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War, oil and the decline of Misseriyya Humr pastoralism in Sudan

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Acronyms

ABC	Abyei Border Commission
APC	Abyei Peace Committee
ARS	Area Rehabilitation Scheme (UNDP)
CNPC	China National Petroleum Corporation
CPA	Comprehensive Peace Agreement
DDR	disarmament, demobilisation and reintegration
FAO	Food and Agriculture Organisation
GAA	German Agro Action
GNPOC	Greater Nile Petroleum Operating Company
GOS	Government of Sudan
GOSS	Government of Southern Sudan
HAC	Humanitarian Aid Commission
IDP	internally displaced person
IFAD	International Fund for Agricultural Development
JEM	Justice and Equality Movement
LRC	Livestock Route Company
NCP	National Congress Party
NDO	National Development Organisation
NEX-MSU	National Execution Management Support Unit (UNDP)
NSR	Northern Stock Route
NWC	National Water Corporation
OLS	Operation Lifeline Sudan
PACTA	Programme Advancing Conflict Transformation in Abyei
PADCO	Planning and Development Collaborative International
PCP	Popular Congress Party
PDF	Popular Defence Force
PDOC	Petrodar Operating Company
PHCC	Primary Health Care Centre
RCSO	Resident Co-ordinator's Support Office
SC-US	Save the Children US
SDG	Sudan New Pound
SKADP	South Kordofan Agricultural Development Project
SKRPU	South Kordofan Rural Planning Unit
SPLA	Sudan People's Liberation Army
SPLM	Sudan People's Liberation Movement
SSR	Southern Stock Route
TLU	Tropical Livestock Unit

UNDP	United Nations Development Programme
UNFPA	United Nations Population's Fund
UNICEF	United Nations Children's Fund
UNMIS	United Nations Mission in Sudan
USAID	United States Agency for International Development
WFP	World Food Programme
WNPOC	White Nile Petroleum Operating Company
WSRMP	Western Sudan Resource Management Programme

Chapter 1

Introduction

This report presents the findings of a study into the current evolution of Misseriyya livelihoods commissioned by the UK Department for International Development upon request from UNMIS and UNRCO Abyei. The study was conducted by a five-person team comprising one Arabic-speaking, international researcher with extensive knowledge of Sudan and pastoralism and four experienced Sudanese researchers¹ with expertise in pastoralism, range management, animal production and agricultural economics. All five researchers were familiar with Dar Misseriyya and had conducted substantive fieldwork in the region in the past. Two team members hailed from the region itself, a factor which facilitated access to stakeholders in many of the areas visited.

Data collection was carried out between June and September in Sudan and the UK in order to gather academic and grey material on the Misseriyya. A wealth of documents was uncovered, including substantial technical studies on the area carried out in the 1980s and after. The field study took place over two months in September and October with two separate fieldtrips. The team interviewed a wide range of stakeholders (including local leaders, administrators, elders, youth, women, pastoralists, ex-pastoralists, farmers, traders, paravets and aid workers) in nomadic *furqan* (sub-units), small settlements and larger towns along the three Misseriyya transhumance routes. Locations where fieldwork was undertaken include: Babanusa, el-Bija, Debab, el-Fula, Momo, al-Muqaddama, Kharasana, Keilak, el-Khudr, el-Muglad, Nyama, Sammoa and Siteib.

Data collection and field analysis focused on assets, livelihoods strategies and outcomes, which were examined within the broader environmental, social, political and economic context to take into account the institutions, policies and processes affecting the changes Misseriyya livelihoods are undergoing. Special attention was paid to the relationships between different interest groups in the area, to map evidence of competition over resources and to identify other points of possible conflict.

1.1 Background

The Misseriyya are a pastoralist group occupying the Western Sector of Southern Kordofan State, which was created through the merger of former West Kordofan and South Kordofan states in 2005. The merger was stipulated by the Comprehensive Peace Agreement (CPA), which ended the war between North and South Sudan in 2005. The Western Sector lies between longitudes 270 10'-290 58' E and latitudes 090 00'-120 00' N.

¹ One of the researchers was seconded by USAID for the second phase of the fieldwork.

The Misseriyya belong to the Baggara Arabs and have been living in the areas of south-western Kordofan and south-eastern Darfur since the end of the 1700s (Cunnison, 1966). The area is customarily referred to as Dar Misseriyya, and it is internally defined by three long transhumance routes called *murhals* (the Western, Central and Eastern *murhals*). The Misseriyya are divided into two main sub-groups: the Zuruq and the Humr. The Humr sub-tribe has two main sections, the Ajaira and the Fallaita. Each of these is administratively divided into five sub-sections called *omodiya*. The Ajaira are divided into Fayarin, Awlad Kamil, Mezaghna, Fadliya, Menama and 'Addal, while the Fallaita are divided into Metanin, Ziyud, Awlad Serur, Jubarat and Salamat. Each of these *omodiyas* is also divided into lineages called *hashm al-beyt*. Almost every lineage is then subdivided up to three times into further lineages also called *hashm al-beyt*, apart from the smallest unit, which is called a *surra* (Cunnison, 1966: 8–9). The division between the Ajaira and the Fallaita is reported to have been fostered by the British colonial administration and reflected the need for an organisation that could enforce law and order, collect taxes and transmit administrative orders (HTS, 1981 (annex 5): 67–68).

In the *surras*, clusters of households gather together in small camps called *iyal rajil*. Within a traditional household, each married woman possesses her own tent, where her husband and children stay. Children usually have their own herd, in which women traditionally have milking rights. Husbands may be linked to more than one tent if they are polygamous or are providing for a divorced or widowed relative. As a result, multiple tents in a camp can come under the direct or indirect authority of one person (HTS, 1981 (annex 5): 56–57). There is considerable fluidity and flexibility between groups, for economic and social reasons, and households and cooperative associations can change and move to other groups. This is facilitated by the lack of group rights for specific stretches of land (Cunnison, 1966). The mainstay of the tribe is cattle, which is devolved between generations in two ways: inheritance after the death of a family member, and by the holder passing the property to his children or others (HTS, 1981 (annex 5): 58).

The ecosystem of the Misseriyya can be defined as a non-equilibrium environment, with no long-term balance between populations, available resources and other elements of the ecosystem. Misseriyya areas are characterised by high rainfall variability, scarce water, low natural biological productivity and extreme temperatures. The climate ranges from desert to semi-humid. It is hot throughout the year, with maximum temperatures from 420°C in May to 310°C in January. Minimum

temperatures range from 240^c in May to 130^c in January. Rainfall is highly seasonal and erratic, going from more than 750mm in the south to less than 200mm in the north. Drought is frequent, occurring one year in ten on average in the higher rainfall areas of the south, and in recent times three years out of ten in the north (IFAD, 2004: 27). Soil types vary from stabilised sand dunes (Qoz soils) to cracking clay (vertisols) and non-cracking clay soils (Gardud).

The availability and distribution of water is a crucial element in the livelihoods of the Misseriyya. In rural Southern Kordofan there are three main sources of water: underground, surface and sub-surface. Water is collected in four main ways: traditional hand-dug wells (a mix of surface and ground water), *hafirs* (surface water), water yards (groundwater) and boreholes (underground water). *Hafirs* and water yards are relatively new, dating back only to the late 1920s (HTS, 1981 (annex 2): 89). This is also when the first two boreholes were drilled in Muglad. Borehole drilling commenced again after the Second World War and gathered pace during the 1960s. About 140 boreholes were drilled in the Humr region, half of the total recorded by El Sammani in 1985 (pp. 77–78). Boreholes are concentrated along migration routes and near to settlers' locations, particularly the larger urban centres of Muglad and Babanusa.

Surface and subsurface water vary in their quality and reliability. These sources include surface pools (*butas* and *rahads*), seasonal streams (Wadi Shalengo, el Ghalla and el Hagiz) and perennial water courses. *Butas* and *rahads* are used for livestock watering and domestic needs during the rainy season, when pools are plentiful. They seldom last long, except in some clay soil areas where they can remain until December. The main beneficiaries of the seasonal springs, which have high discharge during the rainy season, are in the

Nuba Mountains. Perennial water sources are Bahr al-Arab (also known as the River Kiir), Lake Keilak and the *Rugab* (sing.: *raqaba*, a water course draining into the Bahr al-Arab). Water sources, including *wadis* and *khors*, are predominantly used for livestock and horticulture production, while agriculture is mostly rain-fed (Ali Siddig et al., 2007). While the utilisation of water sources does not seriously affect natural vegetation and soils, the degree of degradation around open water sources is increasing as more and more owners from northern Kordofan, particularly the Hamar, come to spend the dry season in the Humr region (El Sammani, 1985: 79–80).

1.1.1 Population

In what was then the Western district of South Kordofan, the population was estimated to be 154,014 in the mid-1950s (HTS, 1981 (annex 5): 17). There is no reliable data on population since then, though an HTS report put the population at 297,057 in 1980 (*ibid.*: 16). Recent data (National Population Council, 2008) put the total population of former West Kordofan at one million in 1993, 1.2 million in 2005 and 1.3 million in 2008. Population density differs throughout the region, with the average around 12 persons per square kilometre. Just over half of the Misseriyya population (50.69%) is between 15 and 59 years of age (*ibid.*: 41). Life expectancy at birth is 57.5 years for women and 52.8 years for men (*ibid.*: 68). Three-quarters (76.09%) of the population lives in rural areas (see Table 1).

The area inhabited by the Misseriyya is also shared by other groups, including the Um Bororo, nomadic pastoralists of West African origin; West African farmers, mainly settled in the Lake Keilak region; Nuba communities in Lagawa Province (where there is a prevalence of Misseriyya Zuruq) and Dinka groups (Ngok and Malwal) in the south of the region.

Table 1: Distribution of rural and urban population in Kordofan, 2005

	Total population (million)	Rural %	Urban %
West Kordofan	1.2	76.09	23.91
Northern Kordofan	1.6	65.10	34.90
South Kordofan	1.2	72.83	27.17

Source: National Population Council 2008: 48

Chapter 2

Livelihoods under stress: chronic vulnerability and adaptive changes

2.1 Main livelihood profiles in Dar Misseriyya

Pastoralism and subsistence farming have traditionally been the two main livelihood systems in Dar Misseriyya. Pastoralist communities in the region include both nomadic and semi-nomadic (transhumant) camel and cattle herders (El Sammani, 1985). Although nomadism was the dominant system prior to the mid-1980s, an increasing trend towards transhumance was registered in 1985 by El Sammani, with pastoralists maintaining a home base and only migrating seasonally. The trend towards transhumance was attributed to a growing tendency to spend the dry season at government-provided water sources in the Muglad area (El Sammani, *ibid.*). Settled communities engaging in farming activities include smallholders, the vast majority of farmers, and owners of large mechanised farms. Whilst in most of Southern Kordofan mechanised farms are mainly owned by merchants and civil servants from the North or Khartoum, in the Western Sector almost all scheme owners are local, usually hailing from the main centres (Muglad, Babanousa, al-Fula, Debab, Siteib, Kilo 50, Nama and al Jadeed). It is important to note that there has never been a clear division between the two livelihood systems: many households engage in both, combining pastoralism and farming.

2.1.1 The pastoral system

The pastoralist livelihood system of the Misseriyya has evolved over the years to maximise resources. To cope with a complex ecosystem where climatic crises are recurrent, the Misseriyya, like most pastoralists in the Sudano-Sahelian belt, have adopted a set of dynamic and flexible strategies that facilitate survival by allowing for the managed exploitation of multiple resources. In particular, in order to take better advantage of the rangelands, they rely on opportunistic or 'tracking' strategies, whereby the variable availability of grass is matched with livestock numbers and feed supplies are tracked in time and space. Since rainfall is scattered and scarce, the Misseriyya move herds opportunistically to look for water and grass, relying on regular transhumant movements to wetter areas south of the Bahr al-Arab. Misseriyya pastoralists migrate along a north-south axis in regular seasonal cycles through the four areas into which Dar Misseriyya is naturally divided (Cunnison, 1966):

- *Babanousa*: a northern sandy area with good grazing, mainly used during the wet season, which starts in April/May (although water is often insufficient until June/July).
- *Muglad*: a 300-square-mile clay soil area, separated from Babanousa by the Hajiz watercourse, used during the northward movement in June/July and the southward

movement from September to November. This is a well-watered area with good salty grazing, where many Misseriyya also have their gardens. Families often split up here, with some members staying to tend the gardens and others continuing the migration.

