that may arise in the use of the migratory routes.

Regarding the services to be supported along the migratory routes, water points need to be considered, so that they do not interfere with livelihood strategies and induce conflict. A clear understanding is needed on the use of the water points between farmers and pastoralists, including: access by village people to the water point; frequency, timing, and modality of use by various users; how long and when pastoralists will stay around water points; how many animals will be at the water point at any one time; and the management modality of the watering point. Thus the water needs of the pastoralists and farmers need to be estimated to ensure equity in use. This issue of equity always comes up as a result of water resource development in pastoralist areas. The experiences of PA and AHA show that there are good lessons to be learned from past experiences, including improving the participation and representation of the different groups when selecting and developing the water point. The water points developed along the migration routes should be managed jointly by the resident farmers, agro-pastoralists (semi-settled), and the mobile pastoralists.

Overall, the local administration and CBO network are mandated to oversee that the routes are intact and that there is no damage to a farmer’s field by the moving herds. The demarcation process involved pegging 2.5m long concrete posts. The erection of these posts coincided with the 2011 conference held by the *wali* (governor) to agree on the size of the migratory route, the size of the grazing area, “*sineyya*,”³⁰ and the size of the resting/sleeping areas for the livestock, “*menzila*.” Based on the agreement with the *wali* and the recommendations of the conference, the width of the migratory route was 150 m and the area for the *sineyya* was 5 km².

A demarcation implementation team was established at two levels:

- Level 1: A local team on the ground, which included a community member from the local

²⁹ Feddan = 4,200 sq m = 43% of a hectare.

³⁰ There are many “*sineyya*” along the route. They do not all have a watering point; if they do not, the herders use the water point used by nearby communities.

administration, a pastoralist from the local administrative, and a technical representative from the Ministry of Agriculture, Department of Range and Pasture.

- Level 2: Migratory Route Committee at State level. There are cases where it becomes difficult to allocate land for the migratory route. The Migratory Route Committee helps to overcome such problems. This committee includes representatives from the Native Administration, the CBO Networks, Practical Action, the government Locality Commissioner, the Range and Pasture Department, the Pastoralists Union and the Farmers Union representatives, and two pastoral NGOs.

Animal fodder

Distribution of feed concentrates has been implemented as part of flood response in northeast Darfur by COOPI, and distribution of fodder, in the form of hay, has been undertaken by PA to IDPs to bridge a major fodder gap during the hot dry season. The latter was part of a broader package of livestock response strategies.

Following the July 2012 flooding, COOPI, in coordination with and with support from FAO, conducted animal feed distribution to the most vulnerable community groups and households in their three localities. The animal feed is produced by the Kenana Sugar Company, and is fed in a pellet form.³¹ The intervention helped to save livestock in the aftermath of the flooding. The concentrated feed is also distributed under a cost-recovery system through CBOs. Malha locality was badly hit by flooding, and the community lost so many animals that it was difficult for them to make the repayments; therefore the cost-recovery system was relaxed. The cost of the concentrated feed was subsidized by FAO so as to reduce the burden of repayment on the beneficiaries.

The main aim is to establish a cost-recovery system and revolving fund to be used by the community during a scarcity of animal feed mainly in an emergency. However, transporting feed concentrates from Khartoum is too costly and difficult to replicate at community level. An alternative suggestion from COOPI and the local administration is to use the funds for purchasing local feed concentrates, such as byproducts from groundnuts, sesame, and other fodder and hay products. There were suggestions from some stakeholders that it would be better if the resources were used to restock vulnerable families who lost their livestock.

Livestock feeding interventions in IDP camps also showed promise. The primary intervention was the provision of feed to donkeys in IDP camps located around El Fasher, which was implemented as part of a package, including animal treatment and paravet training. Initial assessment, and focus group discussions with the camp administration committee, revealed that these IDPs lost almost all of their livestock, except donkeys, when they arrived at the camps. IDPs faced a serious problem of feed shortage during the hot dry season (May to July), and many were forced to sell the donkeys despite the fact that the terms of trade were not in their favor. As a result, women especially suffered as they had to walk long distances to fetch water. People also lost donkeys that had served as their sole means of transport.

Considering the versatile nature of donkeys, and to protect against asset loss, PA, along with its network partners, embarked on feed provision. Every household in the IDP camp with donkeys was listed and the list verified with the camp administration committee, the paravet, and the Sheik in the camp. Each animal was given three bundles of hay per week. Paravets (or CAHWs) trained by veterinarians from the Ministry of Animal Resources and Fisheries supported the activity and submitted a weekly report to the locality Veterinary Assistant. PA developed a system of process monitoring for this intervention.

Water provision for livestock

“Alongside the provision of veterinary care for acutely diseased animals, the provision of water in an emergency is probably the intervention that has the most immediate and indispensable impacts for livestock owners” (LEGS Handbook, p. 145). This is particularly so in Sudan, where the availability of these water sources as well as management and the secure utilization of the watering points is crucial for the very survival of the livestock assets.

Hafir dams

Hafirs are dam structures intended to collect surface water for cattle and other livestock. COOPI supports the construction of *hafirs* to address livestock water needs as part of their water sector activity. Selection of the *hafir* dam site is based on community agreement to avoid conflict between community groups. COOPI follows a “do no harm” and “conflict-sensitive” approach³² by equally consulting and involving all community groups on site selection and other arrangements for the *hafir* dam’s future use and management. For example, community boundaries for

³¹ <http://www.kenana.com/pagecontents.aspx?pageid=25#2>.

³² For using a standard “do no harm” approach, see: M. B. Anderson, 1999, *Do No Harm: How Aid Can Support Peace-or War*. Boulder: Lynne Rienner Publishers.

animal grazing and other livelihood activities are considered when deciding on the site of the *hafir* dam.

Before *hafirs* are approved for construction, an environmental impact assessment should be completed and the plan of the work approved. According to UNOPS the mechanized construction of the *hafir* must conform to basic principles.³³ Sudan's National Water Policy is still in draft; however, there is a National Water Supply and Sanitation Policy of 2009 that has relevance to *hafirs*. There are also government guidelines available, which provide guidance on the various types of water interventions (produced by the Public Water Corporation).³⁴

Water for people and their livestock: Shallow wells and surface water points

GAA constructed shallow wells and surface water points in three localities. Of the 160 shallow wells, 10 are for livestock production. GAA focuses on the rehabilitation of existing schemes rather than developing new water points, and has constructed or rehabilitated a *hafir* dam that serves both humans and livestock. The *hafir* dam is fenced with barbed wire, and the embankments are covered with tree seedlings. It serves 26 villages, and the water supplies last for more than five months. The *hafir* has two outlets: one for humans and one for livestock. This controls contamination of water as a result of livestock having direct contact with water in the reservoir. The *hafir* was constructed through a "cash for work" project that paid wages to the workers.

A reported negative impact of the dam construction was the increased water availability over five months, drawing pastoralist cattle herds away from their regular migratory routes, which caused the loss of crops for many farmers. As a result of this incident, the resident community rejected any further *hafir* rehabilitation in their village. On reflection, this was a result of partial consultation, i.e., targeting one group while ignoring others. It was in part a planning problem, and the NGO acknowledged an oversight in understanding the livelihood groups' dynamics. Six *hafirs* were planned, and three got funding. Of the three, two will be constructed in the far north of Kutum locality around the wet season grazing areas of the nomads. This will allow the nomads to stay longer, and thus give time for farmers to harvest their crops and so avoid crop damage and conflict between the two groups.

4. Emergency Coordination Mechanisms

There are several levels of international humanitarian coordination mechanisms in North Darfur State, with the most specific mechanism being the Livestock Working Group (LWG) established in 2009, which evolved as a "sub-cluster" of the Food Security and Livelihood Cluster led by FAO. The Humanitarian Aid Commission (HAC) participates in the FSL cluster coordination meetings. The LWG focus is on technical issues where a majority of the members are from technical organizations and NGOs working in the livestock sector. The HAC is consulted on different legal and security-related interventions and also to seek its approval and support.

The LWG meets monthly to update members on livestock-related seasonal changes, livelihoods and food security status, and on the state of agriculture. Agencies have the opportunity to make presentations on their activities. The sectoral focus of the LWG enabled more strategic discussions on the detail subsector activities. Since 2009, the LWG has been chaired by the Director General of the SMARF. The main tasks of the LWG are:

- To plan, mobilize funds and resources, and facilitate implementation of seasonal vaccination
- To make periodic assessments of the general livestock situation and report to the Food Security and Livelihoods cluster. The State Ministry prepares the agenda for the LWG.

This LWG coordinates a range of activities, including a region-wide vaccination campaign involving CAHWs, extending to the Chad border, South Darfur, and West Darfur. Other activities coordinated by the LWG included: livestock treatment; awareness raising about animal health and livestock management; risk management and income-diversification activities. Flooding during the 2012 rainy season in Malha locality caused a significant loss of livestock. The LWG responded by mobilizing resources for a COOPI intervention on animal health and feeding. The continued change or turnover of staff (NGO/UN) and absence of funding for livestock-related activities that compromise continued support to LWG are the impediments to effective contributions by the LWG.

³³ Annex I to ITB Section V Schedule 2 –Scope of Works Construction Of Mechanized Hafir Technical Specification, <http://www.unops.org/ApplyBO/File.aspx/Annex%20I%20to%20ITB%20Section%20V%20Schedule%202%20%E2%80%93Scope%20of%20Works.pdf?AttachmentID=18b83c9d-13e9-47b6-a127-b2c540aa54bc>.

³⁴ UNEP, 2012, "Environmental Governance in Sudan: An Expert Review."

Coordination with State-level Ministries

Within the State Ministry of Animal Resources, the Animal Disease Control department has responsibilities for addressing emergency situations, despite a lack of contingency plans or a specific budget or funding. Similarly, there were no dedicated emergency response personnel, but there was “qualified and equipped” staff that were able to engage in early response.

Technical coordination and implementation of livestock emergency responses was also reported between MARF and the Directorate of Planning in the Ministry of Finance. This specific linkage is a welcome trend, but needs to be nurtured to grow into institutional collaboration that is non-project based. A case in point is the Sudan Peace Building and Development Project under the Directorate of Planning in the Ministry of Finance. It is engaged in the demarcation of livestock routes and provision of services along the routes, including development and rehabilitation of water points and recruiting and training of CAHWs. MARF partners in the training of the CAHWs. Thus far, an area of 156 km² area has been rehabilitated. CAHWs were trained from within the nomad groups. Peaceful co-existence was achieved between the nomads and pastoralists on one hand, and farmers and settlers on the other.³⁵ There are plans underway to provide mobile clinics and ensure sustainable drug supply to these clinics and also to support the functioning of CAHWs. A network of the CAHWs called “Selam” (Peace Society) has been formed. According to anecdotal evidence reported by the Directorate of Planning, the Selam network benefited from the technical coordination carried out by the Directorate of Animal Resources and Fisheries and also coordinate with non-government organizations, including Al Massar Organization for the Development of Nomads.”³⁶

Individual agencies all reported coordination mechanisms with government ministries, including:

- As an NGO, GAA partners with the State Ministry and gets technical support and input on decisions when selecting various activities, including restocking, water harvesting structures (*hafir* dams and shallow wells), and CAHWs trainings.
- For livestock-related responses, ICRC is working closely and coordinating with the SMARF, with joint projects designed between the two. For agriculture, ICRC partners with the State Ministry of Agriculture.
- COOPI conducts its livestock emergency response in compliance with the Federal MLFR policies and strategies; for example, regarding vaccination

campaigns, training of CAHWs, establishment of cost-recovery drug stores, enhancing pasture rehabilitation and hay collection under a cost-recovery system, which promotes the government’s policies on early recovery and development and strategies for Darfur.

- AHA coordinates activities and implements these in partnership with the Ministry of Animal Resources at the locality level, CAHWs, and the village-level development committees.

Coordination at the level of the NGOs

Individual NGOs coordinate their activities with multiple institutions, including SMLFR, FAO as the FSL cluster lead, local authorities, other NGOs, and with communities and community networks. From the perspective of the NGOs, most coordination took place through the FAO FSL cluster. This cluster (according to DDA) served as a platform for information exchange, coordinating the process of financing/funding, identifying training needs, and assisting in proposal development.

Coordination also takes place between operational NGO partners; for example, DDA coordinates activities with Practical Action (PA) in getting technical cooperation, harmonization of the implementation approach, and in procurement of animals for restocking. The DDA livestock emergency response interventions are good examples of inter-agency partnership. Oxfam US supported the livestock drug stores; Practical Action partnered on the goat restocking, the “Kids for Kids” project; and donkey restocking and veterinary drugs supply was supported by FAO.

Practical Action uses “networks” as a means to coordinate as well as implement interventions smoothly. For ease of operation, these local networks formed a Coordination Committee consisting of nine people (three from each network). This Coordination Committee has been able to: access close to five million USD donors’ funding since 2003³⁷ and provided a revolving fund for small IGA projects; served as a seed bank and a tool bank in the Food Security interventions; and also acted as a rural financial institution providing loans. Recovery and post-recovery/development activities to be implemented by PA are discussed with the Coordinating Committee to define which of the networks should lead the activities, based on their geographic coverage. PA also partners with line ministries for technical support.

Oxfam America coordinates the implementation of

³⁵ Based on information from staff members of the Directorate of Planning in the Ministry of Finance.

³⁶ Ibid.

³⁷ Personal communication, PA.

projects in different areas, by posting a “resident officer” within each area of its operations. The officer works closely with the implementing partners—local NGOs, CBOs, and local government. Activities are planned together, and the officer helps in trouble shooting day-to-day emerging issues and also provides technical support.

Any arising policy and advocacy issues are addressed at the next level, i.e., at the cluster level. Oxfam America has also developed reporting modalities, including an online system called the CC Grant Tracker³⁸ (CCGT) that is adopted worldwide by Oxfam. It helps to standardize reporting online, and also provides notification to the officer of the pending visit dates, who visits, and the data to be collected during that visit. However, most of Oxfam’s local level partners do not have the skills to use this systematic tool, and so a conventional progress report is used. In the long term, capacity building for partners is needed to enable them to effectively use such tools.

5. Targeting

There are two levels of targeting: geographic targeting of specific areas or population groups (such as IDP camps or rural villages), and selective targeting of individual beneficiary households.

In North Darfur, the overriding factors determining the selection of geographic localities is the extent (scale and severity) of the emergency and more pragmatic considerations, including the level of funding available, the local security situation, and the local presence of NGOs. The actual number of beneficiaries is based on the available funding and donor interest. For instance, given the resource limitation, AHA is reaching/targeting 40% of the affected population within its operational areas. The AHA criteria for geographic targeting include: security, water point areas, and size of villages.³⁹ For targeting beneficiaries, AHA uses the following criteria:

- Women-headed households (identified based on information from local leaders and the Village Development Committee). The focus is on those households that had animals but lost them in the conflict. Emphasis also on women/wives neglected

by a husband who has more than one wife.

- Widowed
- The “needy,” based on the Zakat list. Refers to those who are identified as the neediest based on the Islamic Social Safety Net that operates at the local level in the villages.

Practical Action, to help facilitate a goat restocking programme, established the Animal Loan Committee (ALC) as a sub-committee to the village development committee, and targeting of individuals was made based on criteria jointly agreed upon by the VDC, ALC, and a representative of Practical Action.

In GAA projects targeting and selection of the beneficiaries is done by the community, and this is cross-checked by a GAA field officer and veterinary officer from the State MLFR. The number of beneficiaries that participated in the restocking project is far less than the identified needs in the target area. This is due to the limited capacity of GAA, combined with the declining funding from key donors for restocking projects and other livestock activities.

The GAA targeting criteria included: poor women and divorced or abandoned (female-headed HHs); enthusiastic, able and active; HHs having children, willing and committed; from the same area or village; committed to allocate part of her farm for growing fodder; and those who agree to the project conditions.

Specifications in targeting animals were developed with details to help in buying the right animals from the market. For goats, these included: local to the area, healthy, relatively big in size, and having a sound udder. For the donkeys, criteria included: healthy eyes, legs, and back, four to six years old, at least medium-sized, and the majority must be females.

6. Monitoring and evaluation

There are no standardized monitoring and evaluation tools. Each institution follows its own approach, and a variety of procedures is in place. FAO monitoring of projects is done at two levels: at the level of project implementers, where the partner monitors the field activities and reports to FAO; and at FAO level, where FAO staff make timely monitoring.

³⁸ CC Grant Tracker is a sophisticated, powerful, easy-to-use browser-based application designed to help charitable organizations, government departments, and NGOs manage and track grant applications efficiently. CCGT manages the full life cycle of grant administration, from initial application through evaluation, peer review, approval, committee decision making, scoring and ongoing financial management. See <http://www.cctechnology.com/pdf/CCTGeneralProductGuide.pdf>.

³⁹ The targeting principles are all-encompassing and do not marginalize any livelihood group, provided these are applied correctly. However, the definition of village and the mobile nature of the pastoralists can compromise their eligibility because of their temporary residence as a result of mobility. The targeting is believed to reach those pastoralists who maintain a presence with a few family members staying behind, and the traditional leadership includes them in the resource allocation and targeting practices, but does not necessarily include those nomads who have no permanent place of residence.

COOPI reported that the short duration of emergency livestock projects also meant that monitoring indicators were predominantly process and output indicators, rather than project impact. They also explained that the limited humanitarian space (or restricted access by project personnel) due to insecurity also contributed to poor monitoring of the project.

Monitoring and follow up on restocked animals by AHA involves three levels of participatory follow up. The first level is the village-level management committee, followed by the village Sheikh, and finally a responsible person from the family who received the goats. The person receiving the goats signs a distribution document, which in turn is signed by the Sheikh in the village testifying that a transfer was made, and finally the village-level committee representative confirms this. The monitoring information required for restocking included number and type of animal distributed to beneficiaries and information on whether the animals were vaccinated, tagged, and de-wormed. Some level of monitoring is, however, carried out by AHA twice a year, and by the local-level community development committee weekly and reported monthly. Impact assessments are not done, and the agency felt this would require capacity building on PIA.

PA and its network partners undertake joint monitoring through annual review meetings, which extend for about three days and include partner networks, NGOs, donors, and local government representatives. This is an opportunity to reflect on the proposed activities and what was achieved. PA believes that there “is room for improvement” on participatory monitoring. Process monitoring appears to be in place (for example, monitoring of the implementation of the emergency intervention including whether the beneficiaries have received the support they needed, and whether the technical support and training are organized in a timely fashion); however, more consideration needs to be given to impact assessment.

