

Chapter 4

The Livestock Sector In The Darfur Crisis

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The Livestock Resource in Sudan

Livestock production provides livelihoods for some 20 per cent of the population¹ and remains one of the major resource bases in Sudan. The livestock population in Sudan was estimated, in 2002², at 39,479,000 head of cattle, 48,136,000 sheep, 41,485,000 goats and 3,342,000 camels. These figures are equivalent to 52,504,000 tropical livestock units (TLU)¹. The Ministry of Animal Resources (MoAR) projects the annual growth rate in livestock population at 3.2 per cent for cattle, 3.3 per cent for sheep, 2.5 per cent for goats and 2.3 per cent for camels², despite an estimated off-take rate of 16 per cent for camels, 37 per cent for goats, 45.7 per cent for sheep and 20 per cent for cattle per

¹ 1 TLU = 250 Kg live weight = approximately 1 head of cattle; 1 camel = 1.3TLU; 1 sheep = 0.12 TLU; 1 goat = 0.07 TLU

annum, which is considerably higher than in the regional countries². The projected annual growth estimate³ shows Sudan as having the highest livestock population in Africa. The growth trend in the last five years is represented in the following charts.

Livestock is reared in all the 26 states of Sudan, although camels are not reared in some southern States. However, Blue Nile, El Gedaref, El Gezira, the Greater Darfur, Greater Kordofan, White Nile and Sennar states account for 56 per cent of Sudan's 52,504,000 TLUs.

Livestock used to generate 20 per cent of the national foreign exchange earnings¹. However, after the discovery of oil, this contribution has declined to below 8 per cent³. Livestock production in Sudan is predominantly pastoral¹ and a significant proportion of the livestock population is owned and managed by this sector. However, export demand-led production, particularly of sheep, and the growth in demand for local consumption of red meat⁴ is gradually gaining importance in the agro-pastoral sector and by those who invest in livestock.

Sudan is probably the leading livestock exporting country in the region in the past few years. Livestock and meat exports from Sudan are channeled through four routes. Nearly all live sheep and goats (and occasionally racing camels) are exported through Port Sudan. Chilled red meat is exported by air from Khartoum and occasionally from Nyala to various destinations. Exports through these two routes are formal and follow international trade procedures. Live camel export to Egypt is a cross-border operation through Dongola where only part of the export proceeds (amounting to \$175/head) is paid in foreign currency and the balance in Egyptian Pounds with which traders import goods into Sudan. Camel export to Libya is also a cross-border operation but this is considered unofficial. Traders import goods with the proceeds from Libya. On average, Sudan has been exporting over a million live sheep, about 150,000 camels (including the Libya route which is not officially accounted for) and less than 10,000 tons of red meat annually in the last decade except in 2001 due to the Rift Valley Fever (RVF) ban. As such, Sudan also served as a cross-border outlet for camels and sheep from Chad and also for cattle, camel and sheep from Ethiopia and Eritrea to some extent. The volume and value of livestock trade for 2000–2004 are summarized in the following charts (2001 is omitted for live animals due to the ban imposed at the time).

Sudan's annual export earnings from live animal are between US\$100 - \$125 million. The bulk of these earnings are from live sheep exports to Saudi Arabia where there are about 1 million Sudanese migrant workers⁴. Despite the conflict in Darfur, export earnings from livestock for the first two quarters of 2004 are close to the 2003 figures. Livestock authorities in Sudan continuously search for new markets and recent agreements with Egypt² will boost chilled/frozen beef or live cattle exports from Sudan.

²In Kenya: 25 per cent for shoats and 10 per cent for cattle. In Ethiopia: 8 per cent for cattle and 32 per cent for shoats.

³ The last census was carried out in 1970s.

⁴ Preference is for mutton but beef is cheaper

The annual value of chilled red meat exports is approximately over US\$20 million at peak.

Livestock Resources and Migration Patterns in Darfur

The Ministry of Animal Resources (MoAR) figures show that 18 per cent of Sudan's TLUs are from the Greater Darfur region. With Greater Kordofan, the two regions account for one-third of Sudan's total livestock resources. The bulk of the country's live sheep and camel exports, and cattle and sheep for domestic consumption are sourced from these two regions. Livestock species in Darfur include camels, cattle, donkeys, goats, horses and sheep. According to MoAR (2001), Darfur accounts for 21 per cent of the cattle, 22 per cent of the sheep and goats, 24 per cent of the camels, 31 per cent of the donkeys and 63 per cent of the horses in Sudan². Please note that these figures reflect the livestock numbers and not the TLUs.

Table 1. Estimates of livestock population in Darfur ⁵

	Cattle	Sheep	Goats	Camels	Donkeys	Horses
N. Darfur	628,530	3,396,505	2,656,808	397,172	700,293	16,907
S. Darfur	3,851,663	3,471,773	2,756,688	74,950	535,129	233,986
W. Darfur	3,702,195	3,528,225	3,236,112	286,989	805,997	175,828
Total	8,182,388	10,396,503	8,649,608	759,111	2,041,419	426,721
Per cent of national herd population	21 per cent	22 per cent	22 per cent	24 per cent	31 per cent	63 per cent

Source: MoAR (2001)?????

In Darfur, livestock production is interspersed with crop production resulting in pastoralism, agro-pastoralism and crop farming. Economic activities in turn differ (overlapping in some cases) with the varying agro-ecological zones as explained in Chapter One.

The Baggara (cattle rearing) and the Abbala (camel rearing) are the two main pastoral groups of Darfur. They are traditionally nomadic but are increasingly becoming agro-pastoralists. The majority of these groups claim to be of Arab descent but there are also non-Arab Baggaras and Abbalas who, by adapting similar livelihoods, have assimilated with them over time. Such groups include the Fellata Arabs and Gimir in the Baggara group and the Zaghawa and Meidobs of the Abbala. The distribution of the Baggaras and the Abbalas within and outside Darfur relates to the particular needs of the livestock species they rear amongst other things. Thus, the Abbalas inhabit the semi-arid north and the Baggaras occupy the higher precipitation areas in the center and the south. The major Abbala groups in the north are the Meidob and Zaghawa and the dominant Baggara groups are the Beni Halba, Habbaniya and Rizeigat in the south.

The livestock migratory routes of both groups follow a general north (wet season) – south/southwest (dry season) direction. Few groups also move from northwest to

⁵ Livestock figures obtained from the MoAR in Khartoum differ from the respective Directorate of Animal Resources in Greater Darfur.

northeast direction. The Baggara move south to the Bahr El Arab River and, in some cases, enter the Central African Republic during the dry season. In the wet season, they return to Adila, Ed Daein and Nyala with some groups moving as far north as south of El Fasher Town (parallel 13.5) or westwards into North and West Kordofan. The dry season migration of the Abbalas is towards west or east of the Jebel Mara Mountains. Some of the Abbala groups move to Kubum and Rahaid El Birdi areas of Sudan or as far south as the Central African Republic. Others move into the northern fringes of West Darfur, Dar Reizeigat or into Chad. During the wet season, the Abbalas return north, some towards Wadi Howar and others as far north as the oasis of El Altrun in the Sahara Desert. Cattle and camels swap grazing areas during the dry and wet seasons. The dry season grazing areas for camels becomes the wet season grazing area for cattle when camels migrate further north. The wet season grazing areas for cattle becomes the dry season grazing reserves for camels as cattle move further south in the dry season⁵.

There are well-established traditional stock routes in Darfur, which have been in use for many years. The stock routes run in north-south direction. Within the national boundaries, these routes extend south into some areas of Kordofan, West and South Darfur and into the northern, southern and western parts of Bahar Gaza l. These routes are officially gazetted, have an average width of 100 – 120 meters and run into hundreds of kilometers. Cultivation and campfires are illegal along these routes. However, some of the routes have been altered due to weak law enforcement, expansion of farmlands and gradual changes for various reasons.

Table 2 Officially recognized stock routes⁵

Northern End	Southern End	Total length (Kms)
Wakhaiem	Um Dafogg	606
Wakhaiem	Foro Burunga	588
Wakhaiem	Garsilla	380
Wadi Howar	Dar El Taaisha	673
El Ba'ashim	Dar Fellata	467
Um Siddir	Dar Rizeigat	386
Um Sayala	Dar Fallata	357
Birka Jowro	Towal	371
Um Sayala	Dar Rizeigat	400
Khazan Kulkul	Dar Rizeigat	252
Tabous	Dar Rizeigat	391

Flock And Herd Structure In South Darfur

The traditional system flock and herd structure is related mainly to meat production with early off-take of males for sale and domestic consumption. A study undertaken by Dr Abdal Jabar in Daresalam area⁶ (North Darfur) indicates that the off-take rate for sheep (90 females and 10 males) at the agro-pastoral household level could be around 40 per cent. This figure concurs with findings of the FAO study⁷ for a flock of sheep comprising

52 breeding females in South Darfur. The off-take rate for a herd of 43 breeding cows in South Darfur is around 8 per cent per annum. Males are sold at 3.5 years old.

The FAO (1997) field study⁷ in South Darfur further indicated that:

- Sheep and goats flocks averaged about 43 head.
- Females account for more than three animals out of four in sheep and goats collectively; in sheep, females account for 77.8 per cent of the flock (breeding 55.8 per cent) and males 22.2 per cent (4.2 per cent older than 15 months);
- Flock structures are related to milk and meat production and dominated by females especially in age groups that are over six months; females thus account for 75.9 per cent of the flock with 49.8 per cent being breeding females that are more than 10 months old;
- In the agro pastoral sedentary system, 38.0 per cent of the animals were less than six months old, 15.7 per cent 6-12 months old (females accounting for 11.6 per cent and males for 4.1 per cent), 32.7 per cent were 13-24 months old (females accounting for 30.6 per cent and males 2.5 per cent) and 13.2 per cent were older than 24 months (no males) with 55.4 per cent of the flock being breeding females; and
- Sheep flocks in North Darfur comprised 90 per cent females⁸.

The study showed the following figures for cattle:

- An average of 106 head of cattle per herding unit with 80 per cent of herds having 50-150 cattle;
- Only 6 per cent of the herds have less than 50 cattle, 39 per cent hold 51-100 head, 39 per cent have 101-150 head, 14 per cent are in the range 151-200 head and 2 per cent comprise more than 200 head; and
- Herd structure is related to the dual functions of milk and transport: males account for 31.2 per cent and females 68.8 per cent of all animals. Males that are over 30 months old and are raised for pack use slightly outnumber those for breeding but only a few animals are castrated. Males that are over 30 months are in the ratio 1:6 to females of the same age in more mobile herds and in the ratio 1:7 in sedentary herds.

Table 3 Cattle herd structure in the Baggara system^{7,9}

Age (months)	Breeding	Males Pack	Total	Females	Combined Sexes
<7	-	-	8.7	10.7	19.4
7-24	-	-	8.4	10.1	18.5
22-30	-	-	4.4	5.2	9.6
31-39	1.8	1.3	3.1	5.2	8.3
40-48	1.4	1.3	2.7	6.3	9.0
>48	1.5	2.4	3.9	31.3	35.2
Total	4.7	5.0	31.2	68.8	100.0

Livestock Trade In Darfur

Major livestock production areas are scattered in the range of some 600-1,200 kms from the terminal markets of Sudan, the furthest production area is West Darfur. Migration patterns bring the herders close to the primary and secondary markets during the wet season and vice versa during the dry season. The efficiency of the marketing system is co-related to the distance of production areas and the seasonality of supplies, which in turn have led to the development of a unique internal livestock marketing system.

The livestock markets of Darfur, like in the rest of western Sudan, are highly broker-dominated. Some of these brokers may work as independent small-scale traders (Jelaba) and others as agents (wakils) or sub-agents for the big traders. The brokers collect cattle, camels and shoats from the scattered villages (through guarantors) and sell them to another broker in the primary markets. The second broker may sell to a third broker in the same market or in a secondary market and this process continues until the livestock are bulked into larger lots and reach the terminal markets. The final transaction in the terminal markets is also processed through brokers. The main agent of Hadub, a livestock trading company in Nyala, reveals that the Company operates through ten agents (wakil) who receive direct money transfer. He estimates that three to four middle-men operate between the producer and the each main agent¹⁰.