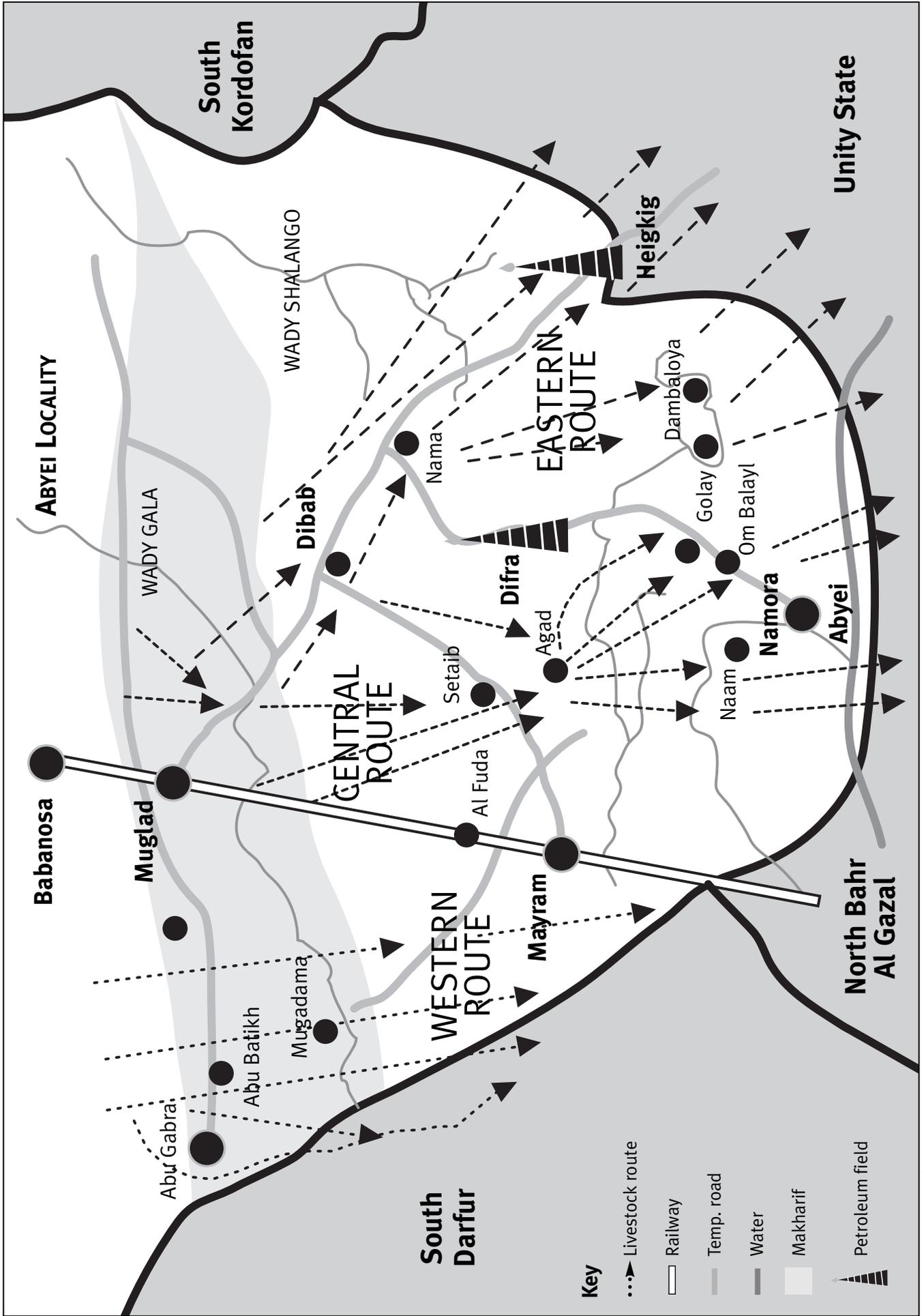
- *Goz*: this is a sandy area south of Muglad, used at the beginning and end of the rains. It is seldom used for camps of long duration as it has less water than other areas and harbours harmful insects.
- *Bahr*: this area is the southerly limit of the Misseriyya migration. The Bahr Al-Arab river and the Keilak and Abyad lakes provide ample water during the dry season. The timing and distance of the migration to the Bahr depend on a variety of factors, including size of the cattle herd, water availability, balance between herding and cultivation, perceived contamination of grazing and presence of disease-carrying insects. Security in this area has been a problem since the 1980s because of the increase in people, herds and areas under cultivation and the resulting confrontations arising from competition over resources (HTS 1981 (Annex 5): 50–53). During the second North-South conflict (1983–2005) the area experienced massive population displacement. Misseriyya herds were able to access water and grazing resources relatively easily, facilitated by government-supported Misseriyya militia. Since the signing of the CPA, however, access to Bahr al-Arab in particular has become increasingly difficult for Misseriyya pastoralists.

2.1.2 The farming system

Traditional crops in Dar Misseriyya are millet, *durra* (sorghum) and some cash crops, such as groundnuts and *simsim* (sesame). Cash crops and excess millet are usually sold to meet basic household needs, with any additional earnings being used to buy livestock (El Sammani, 1985: 4–5). Three main farming systems can be identified in the area (HTS, *ibid.* (annex 4): 15):

1. Millet-groundnut system: this is used throughout the Goz and the Dibeibat, El Fula and Abu Zabad plains. Millet has traditionally been the staple grain (60% of cultivated land), while groundnuts are usually grown for sale (30%). Other crops include *karkadeh* (hibiscus), *lubia* (cowpeas), watermelons, sesame and gum Arabic.
2. Millet-migratory herding system: centred in Muglad, this system combines the cultivation of millet with livestock production. Rather than a mixed farming system, it focuses on livestock as the main activity, with millet farming occurring when and where possible to provide food for the following year.

Figure 1: Misseriyya Humr transhumant movements



Source: Brema, I. (2006) Unpublished MSc thesis. Khartoum: University of Khartoum.

3. Clay plains system (Abyei and Keilak plains and Wadi Shalengo): the valleys are the main areas of cultivation. The staple grain crop is predominantly sorghum (80% of the cultivated area). Other crops include sesame, maize, groundnuts, okra and vegetables.

During the 1980s, most farmers cultivated sandy soils under the millet-groundnut system. Indications of excessive cropping were already apparent, with consequent soil erosion and low yields. The area as a whole suffered from regular deficits of grain: while pastoralists were the most affected group, in years of poor rainfall grain deficits also affected sedentary groups (HTS, 1981 (Annex 5): 100).

2.2 External shocks

The Misseriyya livelihood system described above has been systematically weakened by a series of external shocks. These include restrictive land policies for pastoralists, agricultural expansion, the weakening of local governance structures and reduced capacity to manage local conflicts over resources, and climatic changes. The two most recent and significant factors are insecurity in the Bahr al-Arab area and the damaging impact of the oil industry. Conflicts sparked by competition among local groups over natural resources have been a long-standing characteristic of the region. In recent decades, however, additional factors such as civil war and, later, oil exploration have exacerbated tensions and weakened livelihood systems. Misseriyya pastoralists have responded to these pressures through a process of adaptation, which for most households has resulted in greater settlement and the cutting short of transhumant movement south of the Bahr al-Arab area.

2.2.1 Adverse land policies

As in other areas of Sudan, the customary tribal homeland is the most important constituent of traditional land tenure in Dar Misseriyya. The collective security of the tribe is constituted within the tribal homeland: individual rights to land are recognised and can be inherited, but land cannot be taken away from the ownership of the tribe. The interlocking relationship between people, land and systems of authority has however been undermined over time by policies introduced both by colonial and independent governments.

Tribal stability was first interrupted in the late nineteenth century, when tribal leadership was abolished and a new administration instituted based on army leaders. The British colonial administration issued its first Titles to Land Ordinance in 1899, by which it recognised and started registering as private property continuously cultivated lands in northern and central riverain Sudan. The Ordinance excluded from land settlement and registration the wetlands of Sudan, including Dar Misseriyya, where no individual private ownership was recognised. Unsettled areas were classified as government-owned and divided into two classes:

- a) government land subject to *no right* (confined mainly to the northern and central riverain regions and including the deltas of Tokar and Gash in eastern Sudan); and
- b) government land subject to *customary usufruct rights*, vested in a community such as a tribe or a section of a tribe. Land in Dar Misseriyya falls within this category.

The 1925 Land Settlement and Registration Ordinance, still in force today, strengthened government control over land by stipulating that 'all waste, forest and unoccupied land' was deemed government property unless otherwise proven. Within government ownership, however, customary land rights are recognised and maintained. Tribes, clans, families and rural dwellers could consider land as *de facto* 'their own' in a communal arrangement system. One of the most important features of such customary tenure is the right and sovereignty exercised by the leadership of the native customary institutions in the allocation and administration of land rights and the settlement of disputes. This right was consolidated through the institutionalisation of the Native Administration, a system of indirect rule introduced by the British colonial administration throughout rural Sudan.

In 1970, the Unregistered Land Act, implemented all across Sudan, effectively nationalised all unregistered land, denied any formal legitimacy or juridical status to customary property rights and denied prior land users the right to compensation for the loss of land. In 1984, however, the Civil Transaction Act repealed the Unregistered Land Act. This maintains the basic principles of usufruct rights, while recognising that registered usufruct rights are of equal status to registered ownership. The Act also confirms the role of the state as a land owner and manager. According to the Act 'no court of law is competent to receive a complaint that goes against the interest of the state'. The Act also stipulates the right of the government to impose temporal and spatial restrictions on grazing, and to allocate grazing land for the benefit of an entire community or for the protection of wildlife. Although the Act offers the opportunity to allocate, and possibly register, pastureland in the name of a community, it paradoxically gives the authorities the right to restrict or cancel such benefits.

The legislation introduced in Sudan during the 1970s and the 1980s allowed large-scale land alienation by powerful groups. In Dar Misseriyya, mechanised farming, oil exploration and traditional agriculture all encroached on grazing land and communal forests. The effects of these changes on the Misseriyya pastoral system were compounded by a devastating drought during the 1980s, the most severe recorded in Sudan in the twentieth century. The drought led to massive herd decapitalisation, especially among small and middling herd owners. Many pastoralists failed to recover and, impoverished, were forced to settle in the larger villages or on the outskirts of urban centres, where they were reduced to subsistence farming or petty trade.

2.2.2 Erosion of community governance

The system of community governance and land management centred in the Native Administration has been weakened by restructuring measures. These have severely undermined the representative character of the administration and politicised its role to the extent that tribal administrators (who are now appointed by the government) no longer reflect tribal structures and interests. The main changes were produced by the abolition of the Native Administration in the 1970s and its reintroduction and reorganisation in the mid-1990s. The number of Misseriyya Humr Nazirs (paramount chiefs) was increased from three (one each for the Fallaita, Ajaira and Zuruq sub-tribes) to 17 Amirs (seven for the Zuruq, eight for the Humr, one for the Daju and one for the Nuba); the number of *omdas* rose from 17 to 60, while the number of *sheikhs* went from 100 to 656 (see Annex 1). Out of this total, 406 *sheikhs* are Ajaira (62%) and 250 are Fallaita (38%). Native Administrators are seen as more accountable to the government than to their own people. Most are based in towns, including Khartoum, and many are criticised for 'not being with their people'. This has created an acute leadership crisis among the Misseriyya, manifested in a lack of trust in traditional and political leaders.

2.2.3 The impact of oil

Oil exploitation since the 1980s has had a detrimental impact both on the environment and on Misseriyya livelihoods. Oil facilities (drilling sites, pipelines and roadbeds) were planned and built without considering the impact on local livelihoods. Pipelines were constructed on farmland and grazing areas, stock routes were blocked, forest areas, farmlands and access to good water sources were all reduced and the flow of water into farm and pasture areas was obstructed (IFPRI, 2006; Siddig et al., 2007).

The discovery of oil also accelerated a reversal of migration flows. This began in the 1960s, when many young Misseriyya men, driven by high unemployment, joined the Sudanese army or migrated to central Sudan to find work. Two decades later, the discovery of oil caused a boom in the Muglad job market, with oil companies employing around 1,000 workers and oil exploration leading to the creation of jobs in related industries (El Sammani, 1985). In the last few years, the opening of new roads along the pipeline has encouraged more people to move into the area. Demand for building materials and fuel has put further strain on already overused forest resources.

During the study, oil exploration in Dar Misseriyya was repeatedly described as ecologically and socially damaging (see Section 4.3). The most significant repercussion highlighted in the interviews is the ecological marginalisation of the pastoral sector, with most of the land in the Western Sector earmarked for further oil exploration (Khaleel, 2008). The appropriation of such vast lands is expected to lead to further heavy pressure on pastoral resources and severe restrictions on livestock mobility. An estimated 60% of the total livestock population in the Western Sector (around 10

million head) traditionally spend five months of the year in areas now affected by oil activities. A considerable number of functioning oil wells are already located inside livestock routes, bringing considerable disruption to the annual rhythm of pastoral mobility.

2.2.4 Conflict

Relations between the Misseriyya and the Dinka have always been fragile, with frequent clashes over water and pasture and episodes of abduction and enslavement (Bradbury et al., 2006; El Sammani, 1985). While local groups have developed mechanisms to mediate and prevent conflicts, including annual meetings of tribal leaders, local leaders have increasingly lost the ability to enforce their authority, in part because of the polarisation created by the civil war and the mobilisation of Misseriyya tribal militia in support of government forces. The civil war also limited access to grazing areas, exacerbating resource competition. During the war, the SPLM occupied rich grazing areas in the southern part of South Kordofan, cutting off important stock routes for Misseriyya pastoralists. As a consequence, pastoralists were compelled to graze on village lands, sparking conflict with farmers (IFPRI, 2006).

Demographic pressure has also led to overgrazing around water points, stock routes and villages (Siddig et al., 2007). In the Lake Keilak area, for example, different pastoralist groups coexisted for years until the 1980s, when increased competition from nomadic groups led to 'ferocious, even fatal' fighting (El Sammani, 1985: 86).

2.2.5 The Comprehensive Peace Agreement

The political event with the greatest repercussions on the Misseriyya pastoral system has been the signing of the CPA in January 2005. The demarcation of the boundary of Abyei, envisaged by the Abyei Protocol (one of the five protocols which make up the CPA), has proved to be the most intractable issue in the implementation of the CPA to date. Tensions in the area have been high since the signing of the agreement, culminating in an outbreak of fighting in the town of Abyei between the Sudan Armed Forces (SAF) and the SPLM. The fighting lasted for five days and led to the displacement of over 50,000 people, mostly Dinka, who fled south. A small group of Misseriyya was also displaced and sought refuge northwards in Muglad town and surroundings.

The Misseriyya commonly perceive themselves as victims of the CPA, which they believe has had a devastating impact on their pastoral economy, restricting movement to the South. This has resulted in the loss of traditional grazing grounds around Bahr al-Arab and Lake Abyad and the economic opportunities in the South that complemented livestock keeping, including honey collection, game hunting and the collection and sale of wild fruits and grasses. Insecurity associated with the spread of arms has increased, and there has been a sharp reduction in the availability of Dinka and Nuba livestock and agricultural labour (see Section 4.2.2).

2.3 Changes in livelihoods strategies

These multiple pressures have spurred a rapid process of transformation in the Misseriyya livelihood system, with an apparent tendency towards sedentarisation. Key indicators include decreased mobility of families, as women and children tend to stay behind in villages; increased engagement in agricultural activities; permanent residence around urban centres; the partial sale of herds for investment in housing and other permanent assets (shops) in towns; a gradual shift from cattle to sheep; and the increased use of crop residues and oilseed cakes as animal feed. A flourishing trade in agricultural by-products for feeding has been observed in local markets.

Although detailed data is lacking, it is clear that urban centres have grown dramatically in the last few decades, principally because of migration from rural areas. Muglad town, described as having a population of approximately 10,000 in the early 1980s, has mushroomed to an estimated 90,000. New residential quarters are emerging to house new arrivals from surrounding rural areas. Mugadama village, in 1968 a tiny nomadic camp of 12 families living around the water yard, currently has an estimated population of 2,000. Debab has grown from around 200 families in 1998 to 2,033 families in 2008, according to Village Development Committee records. Schools have multiplied in parallel. Table 2 shows the tremendous changes that have taken place in education in Debab and its surroundings, notably a significant increase in the number of girls attending school.

Increased engagement in agriculture is generally seen as one of the most important indicators of the transformation in the pastoral economy of the Misseriyya. There is ample evidence that crop cultivation has become increasingly important in the household economy (see Section 4.2.1). Another form of adaptation to external changes in the livelihood system has been decreased mobility among pastoralists with medium-sized and large herds. Field investigations suggest that pastoral movements between wet- and dry-season grazing grounds have been significantly shortened. All interviewees

stated that the traditional migration to dry-season grazing in the South around the Bahr al-Arab/Kiir River has declined greatly since the CPA was signed, with only a few, very rich Misseriyya still moving to the South under special arrangements with Dinka leaders and SPLA forces. Even in these cases, insecurity has forced the adoption of special herding techniques including herd splitting, with nearly half of the herd kept in Dar Misseriyya. Middle-size herders tend to stop in the *Ruqab* area, just north of Bahr al-Arab.