The Kids-for-Kids restocking programme is monitored periodically. The network representatives send out monthly monitoring forms to the paravets for them to complete and report on the status of the goats. This is followed by field visits to the villages by the VDC. The networks of CBO partnering with PA meet every three months to review the status of activities and also hold an annual review meeting to update all actors on progress. The PA networks of CBOs also take responsibility for monthly monitoring of activities and reporting to the joint body of the networks, the Network Coordinating Committee. This committee was developed by PA. The positive and explicit link between the para-vets, the networks, and the Ministry of Animal Resources at state and locality level is a positive development that will help to sustain the

Kids-for-Kids initiative.

The GAA project has set outcome indicators (in addition to process indicators), such as productivity of the goats, the number of offspring, milk production, and even mortality rate. Nevertheless, there has been no regular monitoring of the outcome indicators, and monitoring was limited to the process indicators. This was attributed to the short time-span of the project, and also less emphasis or an absence of human resources focusing on project impact monitoring.

Project monitoring and evaluation is not given sufficient emphasis because most of the emergency interventions are implemented over a short time period, and the funding time frame is so short that it does not warrant impact assessment/full evaluation. Also, in some cases, the M&E framework is not developed as part of the proposal, so there may be insufficient funds allocated for this.

7. Discussion and concluding remarks

Livestock-based livelihood responses have become an integral and successful part of the response to the needs generated by Darfur’s protracted conflict, and also to flood- and drought-related disasters in the area. However, the current interventions are not yet able to meet all the needs, especially of mobile livestock keepers, in large part because of the challenges of working in a protracted conflict-related emergency. Security issues have severe and self-reinforcing effects on local livelihoods, including restriction of movement, closure of markets, and lack of basic services. Security also restricts the access of the international community, entailing poor provision in inaccessible areas. There was extremely limited humanitarian space and access in some areas; for example, the northern corridor of Mellit and Malha. Thus, any future approach to bring positive change must go beyond technical interventions and consider practical solutions to the constraints people face.

A further issue is the fierce resource competition and escalating conflict between farmers and herders, which poses a problem and can undermine the outputs from the livestock emergency interventions.

As a result of these issues, agencies recommended the following strategies and interventions:

- Support for capacity building of local NGOs and CBOs to better coordinate and implement livestock emergency
- Rehabilitate and reinstate markets, foster peace and stability so that livestock are traded peacefully and loss is reduced
- Open up livestock migratory routes, and initiate conflict management to allow animals access to certain areas otherwise unused because of fear of conflict.

- Establish mobile clinics⁴⁰ to reach out to those who are beyond the reach of the fixed veterinary services.

Livestock interventions

Overall, the livestock interventions appear to have had very positive results, although evaluations and impact assessments were not available. In rural areas, the agencies implementing goat restocking felt that goats can bring about positive change in increasing income for women and empowering them in decision making. In Dar Es Salam, the goats were able to utilize the available browse, shrubs, and bushes, which would otherwise be left unused. Crop residues were also put into use.⁴¹

Community preferences for livestock varied; for example, goat restocking was successful in Malha and Mellit, but the community in Kutum preferred sheep. Generally, indigenous species were more acceptable to participants and performed well. These local breeds purchased from within the locality do not create pressures on the environment, as this will be redistribution or shifting of ownership within the same community. In other words, the animals have not come from areas outside the locality, and do not add up to environmental issues such as grazing pressure. Also, distribution of male goats should be avoided as they are not directly producing and are liable to be sold or slaughtered. Unless well planned, there are potential negative effects of goat restocking according to one agency, including the risks of environmental damage as a result of overgrazing and risk of looting to the livestock vendors and NGOs dealing with cash in insecure contexts.

Reseeding pasture may have some short-term benefits, but it may be difficult for the community to replicate. In general, distribution of improved pasture seed was not sustainable as the performance depends on multiple factors, including variability of rainfall and control of livestock to prevent damage during the vegetative stage, etc. Hay collection looks promising, although, if the scale of coverage increases, there may be issues of competition between people collecting hay from the areas that are common land and herders grazing. A conflict-sensitive “do no harm” approach may help to minimize this risk.

A number of similar issues were raised by agencies, regarding the provision of veterinary services, including:

- A shortage of vaccines during the peak vaccination season (due to a shortage of vaccine supplies nationally and the financial and logistical arrangements)
- The disconnect between the local level CAHWs and the local vet departments, which affects service efficiency and the CAHWs’ monitoring and reporting system, including early warning to prevent disaster
- Some agencies reported poor performance of CAHWs reporting on disease outbreaks. This weak link between local level and state departments has compromised the CAHWs monitoring system.
- The CAHWs would like remuneration for the services they provide and integration with the government veterinary services system. The cost-recovery initiative will help to address this.
- The lack of a disease identification laboratory (samples are sent to Nyala or Khartoum) which delays the veterinary service response to disease outbreaks
- Resource limitations, which were attributed to a shift in funding priorities among donors away from livestock-related activities.

Implementation

Regarding operational procedures, while some areas, including, for example, targeting and participation, were well developed, others such as monitoring and impact assessment needed attention. In addition, there is a need for harmonization of approaches on initial assessments, targeting, and implementation of interventions. Harmonization in targeting and consistent guidance will also help implementers avoid missing key livelihood groups.

The interventions have targeted the needs of the most vulnerable, and criteria for selecting these groups have been agreed on between the main stakeholders, including community representatives. One major gap was the need to strengthen the development and application of outcome monitoring and impact assessment procedures. As part of this, an exit strategy needs to be considered and developed, where appropriate. More emphasis is also needed on using the M&E results to influence resource allocation. The review of ongoing restocking activities in North Darfur by ICRC has been extremely helpful in identifying outstanding issues and lessons learned.

⁴⁰ Some view mobile clinics as too expensive and difficult to sustain, if they are seen as the only way to provide animal health services. Another solution is a combination approach of establishing permanent clinics that are more spread out (beyond just state capitals) in conjunction with mobile means of reaching out to communities.

⁴¹ This was the feedback from the agency concerned; however, it is well known that these natural resources are of value to livestock, so it perhaps needs to be corroborated whether they would indeed be left unused by livestock in the absence of the intervention.

A wide range of national, international, and local organizations collaborate in the implementation of livestock-related projects, including government bodies (federal- and state-level MARF and the Pastoral and Farmer Unions), ICRC and INGOs, and a range of NGOs. This requires a very transparent and detailed process of designing intervention, ensuring that roles and responsibilities are clear, and that the required inputs are available, including those from the state government, local government, and community. For the future, an important, potentially new direction is fostering links with the commercial sector, such as the private veterinary stores.

There has been significant progress in developing and supporting a range of community-based institutions and networks, ranging from the almost ubiquitous VDC to the networks of community-based organizations that PA work with. Establishing networks and forming village/locality level committees can help bring social cohesion, co-existence, stability, and peace building among communities in the locality.

In general, capacity building is needed for the diverse range of agencies currently operating in North Darfur so as to enable them to better address the emergency issues, as well as link the emergency interventions with long-term livestock development.

There are good examples of strong participation throughout the stages of assessment and project implementation. Participatory assessments, in particular, help to gauge the scale and type of loss, and then ensure the right intervention. PA has carried out a participatory assessment of the loss due to drought in El Fasher rural locality, during which communities opted for livestock intervention and, in particular, goat restocking. The “do no harm” and conflict-sensitive approach employed by COOPI were strongly participatory, equally consulting and involving all community groups on *hafir* site selection and future arrangements regarding management and use.

The agencies in North Darfur all strongly advocated for more donor support for livestock-based emergency response, given the importance of livestock production in North Darfur for the livelihoods of pastoralists and agro-pastoralists, and the importance of donkeys and small stock (like goats), to IDPs and others. As indicated in the first of these two reports⁴², donor funding has steadily declined over the past three years, and in North Darfur there has been a perceived loss of donor interest in supporting livestock responses to emergencies. As a result, there is increase in both

chronic and acute humanitarian needs,⁴³ and also ongoing needs related to building resilience and transitioning to recovery. In 2011, after the Doha Peace Agreement, the government of Sudan allocated 80 million SDG to support the emergency response in greater Darfur, a part of which was geared towards rehabilitation of pastures and the opening and demarcation of migration routes. Further funding allocated as a result of the recent donor meeting in Qatar is likely to raise the possibility of increasing support for livestock-based livelihoods.

There is a widespread view that the decline in donor funding for livestock emergency response is associated with the perception that livestock interventions are risky. No evidence during this study was found to support this assumption, in fact, quite the contrary. However, in order to ensure that funding decisions are based on solid evidence, there is an urgent need for more investment in monitoring and evaluation and impact assessments that can address the evidence gap.

⁴² Fitzpatrick, M. 2013. Livestock, Livelihoods and Disaster Response: PART ONE: A Review of Livestock Based Livelihood Projects in Sudan.

⁴³ For example, in 2011, drought caused a heavy loss of animals, and the available resources were not enough to address the huge problem. An outbreak of septicemia in sheep in east Al Fasher was also a crisis that caused heavy mortality.



Training of Community Animal Health Workers in Blue Nile State. Source: Mubadiroon Organization, Blue Nile State

BLUE NILE CASE STUDY

Getachew Gebru, Hanan Yousif, Abdelhafiz Mohamed, and Helen Young

Summary

Blue Nile State is an important dry-season grazing area for pastoralists and nomads from different states in the region. Eight major livestock routes cross it, and livestock move into South Sudan's Upper Nile State during the hot dry season.

Grazing areas for livestock have shrunk over the past thirty to forty years because of the expansion of mechanized crop farming, which led to problems for pastoralists, blocking routes and access to water sources. This situation has been further aggravated by drought, desertification, and overgrazing in the northern part of the region, which pastoralists use during the rainy season, and by insecurity due to the civil war in the southern part, which they use during the dry season. This combination of factors has led to the deterioration of pastoral conditions. The concentration of pastoral herds into reduced grazing areas and the extension of movement into Upper Nile State has intensified conflict, pitting pastoralists against farmers as well as intensifying conflicts among the various groups of the pastoralists themselves.

Livestock emergency interventions implemented in Blue Nile State include restocking, water provision, and veterinary health .

Restocking in Blue Nile has two objectives: to rebuild livelihood assets and to support the reintegration of ex-combatants, as part of a Demobilisation, Disarmament and Reintegration (DDR) programme. Restocked species included goats, sheep, cattle, and donkeys. Beneficiaries in both DDR and humanitarian projects often had a choice of livestock species as part of an assistance package.

At least four NGOs are implementing emergency restocking to address the impacts of drought and loss of animals due to conflict. The procedure for targeting the restocking beneficiaries varied by agency and also by type of restocking (emergency versus supporting DDR).

Practical Action (PA) has supported water for livestock in Blue Nile, through the construction of *hafirs* and boreholes along the corridors of animal routes, from 2007 to 2012. This was aimed partly at increasing animal survival and also served as a peace-building activity between herding and farming communities. PA also supported the construction of water troughs to ensure efficient use of water for animals.

Livestock health interventions include training of CAHWs and vaccination campaigns targeting livestock of both pastoralists and farmers. These campaigns are

carried out with NGOs operating in the different areas, in coordination with MAR&F, and with support by FAO.

HAC and FAO are the two main bodies responsible for coordination related to livestock interventions. The role of FAO's Food Security cluster coordination is to harmonize activities to avoid overlaps and duplications and to make decisions on technical issues. The FSL cluster has also developed contingency plans at the sector level, although there are not necessarily agency-level contingency plans nor donor funding available to support this.

Local agencies are required to "coordinate" or have technical agreements or contracts for implementation with multiple organizations. For example, Mubadiroon has up to 11 official agreements or coordination mechanisms. The established partnerships facilitated sharing of information and also promoted shared learning, thus avoiding repeating mistakes.

On the issue of the introduction and application of LEGS in the State, several LEGS trainings were conducted in Blue Nile State. In 2010, a total of 40 individuals were trained, comprising technical and field staff from the SMAARFFI, local NGOs, and international NGOs. While LEGS recommends assessments prior to implementation, the team found that preliminary assessment was not systematically done by the agencies involved. However, institutions carry out their own assessments and conduct baseline surveys, but these are not standardized and are carried out using a variety of indicators, with varying depth of analysis. While they may be helpful in informing the individual agency, they are not useful for comparative analysis between agencies. Another crucial aspect of data collection relates to monitoring and evaluation, which tends to be weak, and few, if any, evaluations are in the public domain.

National agencies like Mubadiroon are playing a very important role as the direct implementing partner of a number INGOs, but they face a considerable administrative burden as a result of multiple institutional relationships. While national NGOs have excellent local experience and knowledge, they would benefit from support from an international technical support team to promote best practice (as found in the LEGS manual).

Targeting strategies differed slightly between different agencies. The target groups for ISRA's emergency interventions are displaced people, war-affected female-headed households (widows) and orphans, and the community leaders take a lead in assessment surveys conducted before targeting. Practical Action targeted returnees, displaced people, poor people in the community, and female-headed households.

A positive aspect of the livestock projects was the

degree of participation and engagement of affected communities, through their leaders, CBOs, and Village Development Committees, particularly in relation to targeting of individual households. However, more participation is required in the design and monitoring and evaluation of the emergency/recovery interventions.

There were few instances, if any, of environmental considerations in the implementation of livestock emergency interventions, which is a potential area for improvement. Another shortcoming was the relatively weak monitoring and evaluation, and lack of consultation with communities about the choice of interventions. Despite this, the feedback from the beneficiaries during the case study was extremely positive regarding the presence of the agencies, and about livestock interventions in general.

Two focus groups noted a wide range of benefits from livestock projects, which extended beyond the individuals targeted. For example, there is increased awareness among pastoralists of their rights and growing awareness by government of the problems facing pastoralists, and of the issues of opening of livestock routes, training of CAHWs, and the need for a quicker response from the veterinarian authorities.

Cross-border livestock mobility, which has been disrupted by the ongoing conflict and protracted insecurity, was a crucial issue. The experience in Blue Nile of supporting the opening of livestock routes and supporting provision of water along these routes is unique and important to learn from.

The case study highlighted the need for capacity development in assessment methods, linked with response planning, including targeting and also impact evaluation. A recommendation is made for developing a repository of good practice that could be shared.

1. Background

Blue Nile State, in the southeastern part of the Sudan, has two international borders: with Ethiopia to the east and southeast, and with the Republic of South Sudan to the south. The State lies in the fertile woodland savannah belt of eastern Sudan, and receives significant rainfall from May up to October, with a longer growing season than more northern states in Sudan. The topography is characterized by vast clay plains, the Ingessana Mountains, and the Blue Nile River flowing from Ethiopia. The Roseires Dam on the Nile was the main source of hydroelectric power in Sudan until the completion of the Merowe Dam in 2010.

The economy of Blue Nile State is based on mechanized and traditional rain-fed agriculture, livestock production, and increasingly, on mineral exploitation. Farming is the main livelihood activity,

and when agricultural labor is included, is the principal source of food and income for about 75% of the population.⁴⁴ According to the Ministry of Livestock, Fisheries, and Rangelands (MLFR), the 2012 estimates of the livestock population in Blue Nile State are 2,038,072 for cattle, 3,937,799 for sheep, 457,496 for goats, and 14,253 for camels. Generally, Blue Nile State has fewer livestock than the western states of Kordofan and Darfur, but the exception is numbers of sheep. According to these estimates, Blue Nile has the second-largest number of sheep, after North Kordofan, which is somewhat surprising and could reflect marketing anomalies with the way livestock numbers are calculated.

Blue Nile State is considered an important dry-season grazing area for pastoralists and nomads and as a result receives animals from different states, which can increase the concentration of animals in the grazing areas. There are eight major livestock routes: four on the western bank of the Nile and four on the eastern bank.⁴⁵ Livestock usually start migrating north to Sennar in August and return south to Kurmuk, Gaisan, and Yabous. In the past, herders used to move down to South Sudan's Upper Nile State, although they have faced difficulties in recent years (see below).

During the period 2007–2012, according to the DG of the General Directorate of Livestock, Fisheries, and Rangelands, average rainfall declined, the duration of the dry season lengthened, and the rainy season was

shorter. Data for the period 2007–2009⁴⁶ in Table 1 shows a declining trend.

Refugees and IDPs as a result of protracted civil war (1983–2005)

Blue Nile State was a major battleground in the civil war between the Sudan government and the Sudan People's Liberation Movement (SPLM), causing massive displacement of peoples either into Ethiopia as refugees, or internally displaced within Sudan. Following the signing of the Comprehensive Peace Agreement⁴⁷ in 2005, it was anticipated that many of the refugees and IDPs would return to their places of origin.

In 2007, UNHCR and partners began to support the organized repatriation of 14,500 refugees and 15,000 IDPs, with another 15,000 returnees expected to return spontaneously. The arrival of returnees placed an additional burden on the host communities and the already weak infrastructure and services. The presence of landmines was a constraint to returns to agricultural activity, particularly in the south of the State.⁴⁸

Shrinking rangelands and increasing pressure on pastoralists

Livestock migrations in Blue Nile State have been severely disrupted in recent decades. The unfettered agricultural expansion on the clay plains has reduced grazing areas, disrupted pastoral routes, and blocked

Table 1. Monthly rainfall (mm) in Blue Nile State for the years 2007, 2008, and 2009

	Jan.	Feb.	March	April	May	June	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Average
2007	0	0	1	1.2	17.8	115	183	229	103	853	6	0	1509.7	125.81
2008	0	0	0	14.8	47.1	268	187	226	115	13.4	0	0	870.6	72.55
2009	0	0	0	7.2	1	93.2	105	218	122	5.5	0	0	551.8	45.98

(Source: Ministry of Environment, Forestry, and Physical Development, Meteorological Authority, Blue Nile State)

⁴⁴ <http://www.statoids.com/usd.html>.

⁴⁵ "Blue Nile Livestock Promising if Given Basic Needs," Interview, *Sudan Vision*, 27 April, 2013, <http://news.sudanvisiondaily.com/details.html?rsnpid=216777>.

⁴⁶ Central Bureau of Statistics (CBS), Statistical Year Book for the Year 2009, p. 19–20, <http://www.cbs.gov.sd/ar>.

⁴⁷ The official signing of the Comprehensive Peace Agreement (CPA), available at http://peacemaker.un.org/sites/peacemaker.un.org/files/SD_060000_The%20Comprehensive%20Peace%20Agreement.pdf, on 9th January, 2005 between the Government of the Republic of the Sudan (GoS) and the Sudan Peoples' Liberation Movement/Army (SPLM/A) brought to an end 22 years of protracted and costly civil war. The CPA established the framework for a just and lasting peace in the Sudan, and along with the subsequent Interim National Constitution (INC) and the Interim Constitution of the Southern Sudan (ICSS), established a new political, military, and economic system based on the values of justice, democracy, and human rights that gives a voice and role to all the people of Sudan. See <http://www.darfursf.org/docs/CPA-Summary-2010.pdf>.

