



**SPARC**

Supporting Pastoralism  
and Agriculture in Recurrent  
and Protracted Crises

# IMPACTS OF DISRUPTIONS TO LIVESTOCK MARKETING IN SUDAN

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# ABBREVIATIONS AND GLOSSARY

<b>Butana</b>	Region of central Sudan lying between the Blue Nile to the west and the Atbara to the east
<b>Eldamin</b>	Guarantor who certifies the provenance and legality of traded livestock for a small commission
<b>Gallaga</b>	Local buyer of livestock
<b>Hajj</b>	Annual pilgrimage to Mecca
<b>IFAD</b>	International Fund for Agricultural Development (UN)
<b>Jallaba</b>	Small trader of livestock
<b>OIE</b>	World Organisation for Animal Health
<b>RVF</b>	Rift Valley Fever
<b>SDD</b>	Sudan Dinar
<b>SDG</b>	Sudanese pound
<b>Smallstock</b>	Domesticated and farmed animals other than cows – sheep and goats in this context
<b>US\$</b>	United States dollar
<b>Wakil</b>	A trader who buys livestock on behalf of a larger trader, earning a commission on each purchase

# EXECUTIVE SUMMARY

## Key findings

- Exports of live sheep from Sudan, very largely to Saudi Arabia, is a growing business, worth more than US\$400 million in recent years.
- The trade is made possible by an effective and relatively efficient marketing chain that links herders across Sudan to the Red Sea ports.
- Marketing chains have been improved since 2000, incrementally over time.
- The chain is often heavily disrupted, especially when animal disease breaks out. The 2007 outbreak of Rift Valley Fever in Sudan led to almost a one year ban on exports to Saudi Arabia.
- For traders and herders there was little protection from that ban: traders took heavy losses, many went out of business. Herders saw demand collapse and prices plummet for their sheep.
- The chain is, however, resilient. Once bans are lifted not only has the trade recovered, but it has grown quite rapidly.
- Policy implications include strengthening veterinary efforts to prevent and control animal disease; and considering some form of insurance or mutual fund to assist herders and traders when disruptions occur.

## Summary

Sudan raises large numbers of camels, cattle, sheep and goats. It exports live animals in large quantity, mainly sheep to Saudi Arabia – up to 5 million head a year – and camels to Egypt – up to 250k a year. It also exports chilled and frozen meat, mainly to Saudi Arabia, the Gulf states, and Egypt.

In the almost 20 years since 2000, exports of sheep and sheep meat have multiplied by three or more times, becoming a trade officially worth more than US\$400 million a year.

The marketing chain is well adapted to pastoralism. Traders have created ways to collect livestock of different types and ages, seasonally from transhumant herders, and move them across 1,500 km or more to Sawakin on the Red Sea for export to Saudi Arabia. Studies suggest that the chain is effective and relatively efficient – in the sense that no one in the chain seems to make more than normal profits on trading, costs are modest, and herders receive 70% or more of the price paid for stock at domestic terminal markets or on the Red Sea. Most transactions in the chain depend on the trust of personal relations at all steps from the local agents who buy from herders through to the port agents in Sawakin.

Livestock marketing has been improved through time, by incremental changes rather than by radical steps. For example, roads have been asphalted, quarantine and vaccination facilities have been created. Increasingly some of the lean stock bought from herders are then fed on pastures and feed to fatten them up before slaughter or live export.

The chain is sometimes heavily disrupted. Since 2000, at least three major perturbations have taken place: Rift Valley Fever outbreaks of 2007 and 2019 leading to bans on export of animals and meat, and the pandemic of 2020 with the associated partial suspension of the Hajj in Saudi resulting in a collapse in export demand.

When the chain has been disrupted, herders and traders alike have had few alternatives to selling and trading livestock, so that losses have been heavy. Herders have either not been able to sell their stock, or have had to sell their stock at prices one third or less than expected. Traders have been bankrupted, often going out of business, after which they have struggled to build up enough capital to get back into trading.