Another aspect of changed pastoral mobility is the adoption of family splitting, with women and children often staying in villages (as evidenced by increased school attendance). Families left behind usually keep a few cows to supplement their income with milk sales. Some use donkey-drawn carts for water vending and other casual income-generating activities. Considerable numbers of the women and children left behind in these settlements become engaged in agricultural activities.

According to data on population distribution in the main settlement clusters in the Debab area (Table 3), nomadic pastoralists are estimated to account for 45% of the total population, compared with approximately 80% in the early 1990s.

Sedentary people generally consider themselves better-off than pastoralists, attributing the following characteristics to their nomadic kin:

- their life is in constant danger;
- they suffer stress, fear and exhaustion;
- their women are extremely over-burdened;
- their children are unschooled and adults are illiterate;
- they are much poorer, and run a high risk of losing animals and assets; and
- they are more susceptible to disease.

A key feature of Misseriyya adaptation is the gradual change in animal species raised, from cattle to the *hamar* sheep of North Kordofan, which are prized in Sudan and the Gulf for the quality of their meat and are more easily sold. The move to

Table 2: Number of schools and pupils in Debab and surrounds, 1998–2008

Location	Number of schools			Number of pupils		Total pupils
	Boys	Girls	Mixed	Boys	Girls	
1998						
Debab	0.0	0.0	1	110	37	147
Surrounds	0.0	0.0	4	537	132	669
Total			5	647	169	816
2008						
Debab	3	2	0.0	1,889	895	2,784
Surrounds	0.0	0.0	7	1,280	536	1,816
Total	3	2	7	3,169	1,431	4,600

Source: Debab Administrative Unit, Education Files, 2008.

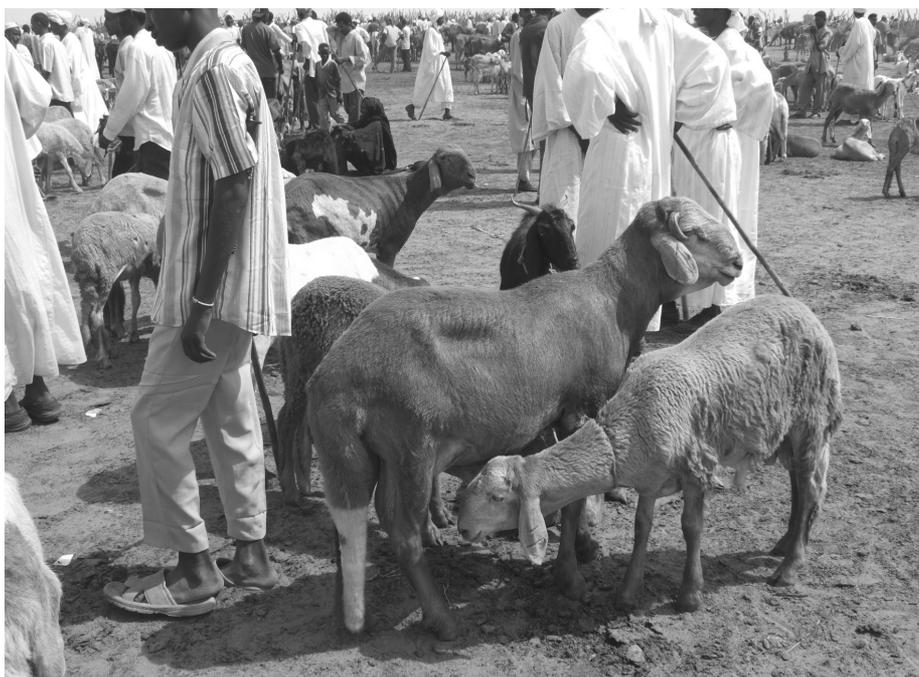
Table 3: Settled and nomadic population in Debab area, 2008

Location	No. of households	No. of persons	%
Debab	2,033	13,314	
Gadeed	777	5,064	
Kilo 50	499	3,258	
Nama	748	5,166	
Munawarra	692	4,620	
Tumsah	452	2,850	
Sub-total	5,201	34,272	55.0
Mobile nomads		28,000	45.0
Grand total		62,272	100.0

sheep-raising is also a result of the restrictions on long migratory movements, as sheep can be reared locally.

Despite sustained attempts to adapt the livelihood system to new conditions, pastoralist families with low livestock holdings have become progressively more impoverished over the last 10–15 years, and many have abandoned pastoralism altogether in favour of farming, charcoal-making and casual labour in towns. This change is especially apparent among young people. As they lack skills outside the pastoral sector, most are unemployed or struggle to engage in the informal economy in towns. Local estimates suggest that as many as half of Misseriyya youth are unemployed. Interviews with 62 young Misseriyya in Sammouaa, Keilak and Khudur Market revealed that only eight (13%) had regular jobs. Violence, facilitated by the wide availability of arms, was identified as an important livelihood source (see section 4.2.2).

At the other end of the spectrum, wealthy livestock owners have seen a significant increase in their holdings, with herds reportedly growing from an average of 150–300 cows ten years ago to 800–1,200 today. This pattern is common in pastoral societies under stress. Wealthy pastoralists have diversified into housing and commercial trade, and increasingly invest in their children's education. This group has also started to buy new cattle breeds (Kenana and Foja, both from Sudan) in order to increase milk output (output is low among the indigenous Baggara breeds). Partial sale of herds for investment in housing and other permanent assets in towns was widely mentioned. As is the case with middle-size livestock herders, only young men



Hamar sheep, an important trade item in Momo's weekly market

– accompanied usually by one woman for household chores – embark on longer transhumant movements. Whilst middle-size herders can stop in the *Ruqab* area, access to pasture and water resources south of the river is essential for larger livestock herds in the dry season. Some large herd owners reportedly move with their herds to the Central African Republic when access to the Bahr al-Arab cannot be negotiated.

While the process of livelihood adaptation described above has been under way since the early 1980s, the pace of change has accelerated dramatically since the signing of the CPA. Attention must be given to identifying interventions which support the transformation and adaptation of Misseriyya livelihoods in a sustainable manner. First, however, the history of past interventions must be analysed, and lessons learned.

Chapter 3

Responses to livelihood vulnerability in Dar Misseriyya

Livelihood support interventions by international actors in Dar Misseriyya have had only a limited impact on the social and economic conditions of local communities. Evaluation reports have attributed deficiencies to a host of factors, including poor project planning and management, recurrent civil strife and general insecurity, bureaucracy, poor project management and low technical skills in government agencies and a projectised approach which has failed to integrate initiatives into government structures and institutions. Some of the most significant interventions are reviewed here.

3.1 Pastoralist resettlement schemes in the 1960s and 1970s

In common with other pastoralist groups, changing the lifestyle of the Misseriyya, in particular encouraging them to settle, has been an objective of national governments since the 1960s. Interventions started with the establishment of the Babanusa Milk Factory in the early 1960s. The factory was intended to provide an outlet for milk produced by Misseriyya cows, processing it into powdered milk, *ghee* and cheese. Trial production started in 1967–68, followed by commercial production in 1969 with a modest 12 tons of milk powder per day. This increased gradually to 110 tons a day in 1974, after which production began to fall and the factory was closed. The Babanusa project failed because it was based on incorrect assumptions about the availability of milk for processing. The Baggara cattle owned by the Misseriyya are beef animals and produce only small amounts of surplus milk. Furthermore, the Misseriyya remain near Babanusa for only two or three months a year. As a result, the Babanusa factory was unable to collect the quantities needed and failed to pay salaries.

A number of government-sponsored ‘nomad settlement schemes’ were introduced in the region in the 1970s. Under these schemes, a selected group of settlers would live year-round in one of eight 100km² enclosures in the Misseriyya Humr area (El Sammani, 1985). Again, however, poor planning and implementation led to serious problems. The areas selected were not well chosen: three lay across traditional migration routes and two were traversed by main trunk roads. Only two of the eight were close to a rail line. The Misseriyya themselves were opposed to the scheme, which they saw as monopolising lands that played a key role in their pastoral system during the wet season. Water provision was inadequate, the enclosures were prone to flies and fires, damaging surface vegetation, and plant cover was poor (El Sammani, 1985; HTS, 1981; South Kordofan Rural Planning Unit, Annex 2). By 1981, four of the eight schemes (Al-Hajiz,

Targialla, Buta and Um Dagig) had been closed. The four remaining schemes (Al-Haddaddi, Kilbat, Bagara and Sibeha) stayed open, but continued to suffer from significant difficulties (El Sammani, 1985).

The most prominent of the settlement projects was for the Ajaira Misseriyya. The project was launched in 1969 by the Rural Development Department of the then Ministry of Cooperation and Rural Development, and was later handed over to the National Water Corporation. Executed in the area around Muglad and to the west, the project objectives were the settlement of the Ajaira, improved animal productivity, enhanced use of natural resources, establishment of a model for improved economic return from water provision, increased supply of milk to the Babanusa milk factory, and preparing the ground for increased provision of community services. El Sammani and Salih (2006) provide a good account on the project, the problems it faced and the lessons learned. The project planned to cover an area of 70x70 km to be divided into 70 ranches, each with an area of 100 km². Each ranch was to have one borehole, to be fenced with barbed wire and to carry only the cattle the land could sustain. Minor cropping was to be allowed near the borehole. At the start of implementation, the planned 70 ranches were reduced to eight. The project was not received well locally, especially by the line technical departments. A project evaluation carried out in 1974 criticized the project for being top down, and judged that it lacked adequate preparatory analysis of the range and pasture condition and the sociological characteristics of the target population. There was no consultation either with the Ajara and their leaders or with local government technical departments. The ranch sites selected obstructed the seasonal migration routes of many groups with established grazing rights over the sites, resulting in conflict between herding groups and project managers. As a result of this evaluation, five of the remaining eight ranches were terminated. The remaining three, considered less problematic, were left open for piloting but eventually closed down in 1980.

3.2 Large-scale development schemes in the 1980s

A number of large-scale development schemes were implemented in former South Kordofan Province (broadly equivalent to today’s Southern Kordofan State) in the 1980s, with the support of international donors including ODA, GTZ, the EC, the World Bank and USAID.

3.2.1 The South Kordofan Rural Planning Unit

One of the largest initiatives was the establishment of the South Kordofan Rural Planning Unit, undertaken by Hunting Technical

Services, a UK-based company. The unit was tasked with the preparation of a Rural Development Plan, a three-phase project to support agricultural development in South Kordofan. The first phase, which started in 1979 and lasted 15 months, formulated an indicative development plan. In phase two, which lasted 11 months, two further plans were developed: the Central and Western Development Plans. The third phase was to concentrate on the Eastern District of South Kordofan, but funding was never made available and the work finished after phase two.

The project was meant to improve infrastructure in the region, mainly road communications and water resources in the central valleys. The intent was to encourage migration from the densely populated Nyama Otoro and Heiben Jebels areas to the plains. Another component of the plan was to develop irrigation schemes in Ballul, Kufa and Berdab, in order to improve fruit yields, increase vegetable production and reduce pressure on land around water points. In the Western District studies were conducted on soil, vegetation, water resources, livestock wealth and livestock management systems. However, no development work took place apart from a pilot project on livestock marketing aimed at modernising cattle movements through the use of the railway, establishing marketing centres and improving water supplies along cattle routes.

3.2.2 The Sudan Stock Route Project

In 1985, the World Bank and IFAD supported the Sudanese government in developing the Sudan Southern Stock Route Project, a \$16 million initiative designed to renew and extend water supplies and veterinary services along a main livestock trade route, and to enhance market links from the project area to main towns, to facilitate exports (see Annex 3). The project was developed in response to the lack of infrastructure and services along trade routes, especially in Darfur and Kordofan, and the increasing demand for meat in towns such as Khartoum, Omdurman and Wad Medani. The project also sought to reduce the incidence of livestock disease, ease the stress on animals using the route and prolong the migration period beyond the rainy season. Although land and water disputes were identified as a significant problem in Kordofan and Darfur, the project did not address land issues.

A dedicated body, the Livestock Route Company (LRC), was created to implement the project (with 80% of the company's shares put up for sale). The route initially chosen went from Nyala to Omdurman via En-Nahud and El Obeid (the Northern Stock Route (NSR)). In 1981, an IFAD mission reported that water supplies could not be guaranteed along this route and proposed an alternative route, the southern *hafir* stock route that runs under the railway track. The government rejected this and the project went ahead with the NSR (see Annex 3). It had limited success. According to a World Bank evaluation report, only half of the boreholes drilled were capable of producing water along the stock route, which meant that the number of water yards had to be reduced. Veterinary services were delayed and reduced, and none of the planned buildings

were constructed. Meanwhile, the government intervened in the staffing and operations of the LRC, hampering its work. Nonetheless, despite its problems the project succeeded in its main goal of establishing water yards, and the number of animals trekking on the route increased (World Bank, 1993).

3.2.3 The Agricultural Research Project

The Agricultural Research Project, a joint World Bank/USAID/IFAD project, ran from 1978 to 1987. Its main objectives were to facilitate the development of new agricultural technology in Kordofan and Darfur by building research capacity in two main areas, livestock and crop production systems and water and land management. The project was divided into two stages. The first consisted of the construction of buildings and the procurement of goods and staffing for research facilities, and the second was to launch the research programmes. The project was developed in response to the government's focus on irrigated agriculture and the neglect of rain-fed regions in Western Sudan. It was to be integrated into the government's Master Plan for strengthening national capacity for research and technology development.

The results of the project were mixed. The World Bank (1993a) deemed it a limited success, particularly in terms of generating knowledge and interventions aimed at resolving land and water disputes. But there was no timeframe for implementation and no examination of the resources needed, which meant that additional funds became necessary and the project was delayed. The project was not integrated into the national research programme, and there were no incentives to attract scientists. Despite this, the project was judged to have achieved its objectives of establishing research facilities and training scientists, who subsequently published 55 reports of acceptable quality (World Bank, *ibid.*). The research led to the introduction of new crops in Kordofan, although mechanisms for technology transfer were not well thought out. The technical assistance provided by USAID reportedly lacked the managerial and logistical capacity to support an institution-building research programme, and highly qualified staff left.

3.2.4 The South Kordofan Agricultural Development Project

The main aim of the joint World Bank/FAO/African Development Bank South Kordofan Agricultural Development Project (SKADP), which ran from 1989 to 1993, was to improve rain-fed agriculture and increase farmers' income by improving agricultural services, strengthening agricultural institutions, increasing the availability of farm inputs, improving water supplies and roads, enhancing crop production technology and developing environmental protection technology and cost recovery systems.