Agents also organize the trekking of livestock to the terminal markets for the big traders. Livestock are said to change hands a minimum of two and a maximum of six times between points of purchase and the final point of sale. In the process, stock may change hands, if not actual ownership, a number of times. Terminal market prices may double and in extreme cases increase to four times as much as that of the producer's price¹¹. Livestock for export are selected based on weight and appearance after reaching the terminal market.

The livestock marketing system is fraught with shortage of working capital (cash flow) from bottom to the top because of too many traders/brokers operating in a confined market and the rather too long turn-around time required to complete a transaction between points of purchase and the terminal markets. Despite operating largely on the 'trust system'⁶, most traders in Darfur exporting camels to Egypt and Libya or sheep and cattle to Muweli (Omdurman) and Port Sudan cannot manage more than two shipments per year because of the lengthy process of purchasing, collecting, assembling (fattening) and finally trekking the livestock for 45–70 days depending on the season, to the point of origin and destination markets. Keeping animals in feedlots for 60-90 days is also common even after reaching the terminal market of Muweli if animals appear weak or if prices are depressed because of excess supplies.

The seasonality of livestock supplies has led to the purchasing of cattle in bulk (mostly under trust transaction) and keeping them mainly on communal grazing areas and also in ranches before shipment.

⁶ A system by which only partial payment is effected to the producer/middleman/traders for animals purchased. The balance is paid after the animals have been sold at terminal or export markets.

Livestock from Darfur mainly trek to terminal markets in the following seasons:

- Between July and September (sometimes up to October) during the rainy season to take advantage of the available pasture and water. Stocks trek at leisure during this time (cattle for about 60 days and sheep for 70 days) to allow grazing and putting on of weight when they reach terminal markets.
- The trek during the winter season takes place between January and February when the temperature is low. For the rainy season shipment, trade stocks are collected and assembled locally between April and June and between October and December for the winter shipment. Stocks that are trekked in summer move faster to reach the terminal markets in 45 days, to minimize the risk of mortality. Occasionally, large traders may use trucks for the final leg of the journey, for example, from El Obeid to Muweli when transferring stocks on the railway at Kadero (Omdurman) if the final destination is Port Sudan.

High transportation costs by truck or railway deters traders from using such services after the collapse of the subsidized railway service⁷. This service used specialized block wagons to transport mainly cattle but also sheep from Nyala in the 1970s and 1980s. Traders mainly use the following trade routes from Darfur to various destinations.

Cattle and sheep - Muweli Terminal market (Omdurman)

- The Northern Route - Sheep from Kebkabiya, Seraf Umra and West Darfur are trekked through El Fasher, Umm Keddada and Foja to Muweli, Omdurman. Small numbers of cattle are also trekked on this route through North Darfur (about 3,500/year). Sheep from Mellit are trekked through Wadi Ousher and Maraya to Umbitetih, Jabra and then to Muweli. From Malha, trekkers pass through Hamrat, Alsheikh to reach Jabra. Trekking from El-Fasher to Muweli takes about 45-50 days.
- The Southern Route - Sheep and cattle from Fora Boranga, Reheid El Bedri, Bahar Al Arab and Tulus converge at Nyala. They then follow the 'early rain' route to north of the railway line to Mahartya and El Lait reaching Muweli through Foja or El Obeid. Foja serves as the last point, where traders monitor the market situation in Muweli. If the market situation is not to their advantage, they advise the drovers to keep the animals at Foja, (since there is no pasture from this point onwards) until the market improves. Up to Foja, stocks are trekked for 7-8 hours a day and from this point onwards at an accelerated rate of 14 hours a day. The distance between Foja and Muweli has to be covered in 15 +/- 1 days. Drovers receive extra pay for the last stretch from Foja. Some traders transport their stocks by truck from El Obeid to Muweli and/or Port Sudan.

⁷ A World Bank financed project that is no more operational since late 80's.

- The ‘late rain’ route runs south of the railway line crossing the railway at Ed Daein. The route then runs towards Guebesh and branches either to Foja or El Obeid before proceeding to Muweli.
- Mortality rate is estimated at 1 per cent for sheep and 4 per cent for cattle (some get lost). More camels are lost due to raiding – about 5 per cent.
- The Nyala Abattoir exports chilled mutton/chevron/beef by air intermittently to Jordan, Kufra (Libya) Saudi Arabia and the United Arab Emirates (UAE).

Camels to Egypt

- Id Ahmed serves as the converging point for camels from Darfur destined to Egypt. From Mellit (in North Darfur) trekkers heading for Id Ahmed travel through Mareiga or Umbitetih. Camels from West Darfur are herded through Kebkabiya and Seraf Umra to El Fasher and then proceed to Id Ahmed. Camels from South Darfur require armed escorts up to Umbitetih because of the prevalence of camel bandits. The animals then pass to Id Ahmed through El Fasher. It takes about seven days from Id Ahmed to Dongola (where official documents are processed) and a further 10 days to reach Wadi Halfa, the border point. In total, it may take about 30-35 days from North Darfur to reach Wadi Halfa. Donkey traders from Dongola use this route in the reverse direction. The route from South Darfur to El Fasher was not secure during the mission’s visit. Some areas north and east of El Fasher along this route are not secure at all.
- The famous forty-days (darb al arbaeen) route through El Altrun has been abandoned because of the drying up of wells and the Government’s directive that all camels exported to Egypt should be processed through Dongola for customs purposes.

Libya (Kufra) Route

- Mellit serves as a merging point for camels coming from West Darfur (through Kutum), South Darfur (through El Fasher) and North Darfur. From Mellit, trekkers proceed to Kufra through Qarab Village, the last converging point for camels coming from further north, such as Malha. Trekking from Mellit to Kufra takes about 17 days often with no water and feed for the herd. By truck, it only takes five days (mainly for sheep during the Id season). At times Libyan traders come with feed and water to meet the trekkers at the border point at Aweinat. This route crosses the Sahara, so trekking is only during night until mid morning. Drivers and camels sometimes perish in the desert. Experienced lead drivers are required on this route to deliver the animals and the crew safely to destination.
- To a lesser extent, camels from West Darfur are trekked through Tina on the Chadian border and through Chad to Kufra.
- Prospective migrants from Darfur are employed as support drivers on this route to Kufra, where they work for a year or two before they return home. Hence, this route doubles as a migrant labor supply channel to Libya. Remittances from migrant workers in Libya were sent through traders using this route (see Chapter 6).

- Mercantile traders imported most of the basic consumer commodities required in the northern part of North Darfur from Libya before the crisis.

Traders of Arab origin dominate the livestock trade between Darfur and Muweli (Omdurman), Egypt and Libya, although not completely. Producers and small-scale traders sometimes also combine their herds trek them to the terminal market. The Berti, Meidob and Zaghawa tribes practice this system for stocks originating from the northern part of North Darfur (Mellit, Malha, etc). Drovers, by and large, belong to the same ethnic groups as the traders. Cattle and camels from South and West Darfur and camels from North Darfur are trekked to destination markets by Arab drovers. Sheep are trekked by Arabs and non-Arabs.

Trekking costs

Livestock trekking provides reliable livelihoods for many people in Darfur. The art of trekking requires memorizing all the alternative routes for the particular season, planning and decision-making skills against the elements, skills in herd management and animal behavior, knowledge of all the water points and available pasture on route, some level of veterinary knowledge, negotiation skills to deal with authorities and bandits and proper planning of provisions. Trekking crew include the lead drover, who is in charge of the operation, assistant drovers whose numbers may vary depending on the herd size, and cooks.

Box 11 The making of a lead drover

The professional life of a lead drover begins with cooking for drovers. After serving as a cook for 2-3 years, he is promoted to an assistant drover for daytime trekking. Two or three years later, he moves to nighttime trekking, still as an assistant drover. After studying the various routes for a further two years in this position, he may then be promoted to a lead drover. It could take between 6 - 8 years to become a lead drover.

Payment for trekking is based on standard trade herd/flock size, which varies according to species. The size of a trade herd/flock (for each species) may also vary slightly across the three regions of Darfur. Trade herds/flocks belonging to various traders are bulked together for trekking purposes to reduce costs. One lead drover is responsible for a number of trade herds/flocks belonging to various traders but the number of assistant drovers for each trade herd/flock is usually fixed. The average number of livestock per trade herd consists of 50 head of cattle or camels and a trade flock, 300-350 sheep. A lead drover is usually responsible for up to four trade herds/flocks (200 head of cattle or camels or 1,200 sheep), which require eight assistant drovers (two per trade herd). Payment for trekking depends on the point of origin and the route to be negotiated. Costs in the following table are calculated in US dollars.

Table 4. Trekking and other costs for various destinations from Darfur

From – to	Species	Trade herd size	Payment to Lead Drover	Payment to Asst drovers	Other miscellaneous costs (i)	Taxes, vaccination, levies etc	Average cost/ head (ii)	Remarks
Mellit – Kufra	Camels	100	586	781	475	12.57/head	30.99	Asst. drovers are paid low on this route as potential immigrant laborers.
El Fasher – Muweli	Cattle	200	586	1,250	1,172	9.7/head	24.74	
El Fasher- Muweli	Sheep	1,200	585	1,718	1,367 (iii)	2.54/sheep	5.59	Excluding income tax and zakhat
Nyala – Muweli	Cattle	200	628	2,531	781	13/head	32.7	the Lead drover is given the profit of 5 cattle additionally
Nyala – Al Huwey (iv)	Sheep	1,200	313	1,250	390	3.71/head	5.33	Sheep are trucked from Al Huwey
Nyala – Dongola	Camels	100	1,367 (v)	1,562	391	15.6/head	48.4	
Geneina – Dongola	Camels	120	586	1,406	390	28.9/head	48.75	
Geneina – Kufra	Camels	120	923	781	808	14.3/head	35.24	Tax is low because of the cross -border operation

i. For water, feed, road taxes etc

ii. The cost doesn't include 10 per cent income tax and 2.5 per cent Zakhat paid on a yearly basis

iii. 1,562 for dry season and 1,171 for winter season

iv. 60 Kms west of El Obeid

v. Includes payments for 3 armed escorts up to Umbitetih

Off-take

Off-take in Darfur is channeled through eight primary and four secondary markets. The primary markets supply the secondary markets, which in turn supply the terminal markets of Muweli, Egypt and Libya. The specialization of the secondary markets is determined by the dominant species produced in the market shed and relative proximity to the terminal markets.

Table 5 Primary and secondary markets in Darfur

Primary markets	Secondary markets
Al Geneina	Nyala (i)
Kebkabiya	El Fasher
Kutum	Ed Daein
Buram	Mellit
Fora Boranga	
Zalengei	
Rihad El Burdi	
Gimalaya	

Source: Livestock Traders

i. Nyala could also be considered as a terminal market since chilled red meat is exported by air from Nyala

In the absence of reliable data, estimating the total off-take is difficult. The only plausible approach is to combine the estimates of various informed sources (Livestock traders,

regional veterinary staff and MoAR sources). A review of such estimates indicate the following:

- Darfur supplies 25 per cent of the live sheep exported through Port Sudan (this amounts to 250,000 sheep) and a further 25,000 sheep to Kufra, during the Id. Each lot of sheep exported to Middle East from Sudan contains a proportion of 30 per cent sheep from Darfur. However, about 5 per cent of this Darfur sheep is estimated to come from Kordofan.
- Additional 300,000 sheep are estimated as being shipped from Darfur for local consumption to Muweli; 50,000 head of cattle and 80,000 camels, (60 per cent to Egypt and 40 per cent to Libya). It should be noted that some of the sheep, cattle and camels originate from Chad. Numbers were difficult to estimate.

The financial value of this trade can be estimated by combining informed estimates and available data at each level of transaction. For the purpose of this approximation, SCF-UK market data are used for primary and secondary markets⁸ and producers' estimates were averaged for prices at the producer level. Similarly, traders' estimates were converged for the particular export markets.