That said, the chain has been resilient. Once export bans have been lifted, marketing has rebounded to previous levels; and subsequently grown even larger.

Herders, it seems, have become a little more resilient to these shocks because increasingly they have other options when livestock marketing fails. Crop production is apparently much more common in herding communities across Sudan than it was ten or more years ago.

## Policy recommendations

While the export of live animals from Sudan is a growing and profitable business, risks are considerable. The disruptions described are costly. A question for policy-makers and those working with livestock herders and traders is whether the occurrence of major shocks, and or their severity and costs, can be reduced.

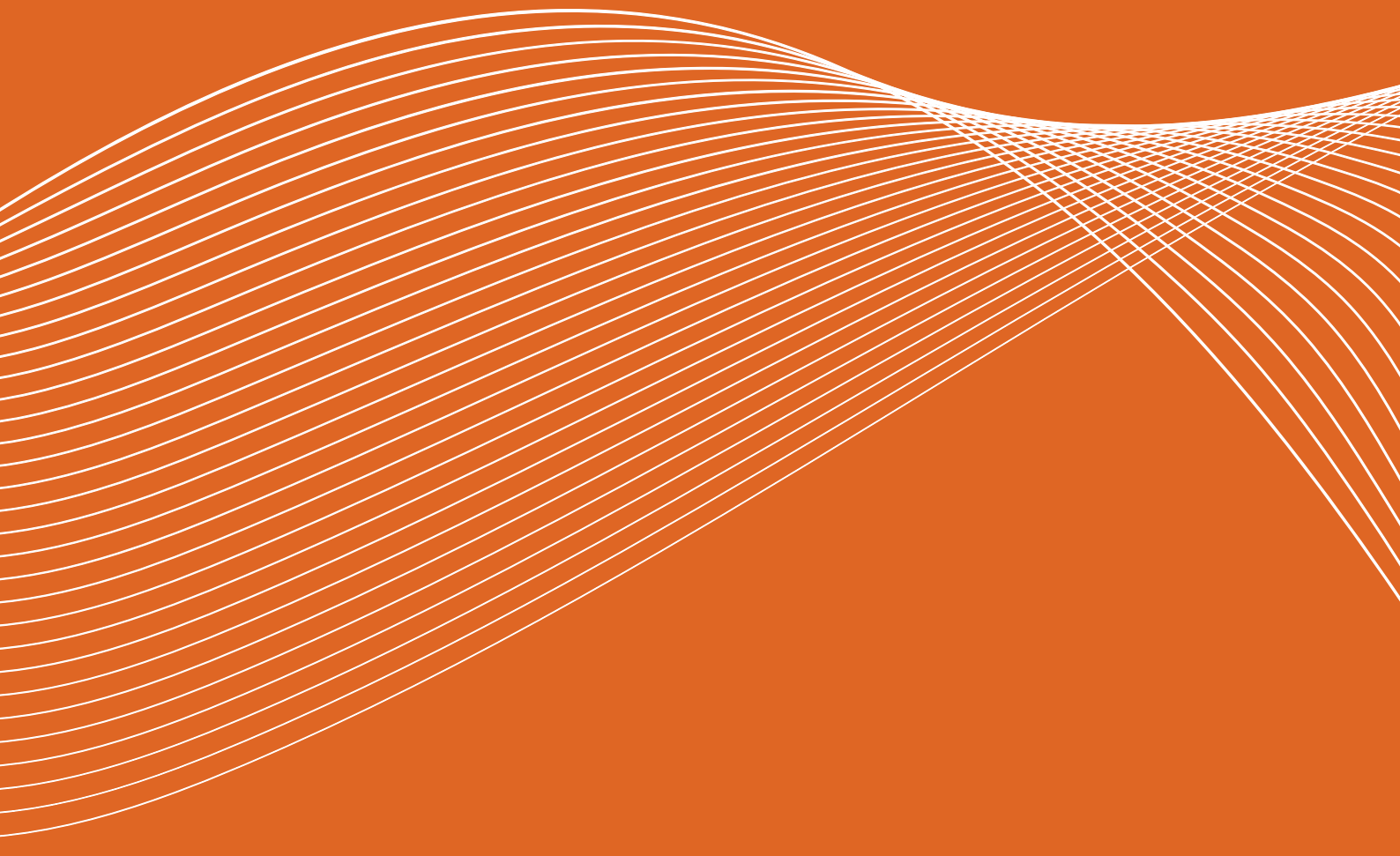
In this respect, **veterinary health measures** against further outbreaks of RVF can be valuable. Indeed, a pertinent question is to compare the value of an avoided outbreak to the cost of public veterinary measures to prevent outbreaks – bearing in mind that with RVF, the benefits also spill over into avoided human disease and death. It seems the government of Sudan takes the threat of RVF seriously for both stock and humans: a good start. It also seems from the interviews that traders understand the need to vaccinate and quarantine stock for export.