⁴⁸ <http://www.sudanvisiondaily.com/modules.php?name=News&file=article&sid=19769>, accessed November, 2012.

access to watering points. This situation has been further aggravated by drought, desertification,⁴⁹ and overgrazing in the northern part of the areas, which pastoralists use during the rainy season, and by insecurity due to the civil war in the southern part, which they use during the dry season. This combination of factors has led to the deterioration of pastoral conditions. Furthermore, the forced concentration of pastoral herds into substantially reduced grazing areas on the plain, and the extension of movement into Upper Nile State, has intensified conflict, pitting pastoralists against farmers as well as intensifying conflicts among the various groups of the pastoralists themselves.⁵⁰ According to Professor Abdel Ghaffar, “The most serious threat to pastoral production in Blue Nile State rests in the growing inability of pastoralists to maintain their rights to grazing land.”

Pastoralists lack an institution to defend and uphold their rights in the face of expansion of agricultural schemes. According to the representative of the Pastoralists Union in Blue Nile State, pastoralists currently follow the routes or tracks of commercial trucks in their seasonal movements, which pass through the mechanized schemes. As observed by the range department in Blue Nile State, these routes/tracks are narrow. Incidents of crop damage are common, thus intensifying disputes between scheme owners and pastoralists.⁵¹

Secession of South Sudan and north-south border issues

The situation facing pastoralists worsened in 2010, in the lead-up to the secession of South Sudan in 2011 and the creation of a new international border between the two countries. This border spans more than 2,100 km and is crisscrossed by multiple livestock migration routes running from north to south in the dry season, and back to the north with the coming of the rainy season. Access to these dry-season pastures in South Sudan is critical to the pastoralists of Sudan. New conflict has flared up

along the border, and especially in Abyei, South Kordofan, and Blue Nile, all of which border South Sudan. FEWS NET reported in February 2013 that “conflict between Sudan Armed Forces (SAF) and Darfur rebel groups in Darfur and between SAF and SPLM-N in South Kordofan and Blue Nile continues to cause new displacement, threaten lives and livelihoods, and reduce access by humanitarian agencies.”⁵²

As a result of restricted access to South Sudan, livestock are said to have accumulated within Blue Nile State (not all originating within the State). The authorities have become aware of the huge burden and pressure on water and pasture resources. In his recent interview,⁵³ the Head of the Blue Nile State Pastoralists Union, when asked, “*What are your expectations after the signing of mutual cooperation agreement between Sudan and South Sudan?*” replied that he expects that “*Herders will be able to resume migration to the South, where they will stay for five months. They are eager to return and have huge hopes for the normalization of relations between the two countries. In fact, neither herders nor their animals know borders because they move to all directions in search of pasture and water. Therefore, we expect that the newly signed agreement will lead to the reopening of the border in favor of herders who are suffering because of South Sudan’s secession.*”⁵⁴

A positive development between tribes living on both sides of the border was the holding of a series of tribal conferences. Abdalla calls this an “*ingenious and pragmatic initiative*,” i.e., “*people-to-people diplomacy*” in a pastoral system. This initiative “has helped two communities, the Malual Dinka on one side and Messeriya and Rizeigat on the other, to conduct a series of tribal conferences during 2011, culminating in the signing of a joint protocol, stipulating in detail how they should share the natural resources over the river system, regardless of the political changes and hostilities between their two nations.”⁵⁵

⁴⁹ The UN Convention to Combat Desertification adopted a definition of desertification as follows: “Desertification is land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities.” This definition has been internationally negotiated and approved and should be acceptable to all as the operational standard. The Convention adds that desertification is caused by complex interactions among physical, biological, social, cultural, and economic factors. See http://www.unescap.org/dpad/vc/orientation/legal/3_desert.htm.

⁵⁰ S. Shazali and A. G. M. Ahmed, 1999, “Pastoral Land Tenure and Agricultural Expansion: Sudan and the Horn of Africa,” FAO. Also, A. G. M. Ahmed, 2001, “Livelihood and Resource Competition, Sudan,” in M. A. M. Salih, T. Dietz, and A. G. M. Ahmed, eds., *African Pastoralism Conflict, Institutions and Government*, pp. 172–193.

⁵¹ M. Abdel Ghaffar, 2009, “Transforming Pastoralism: A Case Study of the Rufa’a Al-Hoi Ethnic Group in the Blue Nile State of Sudan,” *Nomadic Peoples* 13, no. 1.

⁵² FEWS NET, 2013, “Border Insecurity Restricts Traditional Livestock Migration,” Sudan Food Security Situation Update, http://www.fews.net/docs/Publications/Sudan_FSOU_2013_02_final.pdf.

⁵³ Makil Mahil, 2013, “Blue Nile Livestock Promising if Given Basic Needs,” Interview, *Sudan Vision*, 12 March, 2012, <http://news.sudanvisiondaily.com/details.html?rsnpid=216777>.

⁵⁴ Ali Jammaa Abdalla, 2013, “People to People Diplomacy in a Pastoral System: A case from Sudan and South Sudan.” *Pastoralism* 3, no. 12, <http://www.pastoralismjournal.com/content/3/1/12>.

⁵⁵ Interview with Agriculturalist, Ahmed Mohamed Alawad Ali Abosas, Director, Department of Rangelands and Pasture, General Directorate of Animal Resources, Ministry of Agriculture and Animal Resources, Blue Nile State.

With the loss of rangelands to farming and the build-up of livestock in the region, in January 2012, a regulation was crafted by the Council of Ministers, and was released by the Blue Nile State Ministry of Agriculture, Animal Resources, Fisheries, Forestry, and Irrigation (SMAARFFI), under the title “Decision to Reduce the Agricultural Holdings,” thus protecting livestock routes and pasture. The document aims to reduce the extent of individually owned agricultural rain-fed land in Blue Nile State by 20%, and the mechanized farming/state certified agricultural projects, that had been allocated to investors, by 25%, for the benefit of herders who badly need livestock routes to access water and pastures. The objective of this regulation is to:

- Reduce the extent of agricultural farming land in favour of reopening the livestock routes
- Extend the boundaries of villages
- Protect and promote the forest reserve.

This initiative was one part of the solution to the problem of restricted cattle movements from north to south along the routes. The other part is opening up closed cattle corridors.

2. Emergency response in Blue Nile State

A wide range of agencies are engaged in food security/livelihoods emergency response or in supporting livestock interventions in Blue Nile State, including government bodies, UN agencies, INGOs, national NGOs, CBOs, and community representatives (see Table 2).

Government initiatives

Blue Nile State government authority has brought in regulations to reduce the pressure of agriculture on cattle routes, as described above. The Livestock Department (MLFR) are directly involved in the opening of closed cattle routes (under the project funded by FAO SPCRP-EU⁵⁶), demarcation and rehabilitation of cattle routes, construction of new water points and rehabilitation of old ones, and improvement of rangeland through seed broadcasting along the cattle routes to improve the quality and quantity of pasture. They are also working with UN agencies and local and international NGOs to address emergencies.

United Nations: Food and Agriculture Organization

FAO work with government partners and international and national agencies in the coordination and implementation of food security and livelihood projects. They have actively supported best practice; for example, by providing implementing partners with training on monitoring and evaluation, which, according to one partner, contributed to better reporting and evaluation.

FAO indicated that future plans include: re-opening areas, where the demand for opening up “unused” rangeland exists, by establishing water points within them, and where shortage of water for animals has been identified (Al Tadamon area); allocation of 30,000 new *feddan* along the cattle routes for use as annual pasture; and conserving and storing crop residues and *dura* (sorghum) as drought/dry-season feed resources. The land previously allocated as cattle routes that had been blocked by extension of crop/agricultural farming by either individuals or companies is now demarcated and reopened and rehabilitated with water sources and is earmarked as cattle routes.

Islamic Relief Agency (ISRA)

ISRA is an international NGO that was founded in 1981 in Sudan, with the aim of providing assistance during time of emergency. It has 10 sub-offices in Kassala, Blue Nile, White Nile, West Darfur, and River Nile. In the Blue Nile State, ISRA operates in six locations, including Damazine, Roseires, Tadamon, Gizan, Kurmuk, and Bau. The principal target groups are displaced people, war-affected people, female-headed households, and orphans. ISRA is an active member in the food security sector and works closely with FAO in the distribution of improved seeds and hand tools as well as conducting training on fisheries—processing and boat building from locally available materials. ISRA is also involved in DDR⁵⁷ with UNDP (see Table 2).

Practical Action (PA)

Originally, Practical Action was known as the Intermediate Technology Development Group (ITDG). They officially opened an office in Sudan in 1992, and today have projects in North Darfur, Kassala, and Gedarif States in the east and Blue Nile State in the southeast. In 2005, ITDG changed its name to Practical Action, to better reflect its ethos as a development organization aiming to improve the lives of the poor by promoting working together and applying technology as

⁵⁶ The Sudan Productive Capacity Recovery Programme-EU is a partnership between the European Union (EU) and the Government of Sudan. The programme aims to build a strong and sustainable agricultural sector as the foundation for a food-secure Sudan.

⁵⁷ “The Comprehensive Peace Agreement (CPA) calls for the Demobilisation, Disarmament and Reintegration (DDR) of former combatants and special groups, and the promotion of community security and arms control. UNDP Sudan, 2012, Interim Disarmament, Demobilisation and Reintegration Programme for Sudan, available from <http://www.sd.undp.org/projects/cp4.htm>. See also: Nichols, Ryan, 2011, “DDR in Sudan. Too Little Too Late?” Small Arms Survey, Graduate Institute of International and Development Studies, Geneva, <http://www.smallarmssurveysudan.org/fileadmin/docs/working-papers/HSBA-WP-24-DDR-in-Sudan.pdf>.

appropriate. PA Sudan focuses on four themes or programmes: access to clean energy; agriculture, markets, and livelihoods; disaster risk reduction; and urban water, sanitation, and waste management. As a development organization, PA emphasizes working with a network of CBOs, who are the primary implementing partners in Blue Nile. During emergencies, PA supports CBOs to establish links with relief organizations, especially during rapid-onset emergencies such as drought. PA engages directly in lifesaving operations.

World Vision International (WVI)

World Vision involvement in Sudan dates back to 1993 and includes relief, recovery, and development

programmes. WVI extended its scope of operation in Sudan to include Blue Nile State in March, 2006 to address more “needy people, including children through its transformational development programmes” and humanitarian assistance. WVI provides agricultural products to farmers within the IDP camps and their host communities to improve food security in targeted areas. Products distributed include chicken feed, treadle pumps for irrigation, tools, livestock, seeds, and seedlings. In addition, WVI has been involved in tree planting activities to reduce the environmental degradation caused by the massive displacement of people. They are also involved in the establishment of demonstration plots for crops and nurseries through the provision of facilities and training.

Table 2. Agencies implementing emergency livestock response-related activities in Blue Nile State

Agencies	Areas of operation	Role and activities
State-level government:		
Humanitarian Aid Commission (HAC)	All localities	Coordination
Ministry of Animal Resources: Livestock Department; Range and Pasture Department; Department of Veterinary Services	All localities	Technical support: vaccination and training of CAHWs
University of Sennar, Extension and Consultation Services Centre ⁵⁸	Damazine, Roseiries, Tadamon, Gizan, Kurmuk, and Bau	Training of CAHWs
UN agencies:		
Food and Agriculture Organization of the United Nations	Across the operational areas of partners	Coordination and M&E, distribution of seeds and hand tools, vaccination and treatment of livestock, restocking, rehabilitation of water points and pasture along livestock migratory routes, training of CAHWs, etc.
UNDP (supporting DDR, with the DDR Commission of Sudan)	Damazine, Roseiries, Tadamon, Gizan, Kurmuk, and Bau	Selection of CAHWs and beneficiaries, support on reproductive health and HIV/AIDS under DDR, sheep and cattle restocking

continued on next page

⁵⁸ Contracted to undertake training of CAHWs by ISRA.

Agencies	Areas of operation	Role and activities
International NGOs:		
Islamic Relief Agency	Damazine, Roseiries, Tadamon, Gizan, Kurmuk, and Bau	Distribution of improved seeds and hand tools, training on fisheries—processing and boat building, Disarmament, Demobilisation and Reintegration (DDR) with UNDP: -training of CAHWs, and -restocking of ex-combatants
World Vision International	Bau, Ghesan, Kurmuk	Restocking , training of CAHWs, distribution of fodder seeds, construction of water troughs
Practical Action	Rosseries, Tulunghush, Baghees	Facilitation and networking among CBOs, focus on food security and livelihoods, water, and sanitation; livestock-related programmes are restocking, animal vaccination, and training of CAHWs
National NGOs:		
Mubadiroon	Kurmuk, Bauw, and Ghesan localities	Fisheries, sheep restocking, DDR
Local bodies and community representatives: CBOs and Pastoralists Union	Kurmuk, Bau, and Ghesan, Damazine, Roseiries, Tadamon	Grassroots-level partnership in feed provision, water provision, demarcation of livestock migration routes, peace building between herders and farmers

Mubadiroon

Mubadiroon⁵⁹ is a national NGO established soon after the signing of the CPA in 2005, to address the widespread impacts of the war throughout Sudan. It has opened nine branches throughout the country, four of which are in the Blue Nile State. Mubadiroon focuses mainly on food security and livelihoods, and implements projects under a range of modalities, including humanitarian, DDR, and development, with humanitarian response predominating. Livestock emergency response falls under their food security and livelihoods programme, and includes restocking, training of CAHWs, and training on livestock

husbandry practices.

Mubadiroon has also completed an Environmental Impact Assessment (EIA) and a feasibility study on fish farming in the Blue Nile State. The objectives of the EIA were: to predict the environmental impact of the project; find ways and means to reduce adverse impacts; shape the project to suit local environment; and to present the predictions and options to the decision makers. Mubadiroon are also providing reintegration services to demobilised ex-combatants in the Blue Nile State, as part of the UNDP DDR project.

⁵⁹ Mubadiroon means “initiatives” in Arabic.

3. Review of livestock responses

Livestock emergency interventions implemented in Blue Nile State included restocking, veterinary health, and water provision. Restocked species included goats, sheep, cattle, and donkeys.

Restocking

Restocking is one of the most common humanitarian responses for supporting livestock in emergencies. According to the LEGS Handbook, *“The provision of livestock is part of the LEGS livelihoods objective of rebuilding the key livestock asset of disaster affected communities, and falls within the immediate post disaster and recovery phases of an emergency”* (p. 187). Over and above the function of restocking in building livelihood assets (see Box 1), restocking was also used as a vehicle to promote post-conflict peace and stability. In this respect, restocking has been implemented by several agencies to support the reintegration of ex-combatants, as part of a Demobilisation, Disarmament and Reintegration (DDR) programme. According to Abdalla (2013) not all ex-combatants were included in the DDR project: *“Following the Comprehensive Peace Agreement for Sudan, signed in 2005, thousands of ex-combatants on both sides [north and south Sudan] were not absorbed by the disarmament and demobilization projects. After a while, they took up arms and became a constant danger to peace, through acts of banditry. They sometimes succeeded in drawing the two communities into wider tribal and sometimes even state conflicts. Providing alternative employment opportunities for the disgruntled ex-combatants is an important way to safeguarding and sustaining peace.”*⁶⁰

Mubadiroon, WVI, ISRA, and Practical Action have implemented emergency restocking to address the impacts of drought and loss of animals due to conflict. The restocked species included goats (WVI, PA, and ISRA); sheep (Mubadiroon, ISRA); and donkeys (Mubadiroon). The restocking of donkeys by Mubadiroon targeted women in IDP camps, as a means of transporting water carts to help to reduce the workload on women in fetching water, and also as a means of income generation.

In the DDR projects implemented by ISRA, beneficiaries received a choice of livestock species, as part of an economic package that included animals, food, drugs, fodder, and water containers, plus training on animal husbandry and management. Beneficiaries

had also choice between: cattle (3 females, 3–5 years old); 9 sheep (8 female and 1 male), or 10 goats (9 female and 1 male). In addition, they each received: two 90 kg bags of sorghum, nine 25 kg bags *Kenana* fodder, 20 kg mineral salts, two jerry cans, plus vaccination and livestock drugs. WVI in its emergency restocking programme during 2008/2009 aimed at 287 vulnerable households, each receiving 3 female goats to be bred with Holland Saaneen male goats.

The procedure for selection of beneficiaries varied by agency and also by type of restocking (emergency versus supporting DDR). Selection for restocking involving the ex-combatants was done by ISRA, Mubadiroon, and the UNDP and DDR joint offices in Damazine, and mostly included the demobilized soldiers of the Sudan Armed Forces (SAF), Popular Defense Forces (PDF), and Sudan People’s Liberation Army (SPLA). A DDR Counseling Officer provided advice and support to enable each beneficiary to choose the restocking package of preference. Other restocking activities carried out by PA, WVI, ISRA, and Mubadiroon carried out assessments, community engagements, and involved Village Development Committees in identifying the beneficiaries. WVI, in its 2008–2009 emergency restocking, selected the beneficiaries with the help of the Community Development Committees (CDCs), and the community leaders (Shiekh and Omdas) who understand the vulnerability of their community members. The beneficiaries were registered; the lists were verified together with the CDCs and leaders and WVI staff to ensure the mentioned criteria of selection were applied and the target beneficiaries were the poorest.

In all cases, the restocking included training of beneficiaries in animal husbandry and management⁶¹ and provided associated training for CAHWs. For instance, WVI trained beneficiaries in livestock husbandry and disease management, as well as trained and equipped paravets with kits and bicycles to provide support to 2,500 farmers in the project area. Thus the livestock belonging to the 287 households that benefitted from the goat restocking were vaccinated and treated during planned vaccination campaigns with the Ministry of Animal Resources.

Beneficiaries received a choice of package between either: cattle (3 females, 3–5 years old), 2 bags (90 kg) of sorghum, 9 bags (25 kg) *Kenana* fodder, 20 kg

⁶⁰ Abdalla, “People to People Diplomacy.”

⁶¹ The training curricula encompasses the following subjects: systems of animal production in Sudan and types of animals (cattle, sheep, and goats); husbandry of young and mature animals; animal nutrition and feeding: how to feed animals properly, types of feedstuff, how to prepare concentrate and ration formulation; reproduction: signs of heat detection in cows, pregnancy, and parturition; milk production in Sudan and factors affecting it; and animal health: the most important animal diseases affecting the livestock in Sudan, the causative agents, treatment and control measures. Training was supported with illustrative material containing CDs and information leaflets for some animal diseases and general knowledge on the use of some veterinary drugs and vaccines in the field.

mineral salt, 2 jerry cans, and vaccination and treatments; or 9 sheep (8 female and 1 male), 2 bags (90 kg) of sorghum, 9 bags (25 kg) *Kenana* fodder, 20 kg mineral salt, 2 jerry cans, and vaccine and treatments; or 10 goats (9 female and 1 male), 2 bags (90 kg) of sorghum, 9 bags (25 kg) *Kenana* fodder, 20 kg mineral salt, 2 jerry cans, and vaccination and treatments. Beneficiaries selecting sheep and goats were supported with the construction of animal shelter near their homes.