Table 6 Value chain for livestock from Darfur (US dollars)

Type	Quantity	Value at Producer level	Value at Primary market level	Value at secondary market level	Value at Muweli (Omdurman) (i)	Value at Egypt (Wadi) (ii)	Value at Libya (Kufra) (iii)
Export quality sheep	250,000	3,906,250	5,371,093	7,324,219	14,423,000	-	-
	25,000	390,625	488,281	634,766	-	-	1,250,000
Sheep for local consumption	300,000	3,515,625	4,101,562	7,031,250	12,807,692	-	-
Cattle	50,000	6,835,937	7,812,500	8,007,812	13,671,875 (iv)		
Export Camels	48,000	13,440,000	14,400,000	16,320,000		24,000,000	
	32,000	8,750,000	9,375,000	10,625,000	-	-	13,600,000
Total (v)		36,838,437	41,548,436	49,943,047	41,941,029	24,000,000	14,850,000

- Note that significant trekking costs are incurred between primary, secondary and terminal markets (table 6).
- Camels for Egypt are bigger in size than those for Libya. Prices are also better in Egypt. A mean price of \$500 is recorded for the years 1992-2003 by the National Camel Research Center of Sudan. The National Bank of Sudan records only the foreign exchange portion of this transaction (\$ 175/head).
- It should be noted that the export to Libya is not accounted for by the National Bank of Sudan. Camels exported to Libya are smaller in size compared to those exported to Egypt. Camel price in Libya averages about \$425 per head.
- Cattle are fattened for 3-4 months in ranches or for about 1-2 months in feedlots before being sold
- Note that only ¼ of the value of the camels exported to Egypt is recorded by the National Bank of Sudan on this route.

Data on local consumption within Darfur is hard to come by as slaughtering in rural areas and elsewhere outside of the designated areas in major towns, such El Fasher and El Geneina and Nyala are not recorded. On the other hand, experts (including FAO) doubt the MoARs' estimate of 24 kg per capita meat consumption² on the basis of differing assumptions on carcass weight, the livestock population and off-take. MoARs' estimated

⁸ The data entry for year 2002 was chosen – as it was indicative of the prevailing price just before the conflict.

per capita meat consumption is considerably higher than the neighboring countries of Kenya (with a higher per capita income) or Ethiopia (which owns an equivalent number of livestock if not more). By weighing, in the average, carcass weight for each species and considering the population and the off-take assumption, a FAO mission has suggested a per capita consumption level of 12.3 kg, composed of 30 per cent mutton and goat meat, 65 per cent beef and 5 per cent camel meat. This assumption, still higher than the neighboring countries, seems plausible particularly for urban centers. Meat consumption in urban areas of Darfur may, therefore, be about 9,000 tons (given that 15 per cent of the Darfur population-about 750,000, is urban) at 12 kg/year. Meat consumption for rural areas is difficult to estimate in the absence of plausible data.

Livestock marketing is one of the mainstays of the economy in Darfur. It plays the following roles:

- Provides direct livelihoods for an estimated 575,000 pastoralists⁵ and additional substantial income for agro-pastoralists;
- Offers jobs for numerous middlemen, sub-wakils, wakils and drovers;
- Attracts investment in the region from livestock traders and others;
- Is the main source of revenue for the state; and
- Its multiplier effect is felt in almost every household.

Yet, the on-going conflict has put this major economic resource in jeopardy threatening the livelihoods of so many that depend on it.

Drought and Conflict-based Production Orientation

Shifting livelihood trends

Factors such as recurring droughts (desertification), growth in human and livestock population and market pull has fuelled the competition for resources that are increasingly shrinking. The compound effects of this phenomenon are seen in the changing nature of species distribution and continually shifting livelihood systems in Darfur. Export-led demands and the rise in the domestic consumption of red meat since the 1970s have influenced changes in the herd mixture in the livestock production system by turning a significant proportion of the cultivating population into agro-pastoralists and creating a new class of wealthy groups investing in livestock production.

Conversely, despite practicing pastoralism, pastoral groups (especially the Baggara) have also taken up farming⁹, in a bid to secure land that is increasingly being fragmented but also to increase their income from the demand for export crops. Lately, the tribal conflict in West Darfur from the early 1990s and the current conflict between Government and rebel forces in other parts of Darfur have significantly altered the production, the migration and the trade pattern including, as is the case today, the ownership of livestock resources.

⁹ Some documents state that only 10-15 per cent of the Baggaras are pure nomads at present

Elders' oral accounts¹²⁻¹⁴ indicate that cattle and camels were once the dominant species in North Darfur until climatic changes resulting in the depletion of resources pushed cattle herders from North to South Darfur. Consequently, South Darfur became prominent in cattle production enhanced by the relatively higher precipitation and the reduction in the tsetse population due to clearing of vegetation and the intensified drought¹⁰.

The same oral accounts reveal that the production of sheep, one of the major species raised before the 1960s, gained dominance in North Darfur since early 1970s as a result of the export-led demand⁸. It provided alternative livelihood for farmers whose harvests were repeatedly affected by drought. The Abbala Arabs who raised mainly camels as recently as 40 years ago were also persuaded to include sheep in their herd due to the readily available market but also to compensate for the income loss as donkeys, donkey carts and transport vehicles replaced their camels as means of transporting farm produces¹⁵. Likewise, sheep production intensified in South Darfur following the 1985/86 drought when large numbers of the Birgid, Ma'aliya and Zaghawa tribes from North Darfur and Kordofan moved into South Darfur with their sheep¹⁶. Some of the camel rearing tribes of North Darfur and Chad (Dar Zaghawa, Gimir and Missiriya), who switched to sheep production after the 1985/86 drought, also migrated to West Darfur as a result of the conflict that has been on-going since 2000. Market demands have led to changes in the herd mix resulting in the domination of high value species over low value ones.

Pastoral and agro-pastoral communities living in harsh and fragile environments in Darfur have always had to cope with drought or the threat of drought as a central feature of their existence that influences the patterns of production or reproduction. Droughts in the 1970s and 1980s, affecting the entire Sahelian zone, contributed to starvation, death, loss of animals, labour migration or migration to refugee camps. According to official data, mean average rainfall in Sudan declined by 6.7 per cent between 1960-69/1970-79 and by 17.7 per cent between 1970-79/1980-86¹⁷. Ten year rainfall data collected by SCF-UK for El Fasher Town indicates wide fluctuations in the annual rainfall amount ranging from as high as 314 mm in 1994 to 155 mm in 1997 and from 377 mm in 1998 to 152 mm in 2003. In the four years since 2001, the precipitation rate in El Fasher has dropped sharply¹⁸.

At a minimum, the impacts of droughts are crop failure and decline in livestock outputs. Adopting new coping mechanisms becomes a necessity leading, in many cases, to over exploitation of fragile resources - clearing new farm lands, overgrazing, community owned land changing hands to private ownership, farmers trying their luck in livestock production and pastoralists in crop farming, families splitting up to earn a living as laborers and migrant workers in Sudan and abroad. When governments fail to realize the root causes of such problems early enough and make wrong prescriptions (either deliberately or due to wrong perceptions) tensions that have been building between communities over the years erupt into violence, as is the case in Darfur today.

¹⁰ Tsetse is still prevalent in the southern part of South Darfur with higher level of precipitation

Trade-Induced Production Expansion

Despite recurrent droughts, the livestock population has been on the increase in response to market demands¹¹. Using the MoAR's annual livestock growth projection (of 3.2 per cent for cattle, 3.3 per cent for sheep, 2.5 per cent for goats and 2.3 per cent for camels) as an indicator, the growth in livestock numbers in Darfur can be approximated.

Although pastoralists own most of the livestock resources, the increase in livestock numbers is partly attributed to the non-pastoral population that is increasingly engaged in livestock rearing as a secondary source of income or as investment. The contribution of this sector to the growth in livestock population in Darfur (and perhaps in other parts of Sudan), particularly shoats and to some extent cattle, has always been underrated.

First, many small-scale farmers have ventured into shoats production due to less capital requirements, the readily available market, short reproductive cycle and quick return on investment. The number of shoats or other species of livestock owned by farmers-turned-agro-pastoralists co-relates with the relative fertility of the soil (goz or wadi) and the area under cultivation (in other words, to the relative status of the family).

Of the five crop-dependent food economy zones (FEZ) identified by SCF-UK in Northern Darfur (excluding pastoralists), all are involved in livestock production. Given the relative high proportion of the FEZ population in the respective administrative units (see table 7), the significance of this sector in contributing to the livestock population increase becomes apparent. While the SCF-UK study is limited to North Darfur, the picture may not be any different for the other two states. There is also evidence that ownership of livestock by small-scale farmers in the other two states could even be higher due to the relatively better rainfall and pasture. Despite the common view that North Darfur has more sheep than the other two states (probably due to the routing of sheep from West Darfur through North Darfur to terminal markets), figures from the regional livestock offices and the MoAR indicate an almost equivalent number of sheep in all the three states (a little less than 4 million sheep on average in each state).

The significant differences are larger cattle populations in the south and west states and North Darfur having a larger camel population. The following table depicts the average herd size for poor, medium and better households in the farming and pastoral communities of North Darfur (with the exception of the *Tombac* FEZ for which figures were unavailable).

¹¹ The increase in the livestock population is estimated to be less than the MoAR's projection.

Table 7 Average land and livestock holdings by small farmers in North Darfur¹⁹⁻²³

FEZ	Poor	Medium	Better-off	FEZ population	per cent Of the total pop.
Agro migrant	1-2 <i>mukhamas</i> 0-10 shoats	1-3 <i>mukhamas</i> 5-20 shoats 0-5 cattle		118,587	46 per cent
Goz	5-10 <i>mukhamas</i> 5-10 shoats	20-30 <i>mukhamas</i> 10-20 shoats camel 0-1 cattle 0-3		248,137	68 per cent
Mixed cash crop	1.5-14 <i>muk.</i> 7-16 shoats	5.3 – 32 <i>Muk.</i> 25-45 shoats 1-4 cattle 0-1 camel	20-125 <i>Muk.</i> 78-175 shoats 5-15 cattle 2 camels	207,378	78 per cent (i)
Wadi	0-1.6 <i>Mukhamas</i> 20-25 shoats 0-2 cattle	1.6-3.2 <i>Muk.</i> 40-50 shoats 10-15 cattle	2.4-8 <i>Mukhamas</i> 80-100 shoats 8-20 cattle	167,463	46 per cent
Pastoral	H. hold size 4-8 5-15 shoats	H.Hold size 5-9 25-60 shoats 0-15 camels	H.Hold size 6-9 60-200 shoats 5-150 camels	339,911	81.25 per cent

(i) excluding IDPs

Secondly, wealthy and influential people, town dwellers, government employees and self-employed people have increasingly invested in livestock. Some of them raise livestock in privately owned ranches. In South Darfur, four private investors own ranches equaling some 20,000 hectares¹⁰, which were once communal grazing areas. Others raise flocks running into thousands and hundreds of cattle and camels on communal grazing lands without the need to establish ranches.

Thirdly, large-scale traders double as livestock producers and livestock traders. In Mellit, for example, each of the fifty local-based *jelabas* raises more than 1,000 ewes and over 100 camels²⁴. In addition, livestock traders also assemble trade herds running into tens of thousands of cattle and camels and hundred thousands of sheep, which are usually kept on communal grazing land for 3-5 months (for cattle) and for about two months (for sheep) for assembling or fattening before shipment. Most traders manage only two shipments per year (to Khartoum, Egypt or Libya), therefore, trade herds share the available communal pasture with pastoral and agro pastoral herds for four to ten months of the year. The pressure on the pasture and water resources becomes apparent when considering the annual volume of trade herds/flocks from Darfur (consisting of some 550,000 sheep, 80,000 camels and 50,000 head of cattle)

Pasture and water sources are over-exploited by livestock belonging to pastoralists, agro-pastoralists, livestock traders and investors through competitions aimed at converting communal into individual wealth. Bonfiglioli (1992) coined a term for the latter two groups – *absentee non-herders*. Absentee non-herders employ herders to manage their

production systems. Middle-class and wealthier agro-pastoralists also employ herders as their herd size increases beyond what the family members can manage, prompting poor families to send young boys to work as herders to earn additional income for the family. In the process, herding has become a steadily growing occupation for teenagers in Darfur. Common herders are paid in terms of food and cash or food and newly born lambs (usually 8 lambs for a herder looking after 200 sheep). Cash payments go to the herder's family and payments in lambs are used to build up the family stock, from which the young herder will have a share when starting a family. The success of this commercial production depends on experienced herders, who are employed during the mating season to ensure that, for example, lambing takes place within two weeks for the entire flock¹², for herd management and commercial reasons.