Some shocks may be unforeseeable and unavoidable. This raises the question of whether some form of **insurance or mutual assistance fund** would be feasible and desirable for either herders or traders. This might, for example, consist of a modest annual premium paid in return for an assured monthly payment during specified incidences of shocks – index linked to sheep prices in Omdurman, for example? Compensation might be far from complete – full compensation would almost certainly require an unaffordably large premium, but payments might relieve hardship and allow traders to recommence business once the hazard was passed.

Sudanese traders exporting live animals may be vulnerable to price setting by importing countries. Of greater concerns are cases where livestock have been returned to Sudan upon inspection in Saudi Arabia for reasons purportedly about animal health, but where traders suspect the motives may be convenience for the importers who have either over-ordered or else have a better offer from a rival exporter. That raises the question of whether **slaughtering within Sudan then sending chilled or frozen meat** might be a better and more reliable option. The economics of this, however, remain to be established. Moreover, this is not an option for the millions of sheep sent for the Hajj, when sacrifice demands a live animal, not a frozen carcass.

SECTION 1

# INTRODUCTION



# 1. INTRODUCTION

In July 2020, the Kingdom of Saudi Arabia announced that the annual pilgrimage to Mecca, the Hajj, would be limited to just 10,000 pilgrims, from persons already residing in Saudi Arabia. The Hajj usually attracts two to three million participants.

One consequence was a collapse in the demand for live sheep in Saudi Arabia. Normally, each pilgrim would sacrifice an animal: animals that are sourced first and foremost from north-east Africa, above all Ethiopia, Somalia and Sudan. The marketing chain that normally gathers several million sheep and other livestock from herders across the drylands of the region for export to Saudi Arabia thus saw at short notice a sharp fall in demand. For herders and traders this has meant lost income and unsold stock that had been raised in the expectation of sale for export.

In considering options to assist those on low incomes affected by this disruption to trade, the FCDO desk office for Somalia requested SPARC to investigate the effects of the suspended Hajj and to explore potential options by reviewing what has happened when this trade has been interrupted in the past.