This project also had mixed results. Little was achieved in terms of infrastructure development, implementing agencies were weak, maintenance systems were overlooked and cost recovery efforts represented a fraction of real costs. The 85 tractors procured by the project did not reach their intended

recipients, and vehicles and other equipment were diverted to the security forces. Key constraints on the project included the security situation, poor government counterpart funding, weak capacity, inadequately funded implementing agencies and communications difficulties between SKADP and the African Development Bank, the co-financer of the project (World Bank, 1987; 1995). The most problematic factor, however, was poor project design. Even if security conditions had been favourable, results would have been limited, especially because farmers were not able to pay for the expensive water system envisaged. On the positive side, the project did see improvements in rain-fed farming productivity and animal health services improved, with vaccinations covering some 600,000 cattle a year. The programme successfully trained vets and supported investment by six private pharmacies. The plant protection component performed satisfactorily, with production of seedlings increasing by 20%–50% (World Bank, 1995).

3.3 International engagement during the conflict

The outbreak of the war in Southern Sudan in 1983 and the imposition of sanctions on the military government which took power in 1989 saw the interruption of development assistance in the 1990s and the first half of the following decade. International assistance during this period was focused primarily on emergency relief, largely through Operation Lifeline Sudan (OLS), a humanitarian access mechanism agreed by the UN, the Sudanese government and the SPLM in 1989. Assistance extended to the provision of water and other services aimed at improving livelihoods and reducing conflict over resources.

In former West Kordofan, the international response focused on Dinka populations displaced from the South. A small number of agencies were already operating in the region when, in 1992–93, most NGOs were pushed back behind the transitional zone into Southern Sudan. A few UN agencies maintained some presence in former West Kordofan, but their role was limited and focused on transitional assistance. One of the largest interventions was the Area Rehabilitation Scheme (ARS) Abyei, a UNDP project which ran from 1996 to 2000, headquartered in El Foda. Although the focus of the project was meant to be the reintegration of Malwal Dinka IDPs and the rehabilitation of the war-affected area around Abyei, the project largely operated in the northern part of the programme area and directed its efforts towards supporting Misseriyya groups through training and the provision of credit facilities and key services, particularly water. The project was interrupted in 2000 when all UNDP Area Development and Rehabilitation Schemes in Sudan were terminated amidst allegations of financial mismanagement by the government executing agency, NEX-MSU.

Following the closure of the ARS, in February 2002 UNDP, together with four other UN agencies (WFP, FAO, UNICEF and UNFPA) and local NGOs (ACAD and NDO), began the Programme Advancing Conflict Transformation in Abyei

(PACTA), an inter-agency response aimed at fostering conflict transformation through development interventions. Despite its high profile, PACTA's impact was limited, as different programme partners designed and implemented the various projects in isolation. There was some coordination at Khartoum level, but none on the ground (UNDP, 2003: 28–30)

Smaller interventions were carried out in the 1990s by FAO, UNICEF, WFP and CARE. FAO focused on training paravets, supporting vaccination campaigns and training community-based animal health workers. The scope of work was however very limited. UNICEF was concerned mainly with the replacement and rehabilitation of boreholes and water yards, in partnership with the National Water Corporation. Interventions also included support to primary health care, immunisation and the provision of school materials, but implementation was on too small a scale to make a lasting impact. WFP worked in partnership with UNDP to provide food for work for the development of *hafirs*. Finally, CARE International was engaged in water development programmes in the provinces of En-Nahud and Gubeish throughout the 1990s and part of the 2000s, mainly focused on *hafir* construction. It was not possible for the study team to determine how many *hafirs* had been developed, though it was apparent that most stopped functioning very rapidly through lack of management and maintenance. Most were entrusted to communities with no links to the National Water Corporation.

Water development has also been at the centre of IFAD's efforts in former West Kordofan. IFAD is one of the few international agencies with a long-term engagement in the area, as part of its Western Kordofan Development programme. IFAD worked with the Ministry of Agriculture to promote the privatisation, rehabilitation and community management of boreholes in the En-Nahud area. However, there were difficulties with the National Water Corporation (NWC), and communities were given no training or support from NWC to manage the wells they were given. The supposed beneficiaries were reportedly never able to access the funds to manage the installations and prevent the boreholes from deteriorating (UNDP, 2003: 28–30).

The only intervention communities themselves felt positively about was the intensive vocational skills training offered by the oil company Chevron in the 1980s, which resulted in employment in the oil industry for a number of local youth. Community development interventions undertaken by Talisman, a Canadian oil company that was a major shareholder in the Greater Nile Petroleum Operating Company (GNPOC) in the 1990s, were also spoken of positively.

3.4 Current international engagement

Between 2002 and 2005, most interventions focused on promoting dialogue between groups to encourage cooperation on issues such as animal health and product marketing.

Although there has been some progress, commitment is weak and donors have sometimes been reluctant to provide funding. Since the signing of the CPA in 2005, the situation has been tense and most funding has been transitional rather than developmental. There has been some reintegration work and dialogue amongst communities and attempts have been made to improve relations with government authorities, but engagement north of Abyei has been limited.

Very few international organisations are present in the five Administrative Units that cover the area inhabited by the Misseriyya (Muglad, Debab, Keilak, Meiram and Sitaib). The only international NGO in this area is Concern Worldwide, although Save the Children, Medair and Mercy Corps are planning to extend their operations. German Agro Action (GAA) ran a successful animal health and agricultural support programme between the late 1990s and 2005, but had to scale down operations because of funding shortages. GAA's interventions, in particular the focus on veterinary health care and support to livestock production and small farming, were well regarded in Misseriyya communities, and the organisation is in the process of restarting its programme. The veterinary lab it established in Debab is reportedly still functioning well, managed by a local committee, the Charitable Society for Debab Development.

In the past two years USAID has also been involved in the region through PADCO, a global economic and infrastructure development firm. PADCO encompasses a wide range of activities, including water development, health facilities, capacity-building and skills training, peace support and civic education on the CPA. PADCO is a grant making agency which works mainly through government and civil society groups. This has proved difficult as government presence and engagement is weak and civil society groups are scarce and often highly polarised.

There is a great deal of resentment among Misseriyya about what they believe to be the disproportionately heavy presence of international organisations in Abyei. Youth groups in Muglad thought that some 30 international organisations were in Abyei, when in fact there are just eight (FAO, Goal, Mercy Corps, MSF, PADCO, SC/US, UNICEF and WFP). People see an international bias towards the Dinka and feel discriminated against. Comments were made about the intimacy of expatriate staff with Dinka communities: 'They attend birth ceremonies, play with their children and visit them in their homes'. Ordinary people were critical of what they saw as an imbalance in the response to the displacement that followed the clashes in Abyei in May 2008 and questioned the estimates of Dinka and Misseriyya IDPs (about 35,000 to 50,000 and 5,000 to 10,000 respectively). Few showed an understanding of the disparity of needs between displacement areas such as Agok and Muglad, and there seems to be very little awareness among Misseriyya both of the different needs in war-affected areas and of the greater bureaucratic constraints in Southern Kordofan (particularly concerning NGO registration and travel permits) as opposed to GOSS areas.

Communities also expressed great frustration towards organisations carrying out assessments without offering assistance, and felt that they had received many promises but no tangible follow-up. This adds to the anger already arising from the unfulfilled promise of support from the government-run West Kordofan Reconstruction Fund and from the absence of tangible benefits from the 2% of oil revenues promised to 'the Misseriyya' under the CPA. Frustration has been compounded by the economic and political problems confronting many Misseriyya, particularly young people. The following sections present an in-depth analysis of the economic, social and political dynamics of the Misseriyya today.

Chapter 4

Livelihoods in Dar Misseriyya today

4.1 The livestock sector

4.1.1 Migration

The annual migration of the Misseriyya takes place between the wet-season grazing areas (*makhraf*) in the north and the dry-season grazing (*masiaf*) towards the south. There are three main livestock routes (*murhals*), each divided into three sub-routes followed by one or two of the Ajaira and/or Fallaita sub-tribal groups. While the Western and Central *murhals* are inhabited by the Ajaira, the Eastern *murhal* is shared by the Fallaita and some Ajaira sub-tribes (Awlad Omran and Fadliya). Table 4 shows the distribution of the various Misseriyya sub-groups between the different *murhals*. All routes terminate in the south, the Western *murhal* in Aweil, the Central *murhal* in the Toj and the Eastern *murhal* in Bentiu, where the Misseriyya traditionally spend the dry season between December and May. The majority of the Fallaita group (Awlad Sirur, Matanin, Gubarat and Salamat) follow two eastern routes leading to Abullikri and Lake Keilak. While the Awlad Sirur and Matanin take the Maada Al Humar route, the Gubarat and Salamat go through Maada Mulah.

In addition to the search for adequate pasture, this long migration is driven by the fact that providing water to large herds is both tedious and expensive. Moreover, although water may be available from large bodies such as Lake Keilak, check dams like Abu Allikri and Kijera or from *hafirs*, the surrounding grazing becomes extremely scarce towards the end of the dry season as a result of overuse.

Households with smaller herds now spend the dry season within the boundaries of Dar Misseriyya. Insecurity and access restrictions in the South oblige them to depend on water from shallow wells, water yards and other sources such as dams and lakes. Women and children spend most of their time in the *Ruqab*, while young men take the animals across the Bahr al-Arab. The concentration of people in the middle section of the *murhal* has reduced the amount of available water and people struggle to survive the dry season in places like Abu Qadama and Muqadama, where many Misseriyya congregate. All communities interviewed complained about the absence of *hafirs*, boreholes and water yards in the *Ruqab*.

Where water has been provided, as in Sitaib, the population has sharply increased over the past few years. In Meiram the population doubles during the dry season. Small and medium-sized herds stay in and around the town, while others go beyond the river. The distance between Meiram and Bahr al-Arab is short, so many families stay in town. The concentration of livestock around limited water sources has helped degrade the range and reduce its nutritional value. The increasing number of pastoralists who settle in small towns for most of the year are forced to abandon cattle-rearing and reduce their herds, with many eventually dropping out of the pastoral sector altogether.

The overall livestock population remains high, however, especially since large livestock owners continue to use herd multiplication to insure against losses caused by disease,

Table 4: Main livestock routes in Dar Misseriyya

Route	Sub-route	Tribe using the route	Terminal point
Western <i>murhal</i>	<i>Murhal</i> Faras	Fayarin	Aweil
	<i>Murhal</i> Arad	Fayarin	
	<i>Murhal</i>	Fayarin Murhaka – Awlad Kamil	Toj
Central <i>murhal</i>	<i>Murhal</i> Um Sakeen	Awlad Kamil	
	<i>Murhal</i> Al angareib	Awlad Kamil – Mazaghna	
	<i>Murhal</i> Zarafa	Mazaghna	
Eastern <i>murhal</i>	<i>Murhal</i> Abu Hemro	Mazaghna – Awlad Omran	Bentiu
	<i>Murhal</i> Sarhaya	Awlad Omran – Fadliya	
	<i>Murhal</i> Nama	Awlad Omran – Fadliya – Zeyod	
Fallaita <i>murhals</i>	<i>Murhal</i> Mada	Al Humur Awlad Sirur, Matanin	Keilak, Abullikri and Lake Abyad
	<i>Murhal</i> Mada Mulah	Gubarat – Salamat	

Table 5: Livestock numbers in Dar Misseriyya (million)

Animal species	Number	TLU
Cattle	5.10	3.57
Sheep	2.55	0.51
Goats	2.00	0.36
Camels	0.25	0.25
Equines	0.25	0.13
Total	10.20	4.81

Source: General Administration of Animal Wealth, Ministry of Agriculture, Animal Resources and Natural Resources, El Fula, South Kordofan State.

drought or insecurity. Overall, the number of animals in Dar Misseriyya has been estimated at 10.2 million head, equivalent to 4.8 million Tropical Livestock Units (TLU), as shown in Table 5.

4.1.2 Markets

Selling livestock constitutes an essential component of the Misseriyya household economy. Markets are seasonal and follow the annual rhythm of migration. Table 6 shows the main markets in the area.

The only permanent market in the area is Muglad. This is where large traders from Khartoum and El Obeid come to purchase livestock for sale in urban centres or for export to the Gulf, Egypt and Libya. Most traders buy one or two *mura*hs (one *mura*h equals 50 cattle or 200 sheep), but some buy as many as 40. Traders confirm that there has been an overall increase in livestock numbers in the last ten years, with sheep numbers growing more rapidly than cows. Despite this, trade has been very weak in the last few years, partly as a result of the export ban imposed on Sudan by neighbouring countries because of a suspected outbreak of Rift Valley fever. Livestock traders and community leaders attribute the collapse of the livestock trade in Muglad to increasing insecurity, deterring middlemen from coming to the region. Although cattle and sheep prices have fallen steeply as a result, many remain unsold. The export ban was lifted in December 2008, but traders were still reluctant to travel to insecure areas with large amounts of cash.

There is limited trade in livestock by-products, largely because the milk output of Misseriyya cows is very low (ten pounds a

Table 6: Main livestock markets

Wet-season grazing areas		Dry-season grazing areas	
Abu Batikh	Nimatein	Siteib	Fuda
Abu Gabra	Bashama	Al Odam	Tadama
Sammoa	Muqadama	Umm Daries	Shigy
		Kilo 50	Janama
		Abu Haimorah	Al Agad
		Al Dambaloy	Kadama
		Golay	

day, as opposed to the 60–70 pounds a day produced by the cows used by milk factories such as Capo in Khartoum), and would not sustain a dairy economy. Attempts to introduce improved breeds such as Kenana local breeds in Debab have shown these species to be too sensitive to biting flies. Northern Sudanese species have been more successful.

4.1.3 Constraints on production

The Misseriyya production system is constrained by a host of factors. The most important are inadequate nutrition, disease, poor husbandry practices, high mobility, insufficient water supplies and poor market structure. Rangelands in Southern Kordofan are usually grazed during the dry season, at a time when nutritive value, especially the content of crude protein, has deteriorated due to plant maturity and senescence. Energy value also falls drastically as a result of pasture scarcity and reduced digestibility. The scarcity of forage is a consequence of the uneven distribution of water points, which leaves large areas of grazing lands under-utilised, while wild fires can wipe out between a third and a half of grazing. On top of this, animals have to walk increasingly long distances in search of fodder, using up valuable energy. The changes in the external environment over the last few decades have necessitated changes in Misseriyya husbandry practices, including an increase in the number of mature males in herds (Bunderson et al., 1984). An excessive number of mature males among Misseriyya herds was observed during the fieldwork in October 2008. The stress on rangelands could be significantly reduced simply by reducing the number of mature males. This would require management interventions aimed at creating awareness, marketing and establishing investment opportunities other than in livestock for those willing to sell males. Disincentives may also work, such as levying a larger tax on market sales of older males.