Commercialization of livestock production has brought some tangential dimensions from the pastoral mode of production. For *absentee non-herders*, livestock production is a pure investment with no social-value. Ownership and management of herds are completely separated. Herds are kept only at reasonable distance from the owners' residential areas reducing the herders' migratory movements and increasing environmental degradation. Additionally, herders cannot make decisions concerning herds they manage but not own. In addition, commercialization has altered the traditional and ecologically balanced herd mix. High value species are dominating low value species, which impacts negatively the equilibrium in the ecosystem due to selective grazing habits and varying water needs of the different species. For example, the dominance of cattle in Southern and Western Darfur meant the depletion of water sources rapidly as cattle require frequent watering. The dominance of sheep in North Darfur impedes the regeneration of pasture as the pasture is continuously grazed.

As pressure on pasture resources increases, pastoralists are taking new initiatives to protect and utilize common resources exclusively, as a group or individually. Many, particularly in the middle belt, have taken up farming in addition to pastoralism (by splitting family members) and produce millet on the Qoz or sorghum on alluvial wadis. Wealthier pastoralists have invested in groundnut production for which they employ cheap labor from further south. Few have gone into mechanized large-scale sorghum production on the clay plains between Bahr al-Gazal and the Qoz zone assisted by the communal land tenure system that has allowed them to expand the areas they cultivate considerably. For family units that have taken up this initiative, the income from cultivation is probably as important as the income from livestock depending on the scale of the farm.

Use of enclosed pasture is increasing for the exclusive well-defined groups. This practice is more pronounced in the Savanna range of South Darfur than in the semi-arid north. MONEC (2003) states that owners of large herds, who are also wealthy, command social standing and dominate local politics are the ones who have erected the biggest enclosures⁵. Currently, the high cost of fencing is prohibiting most pastoralists from copying the trend. Some pastoralists like the Beni Helba of South Darfur have taken steps

¹² The heat period in sheep lasts for only 19 hours every 21 days. Experienced herders are required to time the lambing period for the whole flock within this short period.

at the community level by extending perimeter fences around their farms to include large areas of pasture as dry season reserve²⁵. Farmers, too, extend thorn bush fences around their farms to include parcels of less used pastureland for expanding their farmland or for grazing purposes later. Sizable tracts of rangeland were also enclosed for IDP resettlement in Sanam al-Naga, some 85 kms south of Nyala. Plots that have remained unoccupied have attracted outsiders to set up grazing enclosures⁵. Initiatives of this nature take place between parallels 11 and 14 North, where the population density is high due to favourable environmental factors²⁵.

Commercialization has altered century old traditions where farmers allowed pastoralists to feed their livestock on crop residues. Instead crop-stalks are now harvested and sold against this age-old tradition. This has created resentment amongst the pastoral communities sometimes leading to localized conflict when pastoralists let their animals into farms. Such conflicts can be serious if pastoralist herds move into farms before harvest. Expansion of farmlands has blocked some of the migration routes forcing pastoralists to take longer and circuitous routes. Seasonal water points have become a source of conflict between pastoralists and farmers during the dry season. Stock theft or cattle rustling is common in Darfur leading to the organization of armed groups on the basis of returning stolen animals but with some ulterior motives too. Banditry is common along some trade routes, for example, between Nyala and Umbiteth, traders concede to lose an average of 5 per cent of trade camels en route to terminal markets despite employing armed escorts²⁶. Camels are targeted largely because they are sold in Egypt or Libya where they cannot be traced.

Chapter Two considers in more detail the local and national processes contributing to the current conflict in Darfur. Here causes of conflict related to the increasing commercialization of livestock production involving all ethnic groups and patterns of seasonal migration are considered.

Table 8 Risks associated with pastoral migration routes

Name of Route	Length Km	From	Via	To	FEZ across	Main tribes	Risk associated
Al Wakhayem – Um Dafoug	606	Wakhaiem-Kutum. N. Darfur	Kebkabiya & Wadi Barei	Um Dafug West Darfur	Pastoral & Wadi	Nomads: Arab (Jallol) Residents: Fur Zagawa	Pastoral - pastoral (Arab – Zagawa) conflict over water sources; Pastoral and Kebkabiya Wadi Farmers (destruction of farms)
Al Wakhayem – Forbaranga	588	Wakhaiem-Kuttum. N. Darfur	Karnoi, Abu Geddad, El Serief Saraf Umra	Forbaranga W. Darfur	Pastoral	Nomads: Arab (Bin Hussain & Jallol) Resident.: Zagawa, Fur, Gemer, Bin Hussain	Conflict between Arab & Zagawa of Kutum; Pastoral destruction of farms; Extension of farms to the nomads routes
Wadi Hawar - Dar El Taisha	673	Wadi Hower – Kutum. N. Darfur	Kutum, El fasher & Dar El Salam	Rehaid El Berdi S. Darfur	Pastoral, Goz & Tombac	Nomads: Arab (Mahreya,) Resid: Tujur, Zagawa	Unusual seasonal movements damage farms; conflict with Goz farmers (Tunjur); Extension of farms to nomad routes
Al basheem - Dar Falata	380	Al Wakhayem – Kuttum	Anka Kutum El Fasher, S.Jebel Si Bardey Eid Elnabag Wadi Bari, Maylo	Garsella West Darfur	Pastoral, Agro-migrant & Wadi	Nomads: Arab (Mahreya + Eraigat) Resid. Fur	Competition over water and pasture sources between Kutum Arab, Zagawa pastoral; Conflict between Agro-migrant of Jebel Si (destruction of farms by nomads' animals) Wadi farmers and nomads
Al Wakhayem – Garsela	400	Um Sayala – Kutum. N. Darfur	Kutum Abu Sakeen, Al Fasher Shangeltobaya	Dar Reeizgat S. Darfur	Goz and Tombac	Nomads: Arab (Etaifat) Resid.: Tunjur, and Zaghawa	Unusual seasonal movement, destruction of farms (rare conflicts)

Source: SCF-UK

The Impact Of The Conflict On The Livestock Sector In Darfur

The livestock economy of Darfur has been immensely affected by the current conflict. The decline in livestock production is not surprising given the deaths of tens of thousands of people, the displacement of 1,600,906 persons and 419,691 affected residents by OCHA's account, in October 2004²⁷. However, in such conflicts, economic interests usually drive political motives. Easily transferable assets such as livestock ('assets on the hoof') provide the economic incentive for deepening and widening conflicts of this nature in pastoral and agro-pastoral settings. The impact of this resource-based conflict, in which the Government of Sudan has been implicated by international agencies²⁸, on the lives and the livelihoods of the civilian population have been enormous. Its implication on the livestock economy has been disastrous.

Forceful Transfer of Assets

In economic terms, livestock has been the primary target of this conflict as detailed in the individual case-studies. It is difficult to estimate the total value of assets (livestock and otherwise) looted by the pro-government forces from the non-Arab population of Darfur. However, the level of impoverishment (aside from the psychological and physical

trauma) inflicted upon the non-Arab population is apparent. Even if peace prevails, rehabilitating the victimized communities is not going to be easy because the victims rightfully request for the return of stolen animals and/or some kind of compensation from the Government¹³. The impact of this wanton destruction has critically affected the livestock economy for worse in terms of ownership, production, marketing and migration patterns.

Changes in livestock migration patterns

A visible outcome of the conflict is changes in livestock migration patterns with potentially disastrous consequences. Increasing hostility between the Arabs and non-Arabs and the control of some critical areas by the SLA along the traditional migratory routes have resulted in the restriction of access for the pastoral population to the wet season grazing reserves. Camels and sheep belonging to the Abbalas were confined south of the Jebel Mara Mountains during the mission's visit. During the wet season (July to October), camel herds and sheep used to migrate further north up to Giza, Wadi Hawa and El Altrun to the southern fringes of the Sahara Desert. Similarly, cattle belonging to the Baggara have been confined around the railway line close to Nyala Town (the furthest northern point they could reach) and to Nyala-Kas Zalingi Road in the west. Normally, the Baggaras used to go further north up to parallel 13.5 close to El Fasher Town and to Kordofan in the north and northeast direction. While most of the restricted areas are under the control of the SLA, some areas have become inaccessible to pastoralists because of banditry and attacks and counter-attacks between various ethnic groups. Lawlessness is spreading in areas that do not fall under the control of the Government or the SLA restricting wet season grazing access to pastoralists. There is potential for further restriction extending into some of the dry season grazing reserves if the conflict intensifies. This has resulted in the concentration of pastoral livestock in the dry season grazing reserves at a time when livestock should have been in the wet season grazing reserves.

Ironically, livestock looted from the non-pastoral population, which were usually grazed around farm plots by their rightful owners, are now added to the pastoral stock and kept in the dry season grazing reserve. Normally, calving and lambing take place in the wet season grazing reserves (usually, July to October with few groups staying on until December). Newborns are raised in the wet season reserves until they gain strength for the subsequent migration to the south in the dry season. The conflict has thrown this time-tested livestock management system into disarray. The concentration of livestock in the dry season grazing reserve during the wet season means that there will not be enough pasture for livestock in the coming dry season. Moreover, this phenomenon will also

¹³ 'Compensation by the Government' is the view of many IDPs and affected residents interviewed in various places in Darfur.

enhance the outbreak of diseases with potential threats to the newborn and some of the adult population. Water sources, in the dry season reserve, will be depleted and may not last the length of the dry season. Livestock will not only die of thirst but also of water-borne diseases. Desperation may persuade pastoralists to move further south than where they used to travel (deep into Central African Republic or Bahar Gazal areas) towards the middle or the tail end of the dry season. This move could spark new conflicts with other tribes.

Similarly, production and grazing patterns in the SLA-held areas of the north have been affected largely due to Government attacks. Villagers in Disr report that helicopters shelled flocks that could not be looted by soldiers²⁹. Elders in Mellit reported that water points north of the town consisting of surface dams and wells in Abuhila, Abugemera, Amboru, Disr, Farawaja, Karo Karwoy, Musbat, Orshi, Shige and Tina have been destroyed by aerial bombardments, intentionally buried by soldiers or poisoned²⁴. As a result, livestock that should have grazed north of Mellit and Dar Zaghawa between August and October were moved to eastern parts of Mellit and El Fasher. There is fear that water sources and pasture in these areas could be depleted at the start or in the middle of the dry season.

The conflict in Darfur has significantly affected the critical element in any pastoral production system – mobility. Natural resources, livestock and humans, in a pastoral system, are balanced through mobility. When mobility (seasonal migration) is compromised to a scale observed in Darfur, its impact on livestock production could be enormous. The depletion of pasture and water resources in dry season grazing reserves coupled with the outbreak of diseases due to the concentration of animals in confined areas are likely to increase livestock mortality in the coming seasons.

The Collapse of the Livestock Trade

The disruption of livestock trade within and from Darfur signals the downward spiral of the economy in the region. The repercussion of this disruption is felt, though in varying degrees, in almost all households of different segments of the population (pastoral, agro-pastoral, traders, middlemen, drovers etc). During the missions' visit in Darfur, the trade disruption was more pronounced in the areas discussed below.

Trade to Libya

This route was closed following the murder of 10 camel drovers and the confiscation of 3,000 camels in April 2003 near Wadi Hawa en route to Libya. In September 2003, additional 3,500 camels were intercepted on this route and taken to Chad by the SLA³⁰. The border has been closed officially since then. Some 32,000 camels and 25,000 sheep were exported annually through this route. The total value of camels and sheep exported through this route amounted to almost 15 million dollars. At least 300 lead drovers and 1,280 assistant drovers¹⁴ have lost their jobs and the possibility of employment as immigrant workers for the latter due to the closure. Individual traders that were allowed

¹⁴ This figure is arrived at by dividing the total export volume in trade herds/flocks

to import goods from Libya up to a value of \$3,759 each have lost this opportunity. Darfurian migrant workers who used to send trade goods through Libya to avoid taxes can't do this anymore. Migrant workers find it difficult to send remittances to relatives since the closure of this route. Trade camels that used to be routed from Chad through Darfur are now using the reverse route to Libya through Chad (especially for camels from Western Darfur). However, the volume exported through Tina is far less due to its inconvenient location, insecurity and the difficult terrain.