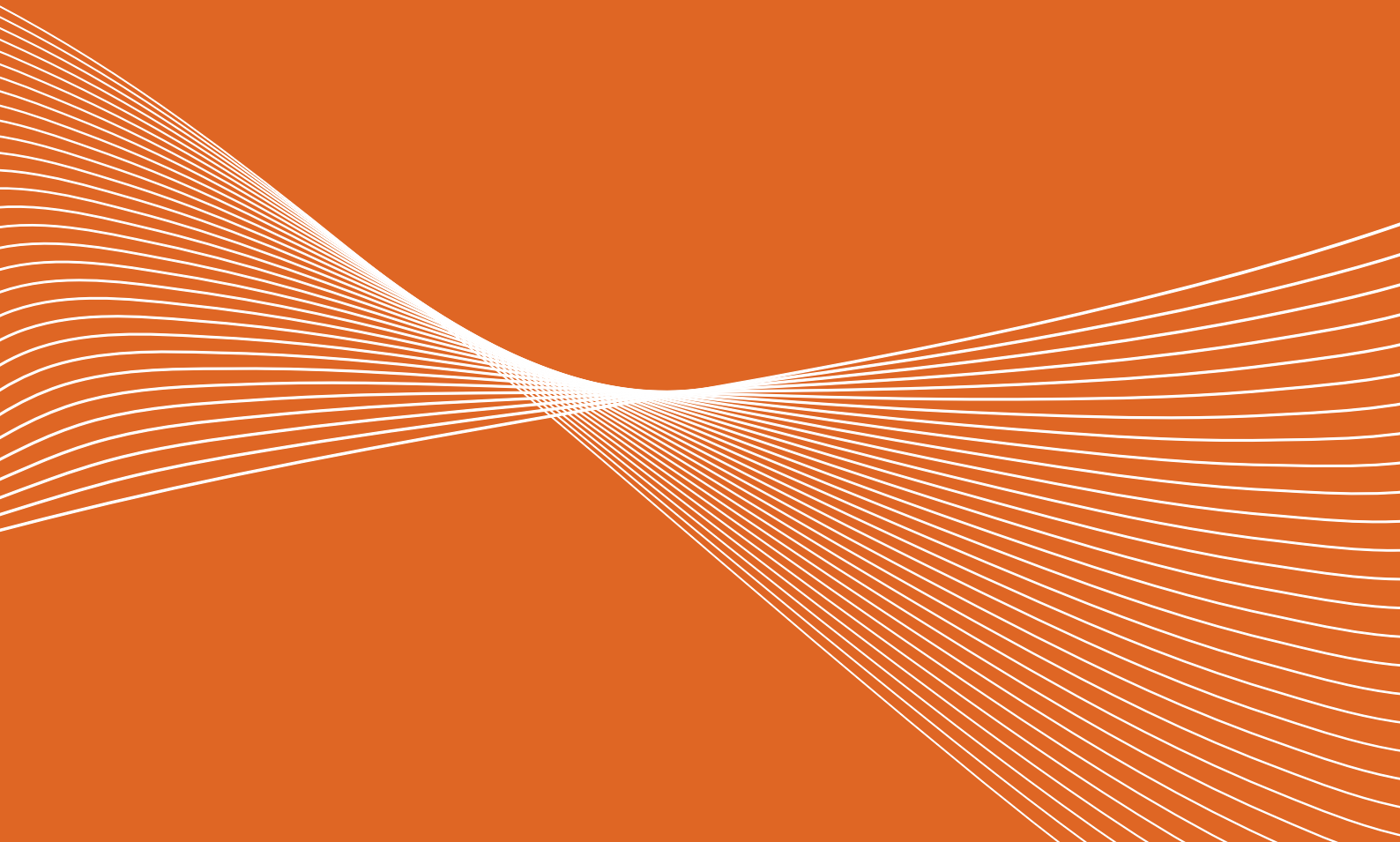
This report documents what was discovered for Sudan, a country that in recent years has been sending 4–5 million live sheep across the Red Sea to Jeddah. This trade has been disrupted in the past, most notably by bans on exports when Rift Valley Fever has broken out in Sudan's herds, including a long ban of almost one year in 2007–2008.

To compile this report, we reviewed secondary literature and statistics on livestock marketing and exporting. We also carried out 16 mobile phone interviews with traders and herders across Sudan to ask about their responses to the suspended Hajj, to COVID-19 restrictions in 2020, as well as their memories of previous disruptions including the one that began in 2007.

The study was carried out rapidly between late July and early September 2020. Neither time, nor funds, nor COVID-19 restrictions allowed more comprehensive data collection and analysis.

SECTION 2

**BACKGROUND:  
MARKETING SHEEP  
AND OTHER  
LIVESTOCK IN SUDAN**



# 2. BACKGROUND: MARKETING SHEEP AND OTHER LIVESTOCK IN SUDAN

## 2.1 Supply

Livestock are raised across much of Sudan: camels, cattle, goats, and sheep. They represent the bulk of agricultural output by value.

Estimates of numbers are at best informed guesses: since 1974 no census has been undertaken.