Table 7: Feed production in the Western Sector of South Kordofan State

Feed source	Production (thousand tons)			
	Locality			
	Abyei	Essalam	Lagawa/ Keilak	Total
Total	2,859	2,202	728	5,789

In 2006, a range survey conducted by the IFAD-funded Western Sudan Resource Management Programme (WSRMP) calculated the total production of animal feed from the range and other sources in the Western Sector of South Kordofan. The results are shown in Table 7.

The total feed requirements of the 4.8 million TLU in Dar Misseriyya are estimated at 14.4 million tons, assuming that one TLU requires three tons a year. Taking the WSRMP

production figure of 5.8 million tons, this leaves a deficit of 8.6 million tons, or 59.7% of annual requirements. However, there has been no census in recent years and actual animal numbers may be lower than stated.

4.2 Non-livestock subsistence livelihoods

4.2.1 Agriculture

Crop cultivation has become increasingly important in recent years as a result of the decline in mobile pastoralism. The data presented in Table 8 shows that the area under cultivation increased by 37.2% between 2001 and 2007. Cultivation of watermelons expanded by 687%, and millet by 80.1%. The area given over to sorghum fell by 9%. Groundnuts decreased by 53%, while the area under hibiscus and sesame production stayed more or less the same.

As the table shows, watermelons, a recent innovation, have emerged as the major cash crop, especially in western areas such as Meiram, Tibon, Debab and Muqadama, which double as major watermelon-marketing centres, from where the crop is exported as far afield as El Obeid and En-Nahud in North Kordofan and Kosti in central Sudan.

The area cultivated by individual households varies considerably, from around five *mukhamas*² in Mugaddama (west of Muglad) to nine *mukhamas* towards the north, in Umm Osh to the west of Babanousa. Some households cultivate up to 20 *mukhamas* depending on the availability of

² One *mukhama* equals 1.75 *feddans* (one *feddan* is 4,200 square metres).

labour and financing. As a general rule, half of the area is given over to food crops, mainly millet, and the other half to cash crops, especially groundnuts and hibiscus. Sesame tends to be cultivated in very small areas. Intercropping of cash crops is common. Crop yields in 2007 averaged three or four sacks (270–360kg) per *mukhama* for millet, compared with around eight sacks (720kg) a decade ago. Reductions in crop yields are attributed to lower rainfall and declining soil fertility caused by continuous cultivation.

In 2003, semi-mechanised rainfed farming was introduced in three areas covering 260,734 *feddan* in Northwest Lagawa (Block 1: Khallis and Umm Guluud, demarcated mechanised farms; Block 2: Al Nabag and Millais, undemarcated schemes) and West Wadi Shalongo. The last area accounts for almost 82% of the mechanised schemes in the western sector of Southern Kordofan, with the average scheme size (1,000 *feddan*) more than twice that in the other two areas (as shown in Table 9). The introduction of mechanised farming was described as having significant implications for Misseriyya pastoralism and its future prospects, as well as for peace and stability in the area, because of the attendant reduction in grazing land and fiercer competition over resources. Wadi Shalongo is an important summer grazing and watering area. The schemes may block routes to watering points.

Most of those who have dropped out of the pastoral sector are now engaged in farming. In Meiram, 10–20% of the population is said to have abandoned pastoralism for agriculture in the last three to five years. Agricultural practices and skills are

Table 8: Cultivated areas (feddan) by main crop and administrative unit, 2001–2007

Admin. Unit	Year	Millet	Durra	G nuts	Hibiscus	Sesame	Watermelon	Total
Muglad	2001	30,102	31,140	15,570	519	2,076	3,114	82,521
	2007	57,807	21,814	30,540	11,998	1,091	14,179	137,429
Meiram	2001	16,715	51,935	51,935	43,279	6,794	2,887	171,545
	2007	52,952	37,737	41,185	16,810	2,522	18,491	169,697
Debab	2001	18,684	10,380	16,089	1,038	1,038	208	47,437
	2007	36,627	22,539	26,766	2,817	3,944	17,750	110,443
Fula	2001	23,096	8,660	4,330	2,166	257	2,887	41,396
	2007	19,692	12,118	10,527	151	340	4,468	47,296
Babanousa	2001	10,034	4,014	26,088	2,007	150	0.0	42,293
	2007	62,108	3,415	9,106	3,526	1,366	2,049	81,570
Kigeira	2001	18,443	16,821	20,826	483	161	0.0	56,734
	2007	26,095	13,048	17,941	0.0	2,238	5,708	65,030
Keilak	2001	13,200	21,323	10,512	1,620	2,123	443	49,221
	2007	4,601	7,428	775	0.0	1,211	5,086	19,101
Tibon	2001	38,698	8,413	19,630	3,925	207	2,244	73,117
	2007	40,974	20,487	39,835	17,072	0.0	25,039	143,407
Total	2001	166,972	152,686	164,980	55,037	12,806	11,783	564,264
	2007	300,856	138,586	76,675	52,374	12,712	92,770	773,973

Source: Ministry of Agriculture and Animal Resources, Western Sector, Annual Agricultural Survey, 2001 and 2007, Fula.

rudimentary and people lack the knowledge and technology to make farming more productive. Agricultural labour is provided by a combination of family and hired labour.

4.2.2 Off-farm activities

The Misseriyya pastoral economy has traditionally been supported by numerous off-farm activities. The most important are discussed below.

Hired livestock labour

This activity traditionally involved a considerable number of people, especially youth from poor families, who were hired by rich livestock owners. Beginning in the early 1990s, however, the role of hired livestock labour in the household economy declined significantly as young people were recruited into the Popular Defence Force (PDF) militia, a paramilitary group created during the war against the SPLA. Today, insecurity along the border with the South limits the number of Misseriyya youth willing to work as hired herders. Hamar youth from En-Nahud are said to have started filling this gap, but lack cattle-herding skills and are only entrusted with the care of sheep. Payment is usually in kind, a process which traditionally enabled recipients to build up their own herds. Payment is generally made at the end of the year and is calculated according to the size of the herd attended. Looking after a herd of 50 sheep would provide payment of five females between six and 12 months old; a herd of 60–80 cattle would provide payment of one female cow aged one year.

Hired agricultural labour

Farm labour was traditionally provided by Dinka men in the western part of the state (Muglad area) and by Nuba in eastern parts (Keilak and Lagawa). The number of Dinka, Nuer and Nuba labourers has declined considerably following the signing of the CPA, and more Misseriyya now work as hired agricultural labour. The gap left by Dinka and Nuba labourers has not however been filled, and the size of plots has declined, from ten to three *mukhamas* on average, leading to a consequent fall in annual yields. The Misseriyya see the refusal of the Dinka, Nuer and Nuba to continue to work on their farms as politically motivated. Whilst this is certainly true, it is also true that many Dinka and Nuer labourers returned south because they did not feel safe in Dar Misseriyya, especially since the clashes between the SPLA and

the Misseriyya in May 2008. Clashes in es-Sunut in 2007 also pushed Nuba away.

Labour is paid per *mukhama* as follows:

Land preparation	SDG 40 (\$20)
Seeding	SDG 50
Weeding	SDG 25
Food	SDG 20
Harvesting	SDG 100

No substantial change in the price of hired labour has been reported over the last decade.

Forestry, fishing and wild-game hunting

Forestry, fishing and hunting constitute an integral part of the Misseriyya economy, both as a source of subsistence and for cash income. Activities include collecting and selling wild fruit (*Balanites aegyptiaca*, *Ziziphus Spinachristi* and *Papaya*), honey, gum Arabic, firewood and charcoal. According to Ministry of Agriculture estimates in 2001, forestry activities accounted for approximately 10% of household income. The trade in charcoal and firewood is flourishing, and large amounts of charcoal were observed at the side of roads throughout the study area. Whilst charcoal-making is a subsistence activity for many impoverished households, the larger-scale trade (with charcoal being sold to merchants for the Khartoum market) is in the hands of the army and other security forces. The depletion of forest resources is particularly evident near army outposts. People report that security personnel justify tree-cutting on the grounds that the areas affected have been earmarked for oil extraction. Youth groups in Muglad said that they had reported the destruction to the Forestry Department, but to no avail.

A substantial number of Misseriyya fish, especially around Lake Keilak, from where fish are exported to the main market centres in Muglad and El Fula. Historically, fish have been used by pastoralists as a major additional source of food along the Bahr al-Arab/Kiir River during the dry-season stay. Hunting has also provided an important additional source of food, especially in the southern parts of Bahr al-Arab where wild game was more abundant. Population increase, the spread of small arms, environmental degradation and over-hunting have however significantly reduced the number and diversity of

Table 9: Distribution of mechanised farming in the western sector of South Kordofan State

Area	No. schemes	No. owners	Total area (<i>feddan</i>)	Average scheme size (<i>feddan</i>)
Northwest Lagawa Block 1	37	37	13,740	371.4
Northwest Lagawa Block 2	76	76	32,740	431.0
West Wadi Shalango	225	225	214,000	1,000.0
Total/average	338	338	260,734	771.0

Source: Ministry of Agriculture and Animal Resources, Western Sector, S Kordofan State, 2008.

wild animals. Restrictions on access to areas south of the Kiir River have also limited hunting.

Petty trade

The Misseriyya engage in a wide range of petty trade, selling locally produced grains, forestry products, animals, animal products and handicrafts, as well as imported manufactured goods. Most sellers are young people who have dropped out of the pastoral sector. Food selling and other petty trade, traditionally stigmatised in Misseriyya society, have become important activities, and are increasingly taken up by Misseriyya women.

Weekly rural markets still provide valuable opportunities for exchange and small business, but the best trade opportunities are found in the new markets along oil roads. A typical example is Al Kharasana market, on the road between Keilak and Heglig. This area was originally a dry-season pasture for the Fallaita and Misseriyya Zurug, who depended on water collected in nearby *hafirs*. As the *hafirs* silted up, however, the nomads moved their *makhrafs* to Abu Allikri and Allawi. Al Kharasana started to develop as a market in 1997, with the first stirrings of the oil industry, and by 2007 the population had mushroomed to 15,000, mostly former pastoralists. Other groups include the Fur, Zaghawa, Jallaba and Nuba. The Nuer left the area after clashes with armed Misseriyya in April 2008. Some 1,100 shops and trade licences are registered in the locality. Wealthy traders come from Khartoum and Gezira in Central Sudan. The livestock market provides valuable opportunities for Misseriyya, who work either as middlemen or small traders. Trade in wood, the most profitable commodity in the market, is controlled by Jallaba, while the clothing market is dominated by Fur and Zaghawa.

Price differences between goods in rural and urban markets reflect distorted trade links and marketing systems. One example is livestock marketing. During the fieldwork, in September 2008, the sale price of a male sheep around 20kg in weight in Momo market was SDG70 (\$35), while a similar animal was said to fetch SDG120 (\$60) in El Fula and SDG300 (\$150) in Khartoum.

Urban migration

Links between rural and urban areas are an integral part of the Misseriyya economy. The large number of rural markets and the increasing mobility of people between these markets have created strong trade links between rural and urban areas. The concentration of services, especially health, education and governmental services, in the main urban centres of Muglad, Babanusa, El Fula and Debab has made these centres magnets for migration from rural areas. This mobility has been enhanced by improvements in the road system made by the oil industry. Although people complain bitterly about the poor quality of the roads, there are now, for the first time, daily buses linking Muglad and El Fula to Khartoum. Developments

in telecommunications and satellite systems have drastically improved links between rural communities and the wider world.

Whilst movement to local urban centres has increased, migration abroad appears to have fallen off substantially in the last decade. During the 1980s and early 1990s migration to Saudi Arabia and Libya in particular was common among the Misseriyya, who mostly found work as camel-herders in these countries. Consultations with communities indicated that, in the 1990s, membership of the PDF provided a viable economic alternative for the majority of such migrants, and migratory flows declined as a result. The end of the war has however curtailed this critical source of income for the Misseriyya.

The war economy

The war economy constituted an important part of the Misseriyya livelihood system for nearly two decades. Although it is difficult to assess the number of Misseriyya youth in the PDF and the economic gains they attained thereby, throughout the fieldwork it was stressed that the great majority of youth were involved in the PDF and were highly paid. PDF militias were also involved in a wide range of legal and illegal trade, including a flourishing trade in weapons, smuggling and looting of animals and goods.

The signing of the CPA cut short the war economy. The PDF has been formally dismantled, although militiamen have not been disarmed or helped to re-enter civilian life. As a result, many are now resorting to crime. The lack of employment opportunities in the oil sector has added to the frustration among this group, and is at the heart of the insecurity affecting the region (see below).

4.3 The oil industry

Extensive petroleum exploration began in Sudan in the mid-1970s, but it was not until October 2000 that commercial quantities of oil began to be exported. Today, oil is the single most important export industry in Sudan. Available data suggests that oil accounts for more than 90% of Sudan's total exports, with the primary importers being Japan, China, South Korea, Indonesia and India. Between 2001 and 2005, oil exports grew at an average annual rate of 32%. Exports of other commodities grew on average by only 18.6%.

Most of Sudan's oil fields and known reserves are located in the Muglad and Melut rift basins. Commercial reserves were estimated at 3 billion barrels in December 2006 (Table 10). Oil fields are linked to the country's refineries via pipelines. The largest pipeline belongs to the GNPOC (referred to by the Misseriyya as '*giumbok*', from the Arabic reading of the acronym). It runs across the Misseriyya area from Heglig to Port Sudan. The pipeline was opened in 1999 and is operated by the China National Petroleum Corporation (CNPC), which has a 40% stake in the GNPOC. The other two

Figure 2: Oil fields in Sudan and main pipelines



Source: USAID/OFDA, 2001, http://pdf.usaid.gov/pdf_docs/PNADG170.pdf.

Table 10: Estimated commercial reserves as at 31 December 2006, in thousands of barrels

	Total	Remaining
Blocks 1, 2 & 4 (GNPOC)	1,686,000	983,000
Blocks 3 & 7 (PDOG)	803,000	779,000
Block 5A (WNPOC-1)	175,000	168,000
Block 6 (CNPC/S)	331,000	299,000
Total	2,995,000	2,229,000

Source: ECOS, 2007

lines are the Petrodar pipeline, which extends 1,380km from the Palogue oil field in the Melut Basin to Port Sudan, and the El Fula pipeline (428km), which connects the El Fula oil fields in Dar Misseriyya (Block 6) to the refinery in Khartoum.