Trade to Muweli (Omdurman) and Egypt

The northern route is insecure and a substantial reduction is expected in the volume of sheep to be sent to Muweli, Omdurman, both for export and local consumption. The northern route served Egypt for camels and Muweli for sheep and some cattle. In total, the annual traffic on this route was approximately 450,000 sheep, 48,000 camels and about 3,500 head of cattle. The southern route is out of bounds because of insecurity. Ordinarily, some 50,000 head of cattle and 100,000 sheep were trekked along this route annually. The closure of this route follows the capture of some part of Eddaen by the SLA, attacks and counter-attacks between tribal groups and the prevalence of bandits. Recent security problems on this route include the interception of some 1,300 sheep by the SLA at Labado, 60 kms east of Nyala. The sheep, which were transported by trucks, belonged to a Saudi company (Al Merdi). The SLA imposed a fine of 100,000 SDD on each truckload and also confiscated seven sheep from each truck, and the company obliged. The company was subsequently forced to airlift the remaining flock (5,700 sheep) from Nyala by relief cargo planes³¹. It is also reported that the SLA had intercepted some 3,400 sheep in October 2003 on this route.

The Nyala abattoir has a throughput capacity of 2,000 shoats and 350 head of cattle a day though actual output was subject to contractual commitments. The abattoir used to export chilled meat, chevron and mutton directly from Nyala to Jordan, Saudi Arabia, Syria, and the Gulf States. In April 2004, the abattoir was contracted to supply 3,000 tons of chilled red meat to Libya at the rate of 60 tons of mutton and 35 tons of beef on a weekly basis³¹. The abattoir could not honor the contract because of price hikes and shortage of supplies and production stopped in June 2004. Workers had to be laid off indefinitely.

There are some indications in Khartoum that the price of meat and live animals is on the rise but not to the level expected. The rise could not be attributed to the decline in supplies from Darfur as the price of oil was increased at the same time. Despite the interruption of supplies from Darfur, Sudan has exported nearly the same volume of sheep in the first two quarters of 2004 equivalent to the whole of 2003. This implies that other livestock producing states mainly Kordofan and also White Nile, Blue Nile, El Gezeira, Sennar and El Gedarif are increasingly filling the supply gap from Darfur. Informants state that sheep and camel owners are moving from Darfur to Kordofan boosting the supply volume from that state. Some speculators link the movement of resources from Darfur to Kordofan and the recent attack on the latter by the SLA.

Formation of crisis trade routes

Some livestock traders are attempting to establish new trade routes to bypass security-affected areas in the south. The traders are based in El Geneina and belong to Arab groups. A livestock trader³² in Geneina stated that they were persuaded to use a new route after trade herds consisting of some 10,000 head of cattle, belonging to 50 traders, were stranded in Kebkabiyah (on their way to El Fasher) for about a month. The cattle were then moved back south first to Saraf Umra and then to Zalinji. They were then driven far south to Buram, and further east to Oadela bypassing the SLA controlled Eddaen area with the intention of joining Guebesh after crossing the railway line. Traders estimate that trekking from Seraf Umra to Muweli through Buram will take 100 -120 days and from Nyala about 80-90¹⁵ days. This will increase the cost of trekking by 20-40 days (depending on the point of origin) and puts more stress on the animals to be trekked. At the time of the missions' visit, this route was on trial and traders were not certain whether it will work and more importantly if it is profitable.

Traders in El Geneina are waiting to see if this new arrangement works. The significance of this route depends on whether the area around Buram stays under Government control or not (Boram was under SLA control for some time before the Government recaptured it). Even if Boram was under Government control, the SLA may be tempted to intercept trade stocks at some point either before or after Boram to interrupt the trade flow. The route through Boram goes through a tsetse-infested area, the prevalence of which increases particularly during the rainy season. Coupled with the stress of going through a much longer route, livestock mortality could be higher than usual on this new route. Moreover, the volume of animals trekked along this route will be far less than the other two routes for the following reasons:

- This route cannot replace both the northern and the southern routes totally;
- The turn around time for return on investment is far longer due to the longer trekking days;
- Traders' working capital will be tied up on inventories for long;
- More importantly, the *Jelabas* and the big traders from Khartoum have stopped coming to Darfur because of the risks involved; and
- The volume of animals that can be purchased and trekked by local-level *toujars* in El Geneina, with smaller capital base, cannot match those of the big *jelabas* in Khartoum.

Parallel Perceptions

The perception of traders regarding the conflict, the prevailing trade and security situation are divided along ethnic lines. Livestock traders of Arab origin in El Geneina emphasize that the security situation has greatly improved in the last eleven months since the government took control of the surrounding areas compared to what it was in 2002 and 2003. They complain bitterly about the SLA attacks on trade herds, traders and drovers in Saraf Umra and the surrounding areas in 2002 and 2003. They emphasize that the improved security situation in the last eleven months enabled them to trek / truck

¹⁵ Drovers and sub-drovers will charge 1,500 SDD per day for trekking that takes more than 80 days

livestock from Saraf Umra and Beda (in Chad) to El Geneina and ultimately ship them to Libya (through Tina) or to Muweli (through Buram). One outcome of this development is local-based *Jelabas* in Geneina are now trying to directly trek cattle and sheep through Buram to Muweli. Before the conflict, they were supplying the secondary markets of Nyala and El Fasher.

Similarly, small-scale local livestock traders of Arab origin in South Darfur share the same view. Three traders interviewed in the Nyala livestock market insist on the improvement of the security situation since the Government took control of the area³³. These traders buy sheep from Foro Boranga and from southwest and western part of the Jebel Marra area. On average, they visit the Nyala Market three times a month. However, they complained that the *Jelabas* from Khartoum are not coming anymore and that demand is much less than the supply. The livestock market clerk confirmed that ‘you see the same animals week after week in the market, as there are not many buyers.’ It is rumored that some of the animals brought by these traders were looted from the non-Arab population.

Totally different views are heard from livestock traders of non-Arab origin. The contradicting views are more pronounced in North Darfur but also prevail in South Darfur. The decline in supplies to important secondary markets, such as El Fasher, is attributed to the closure of some primary markets, security problems along trade routes and some IDPs identifying stolen animals in the market. Important secondary markets like Mellit, where some 20,000 camels and 25,000 sheep were processed to Libya annually (including some 25-50,000 sheep for Muweli), have been closed for the last ten months. Since then, out of the fifty local *toujars* in Mellit, about forty of them have left for El Fasher and Khartoum²⁴. Mellit is nothing more than a ghost town at present. Kutum is also suffering from capital flight, where only two local *toujars* are left out of the original twenty before the conflict³⁴. The price of meat in El Fasher and Kutum has doubled (the cost of 1 Kg of meat has risen from 500 to 1,000 SDD between January and June 2004) because of security problems on the supply route. Cattle that were trekked from Nyala to El Fasher at the cost of 2,000 SDD per head are now costing 10,000 since transporting them by trucks is the only available option. A trader who supplies cattle to Kutum from Nyala states that it takes two to three weeks to sell 15 head of animal for local consumption because the purchasing power of the population has gone so low. According to one trader, the collapse of the livestock trade in Northern Darfur has put so many middlemen out of business ‘they are currently eating their assets.’ Of the thirty local livestock traders in Gure village (Disr), only five are still active in livestock trading. Whereas better-off Gure-based traders (before the conflict) were capable of buying between 75-100 goats, the capital base of those who still remain in the area does not allow them to buy more than 15 goats²⁹. The story is the same for Birmaza village, further north. In Nyala, local non-Arab *toujars* are reluctant to trade in animals since the crisis because of the suspicion that some of the animals brought to the market were stolen from fellow Darfurians.

The Rise In Consumer Commodity Prices

The total and partial closures of strategic trade routes have increased prices for basic commodities due to increased transport costs, risks from bandits, the need to obtain

commodity supplies from new sources and also as a result of Government embargo. Price increases are felt all over Darfur but are more pronounced in parts of northern Darfur such as Disr, Kutum and Mellit. Mellit used to get most of its supplies from Libya (Kufra) before the conflict. Kutum and Disr, in turn, got their supplies both from Mellit or Libya and to some extent from Omdurman. Approximately 30 per cent of the money from livestock sales in Omdurman was brought back in stocks (commodities) on the return trip. In addition, large commodity traders used to distribute consumer goods for village level traders on credit. In Birmaza (Disr), consisting of some 15 villages (and 5,700 individuals), there were some thirty commodity traders who relied upon this credit system before the conflict. Only three to four commodity traders are still in business. They buy their supplies from Tina, Chad, a one-month round trip. Since the closure of the Libyan route, Mellit and Kutum also get supplies from Omdurman. Of note is the unofficial government embargo, which restricts the supply of commodities to SLA-held or SLA sympathizing areas. Consumers from Gure (SLA-held area), for example, are allowed to purchase only 5 *kora* (8 Kg) of grain at a time in Kutum. They have to pay 200 SDD to soldiers to get a paper permit that lasts only for a day, despite a round trip of five days between Gure and Kutum. Animals for sale from Gure to Kutum have to be driven in a roundabout way to pretend that they have originated from government-held areas, south of Kutum. Middlemen in the IDP camps are entrusted to sell the animals in the market, while the animal owners stay hidden in the camp.

In the process, prices of basic commodities such as sugar, tea, wheat flour, rice, and pasta brought from Tina (Chad) or Omdurman have doubled in Birmiza, Gure and Mellit. Oil prices have gone up by over 400 per cent in Birmiza and Gure. The price of millet has increased by over 700 per cent in the SLA-held areas of Birmiza and Gure.

Increase in prices is also observed in Nyala and El Geneina since trucks have to be re-routed through El Fasher to reach the two destinations after the disruption of road and railway services to Nyala through El Obeid.

Increase in the prices of livestock

Increasing banditry and insecurity have reduced the level of supplies from primary to secondary markets raising the price of meat and livestock in the latter. It is also said that livestock prices are on the decline in some primary markets that are cut off from the secondary markets such as Kebkabiya. Meanwhile, shortage of supplies from primary markets has pushed livestock prices in the secondary markets. SCF-UK's livestock market price data indicate a significant increase in the price of livestock observed in 2004 compared to 2003.¹⁶ The increase is more pronounced in El Fasher followed by Nyala. An increase in price is also observed for all species in all markets except for camel in Mellit.

Source: compiled from SCF-UK livestock Market Data; N.B: No camel transaction in Daresala m

¹⁶ Comparisons for the two years were made for the months ending up to September 2003 and 2004, as price data was not yet collected for the months after September 2004 during the missions' visit.

The above graph masks the temporary sharp drop in livestock prices during the peak of the crisis in January and February of 2004 in El Fasher, when people fled their homes from the pro-government forces. Secondary markets like El Fasher were flooded with livestock that escaped looting. Prices hit rock bottom for a short while during this period before they picked up again as the supply volume dwindled once the livestock resources of the fleeing population were exhausted. People who fled the attacks on villages had to part with their livestock for salvage value before they entered the IDP camps.

Tombac production and trade

Tombac (chewing tobacco) is a major cash crop produced in Taweila, Korma and in the western parts of Daresalam and Al Fasher. Though labor intensive, *tombac* production provided better economic incomes for the population whose livelihood depended on it. Annual volume of trade in the Tabit, market was between 130 – 145 tons. The *tombac* market in Tabit (which falls on Friday) used to attract twenty *tombac* exporters and some 50-60 small traders and middlemen. Middlemen earned between 3 and 5,000 SD on each market day and laborers between 2 and 3,000 SD. WFP and SC UK studies show that *tombac* production zones attained over 50 per cent of their food requirements and 75-80 per cent of their other requirements. However, following the attack of pro-government forces in May 2004, the areas under *tombac* cultivation has declined to less than 20 per cent. As a result, none of the exporters come to the Tabit market anymore. Only less than 10 per cent of the middlemen operate in the market. Most of the tobacco farmers now live as IDPs in El Fasher.

Inefficiency of Grain and Commodities markets

The inefficiency of the urban and particularly the rural markets of Darfur are directly associated with distance from major production areas (supply sources) and poor roads, among other things. A market study indicated that, 'Darfur grain markets are not integrated with central Sudan grain markets because of the high transportation costs which represents 60 per cent of the market price in Darfur'³⁵. The study estimates current grain and transportation prices at SDD 35,000 per ton from El Obeid to Nyala and El Fasher and SDD 45,000 per ton for El Geneina. The cost of transport for locally produced grain is also estimated at 100 SDD from farm produce to the nearest market for each 10 Kg of grain³⁵.