Source of animals purchased and the procurement process for the DDR and emergency restocking

For the DDR restocking project a veterinarian plus members of the “ex-combatants committee”⁶² were involved in the process of animal selection and purchasing, where all the provided animals met the beneficiaries’ preferences, including good teats/udder condition, adapted to the locality, free of observable disease symptoms, and attractive body condition. All the animals were then ear-tagged, vaccinated, and drenched by a veterinarian.⁶³

Restocking was considered an innovative way for integrating the ex-combatants, thus paving the way for peace and stability. According to ISRA, the DDR process, accompanied by restocking, prevented the ex-combatants from engaging in environmentally damaging income-generating activities, like cutting

trees and making charcoal out of them. The re-integration training is also intended to pave the way for re-entering civilian life.

Animals for the DDR and emergency projects were procured by a procurement team from the local market. One of the local markets is North Damazine. Local purchase supports local markets and avoids the logistical, health-related, environmental, and financial problems associated with the movement of animals from distant areas.⁶⁴ The procurement is done by a committee of people representing the beneficiaries, the local government, a veterinarian, and a representative of the Village Development Committee. With Mubadiroon, the animal purchase was supervised by a representative from Mubadiroon, SMAARFFI, and a representative of the beneficiaries. The choice of the species of the animal used in the restocking was based on the approval of the beneficiaries themselves.

Prior to the implementation of emergency restocking interventions, agencies (WVI, PA, Mubadiroon, ISRA) carried out an initial assessment. This initial assessment helped identify the level of vulnerability as well as the needy community members the local village organizations and networks that can engage in the implementation of the emergency restocking.

The numbers of animals restocked varied by species as well as by the available funds. The agencies did not have agreed standards on optimum viable herd size for

Box 1.

Feedback from a Practical Action restocking beneficiary⁶⁵

Hawa Salih Barfa is a 38-year-old widow from Baw locality, Blue Nile State, Sudan. She has five children; her husband died of illness, and she has to struggle to feed and support her family.

Hawa was happy and relieved to hear that she had been selected by the Village Development Committee (VDC) to receive four milking goats through the PA restocking project. She was lucky because most of the goats she received were pregnant. Hawa, who lives in Baiges village, said she is hoping now to be able to produce additional goat by-products like local cheese and butter, take part in income-generating activities to diversify her source of income, and create a better life for her family. She says she will also use proceeds from the goats to send her children to school. The goats received from the project have now grown to a flock size of 16 goats during a period of five years. Hawa said surplus by-products including hides, milk, and ghee are sold for cash or traded for other goods and food. Hawa sold two male goats for 350 SDG. The money was used to attend to the household needs, and to attend to the medical needs of her son who suffered from malaria. Hawa said she is now hopeful for the future and is confident that she may be able to support her family, and she was very positive regarding the restocking activity.

⁶² This committee consisted of five people selected from amongst the ex-combatants. This committee is not for livestock-related interventions only but aims to be the frontline group that raises the concerns of the ex-combatants and also addresses these with the appropriate body. In this case, a member of the ex-combatant committee joins in the animal selection and procurement to ensure that there is transparency in the procurement procedures and also that the animals are managed well and their health attended to, prior to distribution.

⁶³ All the distributed animals were vaccinated against contagious bovine pleuropneumonia (CBPP), black quarter (BQ), hemorrhagic septicemia (HS), and anthrax, and were free from internal and external parasites.

⁶⁴ LEGS Handbook, p. 200, Guidance Notes.

⁶⁵ Personal communication, Mahgoub A. Mahgoub, Practical Action.

herd reconstitution, particularly for those whose livelihood was dependent on livestock but lost the asset base due to drought.

Restocked households were supported with other integrated income-generation activities (food, seed for cultivation, etc.) to avoid distress selling of the restocked animals. For example, in Musfa village in Baw locality, WVI-targeted women and disabled men were assisted through activities that included seed for cultivation during the rainy season, and the establishing of a farm for vegetable production to assist in dry season.

Water

Construction of *hafir* dams and water points and boreholes (along the corridors of animal routes), by Practical Action (PA) for both human and animal during the period 2007–2012, aimed to reduce the time to access water, especially for women, and to increase animal survival. It also served as a peace-building activity between the different herding and farming communities. Practical Action has also supported the construction of water troughs⁶⁶ around water points in Baw and Kurmuk localities to ensure efficient use of water for animals. There have not been problems raised regarding the establishment of water points and their distribution on the use of grazing resources. This might be attributed to the engagement of communities, local leadership, and other actors on where the water points are needed, and how many. There is compelling evidence from the arid and semi-arid areas of Africa and other rangelands that the ill-distribution of watering points can result in localised degradation, and also affects the efficient use by grazing animals of the spatially and temporally distributed feed resources.

Livestock health

Provisions of veterinary services are key activities during emergency and recovery phases. According to LEGS, there are two types of veterinary responses: primary clinical veterinary services (which is the priority response in an emergency) and support to public sector veterinary functions. The latter may be appropriate particularly in protracted emergencies or in the recovery phase of a rapid- or slow-onset disaster.⁶⁷ CAHWs have a role to play in vaccination campaigns and provision of drugs. Wide coverage is possible, particularly when well-trained and supervised CAHWs are used.

Vaccination campaigns are carried out by the CAHWs in coordination with MAR&F at state level, targeting both pastoralist and farmer livestock. These

campaigns are jointly carried out with NGOs operating in the area. The logistic support for the emergency vaccinations is provided by the various NGOs, and MAR&F provides the technical support, including providing refresher training to existing CAHWs and/or training new recruits of CAHWs.

Many of the localities are not easily reached due to poor infrastructure as well as the security situation. The most feasible option is, therefore, the use of CAHWs. With the support from FAO, ISRA conducted CAHWs training targeted at 22 candidates from DDR beneficiaries in Damazine, Rosaires, Bau, Kurmuk, Geissan, and Tadamon localities. The objectives of the training were to make vet service available in areas where there are no veterinary infrastructures, to control epidemic diseases, to avoid zoonotic diseases, to facilitate safe disposal of carcasses, and to raise animal health awareness among villagers. The study team was not able to meet the beneficiaries to gauge how well the CAHWs training worked.

The candidates for the CAHWs training were selected by the communities, based on criteria jointly developed by the community and NGOs. Under the DDR programme, CAHWs were provided with bicycles, veterinary kits, and drugs, including five bottles of Ivomec, two bottles of Bendazole, and two bottles Oxy-tetracycline. Both initial training and refresher training, under the DDR programme, was provided by the Livestock Department of the SMAARFFI. In addition, a communication network was established for disease notification and for flow of reports between CAHWs and the Livestock Department. Training of beneficiaries on animal health, animal husbandry, and livestock management was conducted by using the CAHWs and local government expertise. The security circumstances in Blue Nile State did not allow the study team to travel to the intervention sites to have a more detailed understanding of how the process worked, but the team was able to gather positive response from the focal discussions held with selected beneficiaries.

4. Coordination

There are two main bodies coordinating humanitarian food security and livelihood projects, including the governmental Humanitarian Affairs Commission (HAC), and UN FAO. HAC describe their responsibilities as: synchronizing activities of all partners in the area to avoid duplication of efforts; and planning and implementing joint assessments. FAO coordinate the livelihoods and food security cluster

⁶⁶ Specifications of water troughs: 2.5 m x 1 m x 80 cm for cattle and 2.5 m x 1 m x 40 cm for goats.

⁶⁷ See LEGS Handbook, p. 90.

including emergency livestock responses, under which all the partner agencies come together. The Food Security cluster has three main working groups: the crop working group; the livestock working group; and the environment working group. Each of these sub-groups meets every two weeks and has direct contact on daily basis with the State Livestock Department.

The role of the food security cluster coordination is to:

- Harmonise the activities to avoid overlaps and duplications
- Make decisions on technical issues (e.g., during the referendum, an accumulation of cattle in the State and competition for pasture and water contributed to disease outbreaks, necessitating a decision).

From the NGO perspective, coordination of emergency responses is mainly through the NGO forum, chaired by NGOs on rotational basis, in coordination with SMAARFFI-Damazine (FAO-Damazine/regional coordination office), who hold meetings regularly.⁶⁸ Local agencies are required to “coordinate” with multiple organizations. For example, Mubadiroon has official agreements or coordination mechanisms with up to 11 different organizations for the implementation of their emergency responses in Blue Nile State. These include: government (with Ministries of Health, Education, Agriculture, and Livestock); UNDDR (a Demobilisation, Disarmament and Reintegration community security project led by UNDP); World Vision International (food security); IOM (capacity building related to civil rights and the national election); and Practical Action (seeds and tools distribution in Baw).

The complexity of the institutional arrangements facing national NGOs generates a considerable administrative and coordination burden for them. According to Mubadiroon, the established partnerships facilitated sharing of information and also promoted shared learning, thus avoiding repeating mistakes. Good relations were built between Mubadiroon and Omdas, Sheikhs, Locality Commissioners, parliamentarians, members of the Landmine Victims Association, and State Ministries. Generally, the multi-institutional partnerships and coordination arrangements appear to work well, which helps to ensure the implementation of emergency intervention was smooth and harmonized.

Although contingency plans are developed at the sectoral level (livelihood and food security and livelihood cluster), some of the NGOs do not have developed contingency plans at agency level. Contingency plans are also not always supported by contingency funding, nor are there signs of donor

flexibility on the use of available funding. This can result in delays and deficiencies in emergency livelihood response.

5. Introduction and application of LEGS

LEGS trainings were conducted in Blue Nile State by FAO, with WVI and the Federal Ministry of Animal Resources. In 2010, a total of 40 individuals were trained, comprised of technical and field staff from the State Ministry, local NGOs, and international NGOs.

LEGS trainings, as noted by some of the trainees, were seen as beneficial for those who participated and the agencies involved, in that they increased understanding of how to address crises that affect livestock-based livelihoods. LEGS trainings also introduced trainees to a wider body of professional expertise and source of technical support in times of crisis. For example, the Director General of Animal Resources, Fisheries, and Rangelands had completed the LEGS training and pointed out that the training: (1) provided him with the in-depth understanding of how to tackle emergencies to respond to crisis so as to minimize loss; (2) broadened his thinking and understanding of emergency responses as they relate to livestock-dependent people; and (3) taught him to look for other agencies' support when the expertise in his organization is found lacking. Others stated that the knowledge gained from LEGS helped the technical staff develop a proposal for funding and better address the problems of livestock-related interventions.

Following the LEGS training, interviewees noted that there were no hard copies of the LEGS Handbook available for reference. WVI sent a PDF version of the section on common standards to their field office in Blue Nile State. This was considered useful material by the technical staff and management, which will help guide the limited livestock interventions implemented at the field level.

According to the LEGS Handbook, “prior to any form of emergency response, an assessment is required to ascertain whether the livestock interventions are appropriate and feasible in the specific context, according to the type, phase and severity of the emergency, or indeed whether a response is necessary at all.”⁶⁹ This type of preliminary assessment was not systematically done by the agencies involved. However, institutions do carry out their own assessments and conduct baseline surveys during which they engage communities and local government actors. These kinds of assessments are not standardized and are carried out using a variety of indicators and varying depth of

⁶⁸ Interview with Mohamed Hassan Kabashi, FSL Officer, ISRA Damazine.

⁶⁹ LEGS Handbook, p. 20.

analysis. While they may be helpful in informing the individual agency, it is not useful for comparative analysis between agencies.

The other crucial aspect of data collection in LEGS relates to monitoring and evaluation. This also tends to be weak, and few, if any, evaluations are in the public domain.

6. Targeting

Targeting strategies differ slightly between different agencies. For example, the target groups for ISRA's emergency interventions are displaced people, war-affected female-headed households (widows) and orphans, and the community leaders take a lead in assessment surveys conducted before targeting.

The affected population within PA's operational area is categorized as returnees, displaced people, and the settled but poor. PA characterized the poor as those with less than two acres of land and those that own less than two goats. The affected populations served by PA number 50,000, and are from 19 villages in Rosseries and Baw localities. They represent 10% of the total affected population (PA Programme Director in Damazine). Within these villages, returnees, IDPs, poor people in the community, and female-headed households, were targeted. Geographic targeting was based on baseline surveys where available, which helped to identify the vulnerable communities (location and community). The next step of identifying vulnerable households and individuals was carried out by PA in coordination with the CBOs and Village Development Committees.

7. Community perspectives on their situation

A focus group discussion was held with a group of Mubadiroon beneficiaries who are settled farmers and fishermen, from two projects, including restocking and fishing. They described their situation prior to the Mubadiroon intervention as follows:

- Loss of fishing boats, tools and networks (sometimes boats found damaged in other places)
- Closure of the fishing area south to the Roseries Dam (Fazoghli and Shinaina) as a result of the war, which decreased their fishing area and thus reduced their catch
- The closure of the southern part of the livestock grazing area by the war, and as a result, concentration of a large number of animals grazing in very small areas, which adversely affected the animals' health
- Loss of the pasture and water due to the

- overcrowding by large number of animals
- Animal looting.⁷⁰

The beneficiaries approved the choice of sheep for the restocking. They pointed out that the minimum number of animals provided was four, but should have been ten. However, they indicated that even the four sheep had a positive impact, but the benefits could have been much higher by increasing the number of restocked sheep.

According to the beneficiaries, the gains from the livestock projects included, for example:

- Training and increased knowledge of how to manage their small-scale production business
- Income generation from veterinary services delivered to the community, selling milk, drugs, and fish
- The small grant revolving fund mechanism
- Increased flock sizes and increased production of milk and offspring
- Capacity to report disease incidents to CAHWs, which resulted in reduced physical debilitation of the animals as well as quicker recovery
- Increased awareness among the communities that having a healthy animal means more production (milk and offspring), increased income, and improved livelihood.

Through the support from Mubadiroon, the target communities reported practicing consolidated social relations (use of the revolving funds in social events and mobilizing communities for collective action, e.g., construction of two school rooms in Ghanees, East Roseiries locality) amongst the fishermen and livestock owners.

The discussants also indicated that the emergency response came in time, and it also brought an improvement in the transport means for livestock and fish.

A second focus group discussion with members of the Pastoralists Union in Blue Nile State noted the assistance and technical support received from the various organizations, including the rehabilitation of livestock routes (in the Aghadi area) in 2009; training and equipping of CAHWs in Ghesan locality and Damazine; and restocking. They particularly acknowledged the support in facilitating the opening up of the livestock routes, the establishment of many *hafirs*, and the training of pastoralists as CAHWs. They noted, "*The livestock routes, however, once demarcated need to be protected too.*" The Union sees a positive role played by the presence of the various organizations in Blue Nile State (see Box 2).

⁷⁰ A case of a person who lost 25 cattle and 55 sheep and is currently living in a tent in Al Tadamon locality was reported.

Beneficiaries perception on benefits of the interventions

Comparing the before and after situation, the Pastoralists Union members indicated that the situation is now better due to the following reasons:

- Increased awareness among pastoralists of their rights
- Since 2006, there is an increasing presence of organizations and growing awareness of government towards pastoralists problems
- Livestock routes have been opened
- Water provision services established and supervised by the pastoralists themselves
- Pastoralists and their children are now better trained as CAHWs to provide veterinary services
- The quick response, by telephone, of the veterinary authorities is positive
- Perceived decreased prevalence of epidemic diseases due to the combined efforts of the Ministry of Animal Resources and Fisheries and the Mubadiroon.

8. Concluding remarks

A unique feature of Blue Nile State is the importance of state, national, and international cross-border livestock mobility, which has been disrupted by the ongoing conflict and protracted insecurity. There has been unique experience in Blue Nile of supporting the opening of livestock routes and supporting provision of water along these routes. Blue Nile now includes two international borders, one with the Republic of South Sudan and one with Ethiopia. Given the importance of the cross-border movement of livestock for local livelihoods and for the local and national economy, there is a need for more effective coordination to be established between Sudan and the other countries (Ethiopia and the Republic of South Sudan) in order to uphold and protect these crucial livestock movements.

National agencies, like Mubadiroon, are playing a very important role as the direct implementing partner of a number of INGOs. They face a considerable burden of administration and coordination as a result of multiple institutional relationships, and more consideration should be given to making them more aware of how to access funding directly. While Mubadiroon has excellent local experience and knowledge, there are areas of its capacity that would benefit from more support, including support from an international technical support team to promoting best practice (as found in the LEGS manual).

Livestock emergency interventions, as carried out by different organizations, show considerable variations depending on the mandate, nature of the organization, and the method used for assessment. This makes the whole process difficult, particularly when planning to conduct a comparative analysis of the interventions between organizations. This shows the crucial need to

standardize the procedures so that they match the LEGS guidelines. This could only be possible if the SMAARFFI takes the lead and the initiative to institutionalize the LEGS guidelines.

The lack of standardized assessments, and also limited evaluations and impact assessments, suggest that it may be worthwhile investing in capacity development through training in assessment methods, linked with response planning, and also impact evaluation. At a LEGS national workshop in April 2012, there was consensus among participants for introducing evaluation tools like Participatory Impact Assessment. It may be helpful to have a repository, held by FAO or SMAARFFI, of good examples of needs assessments and impact evaluations, for others to learn from.

Targeting strategies were also found to vary between agencies, with different categories of beneficiaries, and different approaches to their selection. While some flexibility is of course needed, this variability suggests more focus on targeting best practice would be useful.

There are very few cases of NGOs engaging in environmental activities and also very few instances, if any, of environmental considerations in the implementation of various livestock emergency interventions. This is potentially a major shortcoming of current projects.

A positive aspect reported by agencies and the focus group discussants was the degree of participation and engagement of affected communities, through their leaders, CBOs, and Village Development Committees, particularly in relation to targeting of individual households. However, more participation is required in the design and monitoring and evaluation of the emergency and recovery interventions.



Distribution of goats to beneficiaries (re-stocking). Source: Sudanese Red Crescent Society (SRCS), Kassala State

KASSALA CASE STUDY

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Summary

Kassala State, in the eastern region of Sudan, has been affected by chronic food insecurity, refugee influxes since the seventies, and localized tensions and conflict linked with long-term underdevelopment and marginalization.