The Muglad Basin is located in the heart of the Misseriyya area and covers approximately 120,000km². It contains a number of hydrocarbon accumulations, the largest of which are the Heglig and El Fula oil fields. The first discoveries were made by Chevron near Muglad town in the 1960s and 1970s. After Chevron suspended its activities in the mid-1980s, oil exploration in the Muglad Basin was halted until February 2008. Like other communities affected by oil exploration, there is profound, pervasive unhappiness in Dar Misseriyya about the impact of the industry on the local economy, and the marginal benefits received from oil extraction, both in terms of labour opportunities and development inputs. Oil extraction has generated competition and disputes over land, and has contributed to large-scale deforestation. In the hope of receiving compensation from the oil companies (so far paid largely on an individual basis), a number of people around El Fula have started to cut down vast tracts of forest and fence the empty areas with *zaribat hawa* (literally, 'air fences', fenced off enclosures usually created by settled farmers on grazing land either as new farm plots or as a reserve pasture for their animals or for the sale of the grasses). This has destroyed grazing resources and led to tensions with pastoralists.

Pastoralists believe that the oil industry has contaminated water supplies and pastures, and say that their cattle are suffering as a result, especially as regards fertility. Their anger is palpable. So far, the authorities have refused to allow studies to determine the environmental impact of the oil industry, despite repeated requests by local people. Spontaneous efforts by local government technical departments to analyse the environmental impact of oil extraction have been immediately and robustly halted. Despite the absence of hard data, locals are convinced that oil companies have destroyed rangeland, and that most cattle losses experienced in the last few years are due to oil pollution. Polluted water is said to have become a threat to animal health in Heglig, Defra and Sitaib, with livestock numbers decreasing steadily since drilling began. Community leaders in Muglad stated that representatives of the oil

companies had publicly admitted that the water in these areas was not good for animals. A local, unauthorised study conducted in 2008 listed 21 negative impacts of oil on the environment, livestock and human population in the area, including signs of boreholes drying up, water becoming toxic and malodorous (e.g. in Defra, Firdos and Abu Gabra, as reported during the study), large-scale deforestation, contamination of pastures and soil, the dispersal of nafta, a by-product of the oil industry which is toxic to humans and animals, the emergence of complex and previously unknown diseases among livestock and increased conflict between pastoralists and farmers due to reduced access to land.

People are also angry about the impact of the roads built by the oil companies, alleging that water accumulates on roadsides because of poor drainage, creating swampy areas. They say that oil is having a deleterious effect far outside the actual concessions, with the alteration of the drainage system caused by oil drilling and road construction drying up even Lake Keilak. Depressions such as Abu Kadma and Danbaloiya, used as seasonal water sources, are also said to be endangered.

Communities feel that they have not been adequately compensated for the damage the oil sector has inflicted on their economy. A common complaint is that the few boreholes drilled by the oil companies amount to 'peanuts'. Compensation is seen as paltry and wholly incommensurate with the resources extracted and the environmental damage done. The few awards that have been made are said to have more to do with patronage than any genuine effort to redress grievances. Misseriyya youth say they have not been given the educational opportunities and technical training that would give them access (in theory) to jobs in the oil sector. This is one of the most important grievances, as will be discussed in the next chapter.

4.4 Services

Despite some recent investment in service infrastructure by oil companies and government departments, access to services remains extremely limited in Dar Misseriyya, especially in rural areas.

Health facilities in the five Administrative Units of Abyei *mahallia* are limited to a single hospital in Muglad, with limited capacity and a lack of trained personnel. A second, in

Debab, is still in the planning stage. Most Primary Health Centres (PHCs) are not functioning or, if they are, have no drugs. There are no doctors at all in Sitaib Administrative Unit. At 98 deaths per 1,000 live births, rates of infant and maternal mortality are far higher in Southern Kordofan than in neighbouring Northern Kordofan (and Sudan as a whole) – see Table 11. Mortality among under-fives is estimated at 142/1,000. In Muglad, where soldiers, militiamen and traders come into contact with a large number of commercial sex workers, people fear what they say is the growing incidence of HIV/AIDS. Neither testing nor treatment is available.

In towns such as Debab, greater investment in school facilities is apparent and the number of children enrolled, including girls, has been steadily increasing. But very few permanent buildings were observed outside the main centres (Muglad, Debab, Keilak, Meiram and Sitaib) and, even where they were evident, problems were reported with high fees and inadequate nutrition. Outside the towns, education services are very limited and illiteracy rates high, especially among pastoralists (66%). Enrolment levels are low, and most nomadic children are *de facto* denied access to education. This is becoming increasingly problematic as pastoralist communities develop a strong new interest in education, aware that they have no alternative but to prepare their children for new livelihoods. While wealthier pastoralists have started to invest in their children's future, paying for the brightest to be schooled away from home in urban centres, middle-income and poor pastoralists cannot afford the loss of labour within the household. Many children enter school late, around the age of eight or nine, when they are considered old enough to walk the long distances from nomadic camps to towns or villages, and drop out after a few years when they fail to catch up with their peers. The closure of boarding schools for nomadic children in the late 1970s is blamed for creating two generations of illiterate youth. The piloting of nomadic schools by UNICEF and the Ministry of Education has had limited success because of a lack of teachers and teaching materials. People believe that more could be done to make mobile schooling more viable, but the overwhelming preference is for the reopening of boarding facilities in key locations. The two are not mutually exclusive: primary education could be provided through a greater number of

mobile schools or the establishment of schools in key locations along transhumance routes, with a special school calendar to suit pastoral movement.

The greatest number of complaints concerned the absence of sufficient and sustainable water development in the region. Many of the wells drilled by the oil companies to compensate for the damage allegedly caused by their activities are reported to have a short operational life. At the most basic level, boreholes are being built to the wrong specifications. Compounding the problem, the community development projects implemented by oil companies are seldom coordinated with the technical departments of the ministries in El Fula. As a result, bore holes and other services are not maintained and quickly collapse. The potential for water harvesting (micro-catchment dams), a more sustainable and environmentally friendly solution than boreholes and *hafirs*, is grossly underexplored. A full list of water yards in the five Administrative Units is presented in Annex 2.

The lack of animal health services was another source of significant frustration. This includes vaccination services, which are said to be unreliable, veterinary clinics and drugs. Clinics are particularly important to fight the diseases allegedly generated by the contamination of water and pasture. In Sitaib, for instance, no vaccination campaign has been conducted for the last two years because of insecurity (last year the campaign was halted because the ministry vehicle was attacked), and no livestock vaccines are available in the market. This also has an impact on trade, as uncertified livestock cannot be sold.

The lack of services has a particularly severe impact on women, especially nomadic women, whose lives are especially hard. In towns, women have better access to water, firewood and grinding mills, and many have become engaged in petty trade to complement household income. Illiteracy rates among women are extremely high both in rural and urban areas (76%) despite the increasing enrolment of girls in urban centres. Women comment that greater access to education for girls has already had a positive impact by helping to reduce the incidence of early marriage. The lack of

Table 11: Health and education indicators for South Kordofan and North Kordofan, 2008

	Infant mortality rate/'000	Under-5 mortality /'000	Post-natal mortality/'000	Fully immunised children (%)	Net intake rate in basic education (%)	Secondary school net attendance rate (%)
N. Kordofan	61	88	22	39.4	35.3	18.3
S. Kordofan	98	147	50	37.3	25.9	8.0
Sudan	81	112	40	41.4	29.5	18.9

Source: Ministry of Social Welfare (2008), Sudan House Hold Survey, Draft Report.

boarding facilities in Muglad prevents girls from progressing to secondary education.

Women in urban centres and small towns expressed a strong desire to improve their skills in agriculture and other income-generating activities, to have access to adult literacy 'so that we can write our names', and to be supported with credit to set

up or expand their businesses. In rural areas, nomadic women emphasised the critical importance of increasing access to all basic services, particularly health and water. In both rural and urban centres a high incidence of female-headed households was reported, as many women had lost their husbands during the war. Many stressed that they felt threatened by increasing insecurity in the region, and feared a return to war.

Chapter 5

Peace and development in Dar Misseriyya: perceptions and perspectives

5.1 Evolving tensions in the Western Sector: current dynamics

The crisis experienced by the Misseriyya livelihood system is driving new political developments which are increasing tensions in the area. It is essential that any programming aimed at supporting Misseriyya and other groups is informed by a nuanced understanding of the political environment.

The area is currently in political turmoil. The Misseriyya perceive themselves as the victims of both war and peace. Their recruitment into the PDF during the war, as the backbone of the force, is widely seen to have eroded their historical relationship with the Dinka, while increasing militarisation among their youth. The CPA is said to have increased insecurity and unemployment by depriving people of access to key resources in the South (pasture, water and the war economy) without any concomitant political gain. Among youth, the government's dismantling of the PDF without any compensation is seen as an act of betrayal, leaving former members unable to provide for their families. People see access to employment in the oil sector as a right, and are angered by the lack of labour and economic opportunities in the sector.

The Misseriyya are also suffering a leadership crisis. There is palpable mistrust both of traditional leaders and Misseriyya political leaders. Misseriyya society appears to be highly fragmented and people are uncertain about their future. There is an overwhelming feeling of helplessness across most sectors of society, and a widespread perception that only a return to armed confrontation will improve their lot. A common refrain is: 'Without the gun, we will not be taken seriously'. Signs of insecurity and instability are apparent across the region. If the Misseriyya predicament is not seriously and energetically addressed, the possibility of another 'Darfur-like' descent into violence cannot be discounted.

5.2 Main actors

5.2.1 The Shahama

The Shahama movement – Shahama means 'valiant' in Arabic – emerged in 2004. It is largely comprised of young people, including from nomadic communities. The Islamist-oriented group appears to have a substantial following, despite claims by former West Kordofan Governor Salman Suleiman Safi in October 2005 that it was 'isolated and has no support in the population of Kordofan', with bases initially only in Bahr el Ghazal.

Shahama was founded by Musa Ali Mohamedain, a Misseriyya and a member of the Popular Congress Party (PCP) of Hassan al-Turabi. The government claims that Shahama is part of a strategy of destabilisation, and has from the outset accused the Darfur rebels of the Justice and Equality Movement (JEM) of being behind it. After Musa Ali's death in November 2004, his younger brother, Mohammed Bahr Ali Hamadain, took over the leadership, and soon after was named head of JEM's Kordofan 'sector' and deputy to JEM Chairman Dr. Khalil Ibrahim. Hamadain was arrested and sentenced to death in May 2008, following the JEM's attack on Omdurman, although it is thought that the government will not carry out the sentence to avoid a backlash in Dar Misseriyya. Most Shahama activists followed Hamadain in joining the JEM. Many, reportedly including Hamadain himself, were however soon disappointed by what they saw as a lack of genuine concern by the JEM for the Misseriyya.

There are no clear boundaries between Shahama and other militarised groups. Most of its adherents are said to belong to the *Awlad Kamil Darin Sheba Zarqa wa Hamra*, one of the most militant groups in Dar Misseriyya. During the civil war they were the backbone of the PDF. Almost all are said to be illiterate. A number of Misseriyya leaders are thought to want to isolate Shahama for fear of seeing Dar Misseriyya become a 'second Darfur'. At the local level, however, Shahama remains both strong and popular.

5.2.2 The Justice and Equality Movement (JEM)

From its inception JEM has had a presence outside Darfur, in Kordofan, East Sudan, Gezira and Blue Nile. The JEM has been active in Dar Misseriyya since 2005, with a strong presence in the weekly markets along the border with South Darfur. In December 2006, the group (under the name National Redemption Front) attacked the Abu Jabra oilfield on the Darfur–Kordofan border, assisted by local Misseriyya with knowledge of the area. The following August, the group attacked a police barracks in Wad Banda, killing 41 people. In September 2007, armed men attacked three Ministry of Agriculture vehicles south of Muglad, instructing their passengers to convey the message that their group was affiliated to the JEM. In October 2007, the Chinese-run Hajlil oilfield in the Defra concession was targeted in what Hamadain called 'a message to the Chinese companies in particular'. Another Chinese-run oilfield was attacked in December 2007.

Although recruitment among Misseriyya has been significant, the JEM's presence in Kordofan has divided the Misseriyya.

Following the attack on the police barracks in August 2007, the Misseriyya Union condemned the action as ‘barbaric’, demanded that JEM confine its war to Darfur and called on all Misseriyya to oppose it. In November 2007, a new group calling itself the ‘Army of the Revolutionary Movement for the Restoration of Justice in South Kordofan’, headed by a Misseriyya government supporter, Abdu Adam Al Ansari, said that rebellion in Darfur had caused huge destruction, and warned the JEM against conducting military activities in Kordofan. The group said that it was ready to confront any aggression against Kordofan ‘in collaboration with other national forces’.

5.2.3 Non-aligned ex-PDF fighters

An unquantifiable (but reportedly high) number of former PDF fighters are becoming increasingly organised. This group is armed and fiercely critical of the government for ‘exploiting Misseriyya youth during the war’ and leaving them without compensation or alternative livelihoods in its aftermath. They have a number of key grievances, chief among them the government’s refusal to acknowledge membership of the PDF as meeting the requirement for military service. Without a military service certificate it is impossible to access jobs, and oil companies exploit this loophole to justify their refusal to employ local youth in any significant numbers. PDF veterans were promised involvement in the disarmament and demobilisation programme in March 2007, but so far have not been included. A well-trained group, veterans have claimed responsibility for attacks on roads from Muglad and El Meiram to Debab. In September 2008 they gave an ultimatum to the government to start acting on their requests by 15 October 2008, after which they would resume attacks on the road, with a special focus on oil companies. In an incident on 17 October 2008 nine oil workers were kidnapped, five of whom died in a botched rescue attempt. Although the government blamed the JEM for the attack, locals believe that the operation was carried out by ex-PDF fighters based in Debab.

5.2.4 The Sudan People’s Liberation Army (SPLA)

Attracted by the prospect of regular salaries, a number of ex-PDF fighters have joined the SPLA, including several young officers, some of them from wealthy backgrounds, as well as the impoverished rank and file. According to some reports, around 13,000 Misseriyya fighters joined the SPLA in 2006, with a further 10,000 joining from the Debab camp. It is believed that the SPLA sought to recruit Misseriyya and Rizeigat militia as a fifth column or advance guard in the event of a resumption of hostilities with the National Congress Party (NCP). The SPLA used Debab as a recruiting station, aiming for one battalion (600–800 men). Thousands turned up, chiefly because of the \$150 a month pay on offer. The NCP argued that the recruitment was a violation of the CPA and sent an army unit to confront the SPLA, which eventually backed down. In September 2007, around 1,500 prospective recruits were accepted and moved to the Pariang area, just south of the North–South border. Led by a former PDF commander from the Misseriyya Humr, Hassan Hamid, they were told that they would be trained and integrated into the SPLA.

Some observers explain the movement towards the SPLA as a tactic by the Misseriyya to strengthen their position, rather than as a principled commitment to the group. The prime interest of the Misseriyya is to preserve their cattle wealth and access to critical resources, and to this end alliances are reportedly being used strategically.