Yet, this inefficient market system has been worsened by the closure and partial operation of some of the important markets in Darfur. Of the total 154 village-level, primary and secondary markets that used to operate in Darfur, 61 are operating partially and 49 are totally closed³⁵ eroding the coping capacity of rural livelihoods.

Conclusion

Livestock has been a critical livelihood resource and form of investment for virtually all livelihood groups in Darfur. Consequently livestock have been central to the many local tribal conflicts, in terms of livestock looting, migration routes, and grazing rights. As a

result there is also a long history of inter-tribal conferences and meetings aimed at settling disputes and reaching agreements relating to livestock.

But the more recent conflict between the pro-government forces and opposition groups is of a different scale and proportions. While large sections of society have been 'asset-stripped', groups associated with the looting of livestock have enriched themselves but have also become victims of their own making. They can neither access the wet season grazing reserves nor sell their animals (including the looted ones) as they wish, as trade routes are not safe anymore.

This conflict has directly impacted upon productivity, in terms of farming and livestock production, both of which have spiraled downwards. Livestock trade, in which Darfur region previously excelled, has collapsed. Migration and trade routes are no longer secure as a result of violations of the humanitarian ceasefire, and the increase in banditry. Mobility, the key element in pastoral production system, is at stake.

While the future economic development for Darfur depends on a well-functioning livestock sector, including livestock trade, this will not be possible in the absence of security and mobility for all groups. This is perhaps obvious, but less obvious is that to be successful peace and reconciliation initiatives must incorporate livestock as a central pillar of response. To put it simply, there can be no real reconciliation and development unless grievances relating to livestock are fully addressed.

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Chapter 4

The Livestock Sector In The Darfur Crisis

FIGURES

Figures 1-4. Growth trend of livestock population in Sudan (source MOAR, 2002)

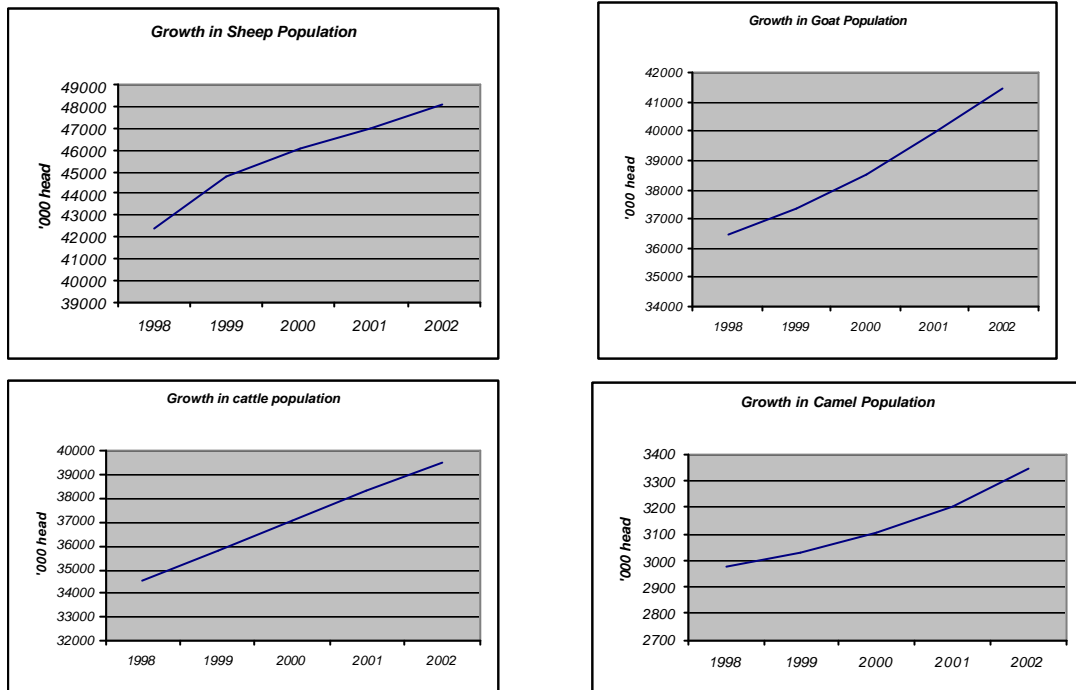


Figure 5 Distribution of TLUs within Sudan states

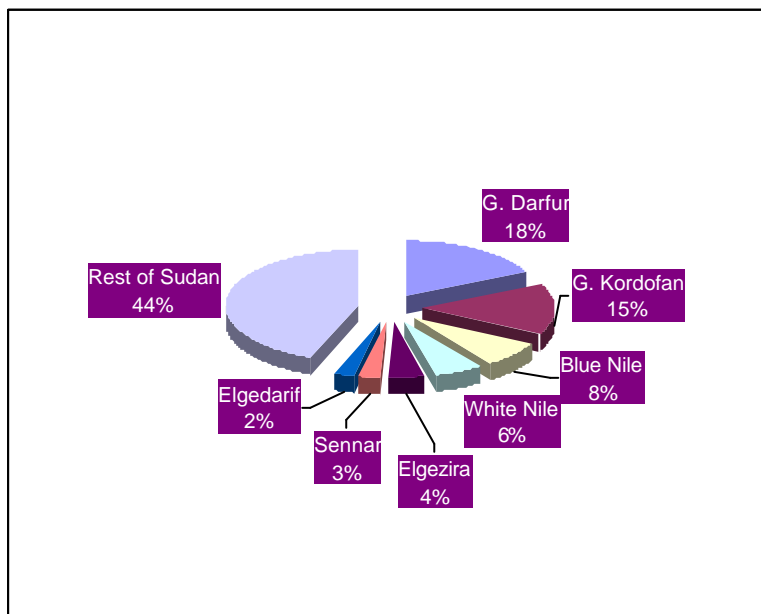


Figure 6 Live animal exports from Sudan Source: Bank of Sudan; the figure for 2004 refers to the first two quarters only

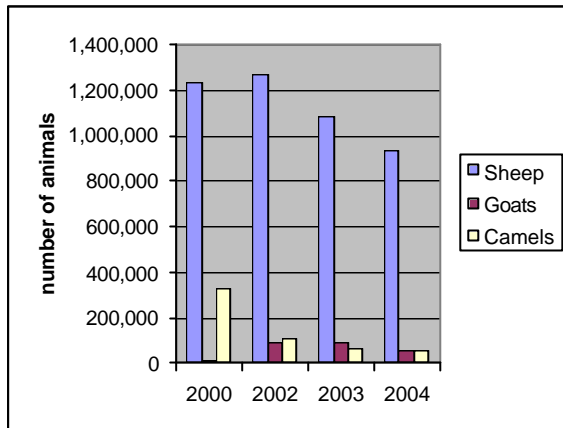
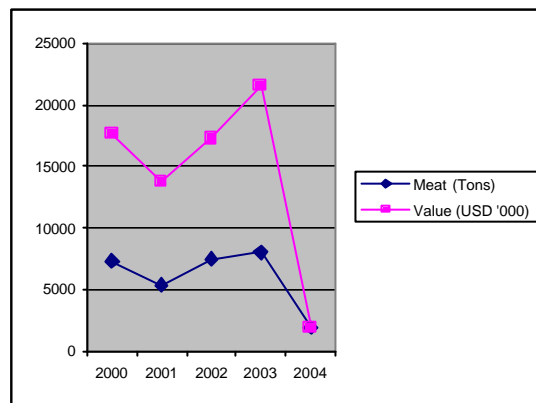
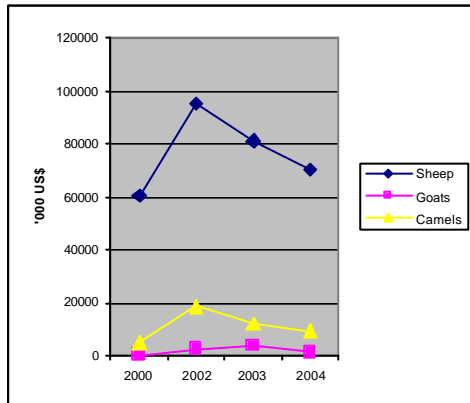


Figure 7 Value of live animal exports **Figure 8 Volume and value of chilled meat exports**



Bank of Sudan (2004) The figure for 2004 refers to the first two quarters only

Figure 9. Cattle and sheep productivity and off-take models in a Darfur traditional system¹

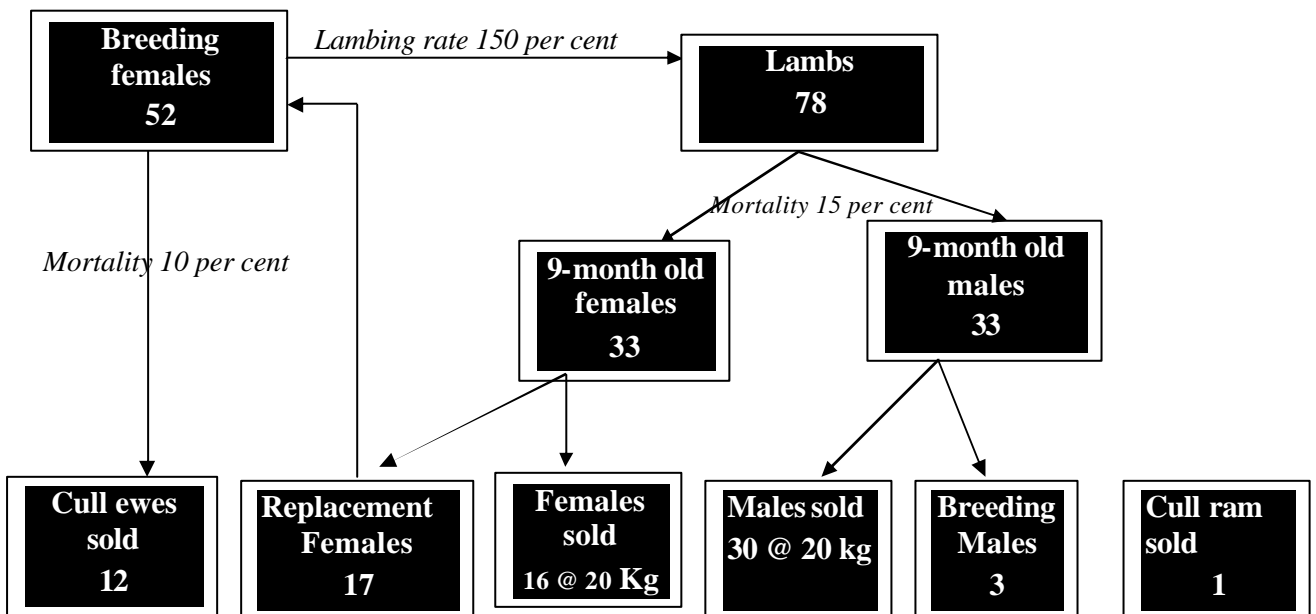
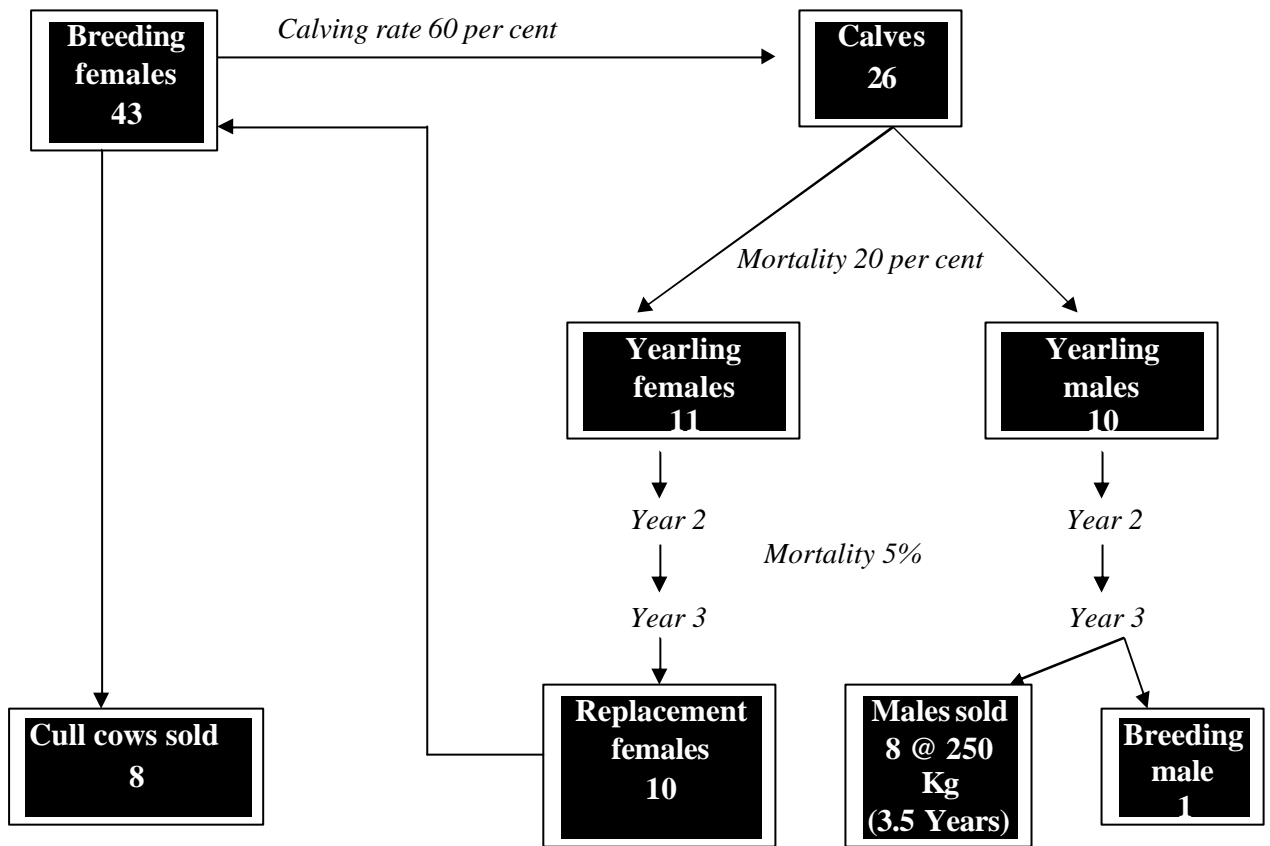