For a country with a total human population of 42 million in 2018, and a rural population of 27 million, the numbers of livestock are large.

These may, moreover, be underestimates: IFAD surveys in Kordofan in 2010 found as many as three times more smallstock than the official estimate.

TABLE 1 LIVESTOCK NUMBERS IN SUDAN, 2016/18

Livestock	Number (million)
Camels	4.8
Cattle	31
Goats	32
Sheep	41
Donkeys	7.6

Source: FAOSTAT

TABLE 2 ESTIMATED NUMBER OF LIVESTOCK IN NORTH KORDOFAN, 1975–2010

	Cattle	Sheep	Goats	Camels	Total TLU
1975	937,127	2,470,580	1,683,647	851,587	
2010 official	960,503	7,223,357	3,605,603	1,212,613	
2010 IFAD	465,000	22,265,000	2,064,000	747,000	
TLU 2010 official	672,352	722,336	360,560	1,212,613	2,967,861
TLU 2010 IFAD survey	325,500	2,226,500	206,400	747,000	3,505,400

Source: Information Centre, Ministry of Animal Resources and Fisheries for 2009 and 2010 official statistics; IFAD unpublished records for 2010; Sudan National Livestock Census & Resource Inventory, Resource Management & Research 1975.

Livestock are largely grazed, with some stock feeding on crop stubble and by-products as well. Grazing lands include arid rangeland with seasonal pastures during the rains to which herders migrate with their herds, returning to less arid areas during the dry season where feed may still be found. Some livestock are raised in mixed farming systems alongside crops.

“Livestock are most prevalent in the rain-fed farming areas of Western, Central and Eastern Sudan where they are raised under nomadic and transhumance systems (moving with livestock and growing short-maturity subsistence crops). Ruminant feed consists of pastures, browse, crop residues, and supplements of cereals and oilseeds”, (Babiker 2007).

### 2.1.1 Supply of livestock is seasonal

June to September is the rainy Kharif season. Farmers plant crops, herders move to drier lands in the north to exploit the seasonal flush of vegetation. Not many sales of livestock take place, since herders are in remote areas.

Animals are hard to trek in the summer heat. Some traders buy livestock in April to keep on fattening grounds through the damp summer.

“Transportation costs during Kharif (the rainy season) increase by about 50 % due to the poor road conditions which render travel more costly and more risky if animals must be evacuated for lack of pasture or for health reasons”, (Babiker 2007).

The dry season lasts from October to May. Herders move south to areas that have some forage through the dry season.

Sheep are sold from October onwards, and increasingly so, as the dry season advances.

“Females are planned to become pregnant during March and to give birth during August-September. Selling often starts during January-February”, (Babiker 2007).

Sales also depend on festivals, when sales of stock – especially sheep – can double as families customarily sacrifice a sheep or goat. The Hajj pilgrimage in Saudi Arabia and Eid el Adha (Tabaski) are prominent examples.

## 2.2 Demand for livestock and meat

Sudan has a growing domestic demand for meat arising from population growth, and from increases in real incomes – the economy grew rapidly from 1992 to 2009, so that average income grew in constant 2010 US dollars from US\$674 in 1990 to US\$1,676 in 2019 (Data from World Bank World Development Indicators).