Over the past thirty years, Kassala State has experienced a range of disasters and humanitarian emergencies, including drought and food insecurity, flooding and wildfires, complex emergencies associated with conflict, forced displacements of IDPs, and refugee crises. The economy of the State is based on agriculture, including both rain-fed and irrigated cultivation, and pastoralist livestock production, with seasonal livestock movements across the State.

The team met with representatives from the State Ministry of Agriculture, Forestry, Irrigation, Livestock and Fisheries (SMAFILR) and the Zakat Chamber, as well as with several agencies supporting livestock interventions in Kassala State. These included UN agencies, INGOs, and national NGOs: Practical Action (PA), Plan Sudan, Accord, Sudanese Red Crescent (SRCS), and German Agro-Action (GAA).

PA's areas of emphasis were restocking, fodder provision, facilitating the formation of CBOs, and

delivery of animal health services. SRCS supported restocking and animal health service delivery, as well as an environmental fodder project. PA and GAA implemented emergency restocking, targeting drought-affected communities. GAA supported a pilot poultry restocking as part of an emergency recovery intervention. PA built in a revolving fund/credit arrangement, with each restocked family expected to restock a new family or pay the waiting family in cash.

The Zakat Chamber implemented goat and sheep restocking as an emergency measure, which included providing cash for animal feeding. Restocking has also been undertaken as part of DDR projects implemented by SRCS, and included training for the ex-combatants in animal husbandry, and also vaccination of livestock, and provision of fodder.

Drought has also contributed to a fodder gap in the late dry season, which was partly filled by a GAA fodder distribution in 24 villages in 3 localities. SRCS implemented a rather unconventional environmentally friendly fodder project, where they processed the pods of *prosopis* (mesquite) to serve as either emergency or dry-season fodder, which was a form of environmental protection through mesquite control as well as supporting fodder needs.

All of the NGOs operating in the State of Kassala are

involved either in the emergency vaccination programs in partnership with the State Veterinary Department, or in training CAHWs, again with the support from the State Veterinary Department. Emergency livestock interventions like restocking are also packaged together with training of CAHWs in the target localities.

As in the other two case studies, coordination of emergency responses in Kassala State is primarily done by FAO through the Food Security and Livelihoods (FSL) cluster meetings, and by the Sudanese Government's Humanitarian Aid Commission (HAC), which chairs the State Emergency Committee. The Zakat Chamber provides a good example of strengthening coordination and contingency planning for emergencies, with a focus on livestock responses; including provision of clean water and food, and feed for animals during extreme drought or floods. For all agencies, the Village Development Committees play a key role in the identification of target beneficiaries and households. However, compared to the need, only a small proportion of households tend to be targeted, usually because resources are limited.

Focus groups described the strong relationship between communities and the local and international NGOs either through the CBOs or the VDC meetings and discussions. They said this promoted agreement about targeting and other issues. They said the restocking intervention had several benefits: improving the family diet, generating income, and contributing towards partly bridging the food security gap.

None of the agencies have institutionalized LEGS as an operational tool, and there are few individuals within the government and NGOs that have completed the LEGS training. It would also seem that for those who have completed the training, the benefits have not gone beyond individual ones.

A final point with wider relevance from this case study is that where Village Development Committees and CBO networks exist they could potentially play a much stronger role in facilitating community participation in identifying the interventions of choice, including specific details such as the choice of livestock species.

1. Background

Kassala State forms part of the East Sudan region, together with Gedaref and Red Sea States. The three

States have much in common in terms of local ecology and livelihoods and a shared history of underdevelopment and socio-economic marginalization that in the past has driven regional politics and conflict. Kassala shares an international border to the east with Eritrea, and national borders with the States of Gezira, River Nile, Red Sea, Khartoum, and Gedaref State in the south.

The population of Kassala State is estimated to be 1.8 million (2008 census). The main tribes are the Hadendowa (one of three Beja sub-groups), the Beni Amer, and Shukriya, and smaller groups including the Rashaida and Halaween. About 6% of the population is migrants, with long-established communities from western Sudan, who first migrated to the region to work on the agricultural schemes.

Economically, Kassala State depends on agriculture, including primarily pastoralist livestock production and rain-fed and irrigated cultivation of crops (cotton, sorghum, groundnut, sugar cane, and wheat, and horticultural and fodder crops). Rain-fed agriculture is proportionally larger than the irrigated sector and is composed of two types: mechanized rain-fed farming, which is found in the southern parts of the State, and the traditional rain-fed sector, which covers most of the central and middle parts of the State. About 20% of agriculture is produced by irrigated cultivation (Kashmelgirba Dam and Gash Basin).⁷¹ The Busharria and Beja were seriously affected by the damming of the river, which impacted the availability of water for pastoralists living downstream.⁷²

Kassala State has a vast area of natural rangelands used as pasture by livestock from the State and used by animals from other states passing through in their annual livestock migrations. The Butana plain in the north has short scrub and acacia, while further south as rainfall increases grasses become taller and acacia thicker. In the north of the State, rain-fed cultivation in the Gash Delta provides seasonal pastures for livestock. The natural vegetation along the major watercourses serves as seasonal grazing reserves, especially in times of drought.

Estimates of the total animal population vary, from 3 million⁷³ to 5.27 million,⁷⁴ including camels, sheep, cattle, and goats. Livestock are located mainly in the Butana Plain, Gash Delta, Girba, and the southern area bordering Blue Nile State (Hamash Koreib and Settet localities) along the depressions and *wadi* areas where both pasture and water can be found.⁷⁵

⁷¹ The New Halfa scheme was established to settle Nubians displaced from Wadi Halfa, which was flooded after building the Aswan Dam.

The New Halfa irrigation scheme for producing cotton and sugar was also intended to enable nomads of the area to become farmers. The scheme has faced problems of low crop yields and insufficient water for irrigation, among other problems.

⁷² S. Pantuliano, 2006, "Comprehensive Peace? An Analysis of the Evolving Tension in Eastern Sudan," *Review of African Political Economy* 33, no. 110: 709–20.

⁷³ UNDP, 2009, "Kassala State Situation Analysis," UNDP, Khartoum and Kassala State Government.

⁷⁴ Ministry of Animal Resources, Fisheries and Range, Information Center, 2013.

⁷⁵ Ministry of Agriculture, Irrigation, Forestry and Animal Resources, Kassala State, November 2012.

Armed conflict in the eastern region dates back to 1995, with the forming of the “Eastern Front” in 2005 (a political alliance of the Beja Congress and other groups). The conflict in eastern Sudan was closely linked to underdevelopment and socio-economic marginalization impacting on local livelihoods. Grievances in eastern Sudan are similar to those expressed by the Sudan People’s Liberation Movement in the south and the groups fighting in the Darfur conflict.⁷⁶ Unique features of the situation in Kassala State include the alienation of land by external investors for large commercial agricultural schemes.

The conflict in eastern Sudan was finally resolved through the signing of the Eastern Sudan Peace Agreement (ESPA) in 2006. Kassala State continues to suffer chronic food insecurity, limited job opportunities, and lack of basic services (health, education, and water) linked with among the highest rates of illiteracy, mortality, and morbidity found anywhere in Sudan.⁷⁷

Over the past thirty years, Kassala State has experienced a wide range of disasters and humanitarian emergencies including: slow-onset drought and famine; rapid-onset disasters, e.g., severe flooding and wildfires; and complex or cyclical emergencies, associated with conflict and forced displacements of IDPs, and refugees from Eritrea. Kassala State is affected by extremes of climate variability, including episodes of drought, which were associated with famines in the eighties and nineties, and also at times severe flooding, for example in August 2003, when the Gash River burst its banks and the town of Kassala experienced the worst flooding in 70 years.⁷⁸

The State is chronically food insecure and suffered a series of droughts during the eighties and nineties, associated with region-wide food insecurity. According to the Zakat representatives in Kassala town, the main recent causes of emergencies in Kassala are flooding (Gash River, Halfa, central, south, and east Kassala, Wad El Helew area, Atbara River area), drought in the northern parts of the State, and wildfires in summer.

These natural disasters were complicated and further

exacerbated by conflict in both Eritrea⁷⁹ and Sudan and influxes of refugees and more local population displacement. Several large waves of migration stemmed from displacement in southern Sudan and the Nuba Mountains caused by the intense fighting that took place in the nineties,⁸⁰ and hostilities between Eritrea and Ethiopia have meant that most of the eastern part of the state was a conflict zone for more than ten years. Kassala State previously had the largest refugee presence in the country located mainly in eight refugee camps, including refugees from Somalia, Eritrea, and Ethiopia as a result of the wider situation in the Horn of Africa. Eritrean refugees have been coming for the past four to five decades, which makes this protracted refugee crisis one of the longest in Africa. Thousands of refugees have returned to Eritrea since its independence, although many have stayed (refugee status for those who fled because of the earlier war was revoked in 2002, on the grounds that the circumstances that led to their exodus no longer held).⁸¹ Current estimates of the numbers of IDPs are 66,000 families,⁸² living in the 12 official IDP camps supported by the international community, with many others hosted by relatives.

Animal diseases and the outbreak of livestock epidemics add yet another constraint to livestock recovery due to poor communication and difficult access to veterinary services, especially in remote villages. For example, the *peste des petits ruminants* (PPR) outbreak in 2003, which affected sheep and goats, also affected camels. The State economy depends on primary production by both pastoralists and farmers; hence any shortage of rains will affect livestock and cultivation.

2. Emergency response in Kassala State

A wide range of agencies are engaged in food security or livelihoods emergency response and a small number are supporting livestock interventions in Kassala State, including government bodies, UN agencies, INGOs, and national NGOs (see Table 1).

⁷⁶ Pantuliano, “Comprehensive Peace?”

⁷⁷ According to Dr. Mohamed Dualeh, Head of UNHCR’s Kassala Office, “Kassala State is one of the poorest in Sudan. It is poorer than some parts of Darfur and a lot of the south. But, if you look at all the indicators, it is a neglected part of the country. Neglected by the international community, neglected by the UN, neglected by UN agencies, there was little aid coming in as a peace dividend after the signing of the Eastern Peace Agreement. Therefore, I think there is no justification now not to provide the assistance the east needs. We are waiting to see it happen. Not just words, but action—action from the UN, action from the donors, and action from the government.”

⁷⁸ *Sudan Tribune*, 2003, “Kassala needs 150 million dollars in post-flood reconstruction: minister. Aug 5, 2003, http://www.sudantribune.com/spip.php?page=imprimable&id_article=107

⁷⁹ Eritrean war of independence 1961 to 1991, and subsequent Eritrean Ethiopian war 1998 to 2000.

⁸⁰ Pantuliano, “Comprehensive Peace?”

⁸¹ “ERITREA-SUDAN: A Forgotten Refugee Problem,” 3 December, 2009, <http://www.irinnews.org/report/87300/eritrea-sudan-a-forgotten-refugee-problem>.

⁸² Ibid.

Table 1. Types and examples of interventions by UN Agencies and NGOs

Partners	Area of operation	Major Activities
UN organization		
FAO		Provision of animal feed including fodder distribution (dura and concentrates) to affected households Funded goat restocking to affected households Provision of veterinary drugs and vaccines and spraying equipment for eradicating insects Training for CAHWs
International NGOs		
Practical Action		Restocking for drought affected populations, with a revolving fund; fodder provision; animal health services
Plan Sudan	Rural Kassala, west Kassala, rural Aroma, ⁸³ and North Delta	Vaccination of livestock through provision of vaccines; raising awareness among livestock owners/pastoralists on animal feeding, control of animal diseases, and importance of vaccination in animal protection against diseases; training of pastoralists on use of non-conventional feeds for livestock; introducing feeding techniques of crop residues, and use of byproducts of sugar processing
German Agro-Action (GAA)	Hamesh Koreib, and rural Kassala localities	Flood protection and soil conservation; food security and natural resource management; mesquite clearance; forestry activities; support to income-generation activities—charcoal production, grinder mills, and food processing; support to vocational training and tailored training in management, M&E, and leadership; training of Village Development Committees (VDCs) on community participation and financial management; water harvesting project in partnership with WFP; implement livelihoods and emergency recovery activities together with IOM/ UNDP
ACCORD		Restocking/distribution of goats in refugees camps during the crisis; training of CAHWs
SRCS		Restocking and delivery of animal health services (with SMAFILR)

The team met with representatives from the State Ministry of Agriculture, Forestry, Irrigation, Livestock and Fisheries (SMAFILR) and also the Zakat Chamber. The SMAFILR has eleven directorates, including Rangelands and Pasture, and the General Directorate

of Livestock and Fisheries, which is further divided into: the directorates of Animal Production, Livestock Services, and Fisheries. The emphasis is on the actual animals rather than the livelihood systems they support or the production systems that raise them. The two

⁸³ A locality in N. Kassala.

livestock directorates, in particular, work in partnership with the non-state actors; for example, by providing specific technical support such as training of CAHWs and veterinary assistants. Interestingly, this State Ministry also includes groundwater and *wadis*, which in other States may be separate.

Zakat Chamber

The Zakat Chamber comes under the Ministry of Extension and Religious Affairs. The role of the Zakat Chamber is the collection of obligatory payments on certain kinds of property and the management and disbursement of this income for charitable and religious purposes in accordance with Islamic law. The Chamber also undertakes advocacy and guidance on all matters relating to zakat.

Zakat payment is obligatory for animals not utilized in the ploughing of land or in other hard work (the minimum number of animals needed for zakat to become payable is 5 camels, 30 cows, and 40 goats and sheep). There are specific problems with collecting the cattle-based Zakat payments, including: evasion of payments, often linked with suspect religious values; insecurity hindering collection of payments; cattle residing in multiple states and provinces, which make it unclear where the collections should occur; and high administrative cost for Zakat collection and supervision. Sudan is a major cattle-producing region, especially in the rich Savannah grasslands, and for this reason, the Zakat Chamber is actively seeking ways to address these issues to ensure revenue generation.

The Zakat Chamber in Kassala State was formally recognized as a separate entity in 1990.⁸⁴ The Chamber's main technical partners are the SMAFILR and the Ministry of Finance and National Economics (Department of Planning and Economic Development). These partners have the role of undertaking technical supervision of the various activities. The role of the Zakat Chamber is administrative supervision, including monitoring and follow-up, financing and implementation, and coordination of activities. Monitoring and follow-up by the Zakat Chamber is mainly done through monthly field visits to the project area accompanied by technical people, including a veterinarian from SMAFILR.

The Chamber has projects under three main sectors: agriculture, vocational training (assisting handicapped or disabled people through the provision of means of transport to benefit from vocational training), and trade. The agriculture sector (livestock and agriculture) started in 2005 in coordination with SMAFILR. The

focus was breed improvement through artificial insemination and tools provision, animal health and disease control, provision of diagnostics, provision of improved goat breeds (*saaneen* and *shami*), improvement of the traditional pattern of livestock production system, and livestock restocking (goat, sheep, and poultry) targeted at vulnerable groups to improve their livelihoods.

The Zakat Chamber usually make an assessment of the beneficiaries' (not necessarily pastoralists or other groups; the main focus of Zakat is to help the poorest people according to its law) situation and accordingly provide the suitable animal species. The selection of distributed animals is made in collaboration with the Livestock Services Directorate (within the State Ministry of Agriculture and Livestock).

The Zakat areas of operation are mainly those areas affected either by flood or drought, including Atbara River area and the areas of New Halfa, Wad El Helew, and Gash. Of the Zakat annual income, which is expected to be close to 25 million SDG in 2013, one-third is disbursed via livestock restocking. In 2012 alone, 12.7 million SDG was utilized for restocking.

Food and Agriculture Organization of the United Nations (FAO)

FAO has had a long-term presence in Kassala State, and has responded to a wide range of crises, including an emergency response to the 2003 flooding and drought assistance during the 2008 drought crisis. FAO's broad areas of emergency response include support for agricultural production through crop and vegetable seed distribution and support to livestock production. Livestock production is supported through vaccination campaigns, provision of animal feed, and supplies of essential livestock drugs, which are given free via either the Livestock Department or the CAHWs (with prior consultation with the State Animal Health Department).

Cost recovery is not fully practiced, reportedly because this requires a strong monitoring system, which is not yet in place. Cost recovery is being introduced by FAO in consultation with the State line Ministry of Animal Resources gradually based on the ability of the intended beneficiaries to pay for the services. FAO also provides logistical support and material assistance based on the terms within the Letter of Agreement signed between FAO and the implementing agencies.

In the past FAO's activities in Kassala State have targeted IDPs and local resident households (including

⁸⁴ The Zakat Chamber was officially established in 1986, and in 1988 was attached to the Ministry of Social Care and extended to all regions of Sudan. The administrative structure at that time included departments covering emergencies, refugees, and the disabled as well as several departments for administration and finance. The Zakat Law of 1990 confirmed the compulsory paying of Zakat, and segregated Zakat from taxation, with the Zakat Chamber as a separate entity with an independent administrative structure.

those affected by the conflict, floods, and drought), with distributions of seeds, hand tools, and tree seedlings. The provision of veterinary resources and training to CAHWs was seen by FAO as instrumental in bridging the gap where basic animal health services were either absent or insufficient, and the vaccination of animals was effective in containing disease outbreaks such as PPR and sheep pox,⁸⁵ although it is unclear if evaluations have been undertaken.

Plan Sudan

Plan Sudan is a child-focused development organization that has been operating in Kassala State since 1977. It operates two types of projects, “community projects” and “target projects.” The former emerge from community action plans, which are then developed into project proposals, which feed into the country-level strategic plan, developed with participation of local stakeholders, including State Ministries. The target projects are based on proposals developed by the various State Ministries and funded by Plan Sudan. The proposals on rehabilitation of pasture lands, training of pastoralists, and CAHWs were developed by SMAFILR. Plan Sudan and the Ministry jointly undertake implementation, with the Ministry engaging more on training and in the vaccination programs.

Plan Sudan has a ten-year country strategic plan, which includes four “Country Programme Outlines” (CPOs), under which there is an emergency fund allocated for rapid response that can be mobilized during emergencies according to needs. If extra funds are needed, these are mobilized from the headquarters in Khartoum.

Practical Action

The main focus of Practical Action (PA) in Kassala State is improving food security through building capacity of target groups by both improving and diversifying crop and livestock production. PA conducts baseline surveys, including assessments of household vulnerability status, asset loss due to disaster, and conditions of the grazing resources in the localities of its operation, in order to furnish information on the priority needs of the affected population. These baseline surveys help to identify vulnerable areas, access, security, capacity, and avoid any duplication with others. The geographic focus is “war-affected” localities in east Sudan.