Figure 10. Schematic diagram of the livestock marketing chain in Sudan (source FAO, 1997 adapted by Aklilu, 2001)

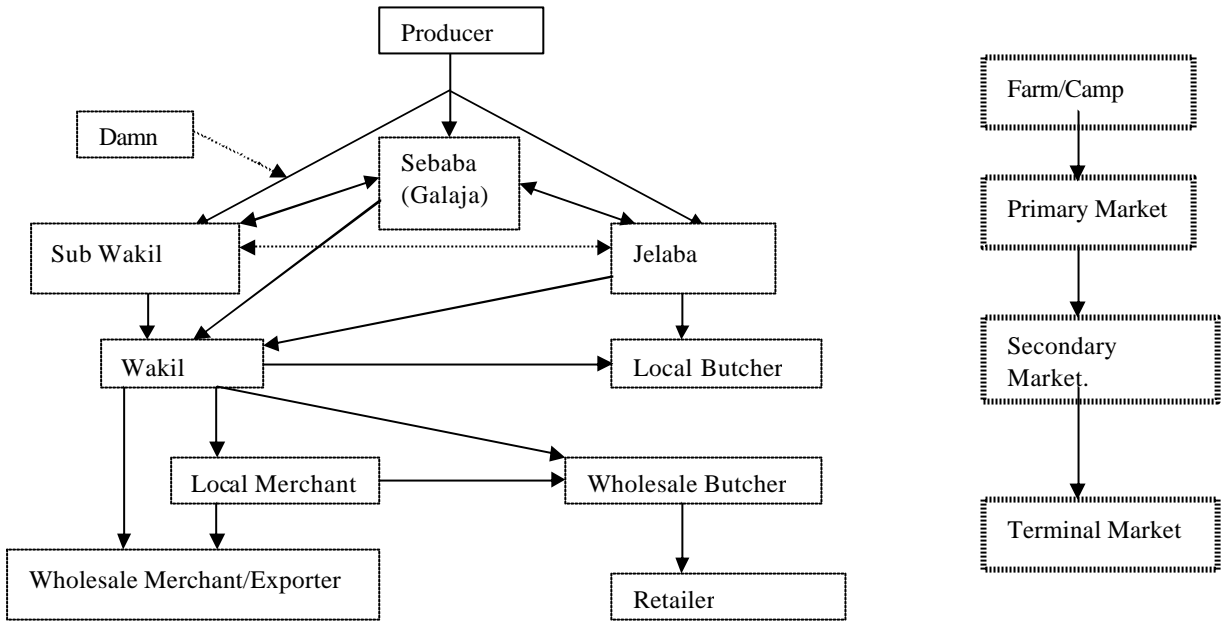


Figure 11 Camel and Donkey Trade Routes from and to Darfur

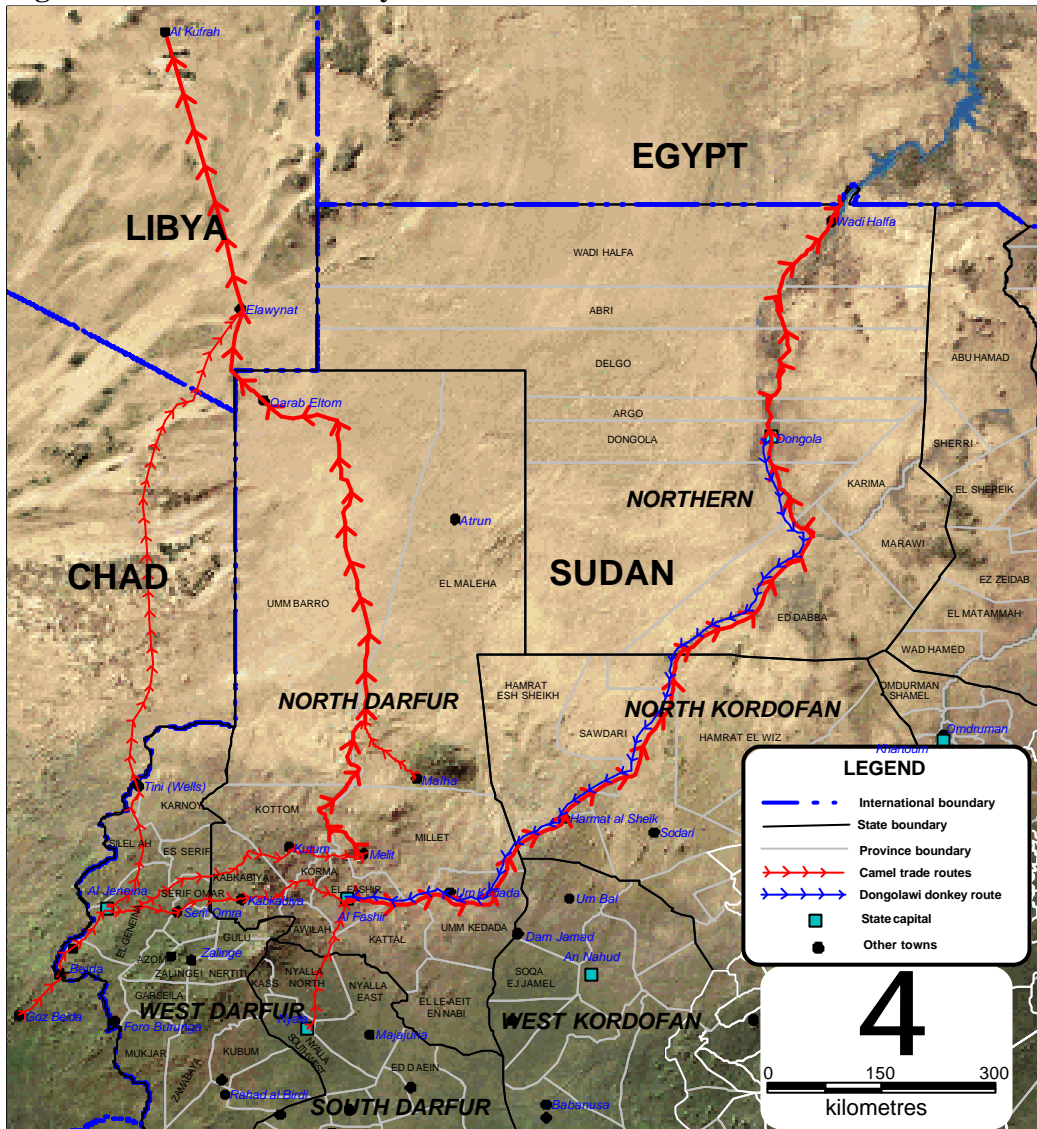


Figure 12 El Fasher rainfall record²

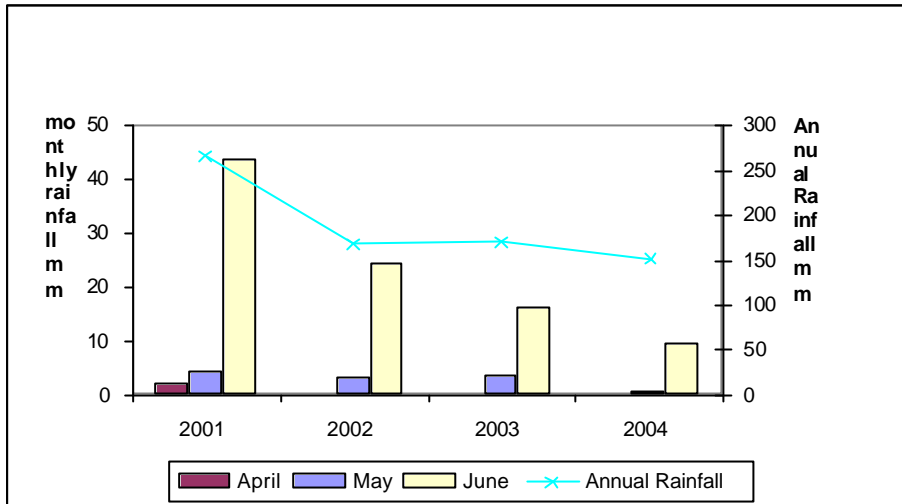


Figure 13 Livestock growth trends in Darfur³ (MOAR, 2002)