5.2.5 Shamam

The Shamam movement originated in El Fula, the former capital of West Kordofan before it was merged with South Kordofan. It largely comprises opposition party members (Umma, PPC, Baath, Communists, etc.) and intellectuals and seeks a peaceful resolution of the issues at stake. The movement is seen as elitist, and is thought to have links with Turabi’s PCP.

5.2.6 The Native Administration

The Native Administration is criticised by all parties for being excessively politicised and no longer reflecting tribal structures and interests. Native administrators are today seen as government officials who are more accountable to the government than the people. Mostly based in towns, including Khartoum, they are criticised for ‘not being with their people’ and failing to represent their interests – in particular the interests of nomads. Youth representatives in Muglad accused the Native Administration of looking down on them and referring to them in disparaging terms. They believed that the Native Administration did not represent the views of the tribe, but felt that it could have an important role to play if it were neutral and apolitical. Young people felt that the role of the Native Administration should be enhanced and administrators given a greater say in social and tribal matters. To ensure impartiality, all interviewees felt that administrators should be selected by communities democratically, rather than, as at present, being appointed by the government.

Local youth are also angry with educated Misseriyya, whom they accuse of failing to respond to the plight of their people. Misseriyya intellectuals have benefited from education, usually in boarding schools, but have not reinvested in their communities, even to the extent of lobbying for their interests in Khartoum.

5.2.7 ‘Youth’

‘Youth Mechanism for Development and Follow Up’ (‘Youth’) emerged in 2008. It claims to comprise educated Misseriyya youth, including lawyers, government officials and business-people. In late 2007 its leaders presented a list of 52 demands to President Bashir, focusing on the lack of services and employment opportunities. Bashir pledged support and reportedly set up a body to follow up requests, chaired by the head of the Humanitarian Aid Commission (HAC) in Khartoum. With very few of their demands met, however, the rank and file of ‘Youth’ felt that their leaders had capitulated to the government and were rethinking their stance. Mistrust of the government, described by one supporter as a ‘vulture which comes to you only when it sees carcasses’, is widespread, and most believe that ‘the gun is the

only choice'. Many are ready to take up arms, arguing that they have tried to solve their problems peacefully and now have no option but to seek a 'Darfur-like solution'. 'Youth' militants are seeking alliances both with the SPLA and the JEM. There is a widespread feeling that 'Youth' would win the backing of PDF veterans and nomads if its members turned to armed confrontation. The perception is that political parties and tribal leaders could not afford to oppose a popular groundswell and would be compelled to support the actions of a group that enjoys more legitimacy than the illiterate militiamen of the old PDF.

5.2.8 The government/National Congress Party

Resentment against the government is so widespread that it is common to hear even children chanting anti-government slogans. There is a general collapse of governance, with the government unable or unwilling to ensure security. In protest, the Misseriyya have refused to pay livestock taxes since 2005 and the government has been unable to force them to do so. In October 2008, the civil service went on strike because their salaries were not being paid. There is a widespread perception that corruption is rife. People believe that the state Minister of Finance, who was dismissed in September 2008, lost his job because he was trying to bring some transparency to state accounts. Allegations of corruption have also undermined the Western Kordofan Development Authority. This body, created in the wake of the CPA, is based in Khartoum and has no presence or impact on the ground. There is no clarity about its annual budget, income or expenditure.

The failure to honour the wealth-sharing stipulations in the CPA has become a major source of discontent and frustration, and Misseriyya communities are demanding the 2% share in oil revenues that should be allocated to Southern Kordofan State. According to the 2007 wealth-sharing report, Southern Kordofan State's share for January–April 2007 was \$5.39 million. Very little of this appears to have been spent on initiatives to improve the livelihoods of the Misseriyya (or other groups in the state, for that matter). The Misseriyya also hold the government responsible for the Abyei Protocol and the Abyei Border Commission (ABC) report, which they see as threatening their way of life.

5.3 The CPA, the ABC and the Road Map

Thanks to the CPA and the Abyei Protocol the Misseriyya feel strongly that resources south of Bahr al-Arab have become inaccessible. The Abyei Road Map, negotiated and agreed by the SPLM and the NCP after the fighting in Abyei in May 2008, is seen as unsatisfactory, although it is recognised as a step forward compared to the Protocol. There is a widespread perception amongst Misseriyya communities that war will come, though they are not sure whether it will be against the NCP or against the South. There were complaints that the Road Map was only agreed by the SPLM to appease the internal tribal tensions with the Dinka Malwal and Twic that flared up after the Abyei Border

Commission (ABC) identified areas like Meiram, Heglig and Keilak as Dinka Ngok areas. As part of the Road Map, the parties have referred the dispute on the Abyei boundaries to the Permanent Court of Arbitration in The Hague. There is concern among the Misseriyya that the court may uphold the findings of the ABC and rule in favour of the Dinka Ngok. The Road Map also envisaged the establishment of an administration in Abyei, which was finally appointed in September 2008. The agreement reached is seen as favouring the Dinka, and is described by Misseriyya leaders in the area as '*mara wahda*' ('only one wife', considered inadequate in a polygamous society).

As the Misseriyya see it, the CPA strengthened the Dinka and the Road Map gave them a government which speaks on their behalf. Although the CPA guarantees the right of the Misseriyya to access pastureland south of the Bahr al-Arab, in the last two years they have had to pay heavy taxes to access the South. In 2008, most Misseriyya cattle stayed north of the Bahr al-Arab, where they suffered from a shortage of water and grazing. The extension of the Dinka Ngok area as determined by the ABC has meant that it is not just transhumance to Abyei along the Central *murhal* which is threatened, but also access to natural resources along the *murals* south of Meiram and Keilak.

Although large livestock owners have managed to access the river in recent years by paying taxes to SPLA troops, having to pay taxes to the SPLA (or GOSS, the boundary between the two being unclear in the fields of Abyei) is an issue of contention among the Misseriyya. Misseriyya pay SPLA soldiers one to two calves per herd, depending on negotiation and acceptance of the offer by the soldiers. In 2007, Misseriyya crossing Bahr al-Arab through Unity state reported paying the SPLA SDG 15,000. The Fallaita already pay taxes to the government of Southern Kordofan State in El Fula. The Ajayra have been refusing to pay taxes because of the lack of services. Neither group wants to incur double taxation by paying taxes to GOSS, but livestock owners are resigned to offering some payment in the interim in order to be able to access the river while a more acceptable solution is found.

Traditional mechanisms for conflict resolution can no longer be relied upon in negotiating with the Dinka for access to the South. With the Native Administration so politicised, the old ways would now require the involvement of senior NCP and GOSS representatives. The Native Administration would not be accepted as a credible mediator.

5.4 Relations with neighbours

Relations appear to be strained between the Fayarín Awlad Jibril sub-tribe and the Rizeygat on the Southern Kordofan/South Darfur border. Fighting in August 2008 over access to water resources resulted in casualties on both sides. Despite agreeing the payment of *diya* (blood money) at a

reconciliation conference (with the Fayarin paying SDG 1,348,500 and the Rizeygat SDG 772,450), it was reported that ‘the *Hakkamat* are still walking barefoot in the markets’³. There is a feeling of deep insecurity throughout the area. The Fayarin cannot move south until they have paid all four instalments of the *diya*, but they are finding this difficult: traditionally, the whole tribe would contribute, but hardship has eroded tribal solidarity.

Relations with the Nuba to the east are equally strained, with sporadic clashes between the Misseriyya Zuruq and the Abu Junuk Nuba in the Lagawa area. To the south, relations are difficult with most of the neighbouring tribes, though interaction with the Nuer and the Dinka Malwal is said to be less confrontational than with the Dinka Ngok.

³ The *Hakkamat* are female singers in Darfur and Kordofan whose role is to incite their menfolk through their poems and songs during times of conflict. Walking barefoot is a sign that they are still demanding revenge for the tribe.

There is deep concern about the easy availability of weapons (beyond those carried to protect livestock). The study team found weapons on wide display among communities in the Siteib Administrative Unit, especially in areas bordering Darfur and in market towns like Sammoa. In one location near Meiram, the team was advised by the Amir not to return to the area because of security risks. Tellingly, the Amir is an NCP official who is sponsoring what appears to be a local rebellion.

Links with the rebellion in Darfur are increasingly evident, and in several quarters considered desirable. One traditional leader (officially affiliated to the NCP) went as far as to criticise Darfur rebels for failing to seek an alliance with Kordofani opposition movements from the outset. Given this background, together with the JEM’s activism and the deep and widespread grievances among the Misseriyya, it is critical that all possible efforts are made to prevent another escalation of violence, which could deal a death blow to the CPA.

Chapter 6

Interventions for stability and development: harnessing opportunities for change

6.1 The drive towards sedentarisation

There is an overwhelming desire among Misseriyya pastoral communities to be able to cross the Bahr al-Arab. Settlement is seen as a far less attractive option. Pastoralists say that they would be unable to sustain their livestock holdings through settlement without water sources, dry fodder, abattoirs, livestock markets and roads to enable the regular buying and selling of animals. They believe that the investments needed are unrealistic, at the least in the medium term, and as a result are hoping for reconciliation. This is the priority for many pastoralist communities and is an area in which they expect support from the international community. While Misseriyya pastoralists continue to consider their mobility of paramount importance, some of their leaders stress the importance of settlement. It is important to note that such statements seem to prevail among leaders who are furthest removed from the grassroots.

The characteristics of the ecosystem in which the Misseriyya live would not make settlement feasible or sustainable without substantial investment in the medium to long term. The northern part of the area is semi-arid and unsuitable for ranching or localised grazing; areas further south are part of a shared-rights zone and any settlement would be contested. Partial settlement in the drylands could be considered if there was meaningful investment in water resources, fodder production to complement natural pasture and a significant reduction in the number of cattle held. But herd maximisation is a risk insurance strategy against epidemics and droughts, and a reduction of stock numbers would leave the Misseriyya livelihood system extremely vulnerable to external shocks. Furthermore, cattle are a source of status as well as wealth among the Misseriyya, and accelerated off-take would not be culturally acceptable in most communities. Sedentarisation would also entail a shift from a livelihood system based on communal grazing to livestock raising on privately owned areas. This would require intensive investment in creating the necessary capacity to manage and enhance the carrying capacity of the land.

Experience from other dryland areas in Africa shows that settlement strategies are only successful if they are developed as part of a long-term process involving a gradual shift away from a cattle-based economy and lifestyle brought about by education and the development of other livelihoods opportunities for succeeding generations. But time is a luxury the Misseriyya do not have: 2011 gives Southern Sudan the right to secede and the Misseriyya fear that this could deprive them of large areas of land central to their livelihoods. It is

essential to put in place, now, a number of interventions to address their immediate concerns and sustain a process of diversification in the medium to long term.

6.2 Supporting stability and development: programming opportunities and priorities

A number of interventions could be promoted in the region to help address the crisis in Misseriyya livelihoods and lessen the likelihood of conflict. Communities expect the central and state government as well as the oil companies to take a lead in implementing the interventions discussed below. Urgent action is needed to provide assistance on the scale required to help restore confidence in the peace process, both in Dar Misseriyya and in Abyei. Interventions should focus on pastoralist livelihoods and on alternative strategies for those who have abandoned the livestock economy, risk dropping out of the sector or willingly pursue alternative livelihood strategies. A number of interventions are suggested below.

6.2.1 Immediate term

1. *Encourage grassroots reconciliation and local-level discussion around natural resources.* As already recommended by a stability and development study in the Three Areas in 2008 (Vaux, Pantuliano and Snirivasan, 2008), every effort should be made to defuse the situation in Dar Misseriyya and Abyei through local-level dialogue with influential leaders. The southern zone rangelands are indispensable to the Misseriyya pastoralists, and will be so for the foreseeable future. It is therefore crucial to act quickly to facilitate access to these areas. Access can only be agreed as part of a process of reconciliation between the Misseriyya and relevant Dinka and Nuer groups. Possible initiatives include:

- Build on the UNDP-brokered 'people to people process' of the early 2000s.⁴
- Help facilitate discussions focused on rights of use and passage (rather than ownership of the land) using local knowledge and calling on Sudanese experts on pastoralist matters, of whom there are many.
- Facilitate cross-site community visits, involving women and youth representatives.

⁴ Local Misseriyya and Dinka Ngok leaders in Abyei negotiated the Abu Nafisa Peace Agreement in 2001 in what came to be known as the 'people to people peace process'. The agreement was brokered under the aegis of the Abyei Peace Committee (APC), a local body made up of Misseriyya and Dinka leaders.

These recommendations are reiterated here as they were not considered in 2008.

2. *Defuse tension amongst youth through cash interventions.* Cash interventions aimed primarily at unskilled youth in urban and peri-urban areas should be prioritised. These could include emergency employment projects, or they could be linked to educational outputs (Accelerated Learning Programmes, training). Labour-intensive interventions linked to public works could generate work for both skilled and unskilled people. UNDP has tested these programmes in the Gaza Strip and Afghanistan, and could draw on these experiences. Initiatives could include developing agricultural or water infrastructure, waste collection and sanitation in urban areas and road building and maintenance. Labour-intensive programmes should be accompanied by support to small businesses, micro-finance initiatives and skills training to create sustainable opportunities for youth in the long term.
3. *Extend DDR programming to ex-members of the PDF.* The reintegration of former PDF combatants must be prioritised. It is imperative that the DDR Commission and UNMIS accelerate the rolling out of the DDR programme in the area, and ensure that former PDF fighters are included.
4. *Promote civic education.* Urgently undertake wide dissemination of the content of the Abyei Protocol and the Abyei Road Map in local languages, through leaflets and radio and TV messages, with the aim of fostering understanding of the guarantees of Misseriyya grazing rights in Ngok territory envisaged by the Protocol, and enhancing popular knowledge of the steps agreed in the Road Map.

6.2.2 Medium to long term

1. Develop key infrastructure to stimulate the economy, particularly in the pastoral sector. This is essential to improve access to markets, both within the state and towards North and South Sudan. Trade comes to a total halt in most of Dar Misseriyya in the rainy season, i.e. for more than six months a year. The road network has been improved only around oil fields, but it is essential that key roads are completed and maintained throughout the state. A long-term development programme focused on trade linkages (livestock markets, agricultural produce) could help promote stability, building on the long-standing trade relations between Arab and Dinka groups. An important example of this tradition is Warawar market, where Arabs and local Dinka groups traded freely despite the ongoing civil war. Road construction should be accompanied by the development of key infrastructure aimed at supporting the livestock trade and the marketing of livestock by-products. This includes abattoirs, small-scale meat factories and outlets for the preparation of dry fodder.

2. *Livestock support interventions.* A livestock census should be conducted to determine actual livestock numbers in the area, so that more realistic plans can be drawn up based on actual carrying capacity. Overall, however, people could be helped to reduce the number of animals they have by improving the quality of the breeds. Attempts to mix local breeds with Foja cattle have been successful and should be further tested and replicated. The late weaning of calves should be discouraged. This is usually done because of a lack of outlets to sell milk due to poor road and markets infrastructure.