German Agro-Action

German Agro-Action (GAA) is a development organization that responds to emergency situations in

its operational areas. Their worldwide objectives, as outlined in their report, are: to provide assistance to enable people to obtain food security through their own efforts with the aim to achieve freedom from hunger; to improve access to food and living conditions for rural and low-income urban populations through close cooperation with the community; to support relief and rehabilitation, in particular the increase of agricultural yields and other food sources such as livestock and fishing, through appropriate means; to act as a donor for local partner organizations in developing countries in order to lay the foundation for permanent and sustainable development; to fight poverty in developing countries in order to improve living conditions of rural and socially disadvantaged sections of urban populations; and, finally, to provide emergency aid in cases of conflict and disaster.

The organization has been in eastern Sudan since January 2008, and has implemented projects in Hamesh Koreib, Telkok, and rural Kassala localities, focusing on flood protection and soil conservation, and food security and natural resource management. Apart from the specific livestock interventions mentioned in Table 1, GAA has supported the following project areas:

- Agriculture: group gardens; supporting traditional subsistence cultivation through seeds and tools distribution; extension training; flood protection, and mesquite clearance
- Forestry activities: establishment of nurseries; fruit and tree seedlings distribution; forestry extension training
- Water components: water harvesting projects; construction of drilled wells, shallow wells, water reservoirs
- Support of income-generation activities: addressing charcoal production, grinder mills, food processing for women’s groups
- Vocational training and tailored management training in planning, M&E, and leadership. Training was also given to the Village Development Committees (VDCs) on community participation and financial management.

Their main donors are the European Union and the German Ministry for Economic Cooperation and Development (BMZ). In addition, GAA is the implementing partner of three UN organizations: WFP (supporting water harvesting projects); IOM/UNDP (support for one-year early recovery and livelihood projects); and FAO (support for agricultural seeds, tools, and the provision of livestock fodder/feed). GAA operations reach out to about 40%–50% of the affected people in each targeted community, according

⁸⁵ SMAFILR, Kassala State, November, 2012.

to an interview with the office.

GAA partners with the SMAFILR. The modality of implementation is entering the target community through the community leaders and the development committees. GAA facilitates the formation of community committees set up to carry out implementation and monitoring of the interventions at the beneficiaries level. GAA provides organizational capacity building to these committees in close coordination with the line ministry, locality administration, Pastoralists Union, and Farmers Union.

Sudanese Red Crescent Society

The Sudanese Red Crescent Society (SRCS) is supporting a wide range of humanitarian activities for refugees, IDPs, and residents, including primary health care services, first aid, and distribution of food and non-food items to the refugees. SRCS organizes trainings for youth in primary health care, first aid, home nursing, and other skills.

SRCS implements food security and livelihood projects in cooperation with local and international NGOs in the State, including: goat restocking of affected households (in partnership with FAO); training of CAHWs; and raising awareness on livestock management, particularly on animal diseases control and treatment, among livestock owners/keepers.

SRCS Kassala is directly responsible for project implementation, including selection of beneficiaries and target villages, purchase and distribution of goats or sheep to beneficiaries, and facilitation of all necessary logistic support needed for implementation of activities. SRCS Kassala organized training on conduct of animal health services for CAHWs and also gave hands-on training to beneficiaries on animal husbandry practices.

To ensure sustainability, SRCS involves the community leadership in the initial assessment, implementation, and monitoring to help develop a strong sense of community ownership. The initial assessment is focused on needs, context, and vulnerability. SRCS strongly supported capacity-building efforts to enable the VDCs to effectively participate in project implementation, reviewing, evaluating project impact, and making decisions and recommendations. There is, however, a need to effectively engage the VDCs in facilitating the beneficiaries' engagement in identifying the interventions of choice.

3. Review of livestock responses

The three main types of livestock response in Kassala State include restocking, animal feed/ fodder, and livestock health, which are discussed below.

Restocking

In broad terms, restocking is implemented to promote and protect food security and livelihoods. It also includes more specific objectives. Practical Action's restocking project objectives were:

- To improve family diet, especially to provide children with milk
- To support household income generation through sale of male offspring
- Where possible, to generate income through sale of milk
- To contribute towards bridging the food security or hunger gap.

Training beneficiaries in animal husbandry, providing fodder, training of CAHWs, and provision of initial veterinary drugs and kits for CAHWs complement restocking. This range of activities will collectively contribute to the protection of animals from disease and epidemics and increase livestock productivity, and therefore will contribute to sustaining the benefits gained by the project intervention. There has not been significant loss due to mortality, mainly because the animals are from within the area and the health package was operational. Because families were given training on management practices, they were able to manage the animals for these to be able to produce offspring. There has not been any report of stress selling.

A restocking intervention typically entails the following:

- Establishing committees, who organize, manage, and sustain the restocking intervention
- Establishing criteria and organizing the purchase of goats or sheep
- Training beneficiaries in animal husbandry and providing them with fodder for two weeks
- Selecting CAHWs for three weeks of animal health services training workshop
- Veterinary drugs and kits distribution to the trained CAHWs.

PA and GAA carried out emergency restocking for those affected by drought. PA, in partnership with their CBO network, conducted a restocking of 400 households in six zones. Households received five goats each. Each household receiving goats was also required to restock others in the community. The primary goat recipients were given two choices for meeting the needs of the families waiting to receive offspring from them; to pass on the gift of goats in kind, or to pay the waiting family in cash. The cash would be used to buy five goats for the new family. The cash equivalent of the five goats during the study was about US\$71. However, this amount was adjusted according to the prevailing price at the time of gift transfer.

Poultry restocking was undertaken by GAA. This was a one-year project funded by UNDP, as an emergency recovery intervention. It has started as a pilot project by establishing a farm for use by 20 “vulnerable”⁸⁶ women. This was an income-generating activity to help the women support their households and gain additional income that can be mobilized to diversify their income-generating activities. A farm structure that can accommodate 1,000 productive (egg-laying) chickens has been completed, and is awaiting the delivery of the chickens. The State Veterinary Department agreed to provide the technical supervision. Poor women and heads of households were targeted based on criteria set by the community and the Village Development Committee.

The Zakat Chamber has also implemented goat or sheep restocking as an emergency measure. The criteria for selecting the emergency restocking beneficiaries by the Zakat Chamber include willingness and ability to manage the livestock. The restocking package included 25 sheep or goats per household and 1,000 SDG in cash for animal feeding; or 2 to 3 cattle with the same amount of money in cash for feeding; or 50 poultry per household (productive, laying hens) with 1 kilo of feed per day for every 10 poultry (or 100 kg of feed).

Restocking has also been undertaken as part of DDR projects implemented by SRCS, targeting ex-combatants from Algerba, Gedaref, Wad El Helew, and Ashwak in the eastern States of Kassala and Gedarif. The aim was to measurably improve their livelihood capacity when they return to civilian life. The project succeeding in restocking sheep for 82 persons qualifying as ex-combatants from poor families, where each received 5 heads each (4 female and 1 male sheep). This case typifies a situation where beneficiaries were given the opportunity to select the type of species for restocking.

The beneficiary ex-combatants were given three days’ training on animal husbandry. They were formed into groups, with a steering committee, to ensure that beneficiaries were well represented and also actively participating in the procurement and the distribution exercise. The purchased animals were physically examined and vaccinated (against PPR, sheep pox, HS, anthrax, and BQ), and treated for external and internal parasites. At the time of distribution of the animals, each recipient was offered saltlick supplementation (15 kg), 2 bales of hay, 200 kg of sorghum, and 75 kg of *Kenana* concentrates.

Animal feed/fodder

In response to the drought emergency situation, GAA led an intervention to meet the fodder gap during the late dry season, which is usually May/June.



Sheep ready for distribution (photo from SRCS)

GAA transported the materials to the targeted community, and the VDC identified the target groups and distributed the fodder. In this case, the VDC included two members from the pastoral committee, a staff member from the locality Livestock Department, and GAA field staff, among others. The distribution reached beneficiaries in 24 villages from three localities—Telkook, Hamesh Koreib, and rural Kassala.

SRCS have an unconventional fodder project that makes use of *prosopis* (mesquite) by processing the pods for use as emergency or dry-season feed, which simultaneously addresses the problem of infestation of land by this plant, which makes land uncultivable. SRCS have installed a grinding machine for processing the pods, and developed guidelines for mesquite management in the eastern Atbara River region. There is dense coverage of mesquite in both the principal agricultural land and in the adjacent forest areas. Other forest areas are just beginning to be occupied by mesquite. The SRCS guidance advises, “Do not cut mesquite, which is growing on the river-banks (up to about 5 meters), because of the need to protect the river border from erosion.”⁸⁷ Grinding of the *prosopis* pods is a welcome feed intervention by the beneficiaries. There is evidence from countries like Kenya and Ethiopia where ground *prosopis* pods are fed to animals, particularly goats, as a supplemental feed. Farm Africa in Ethiopia is a pioneer in this work and has done on-farm action research on feeding goats *prosopis* in the pastoral region of Afar, Ethiopia (Getachew Gebru, personal communication).

Livestock health

Veterinary services serve to protect key livestock assets of crisis-affected communities, which is one of

⁸⁶ The vulnerability of a woman was established based on whether she is widowed, divorced, and/or has many children.

⁸⁷ Personal communication, SRCS head Sudan.

the three LEGS livelihood objectives. These veterinary services include both primary clinical veterinary services and support to public sector veterinary functions. According to the LEGS Handbook, these “have potential impact on protecting and rebuilding assets at all stages of an emergency, and can include preparedness measures such as vaccination and preventive treatment. The veterinary services also require operational or potential service sector (government, private and/or community based) and veterinary supplies.”⁸⁸

In Kassala State, the primary veterinary services are vaccination and treatment. CAHWs provide animal health services, and their training is carried out in partnership with the SMAFILR. The veterinarians from the State Ministry develop the syllabus and contents of the course. PA and others provides the logistical support to carry out the training, and equips the trained CAHWs with kits and other necessary drugs. The CAHWs are selected from within the community. All of the NGOs operating in the State of Kassala are involved either in the emergency vaccination programs in partnership with the State Veterinary Department, or in training CAHWs, again with the support from the State Veterinary Department. Emergency livestock interventions like restocking are also packaged with training of CAHWs at the target localities.

4. Coordination

Coordination of emergency responses in Kassala State is primarily done by FAO, through the Food Security and Livelihoods (FSL) cluster meeting, and by the Sudanese Government’s Humanitarian Aid Commission (HAC), which chairs the State Emergency Committee. FSL cluster meetings are held monthly. Individual NGOs support these two coordination forums; for example, Plan Sudan, as part of the State Emergency Committee and the Food Security Forum, engages in coordinating the preparation of contingency plans, as well as in harmonizing activities to ensure that the “who does what” is agreed upon at inception. In addition, lead NGOs coordinate at the level of the agency and village. There appears strong coordination amongst agencies in Kassala.

The Zakat Chamber noted two forms of coordination - internal and external. The Zakat Internal Committee is headed by the Secretary General of the State-level Zakat Chamber and has three members including one from the collection department, the Rapporteur, and the Zakat Directors at localities level.⁸⁹ The External Committee includes

external members, such as representatives from the Civil Defense Department and the Sudanese Red Crescent Society.

The Zakat Chamber also strengthens coordination between actors engaged in livestock emergency response. This is facilitated through the Emergency Council established under the supervision of the Architecture Planning Department under the umbrella of the Ministry of Social Care. The Chamber also coordinates contingency planning for emergencies, and this includes plans for coordinating activities of different national actors and identifying the roles and responsibilities of different actors; for example, provision of clean water and food and feed for animals during extreme drought. A further role is to support the development of early warning triggers through follow-up and monitoring with the High Committee for Relief of Disasters at State level and to define the level of preparedness in coordination with all partners. In some states, including Kassala and Blue Nile, a temporary body will be established to respond to specific disasters, which is made up of representatives from different relevant governmental departments and some of the independent leaders of charity work. The temporary body could include HAC at state level given that HAC also plays a coordination role between governmental bodies and international agencies.

There is an emergency section within the Zakat Chamber, which is responsible for coordination of this body, with members of this committee sometimes coming from other governmental relevant departments and ministries.

5. Targeting

State-level government departments, NGOs, local-level representatives, and CBOs all contribute to identifying the areas of operation and approaches for targeting the beneficiaries.

The Zakat Chamber targets flood or drought disaster-affected areas. Their criteria for selecting the restocking beneficiaries are based on level of exposure to the disaster, the potential beneficiary’s experience of livestock management, the extent of emergency-related losses, and the willingness and ability to manage the livestock.

SRCS’s target beneficiaries were selected in collaboration with the local community leadership. SRCS contacted and met with locality leaders, who organized community dialogue with a view to identifying and selecting beneficiaries from a listing of small farmers and other groups like pastoralists/nomads in the affected areas.

⁸⁸ See p. 24 of LEGS Handbook.

⁸⁹ The Zakat Chamber has sub-offices at each locality, and these sub-offices are managed by a director.

The targeting criteria were agreed upon at the start with community members, and included the poor, orphaned families, and known vulnerable members in the local community. SRCS restocking carried out in rural Kassala and East Atbara targeted the “drought affected” and refugees. The households targeted for the goat restocking were the most vulnerable families (for example, those headed by women, especially widows, the disabled poor, and those with little access to resources and socially marginalized (see Table 2). According to SRCS, their targeting covered about 30% of the affected population in five localities.

Similarly, the target groups mentioned by FAO included poor women-headed households. Family size is also taken into consideration during targeting. While the VDCs play a major role in targeting decisions, the choice of the type of intervention is not done by the community or the VDC, with few exceptions.

The VDCs are key players in the identification of target beneficiaries and households. Consequently, selection criteria must be developed for membership in the VDC. In PA, the CAHWs and the PA Field Officer develop the selection criteria for membership of the VDC. The selection criteria for membership included literacy, good relationships with the community, local residence, indigenous knowledge on animal health care and nutrition, and a business-oriented approach to veterinary services.

Table 2 shows the numbers targeted for a goat restocking project implemented by the SRCS. This shows that only a small proportion of households from any village are actually targeted, less than 10%, and that the number of goats received by each household is very small (about 3).

6. Monitoring and evaluation

Little information was available to the team on process monitoring, proxies for impact assessment, or the level of community participation in monitoring and impact assessment. The process of implementation is monitored, and observed changes during implementation of the activities are recorded. Final project evaluation is carried out jointly (with donor), and impact is also assessed after the phasing out of the project, but details were unavailable to the study team.

FAO monitors the projects of their implementing partners, including GAA. This is not a joint monitoring. FAO undertakes monitoring visits to intervention areas, the frequency of which depends on the type of intervention. For livestock interventions involving vaccination and drug distribution, visits are made four weeks after the delivery of inputs. In the case of fodder provision, the visits are conducted in two stages—before and after distribution (to ensure the “needy” people are reached). Monitoring visits include meeting with implementing partners and service providers, and also with beneficiaries through the village-level committees. Progress reports delivered by agencies are also reviewed by FAO, and attachment reports are developed by FAO following the monitoring. Final reports are also triangulated by field level reports by FAO. The results are discussed at the Food Security and Livelihoods cluster forum meeting.

For SRCS, the Food Security and Livelihoods Project Officer closely monitors the implementation of activities and the operating environment. Data collected by SRCS and CAHWs include milk output, number kidding, morbidity and mortality, and

Table 2. Total number population HH and target village

Target villages	Total population	Target beneficiaries Women-headed HH		Total beneficiaries	Goats
		Drought affected	IDPs		
Adrgawi Genoub	1,348	25	0	25	75
Gulsa	1,786	0	11	11	30
Fedayeb	1,702	0	10	24	75
Sarobtawi	194	15	0	15	45
Alsweil	1,052	15	0	15	45
Total	6082	55	21	90	270

Source: SRCS

numbers of animals treated and/or vaccinated. Efforts are also made to obtain evidence, by proxy impact indicators, of improvement of the health condition or nutritional status of children or improving income generation. The target VDCs and CAHWs conduct close monitoring and follow-up on the beneficiaries and the health condition of restocked animals. SRCS supports the involvement of community members and beneficiaries in community participatory assessment and reporting.

7. Community perspective on their situation

One focus group was held with beneficiaries of a restocking project by PA, from six localities, to get their perspective on the emergency situation and the response. The restocking was with goats, with one exception where beneficiaries received chickens. Based on the focus group discussion (FGD), the community perspective of the emergency situation and the emergency intervention was documented. Regarding the poultry intervention, the discussants indicated that it took place in one village only, and the idea came from the organization (not the community). The beneficiary selection criteria were drafted by the organization and were consolidated by the VDC. This intervention targeted only women. The selected beneficiaries were trained in keeping poultry. Each beneficiary received 20 hens with fodder for a month; thereafter, the fodder and other required input is purchased with the income generated from selling the eggs. At the time of the study team visit, this was at mid-implementation.

Discussants described the strong link between communities and the local and international NGOs either through the CBOs, or their direct participation in the VDC meetings and discussions. This could promote agreement about targeting the interventions at the needs of vulnerable groups. The discussants fully participated in the procedure of identifying the beneficiaries. The criteria for selection of the beneficiaries were shared at a meeting in their community. The community leaders amended the list and also established a development committee consisting of 15 members (of whom 5 were women). Once the criteria were well understood and agreed upon by this committee, they selected the beneficiaries based on the amended criteria and common consensus. The main criteria were that the selected beneficiaries were poor people, and households headed by women, or widowed women.

According to the beneficiaries, assessment surveys are carried out in the area following a crisis. After the assessment, however, there is less engagement with the communities on the type of intervention. There is also minimal engagement by the community leaders or the

target groups in the choice of the type and design of the emergency interventions. The intervention selected was restocking, and there were two modalities of operation. One involved giving live animals to primary beneficiaries, who will in turn transfer offspring to waiting families; and another was giving out cash, or credit, to the primary beneficiaries, which will be used to purchase animals. These individuals then pay back the amount over a period of 2–3 years. The money is given to new beneficiaries to buy animals. Thus, the discussants felt they had fully participated in the procedure in identifying the beneficiaries, but participated little in defining the type of intervention.

There is transparency in the procurement of animals for restocking. According to the discussants, the “animal procurement team” is composed of several institutional representatives, including the NGO, beneficiaries, and representatives of the SMAFILR. The beneficiaries select the animals, and these are visually checked, including the teat condition, by a veterinarian, who is a member of the procurement team. The NGO Project Officer then pays the money and buys the goats in the presence of the beneficiaries’ representatives. In situations where women are to represent the beneficiaries during the procurement process, in view of other household responsibilities, a male member of the household represents them. Finally, all beneficiaries sign a contract with the NGO. The NGO officer follows up with the beneficiaries regarding their payments in installments, distribution of offspring to those on the waiting list, and follow-up with the trained CAHWs regarding animal health.