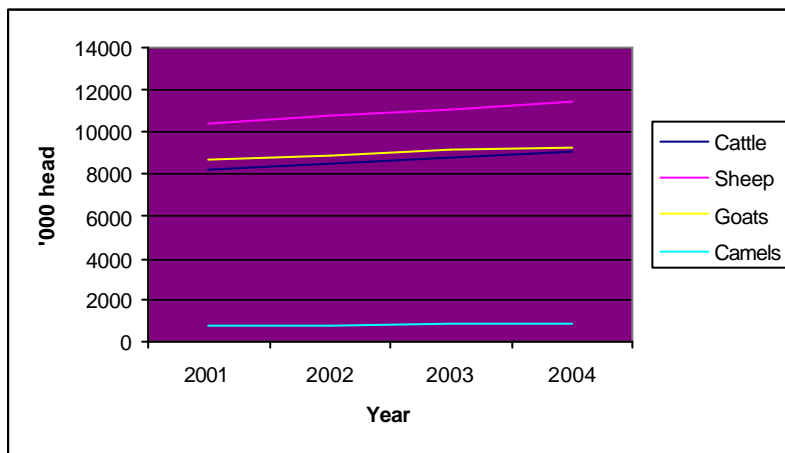


Figure 14 Normal and Crisis Migration Limits for Abbala and Baggara pastoralists

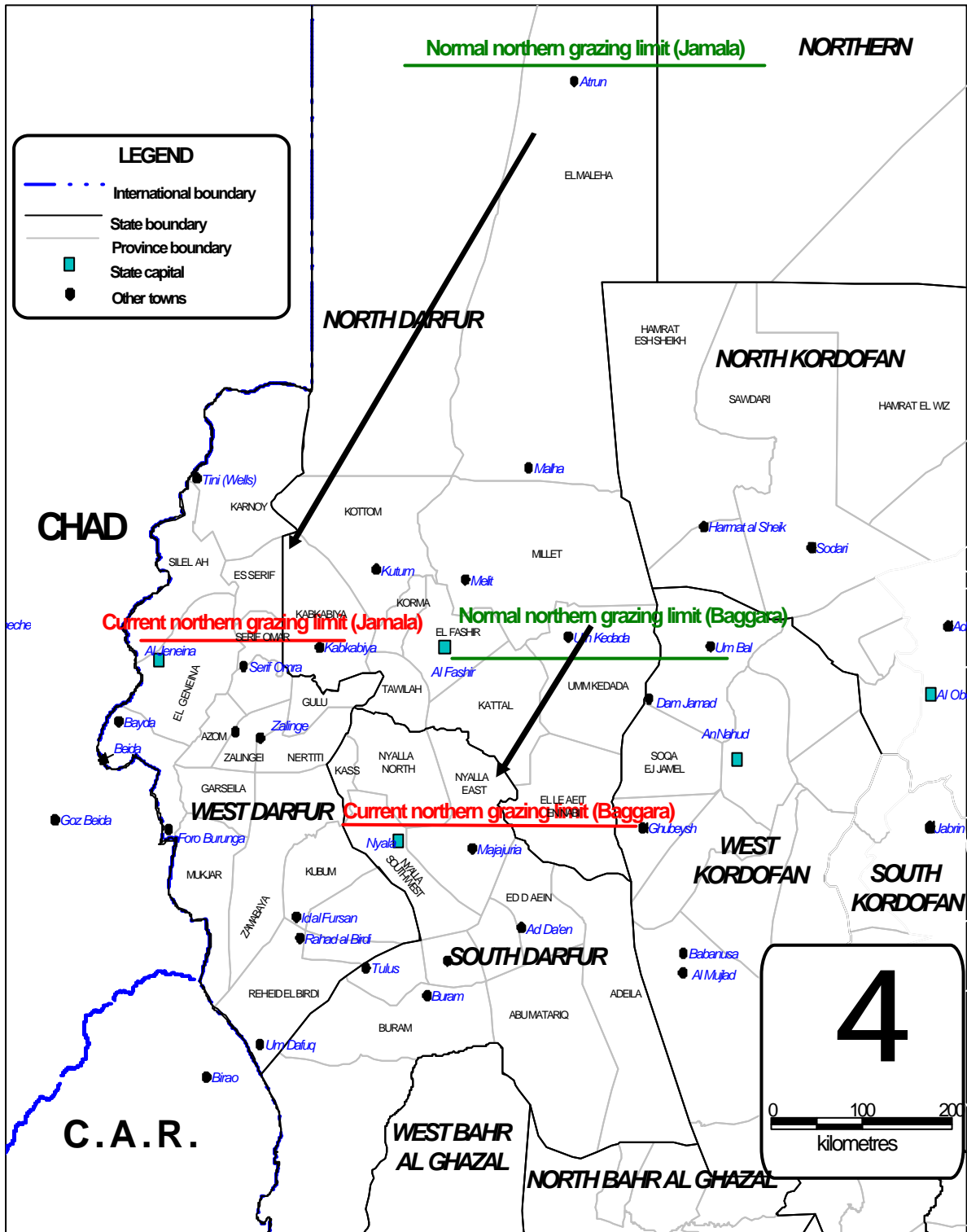
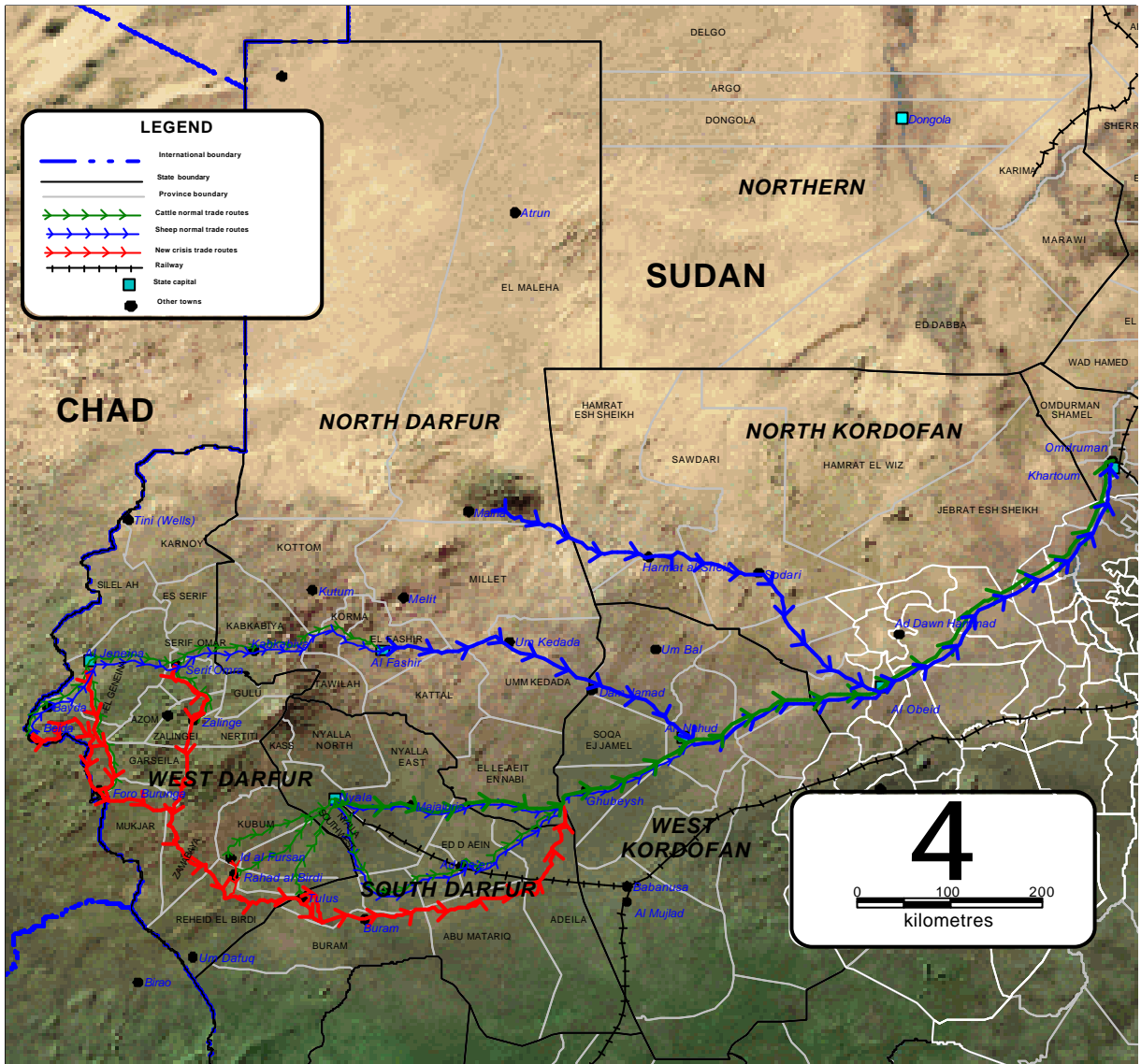
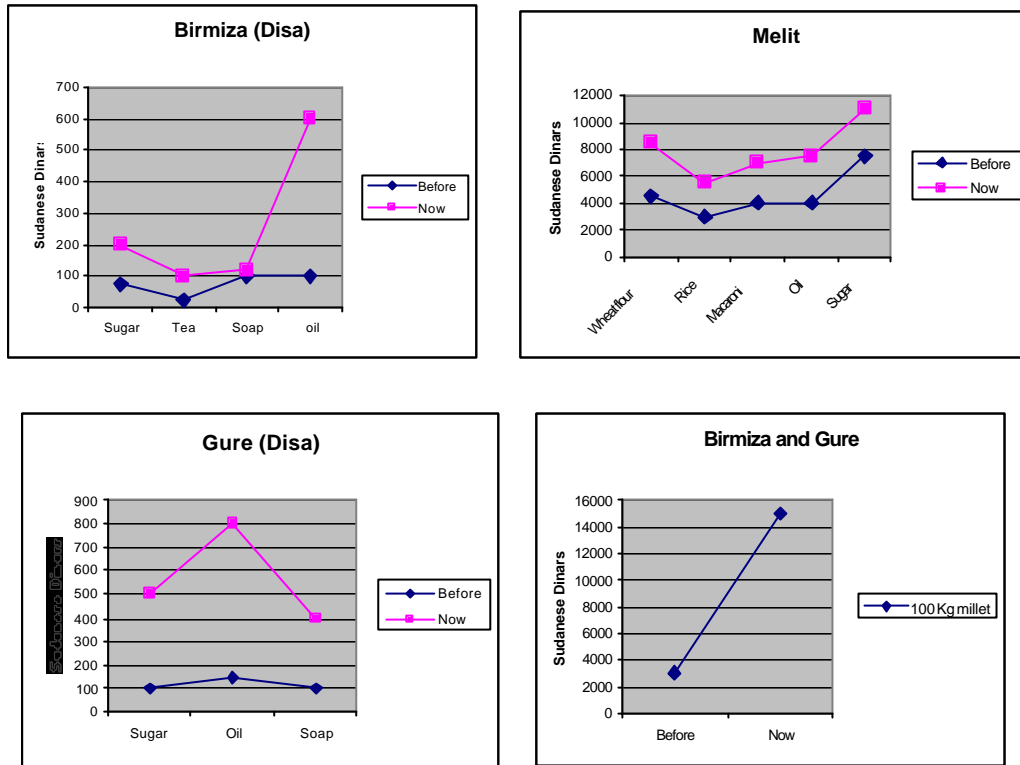


Figure 15 Normal and Crisis Trade Routes

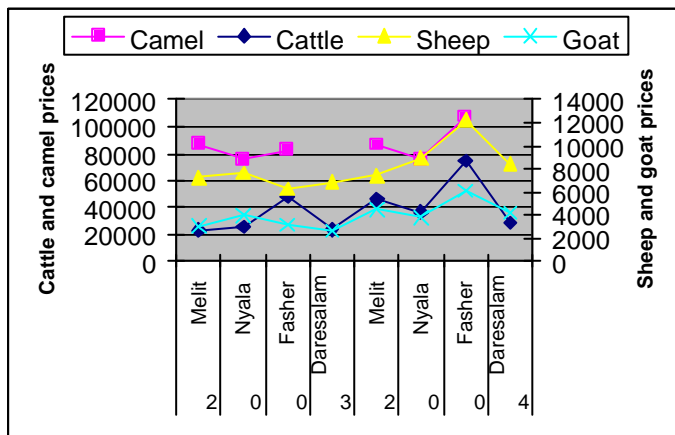


Figures. 16-19. Price fluctuations before the conflict and after the conflict (North Darfur) ¹

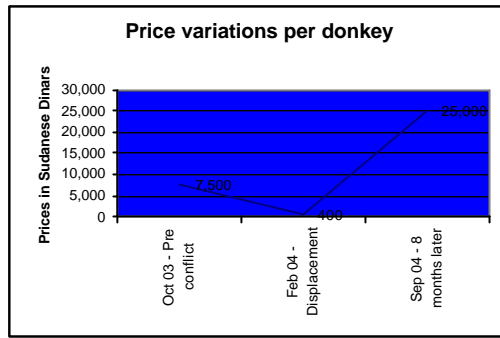
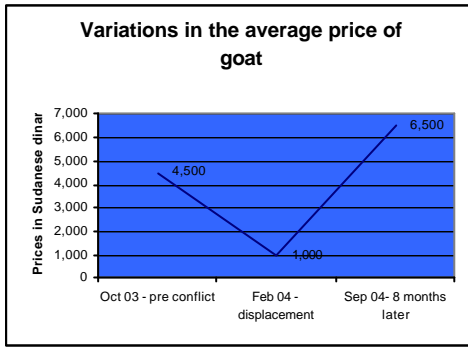


¹ Standard quantities of commodities are as follows: Sugar = ½ Kg in all places except in Mellit where it was measured in 50 Kgs; Oil = 750 ml except in Mellit where it was measured in 20 Kgs; Tea = 28 grams; Soap = 4 or 5 bars; wheat flour = 50 Kgs; Macaroni = 20 Kgs

Figure 20 Livestock price trends in selected markets



Figures 21-22 Immediate Impact of the Conflict on Livestock Prices at El Fasher



Source: Key informants at El Fasher