Efforts could also be directed towards reducing the number of mature males and other non-productive stock among herds. Legislation may be passed to discourage the sale of older male animals, for instance by levying more tax on them. At the same time, veterinary services should be enhanced to lessen disease. The privatisation process should be supported and strengthened. An evaluation of the relationships between the veterinary authorities and community animal health workers should be undertaken to ensure that remuneration on both sides is fair.⁵

3. *Water development.* Water sources should be expanded to produce a more even distribution of livestock on the range, and to bring into play under-utilised rangelands. This will entail developing more water points in the middle of the Eastern *murhal* and the *Ruqab*, to lessen the movement of people with medium-sized and small herds and reduce the amount of animals crossing the Bahr al-Arab. Access to new water sources should be regulated and managed, and water tariffs for large herds should be considered. Lessons should be learned from the problems encountered in sustaining *hafirs*, mainly stemming from inadequate management. Water harvesting through micro-catchment dams should be explored as it is a more sustainable and environmentally friendly solution.
4. *Pilot programmes for community livestock reserves.* There was disagreement within the team over the sustainability of livestock ranching in a non-equilibrium environment such as Dar Misseriyya. The work of the Research Station in Kadugli, which assessed the technical feasibility of keeping animals on ranches in Southern Kordofan, reportedly yielded encouraging results. The ranch pilot showed that cattle could be kept year-round in the cracking clays of Kadugli, that they had a higher calving rate than transhumant cattle, and that the distribution of calving was more even throughout the year. Further work should be done to test the feasibility of the model and identify advantages and disadvantages. This should be done at community level, not in a research station.

⁵ The paravets in Debab believe that the share that goes to the veterinary administration as a proportion of the price of a bottle of vaccine is unjustifiably high. This increases the price of a bottle of vaccine and encourages a black market in drugs, with attendant risks that vaccines will be adulterated.

5. *Support for the marketing of animal by-products.* Processing of feeds and animal products, especially milk products, should be encouraged. Small-scale processing plants for milk could be introduced in rainy season areas (*makharif*) that are able to process quantities of milk as small as 500 litres into products that can be stored for marketing for many days. Small-scale units composed of a room and simple equipment for cheese-making have already been tested successfully in the White Nile area, where 400 stationary 'factories' managed by just three men have been created along nomads' transhumance routes. Small mobile plants for the cooling, pasteurisation and sterilisation of milk, yoghurt-making and other dairy processing are however also available on the international market, and could be sourced from South Africa or India. Such plants would allow pastoralists to process their own milk and store the products for a week before selling them.
6. *Range reseeding.* Reseeding of the range, particularly in places where Gardud soils prevail, should be considered. The plants selected for reseeding should be chosen amongst those which are not endangered, dying out on the range due to heavy grazing pressure near settlements and watering points, or suffering from selective grazing. Water harvesting should be introduced to increase the soil moisture content to enhance plant growth.
7. *Environmental advocacy.* Advocacy should be promoted with the government and oil companies on the negative impact of oil on pastoralist livelihoods and the environment. This could be pursued with the diplomatic missions of countries involved in the industry.
8. *Agricultural support.* Support could be provided to those who are engaged in agriculture to upgrade their existing skills, which are often limited, and introduce new crops and technologies.
9. *Support to income-generating activities in towns.* To ease urban poverty and reduce tensions, particularly amongst the unemployed and youth, interventions must be put in place to address income poverty in towns and small settlements. Interventions could include support for business development and micro-credit to start up small enterprises. Special attention should be paid to supporting women.
10. *Accelerated Learning Programmes and training for youth.* Accelerated Learning Programmes for youth deprived of education during the war and for ex-combatants should be introduced, to capitalise on the great desire for learning. Market-tailored training programmes should also be developed in main centres to help youth learn technical trades, especially those relevant to the oil industry.
11. *Support women's strategic needs.* Assistance offered to women in the region has been limited and tends to reinforce existing stereotypes about their role. Misseriyya women are notoriously secluded and socially marginalised, especially in rural areas. Programmes aimed at addressing women's practical needs and enhancing their strategic interests must be developed, involving the few Misseriyya women in urban centres who can act as catalysts in more remote areas. Ideas discussed with women's groups in Muglad include training midwives and community animators to work with nomadic women in rural areas; creating women's cooperatives for sanitation in urban centres; vocational training focused on trades identified as acceptable for women (child-minding, commercial kindergartens, vegetable production, electrical and mobile repair work).
12. *Support mobile education and boarding schools.* Education is seen as vital in order to facilitate access to alternative livelihoods for the Misseriyya in the future. The current model of mobile schooling should be evaluated to understand the reasons behind its very limited success and remedy its shortcomings. At the same time, the community desire for the re-opening of boarding schools must be acknowledged through advocacy with the government to reintroduce boarding schools, with pilot institutions in key locations. Given that both groups consider them critical for their children's future, boarding schools can facilitate confidence-building and reconciliation between Misseriyya and Dinka. Joint boarding schools with a single curriculum could be tested in locations where both communities would feel comfortable leaving their children. One possibility could be Kadugli. Alternatively, or as a complement, programmes of interaction between Misseriyya and Dinka schoolchildren could be initiated to promote understanding and mutual respect.
13. *Support research capacity on the pastoral economy.* There are no animal research institutions in the Western Sector of Southern Kordofan. The Faculty of Natural Resources at El Fula is in its infancy. Research on range productivity and quality is lacking; research on animal production is rare and, where it exists, deficient. Support to research should be provided. This could begin with training postgraduate students from the area, thereby also enhancing local capacity.
14. *Support local mechanisms to negotiate use and access rights over land and settle land-related disputes.* The capacity of local leaders to negotiate use and access rights over land and to settle land-related disputes has been progressively undermined by the politicisation of the traditional administration. But traditional land administrators could be helped to perform a more effective role and operate in more inclusive and democratic ways, including through elected land committees, on which women and youth would be represented. These committees could play a key role in clarifying whether Misseriyya communities really do want to settle, as maintained by traditional leaders, and would help in developing a framework that could support this aspiration in the long term.

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Annex 1

Misseriyya Native Administration system

Table A1: Misseriyya Amirs and their deputies in 2003

	Emirate	Tribal group	Name	Tribal subsection	Headquarters	Position
1	Awlad Kamil and Mazaghna	Ajaira	Mukhtar Babo	Kamli	Muglad	Amir
	Awlad Kamil and Mazaghna		Hamdi Al Doud Ismail	Mazghani	Muglad	Deputy Amir
2	Awlad Omran and Fadliya		Ismail Hamdein	Awlad Omran	Debab	Amir
	Awlad Omran and Fadliya		Mustafa Al Naeim	Fadliya	Muglad	Deputy Amir
3	Fayarin		Musalam Abu El Gasim	Fayarin	Babanusa	Amir
	Fayarin		Al Hireika Osman	Fayarin	Al Meiram	Deputy Amir
4	Awlad Sirur	Fallaita	Hammad Omer	Awlad Sirur	Fula	Amir
5	Mitanein		Salim Al Imam	Mitanein	Kijeira	Amir
6	Ziyoud		Nazeer Gibreil	Ziyoud	Muglad	Amir
	Ziyoud		Hamid Adam	Umm Ghabasha	Babanusa	Deputy Amir
7	Salamat		Bakheit Fadelalseed	Salamat	Keilak	Amir
8	Gubarat		Ramadan Noural Safa	Gubarat	Fula	Amir

Table A2: Misseriyya Omodya, name of *omdas* and number of *sheikhs* by Emirate, 2003

1. Awlad Kamil and Mazaghna			
No	Headquarter	Omodya	Number of sheikhs
1	Muglad	Ariya – Gamal el Din	2
2	Nimatein	Awlad Salama	6
3	Muglad	Awlad Salama	12
4	Babanusa	Awlad Moumin and Beni Helba	7
5	Muglad	Al Trakna- dar Hantour	3
6	Umm daries	Kalabna	1
7	Muglad	Dar umm Sheiba	9
8	Muglad	Fakarein	14
9	Muglad	Abu Gadeer	33
10	Siteib	Dar Mouta	9
11	Muglad	Dar Umm Sheiba	9
12	Muglad	Dar Bakheit	15
13	Muglad	Dar Salim	6
14	Muglad	Kalabna	15
15	Umm daries	Kalabna	13
Sub Total			154

2. Awlad Omran and Fadliya Emirate

1	Babanusa	Umm Sumaien	35
2	Nimatein	Fadliya	17
3	Gouli	Awlad Shiroug	18
4	Babanusa	Dar Habeeballa	9
5	Babanusa	Dar Zabli	10
6	Debab	Umm Goud	15
7	Birka	Awlad Rahama	7
8	Debab	Umm Hammad	7
Sub Total			118

Table A2: Misseriyya Omodya, name of *omdas* and number of *sheikhs* by Emirate, 2003 (continued)

3. Fayarin Emirat			
No	Headquarter	Omodya	Number of sheikhs
1	Muqadama	Awlad Gibreil	26
2	Muqadama	Awlad Agla	14
3	Meiram	Awlad Owana	18
4	Meiram	Sadagi	14
5	Meiram	Awlad Umm Hani	15
6	Al Dambaloiya	Al Aisar	19
7	Meiram	Awlad Kimeil	20
8	Gouli	Awlad Gibreil	8
Sub Total			134

4. Awlad Sirur Emirate			
No	Headquarter	Omodya	Number of sheikhs
1	Babanusa	Awlad Gafeer	1
2	Abu Allikri	Awlad Elaian	2
3	Babanusa/Shambar	Awlad Umm Khamees	3
4	Fula	Gerafeen	4
5	Shambar	Umm Boukta	5
6	Shambar	Awlad Gamma	6
Sub Total			71

5. Al Mataneen Emirate			
No	Headquarter	Omodya	Number of sheikhs
1	Al Barasaya	Awlad Arafa	11
2	Kijaira	Awlad Areef	13
3	Kijaira	Awlad Zeyada	9
4	Babanusa	Awlad Shabeeb	11
5	Kijaira	Al Shamiyya	10
6	Momo	Momo	37
Sub Total			91

6. Alziud Emirate			
No	Headquarter	Omodya	Number of sheikhs
1	Sinaitaya	Umm Goda	28
2	Babanusa	Awlad Hammad	6
3	Debab	Umm Ghabasha	5
4	Birka	Umm Gammouli	5
5	Birka	Umm Sabeeb	5
6	Kijaira	Awlad Mahadi	1
7	Muglad/Sinaitaya	Awlad Kagga	4
8	Babanusa	Al Zibda	8
Sub Total			62

Table A2: Misseriyya Omodya, name of *omdas* and number of *sheiks* by Emirate, 2003 (continued)

7. Salamat Emirate			
No	Headquarter	Omodya	Number of sheikhs
1	Keilak	Abu Idris	2
2	Keilak	Awlad Saeeda	3
3	Fula	Awlad Ali	5
4	Keilak	Awlad Gadeem	2
5	Fula	Awlad Fadul	1
6	Fula	Al Gababra	3
16			Sub Total
8. Al Gubarat Emirate			
No	Headquarter	Omodya	Number of sheikhs
1	Fula	Awlad Mohamed	6
2	Keilak	Wad ElNaeem	1
3	Muglad	Abu Hilal	3
			Sub Total
			10
			Grand Total
			656

Annex 2

Water yards, pumps and latrines in Abyei locality

Village	Administrative Unit	Population	Established by				Water tank capacity	Functioning pump	Latrine coverage %
			GoS	NGO	Company	Private			
Sammoa (GoS)	Muglad	2,575	x				10,000	x	0
Um Batykh (GNPOC)	“	3,000			x		8,000	x	0
Um Batykh (GoS)	“	0	x				8,000		0
Um Batykh (Sagay)	“	0		x			10,000		0
Um Khaboub (GNPOC)	“	3,000			x		10,000		0
Um Al Bashar (Concern)	“	6,800		x			10,000	x	0
Um Al Bashar (GoS)	“	0	x				10,000		10
Um Sham (GoS)	“	3,800	x				10,000		43
Um Sham (GNPOC)	“	0			x		0		0
Muqadama (Concern)	“	6,000		x			10,000	x	43
Muqadama (GoS)	“	0	x				10,000		0
Muqadama (GNPOC)	“	0			x		10,000	x	0
Hummed (GoS)	“	2,600	x				10,000		5
Odram (Concern)	Meiram	880		x			8,000	x	28
Fuda (Concern)	“	8,500		x			1,000	x	7
Geogyna	“	1,350	x				0		0
Meiram (Dawah)	“	44,800				x	8,000	x	20
Meiram (B)	“	0	x				10,000	x	0
Meiram (Ansar Sunna)	“	0				x	8,000		0
Meiram (GNPOC)	“	0			x		10,000	x	0
Meiram (A)	“	0	x				10,000	x	0
Meiram (A)	“	0					10,000		0
Meiram (IDPs)	“	0		x			5,000	x	0
Al Hirya	“	1,800			x		10,000	x	4
Um Dress (Concern)	Sitaib	700		x			10,000	x	0
Nebyg	“	4,300							0
Zarafat	“	600							0
Al Agad (GoS)	“	4,000	x				10,000		0
Al Agad (GNPOC)	“	0			x		7,500		0
Sitaib (GoS)	“	9,200	x				12,000	x	41
Sitaib (GNPOC)	“	0			x		6,000	x	0
Debab (Zamzam)	Debab	63,000		x			10,000	x	3
Debab (77)	“	0	x				10,000	x	0
Debab (GNPOC)	“	0			x		10,000	x	0
Debab (A)	“	0	x				10,000		0
Kilo 50	“	1,050		x			10,000	x	60

(continued)

Village	Administrative Unit	Population	Established by				Water tank capacity	Functioning pump	Latrine coverage %
			GoS	NGO	Company	Private			
Kilo (GoS)	Muglad	0	x				8,000		0
Nimatain (GNPOC)	“	2,000			x		8,000	x	5
Nimatain (GoS)	“	0	x				10,000		0
Shatain (Concern)	“	2,280		x			0	x	0
Abu Agber (GoS)	“	2,220	x				0		7
Al Magabi	“	590		x			10,000	x	0
Edylim (GoS)	“	7,000	x				10,000		50
Edylim (GNPOC)	“	0			x		6,000	x	0
Al Feshyg (GoS)	Debab	0	x				10,000		0
Kiwykaya (Zamzam)	Muglad	0		x			10,000	x	0

Source: CONCERN, September 2008

Key remarks

The total number of water yards is 43, located in 27 villages

There is no access to drinking water in Um Sham, Edylim, Agad and Meiram

Only 28% of water yards have fencing separating water for livestock consumption from water for human use

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