The targeted women preferred a credit intervention, while most of the men preferred the revolving fund. Based on the responses of the beneficiaries in the FGDs, the restocking intervention has enabled them to improve family diet, created an opportunity for income generation through sale of male offspring, and contributed towards partly bridging the food security gap. Despite restocking not being requested by the community and the type of animal not being chosen by the community, there were still tangible benefits from the intervention in the opinion of the community. The beneficiaries could have registered much higher dividends to the community if they were given a choice on the type of intervention.

8. Environmental considerations

There are a number of environment-related activities, which are implemented alongside agency interventions. PA engages in efforts to increase awareness among those cultivating land to also engage in planting trees. Elsewhere in the areas of operation, PA fosters community forestry and introduces terracing to conserve soil in areas with many seasonal rivers, e.g.,

north Kassala. IDPs are also encouraged to use construction materials that are environmentally friendly, like stabilized soil blocks (rather than wood). Use of solar energy is also being promoted instead of wood as a source of fuel. Other environment-focused activities included:

- Nurseries establishment for reforestation: a nursery established in Kassala has contributed to the distribution of 12,000 tree seedlings so far. Some of these were used in the revitalization of the community forest in four localities (Dalcookk, West Kassala, rural Kassala, and rural Aroma). Areas adjacent to the *hafir* in Girgir Dam have also been used to plant tree seedlings.
- The use of solar energy for village water yards is also an innovation that has cut cost as well as reduced the use of fossil fuels to run the pump. A submersible solar-driven pump⁹⁰ is now used. This was tested in four villages (one in each village), with a total coverage of 1,500 households.
- PA adopted a community participatory approach. In each community, a development committee was established by the community itself. PA then trained them to implement and manage the interventions. For instance, in case of nurseries and tree planting, PA trained an extension team and this team is responsible for every activity related to a specific intervention (seedling handling, transplanting, follow-up, etc). An MoU is signed between PA and the Horticulture Department to carry out technical support and periodic follow-up in collaboration with the community bodies. The same approach has been applied to the solar energy activities.

SRCS were also engaged in environmental protection activities, in its area of operation. For example, loss of key agricultural and grazing areas due to encroachment by *prosopis* is an area of concern, even though there are areas where *prosopis* can have benefits. Eradicating *prosopis* is a heavy and costly task; SRCS is taking the long-term view of controlling its spread through management by utilization. By grinding the seeds and feeding to animals, it is meeting two purposes (1) use of *prosopis* pods as feed during emergency and drought and (2) preventing further propagation/spread of the *prosopis* seeds by grinding the pods and seeds.

Sand dunes are becoming serious problems in villages, settlements, and in the oasis. SRCS helped build a 6 km wind break along the embankment of seasonal streams, where villages are located.

9. Concluding remarks

The experience in Kassala State illustrates different funding modalities for livestock projects, including “rapid emergency response funds,” target projects developed by State government, and DDR projects intended to support ex-combatants. The emergency fund allocated for quick response by Plan Sudan was considered a welcome trend, as was their initiative to support the priority needs of the State government through “target” projects, although these were not always funded as they fell outside the strategic plan of the NGO.

The official integration of the Zakat Chamber since the 1990s has paved a way for harnessing the vital role that can be played by social and religious institutions that have served as a social safety net. Building effective partnerships between a traditional social safety net like Zakat and other forms of support to help vulnerable communities needs to be further exploited.

Beneficiaries of all types of restocking are well represented in the VDCs, and they actively participate in the procurement of the animals for restocking and in the distribution.

Most of the restocking was offered as part of a “package” consisting of feed for animals and food for humans; however, the restocking interventions are only addressing the needs of a very small fraction of the vulnerable community, thus raising an issue of limited coverage. The success of the restocking is dependent on several factors, including: appropriate targeting of beneficiaries; selection of appropriate livestock; beneficiary capacity for livestock care and management; availability of livestock support services such as veterinary services; and availability of grazing, fodder, and water.

The SRCS initiative to use locally grown *prosopis* pods as a dry-season/emergency feed supplement is extremely welcome on two counts. First, from the perspective of providing a low cost nutritional feed supplement (as compared with the high cost of transporting *Kenana* supplements from central Sudan), and second, grinding the *prosopis* pods can also help prevent further propagation of mesquite, thereby reducing the encroachment of the grazing areas. This is a mesquite management through utilization approach that needs to be promoted.

LEGS as an operational tool has not been institutionalized by any of the agencies. There are few individuals within the respective agencies (government and NGOs) that have completed the LEGS training. For those that have completed the training, the benefits

⁹⁰ Pump yields 5m³/hr and works for 10 hours to produce enough to meet the needs of 3,000 individuals, considering the domestic use of 25 l/day/person as set in the Sphere criteria (Musa, Practical Action, personal communication). The installation cost/water yard is about 70,000 SDG.

have not gone beyond the individual benefits, which included better understanding of the livestock emergency issues, knowledge of how to better organize the design of emergency projects so as to focus not only on saving lives but also supporting livelihoods, and appreciating the role of assessments and evaluation tools in emergency interventions. Almost all of those trained seem to have lost confidence in applying the LEGS in their entirety. There was a general call for more training alongside developing modalities for further institutionalizing LEGS within agencies. There are some organizations that are best placed as potential entry points for the application of LEGS, including the Zakat Chamber and the Ministry of Livestock Resources and Fisheries.

The village-level committees played a key role in targeting and selecting beneficiaries, in distributing the animals, and in follow-up monitoring. Generally there was little experience to share of either process monitoring or evaluation.

Lessons Learned and Recommendations

Lessons from the various case studies have been consolidated and are presented here, together with specific recommendations aimed at the main stakeholders, including national government, NGOs, donors, and international agencies. The first section considers the disaster context in Sudan, as represented by the three States of the case studies, and makes some general recommendations. This is followed by reflections on each of the different types of livestock responses and related recommendations.

1. Multiple drivers of disaster in Sudan; need for multiple modalities and flexible response

Sudan has experienced a wide range of disasters and humanitarian crises prompting international humanitarian response over the past five decades. There are a wide range of drivers of these disasters, related to civil war and more localized conflicts, refugees and population displacement, and episodes of severe drought and flooding. The impact of these disasters on local livelihood systems has been exacerbated by a number of underlying factors that have increased risks and vulnerability of local populations. Generally these drivers of disaster are similar in the different case studies, although they play out differently according to the specific context.

For example, in North Darfur the underlying causes of the conflict are linked with the historical economic and social marginalization of the Darfur region and the lack of development, which has fuelled local grievances. This was combined with increasing natural resource-based conflicts, often connected with land, and resources on that land, which has played out between and within tribal groups and has polarized communities. In Blue Nile State, the ongoing hostilities in the new borderlands between North and South Sudan are linked to the former civil war and the Comprehensive Peace Agreement, which left several border issues unresolved. This has subsequently led to difficulties for pastoralist migration with their livestock into South Sudan. This situation is further exacerbated by the long-term expansion of mechanized farming in Blue Nile State that has seriously impacted the

availability of grazing areas.

In all three States, a major cause of livestock-related disaster is the closure or reduction in size of livestock migration routes and/or the loss of grazing areas for a range of reasons, including expansion of agriculture, changing land use, and localized insecurity. Differential access to natural resources and basic services by specific groups (usually livelihood groups, but also tribal groups) has generated inequities that fuel grievances and potentially conflict.

Many diverse factors have contributed to environmental degradation and stripping of natural resources, which in turn has implications for a wide range of livelihoods. In Sudan there is an increasing awareness of the implications of providing humanitarian relief year on year for the environment,⁹¹ which has triggered a range of initiatives to monitor and protect key resources.⁹² The erosion of local governance (the tribal administration) has undermined the management of natural resources and made it more difficult to resolve conflict over natural resources or even manage the system of overlapping rights to resources. The conflict between herders and farmers is a case in point.

There are also important features of humanitarian response in Sudan, including its protracted nature, with some IDP populations remaining in need of humanitarian assistance for several years. While responding to this protracted situation, humanitarian agencies are also responding to the needs generated by acute crises, disaster hotspots that crop up unpredictably. For example, clashes in North Darfur in early 2013, related to gold mining, resulted in burning of villages and population displacement.

Humanitarian response is one of multiple modalities of international response in Sudan. In North Darfur, in addition to humanitarian response, there is an international peacekeeping force (UNAMID⁹³) that undertakes some quick-impact and peace-building projects, and also “early recovery” programming initiated as a result of the partial signing of peace agreements. In Blue Nile State, restocking projects were implemented as both humanitarian projects and also as part of Demobilisation, Disarmament and

⁹¹ See for example, Tearfund, 2007, “Darfur: Water Supply in a Vulnerable Environment. Phase Two of Tearfund’s Darfur Environment Study.” Tearfund, Teddington, USAID, DFID, UNEP.

⁹² David Stone, Eugene Cole, and Grant Wroe-Street, 2008, “Assessing the Effectiveness of Fuel-Efficient Stove Programming: A Darfur-Wide Review,” UNEP.

⁹³ UNAMID is a hybrid United Nations African Union Mission in Darfur, whose mandate is “protection of civilians; contributing to security for humanitarian assistance; monitoring and verifying implementation of agreements, assisting an inclusive political process and contributing to the promotion of human rights and the rule of law,” <http://unamid.unmissions.org/Default.aspx?tabid=10998&language=en-US>.

Reintegration programmes, following the Comprehensive Peace Agreement between North and South Sudan signed in 2005.

FAO and government have introduced Disaster Risk Reduction approaches,⁹⁴ which widen the scope of response to include preparedness, contingency planning, and early response. In addition, UNEP Sudan is piloting an Ecosystems Disaster Risk Reduction project in North Darfur. These moves to better integrate humanitarian response with early recovery and rehabilitation, in order to establish a stronger foundation for long-term development initiatives, is positive.

The plethora of response modalities leads to a confusing array of institutional arrangements and projects, with potentially overlapping objectives that are not always so clearly distinguishable when considered on the ground from the perspective of beneficiaries and local institutions.

General recommendations

- 1.1. **Context is crucial.** National and international actors need to take a longer term perspective, taking account of the underlying causes of disaster risk and vulnerability of livelihoods, the history of humanitarian response and its links with development, and the longer term implications for recovery, rehabilitation, and, in conflict settings, peace building.
- 1.2. **Build capacity for flexible acute response mechanisms with strategic longer term planning.** Given the wide-ranging drivers of livestock-related disasters in Sudan, further developing and maintaining a capacity for rapid humanitarian response remains a priority. Some of the most successful and highly regarded livestock-based responses were initiated at the height of the humanitarian crises, but the expertise needed to implement such projects is not widely available, and so this capacity should be assured by building capacity of national organizations and personnel. While national NGOs have excellent local experience and knowledge, they would benefit from support from an international technical support team to promote best practice.

Second, despite positive developments by some agencies to introduce DRR strategies, more work is needed overall. Building stronger sectoral coordination that fosters solid strategic

planning, including solid recovery and rehabilitation plans, that goes along with the country's long-term livestock sector development plans, by the sector as a whole and within specific agencies, is vital.

- 1.3. **Funding.** For this type of contingency planning capacity to be developed, there needs to be contingency funding, which is available from some donors and also within some agencies. However, national agencies in particular suffer from a lack of donor flexibility. Where national agencies have demonstrated their organizational competencies, more opportunities for direct funding should be available, for example from the Common Humanitarian Fund.

2. Livestock-based responses—increasing coverage and scale, diversity, and integrated approaches

There were a diverse range of livestock-based interventions found in the national review and the three case studies that included: animal health provision (curative and preventative); restocking (donkey, sheep, and milk goats), herd rebuilding, and feed provision (hay and concentrates from central Sudan); rangeland and pasture rehabilitation; migration route demarcation and/or opening; and water provision (*hafir* rehabilitation, borehole and shallow well rehabilitation and development). Despite the diversity, the combinations of livestock-based responses are not always complementary, and the overall efficacy of response and its wider impact could be improved by introducing complementary projects. For example, some agencies have shown a potential impact on the management of livelihood-based resources and also social relations between farmers and herders as a result of implementing livestock-related responses.

Overall the coverage, scale, and number of livestock emergency interventions were considered by the team to be disproportionately small compared to the wider emergency response. The first report in this series of two reports on LEGS explores this issue in more depth. Without comprehensive assessments, it is difficult to judge what proportion of the livestock emergency and recovery needs are being met.

Community Animal Health Workers (CAHWs)

The training of CAHWs is the key element in the provision of animal health services in both the emergency and recovery phase of disasters. Supervised

⁹⁴ FAO have conducted staff trainings and disaster profiling so as to streamline DRR/DRM in emergency, recovery, and development response mechanisms.

and well-trained CAHWs have proven their potential as vet service providers during disasters and during normal times.⁹⁵ A welcome trend is the lead role played by the Ministry of Livestock, Fisheries and Rangeland in this training, and their partnerships with NGOs and UN agencies (FAO and a model that was developed by ICRC). A further positive aspect is the selection of people for CAHWs training from local communities, which helps to gain community confidence and facilitate participation, thereby increasing effectiveness. Some implementing agencies reported CAHW dropout.⁹⁶

Cost recovery for vaccination and drugs was widely seen as crucial for longer term delivery of animal health services.⁹⁷ In North Darfur, the State Ministry is conducting a pilot supported by ICRC, and other agencies have expressed interest in supporting this.

The local and national government have a key role in regulating drug quality and supply in the market. The black market provides poor quality and cheap drugs, making the drugs supplied by the CAHWs uncompetitive. This compromises the sustainability of the CAHW system.

CAHWs recommendations:

- 2.1. CAHWs have been shown to be a cost-effective livestock health delivery mechanism in Sudan and elsewhere. To expand this approach, a clear strategy for phasing in (and more importantly phasing out) the approach needs to be developed, with MLFR playing a pivotal role in supporting the training and the standardization of the CAHW training materials. It will not necessarily be suitable for all contexts; thus a range of response options/portfolios need to be explored.
- 2.2. The limited but emerging experience of cost recovery is welcome and positive. The

government should facilitate the involvement of the private sector in the provision of the drugs in cost recovery. The government should play both a regulatory role and promote awareness at local level on the importance of using quality drugs at the same time as enforcing trading standards in local markets.

- 2.3. There is a need to seriously review the CAHWs high dropout rate as mentioned in the North Darfur case study, and identify the root causes in order to plan a more strategic approach to CAHWs training. This needs a proper review to discover local-level causes and possible solutions.

Feed Distribution Recommendations

- 2.4. More technical development work is needed on feed distribution, in particular reviewing and more clearly defining the feeding level and its intended production outcomes (for example, minimum survival rations or rations intended to stabilize body weight or re-establish body weight gain or reproductive performance). This should then inform the development of the technical and logistic details of the intervention programme. Existing opportunities of using locally available feed resources should be explored more fully, rather than transporting expensive concentrates from central Sudan.

There is little information available on assessing the impact of range rehabilitation; hence, learning more about the impact of the Darfur experience is essential. The experience of rehabilitation of grazing areas is potentially important, not only in terms of sustaining livestock but also in relation to the possibility of reduction in conflict over resources,

⁹⁵ <http://www.livestock-emergency.net/userfiles/file/veterinary-services/Catley-et-al-2004.pdf>.

⁹⁶ *New Agriculturalist*, in its article "No Vet in Sight" shares the concern of CAHWs dropping out and states, "When training community paravets, the first consideration must be: whom to train? Sustainability is more certain if the community has participated in the initial selection of trainees, and refresher training and access to professional support and veterinary drugs after the project ends also help to ensure that those selected continue working. Efforts to bring more women into training programmes have not always been as successful as donors may have wished. The usual procedure adopted in International Fund for Agricultural Development (IFAD)-supported projects is that community animal health workers are given a basic veterinary kit. This may be of a specific value or of specific content, such as vaccines, dressings, castration equipment etc. From the sale of vaccines and other treatments, the animal health worker is expected to finance the purchase of further stocks. Nevertheless, dropout rates may be high where the livestock-owning community is too small, too scattered or too poor to sustain a reasonable livelihood for the paravet," <http://www.new-ag.info/01-1/focuson/focuson1.html>.

⁹⁷ "Cost recovery may be a major disadvantage for poor people who cannot expect to recoup the cost, even supposing they can afford the services in the first place but, counter-intuitively, in some circumstances this is not the case. Full cost recovery can sometimes have the effect of improving the availability of veterinary drugs to the rural poor," <http://www.new-ag.info/01-1/focuson/focuson1.html>.

and localized land degradation. However, there is little hard evidence from Sudan⁹⁸ to show that this approach is effective.

Restocking—provision of livestock

Restocking is one of the more common forms of livestock-based disaster response, and two forms of livestock provision were noted, including *herd re-constitution* (or rebuilding a viable herd, which links to longer term development), and *livestock distribution*. Regarding the former, communities do not generally define “minimum” herd sizes, and so if necessary this is dictated by the agency and/or the level of funding, as well as donor preference. The key point here is that appropriate livestock species and breeds need to be distributed in adequate numbers and through appropriate mechanisms to provide viable and sustainable benefit to target communities. ICRC have reviewed the experience of restocking projects and identified a number of issues concerning targeting, species selection, numbers of animals to support livelihoods, and impact on markets. For more information see the North Darfur case study.

There are several security issues regarding restocking in conflict-affected settings, including: the security implications for the agency and communities of providing livestock; the risks to the restocked households of theft or violence; and the potential for conflict over natural resources between the farming and herding communities. These risks vary according to the livestock species; for example, some sheep, cattle, and camels pose higher security risks than goats.

Keeping livestock was also not viable for many of the disaster-affected communities, even where there was a previous history and experience of raising livestock, as their current situation was not conducive, either in terms of security or access to fodder and water. The more experienced agencies would consider these issues as part of their assessments and targeting criteria. There was also a lack of awareness on the link between restocking and its potential environmental impact.

Restocking recommendations

- 2.5. There is a strong need to standardize procedures on the provision of livestock and to build the capacity of the agencies involved in the implementation of this emergency intervention. The issue of community participation and consultation regarding the choice of livestock species is also important to consider.
- 2.6. The experience of the Zakat Chamber in the Kassala case study indicates that the indigenous Zakat social safety net is a good example of established governmental response mechanisms to livestock-related emergencies, which would benefit from further study. See also a case study from Ethiopia⁹⁹ on how two traditional social safety nets—the Zakat in Somali region and Bussa Gonnofa in Borana, Oromia region, were used in the goats restocking process.¹⁰⁰
- 2.7. The benefits of restocking may also be undermined if the beneficiaries suffer increasing food insecurity and are forced to sell or consume their livestock. In such situations, additional support would be beneficial; for example, integrating the restocking programs with other income-generation activities that help beneficiaries keep the restocked animals without needing to sell them until a viable flock size is attained.

Water

Provision of water and development or rehabilitation of water sources is potentially the most crucial aspect of a livestock-based response, both in terms of the needs of livestock for water and pasture in drylands and in terms of planning and implementation. The development of new watering points intended for livestock and people can have serious implications. Key

⁹⁸ Work by Mahgoub G. Zaroug in early 2000 pointed out that “Techniques for rehabilitation of degraded rangeland (seeding methods, soil moisture conservation techniques, water harvesting, water spreading etc.) most are rather costly compared to the likely economic returns; unless sound management is applied and controlled grazing undertaken then rehabilitation efforts may not be sustainable. ... Rangeland rehabilitation by re-seeding with or without fencing ... using locally collected seed of desirable native forage species ... in Sodari area of Northern Kordofan, in the Butana area ... results were not sufficiently well recorded and the performance of the reseeded species was not monitored over a long enough period to generate reliable results. Constraints that hindered the implementation of the trial included late seed delivery towards the end of the wet season and no clear role for the beneficiary communities in protection and management of the site.” Source: M. G. Zaroug, 2000, “Grassland and Pasture Crops,” Country Pasture/Forage Resource Profiles, Sudan.

⁹⁹ See pp. 236–237, LEGS Handbook (case study by Getachew Gebru).

¹⁰⁰ Save the Children USA built upon existing clan knowledge of livestock “insurance,” a community restocking system. “Due to the overwhelming needs at the peak of the drought crisis, SC-US subsidized 50% of restocking while the clan provided the other 50% in order to create ownership. An evaluation of the restocking project showed that households had improved their resilience to drought risks, and in order to create a culture of safety, regular meetings ensure that communities are kept aware of risks and how to mitigate and respond to them,” <http://community.eldis.org/.5b44f6cb/Save%20the%20Children%20case%20study%20-%20revised.pdf>.

issues relate to overcrowding and density of livestock concentrations, the utilization of pasture by grazing livestock, land degradation in the surrounding area because of overgrazing, and risk of conflict between livestock owners (particularly between pastoralists, or pastoralists and agro-pastoralists). There is also the risk of changing land use, such as the introduction of crop cultivation around water points.

A further issue relates to the importance of avoiding excessive extraction (either through density of water sources or high extraction rates). There were examples of successfully increasing water availability through dam construction in North Darfur, but this had a serious knock-on effect of drawing pastoralist cattle herds away from their regular routes, which increased tensions with local farmers over risk of crop damage. The interests of all potential user groups need to be considered, as well as a consideration of both the domestic and productive uses of water, as people, both farmers and herders, are sharing water with their livestock, which has major implications for sanitation and hygiene.

The potential impact on availability and access to water by different groups, their patterns of water use, and potential for tensions between user groups must also be considered.

Water points recommendations

- 2.8. Regarding the services to be supported along the migratory routes, water points are a key consideration.
- 2.9. Regarding water services more broadly, a clear understanding is needed on access to water points and patterns of usage by different user groups, including farmers and pastoralists. Key issues are access by village people to the water point, where to locate the water point, frequency, modality, and duration of use (including how long and when pastoralists will stay around water points), how many animals will be at the water point at any one time, and the management modality of the watering point. The water needs of the pastoralists and farmers need to be estimated to ensure equity in use.
- 2.10. The operation and management of the water points is also a key consideration, and is best linked with the establishment of a joint user committee (farmers and herders) and generating income (user fees) for future repair and maintenance of the scheme.

Demarcation of migration routes

Some NGOs and CBO networks have had good experiences in Sudan of supporting the demarcation and management of livestock migration routes. The approach has been both fully participatory and integrated with establishing water points, resting points, and grazing areas along the corridors. This work directly involved multiple user groups, including both pastoralists and farmers groups, and therefore potentially served as a mechanism for peace building. The strategic development of water points further north in North Darfur helped to delay the southwards migration of livestock to avoid encroaching on crops before harvest. This reduced the risk of herder-farmer conflict associated with restricted access because of extensive cultivation or crop damage by livestock pre-harvest.

Recommendation

- 2.11. This experience of acknowledging, upholding, and protecting the mobility of pastoralist herds, linked with water provision, grazing, and resting areas, is relevant to disaster-affected pastoralist communities throughout Sudan, and should inform the further development of the Livestock Emergency Guidelines and Standards and related practical and policy guidance. This would require a more in-depth evaluation and impact assessment of demarcation initiatives and their impact on pastoralist livelihoods, and also on improving relations between farmers and herders.

3. Assessment and targeting

Only a few examples of assessments linked to livestock-based responses were available. These included the Mellit flood response in North Darfur, which was based on a multi-agency joint assessment that included livestock responses. There have also been a number of OCHA-coordinated multi-sectoral assessments, where the food security and livelihood cluster were represented. In 2010, a joint assessment questionnaire was developed for Darfur; livestock and agriculture issues were emphasized. Despite these examples, livestock-related assessments are limited and remain a challenge. While there has been serious multi-agency planning and funding for a region-wide livelihood assessment in recent years, fieldwork was curtailed by lack of permissions and was replaced by a desk exercise. Need assessments are important as a condition for CHF funding. However, the assessments are not necessarily required per agency or NGO but from the food security and livelihoods cluster in order to inform the sector response plans while developing

the priority activities and sector implementation strategies.

Livestock interventions require both geographic targeting of the worst affected areas and selective targeting of beneficiaries within those areas, which is usually based on information from the village development committee. The overriding consideration in how many beneficiaries are targeted remains the funding constraints and donor priorities. Apart from the level of available funding, other pragmatic considerations that influence geographic targeting include humanitarian access linked to the local security situation, the presence of local NGOs, and also village size and proximity of water points (some agencies preferred to serve larger villages rather than smaller ones).

Implementing agencies tend to focus on targeting individual beneficiary households and monitoring to ensure that the inputs reach the intended persons. This process is usually implemented or at least facilitated by community distribution committees or existing village elders or leadership structures to facilitate the equitable distribution of resources and, where appropriate, target vulnerable households. If available, the CAHWs also facilitate targeting alongside the local committee.

Targeting criteria that are used to identify the target groups are usually developed with community representatives and include, for example, IDPs, widows, abandoned women-headed households, physically disabled, and those identified by the Zakat as “needy” and generally perceived as more “vulnerable.”

Recommendations

- 3.1. Proper assessments are the backbone of good programming and contribute to shared understanding and strong analysis among multiple stakeholders at all levels. Darfur has a strong foundation of livelihood analysis to build on, and this should be used to mobilise national and international actors to support follow-up assessments. These need to be tailored to the current context, and the assessment objectives need to clearly differentiate between assessing short-term acute humanitarian needs versus longer term needs, to build social, institutional, and

livelihood resilience. Strategies for implementing assessments need to be carefully planned.

- 3.2. Geographic targeting (the identification and selection of specific geographic areas according to need) faces major constraints, in terms of sufficient funding to ensure comprehensive coverage, and ensuring humanitarian access as a result of protracted insecurity. These issues cannot be resolved by individual agencies, or technical targeting mechanisms per se, and rather should be addressed collectively by multiple stakeholders across and between all levels—community, local, state, and national. A more collective approach will help to reinforce and strengthen individual efforts (rather than creating isolated pockets of good practice).¹⁰¹
- 3.3. The leading role of the MLFR in the state coordination fora is particularly important for enhancing or creating linkages with government and other national bodies, and between different administrative levels (local, state, and national). This should be recognized and further encouraged, by increasing the engagement with the Pastoralists and Farmers Union representatives, and also with the Zakat Ministry.

4. Coordination

The coordination by the Food Security and Livelihoods Cluster has reportedly been impressive in the past, although more recently cluster activity has waned,¹⁰² and there were strong suggestions that it needs to be revitalized. The recent weakness of the FSL cluster coordination has hindered coordinated action for livestock-related activities.

The coordination fora serve as a crucial link between the international humanitarian community and the national government and other bodies. Threats to livelihoods associated with livestock cannot be solved without a sectorally integrated approach.

The active lead by the state-level Ministries of Livestock, Fisheries and Range is a welcome trend.

¹⁰¹ See for example a related experience in the Philippines: C. Brady, O. Agoncillo et al., in press 2013, “Improving Natural Resource Governance and Building Peace and Stability in Mindanao, Philippines.” In H. Young and L. Goldman, eds., *Livelihoods, Natural Resources, and Post-Conflict Peacebuilding*. Book 4 in Post-Conflict Peacebuilding and Natural Resource Management Series. Environmental Law Institute, United Nations Environment Programme, University of Tokyo.

¹⁰² The reasons for this are not entirely clear, but could be a result of the reduction in donor funding over the past three years and pressures on FAO and other agencies. See Merry Fitzpatrick and Helen Young, 2013, “Livestock, Livelihoods, and Disaster Response: PART ONE: A Review of Livestock Based Livelihood Projects in Sudan,” Feinstein International Center, Tufts University, UNEP Sudan, SOS Sahel Sudan, Ministry of Livestock, Fisheries and Range. Also see the North Darfur case study for more on this.

Their role in the Livestock Working Group in North Darfur has contributed to the standardization and harmonization of the different strategies and approaches of agencies to livestock-based emergency programming.

A further potential gap relates to donors' understanding of the efficacy of livestock-based responses, both as vital components of emergency response and also as part of early recovery.

Recommendations

- 4.1. Technical coordination at state and federal level needs to be improved and revitalized. The role and authority of the state-level Livestock Working Group could be usefully extended to encompass technical coordination (beyond reviewing agency progress reports), including more decision-making power to ensure that the approved technical and logistical recommendations/decisions are adhered to by members and documenting recognized best practices across agencies that could be scaled up.
- 4.2. The positive experience of the North Darfur LWG and the role of government bodies, with integration between state policies and emergency response decision making, needs to be extended to the higher federal level to ensure strong institutional linkages and national integration.
- 4.3. There is a need for donor lobbying and advocacy to help raise awareness about the importance of livestock-based responses and their wider impacts.

5. Partnership and institution building

In the current context in all three States and especially in North Darfur, practical and innovative partnerships have proved vital, if not essential, for delivering assistance and addressing security issues in the short term and for potentially ensuring more sustainable impacts on social relations and building institutions in the longer term. There are wide-ranging practices and experiences of partnership between national and international NGOs, government bodies, and CBO networks. Examples of consensus-building interventions that simultaneously support both farmers and nomads, thus highlighting their inter-dependence, included the joint conference held between the "animal route committee" and the "farm protection committee" to address issues of common interest in North Darfur.

Partnerships in contexts like North Darfur often start as a pragmatic response to challenges of project implementation, such as overcoming problems of restricted access. More importantly, they are increasingly recognized as contributing to the process of building resilient institutions with potential impacts on local peace building.

Recommendation

- 5.1. These evolving new forms of partnership, networks, and multiple levels of collaboration need to be properly reviewed and studied to highlight good practice and establish their wider impacts on local institutions and peace building.
- 5.2. There is a role for the federal MLRF in advocating on strengthening the different CBOs, particularly the Farmers and Pastoralists Unions.

6. Impact assessment

All agencies carry out internal process monitoring, while donors or lead partners undertake external project monitoring to varying degrees. In contrast, there is little or no attention paid to impact assessment, and this was considered to be a real obstacle to institutional learning and improving practice. Despite the positive verbal reports of project impact, all of the evidence was essentially anecdotal, which makes it difficult to consider impact over time or allow comparative analysis of different projects.

The short one-year (or less) project time frame was seen as a major challenge for proper evaluation and impact assessment. A further shortcoming is the lack of skills and capacities to undertake impact assessments among some agencies, and also that project proposals do not include impact assessments generally, which curtails the opportunity from the start.

The problem is in part a lack of funding and earmarked resources allocated for the impact assessment, which goes beyond the project grant period.

Recommendations

- 6.1. Impact assessments should be prioritized by donors, the MLRF, and implementing agencies given the resources spent on livestock emergency responses and reported benefits, which extend to environmental, institutional, and peace-building impacts.

- 6.2. A sustained programme of capacity building linked to application of tools such as “Participatory Impact Assessment” (PIA) would contribute to institutional learning and improving practice.
- 6.3. There needs to be advocacy or lobbying of donors regarding the importance of supporting impact assessments, either attached to the projects themselves or as a separate plan.

7. Adoption of the Livestock Emergency Guidelines and Standards (LEGS) approach

In general, the LEGS approach has not yet been fully adopted, as there are relatively few trained people and increasing awareness is needed on its use and application. Despite this, there were individuals who have participated in the LEGS trainings from the case study areas; however, it appears that the approach is not yet fully utilized by the agencies concerned. The reasons for this are unclear; it may relate to the short period given for training or the lack of awareness among the more senior (untrained) personnel. Some agencies indicated that they had used LEGS as an emergency response planning tool and also to help draw lessons from their implemented emergency responses.

The approaches to implementation for the different responses are very diverse and mostly agency specific, and this poses problems to standardization. This signals opportunities for LEGS in relation to promoting harmonization of implementation procedures where this is desirable. Harmonization would be helpful in feed type and distribution, in restocking species and decisions about breeds and numbers, in the use of traditional social safety nets, and in the provision of veterinary services and use of CAHWs.

Within the LEGS Handbook, there is an important opportunity for LEGS to incorporate environmental considerations within livestock emergency responses. The knowledge on the crucial aspects of environmental impacts of livestock emergency interventions can best be addressed with the use of the LEGS Handbook.

8. Environmental considerations and peace building

Within Sudan, there is a welcome trend in fostering environmentally friendly initiatives;¹⁰³ however, there remains a serious knowledge gap amongst the

implementing agencies on considerations of environmental impact during livestock-related emergency response. The LEGS Handbook presents important environmental issues that need to be considered prior to the implementation of livestock emergency interventions (although these are not collated under a specific environmental section). In the case studies, none of the organizations considered environmental issues in relation to their livestock interventions. For example, in the IDP camps there are many environmental issues related to shelter construction for animals, concentration of livestock in populated areas, hygienic management of waste disposal, proximity to people and environmental health, and design and sustainable use of local materials for construction. There was no evidence these issues had been addressed or even considered prior to intervention.

The implementation of livestock-based livelihoods projects provides a significant opportunity to bring together multiple stakeholder groups with a shared interest in the management of resources. Through community-based targeting and the management of migration routes, projects and their CBO partners were able to constructively engage individuals in a process of developing local institutional capacities so as to improve governance of the natural resources crucial to local livelihoods. There is room for expanding this engagement; for example, by engagement with representatives of the Farmers and Pastoralists Unions and by linking more explicitly engagement at the different administrative levels. Nevertheless, the recent experience is very positive.

Furthermore, livestock emergency projects in conflict settings such as North Darfur are not only contributing to livestock-based livelihoods. They are also potentially making a significant contribution to managing local livelihood-based resources, and in so doing, they impact on local governance capacity building and thereby can contribute to peace building. Much of the evidence for this is currently anecdotal, and it would be extremely valuable to shift towards more empirically based analysis of this wider impact on local governance and peace building.

¹⁰³ For example, use of solar energy, use of Berkley Stoves to prevent use of trees as source of firewood, protecting sand dunes, use of alternatives for construction of shelters, fences, and homesteads in IDP camps and settled households, afforestation, protecting community forests, and mesquite management and utilization (grinding the pods to arrest encroachment of grazing lands and prevent loss of the palatable grass species).

Annex 1: Acronyms

AHA	Africa Humanitarian Action
AIDS	Acquired Immunodeficiency Syndrome
BQ	Black Quarter (disease)
CAHW	Community Animal Health Worker
CBOs	Community-Based Organizations
CHF	Common Humanitarian Fund
COOPI	Cooperazione Internazionale
CORDAID	Catholic Organization for Relief and Development Aid
CPA	Comprehensive Peace Agreement
CPOs	Country Programme Outlines
CVVA	Charity for Voluntary Veterinary Association
DCPSF	Darfur Community Peace and Stability Fund
DDA	Dar Es Salam Development Association
DDR	Disarmament, Demobilisation and Reintegration
DG	Director General
DRRA	Darfur Relief and Reconstruction Agency
ECHO	European Community Humanitarian Aid Office
EIA	Environmental Impact Assessment
EU	European Union
FAO	Food and Agricultural Organization of the United Nations
FGD	Focus Group Discussion
FIC	Feinstein International Center
FSL	Food Security and Livelihoods
GAA	German Agro-Action
HAC	Humanitarian Aid Commission
HH	House Hold
HIV	Human Immunodeficiency Virus
HS	Haemorrhagic Septicaemia (disease)
IASC	Interagency Standing Committee
ICRC	International Committee of Red Cross
IDPs	Internally Displaced Persons
IFAD	International Fund for Agricultural Development
IGA	Income-Generating Activities
INGO	International Non-Governmental Organization
IOM	International Organization for Migration
ISRA	Islamic Relief Agency
LEGS	Livestock Emergency Guidelines and Standards
LWG	Livestock Working Group
M&E	Monitoring and Evaluation
MLFR	Ministry of Livestock, Fisheries and Rangelands
MoU	Memorandum of Understanding
MRE	Mine Risk Education
NGOs	Non-Governmental Organizations
OCHA	Office for the Coordination of Humanitarian Affairs
PA	Practical Action
PAPD	Participatory Action Plan Development

Paravets	Para-veterinarians
PDF	Portable Document Format
PIA	Participatory Impact Assessment
PPR	Peste des Petits Ruminants (disease)
SAF	Sudan Armed Forces
SDG	Sudanese Geneh/Pound
SMAFILR	State Ministry of Agriculture, Forestry, Irrigation, Livestock and Fisheries (Kassala)
SMAARFFI	State Ministry of Agriculture, Animal Resources, Fisheries, Forestry, and Irrigation (Blue Nile)
SMLFR	State Ministry of Livestock, Fisheries and Range (North Darfur)
SPCRP	Sudan Productive Capacity building and Recovery Program
SRCS	Sudanese Red Crescent Society
UN	United Nations
UNAMID	United Nations–African Union Mission in Darfur
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children’s Fund
UNMIS	United Nations Mission in Sudan
USD	United States Dollar
VDCs	Village Development Committees
VSF	Veterinaires Sans Frontieres
WDAs	Women Development Associations
WFP	World Food Programme
WVI	World Vision International

Annex 2: List of contacted people

Ministry of Livestock, Fisheries and Rangelands (MLFR)—Khartoum (HQ):

No.	Name	Department	Position
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3	Dr. Nisreen Ahmed Hamid	AHEDC, Khartoum	General Director, technical office
4	Dr. Amar Sheikh Iddris Omer	MLFR, Khartoum	DG, Panning and Livestock Economics

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State Ministry of Agriculture, Animal Resources, Fisheries, Forestry, and Irrigation (SMAARFFI)—Blue Nile State—Damazine

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3	Dr. Ali Rashid	Animal Health and Epizootic Disease Control GD, Blue Nile	Director General (DG)
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