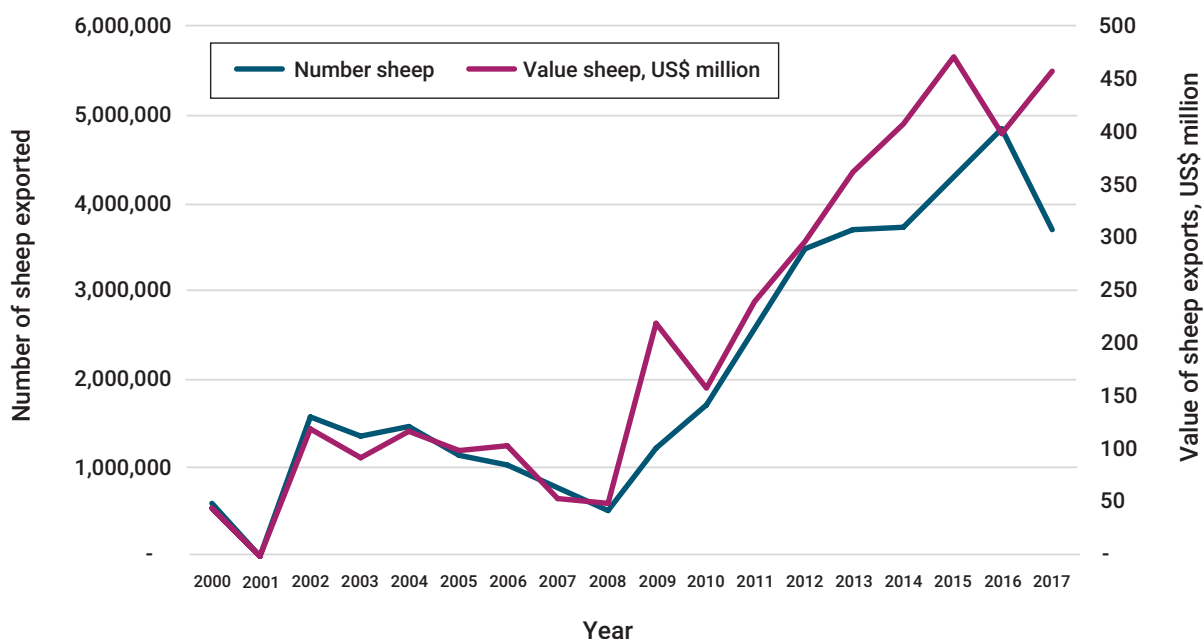
Export demand comes overwhelmingly from Saudi Arabia. The Saudi market for meat divides as follows (value imports in brackets, 2015/17):

TABLE 3 SAUDI ARABIA IMPORTS OF MEAT, 2015–17

Meat	Value US\$ million
Live animals, preferably sheep. Linked to festivals	US\$956 of which US\$720m are sheep and goats, most of rest from camels
Beef	US\$528
Poultry	US\$1,659
Lamb and mutton carcasses, chilled – relatively small trade, dominated by Sudan	US\$250
Lamb deboned and cut, probably vacuum wrapped	

Source: FAOSTAT

FIGURE 1 EXPORTS OF LIVE SHEEP FROM SUDAN, 2000 TO 2017



Source: FAOSTAT

The Saudi market can be broadly split between traditional meats – camel, goat, sheep; and modern meats – chicken and beef. Chicken has become the most consumed meat in the Kingdom in part owing to being considerably cheaper than other meats.<sup>1</sup> Brazil is a major supplier for modern meats.

Australia and New Zealand supply chilled lamb carcasses and deboned lamb at low cost, food-safe, and in forms that store well – for example, vacuum wrapped.

But for much of the traditional meat, and above all live animals, Northeast Africa dominates imports. Syria was exporting goats before the conflict.

The other significant demand for exported Sudanese stock concerns camels trekked north across the desert to Egypt.

### 2.2.1 Sheep exports

Exporting sheep from Sudan has grown into a valuable business. Exports are dominated by those of live sheep, 80% or more them heading for

Saudi Arabia. Figure 1 graphs the official record (FAOSTAT) of live sheep exports from Sudan, by head and by value. Several features of the trade stand out.

1. The trade has grown since 2000: by the mid to late 2010s, 5 million sheep were being exported, compared to around 1 million head in the early 2000s. By value, the increase has been similar: rising from around US\$100 million in the early 2000s to as much as US\$400 million in recent times.<sup>2</sup>
2. The trade has dipped from time to time. In the graph, numbers exported fall sharply from 2006 to 2008, in 2010, and in 2016.
3. The trade has recovered quickly from interruptions. 2008 was a low point, owing – as will be explained in the next chapter – to a ban on exports after the Rift Valley Fever outbreak. Yet by 2015 the recovery had been so strong that 5 million more head of sheep were exported.



Animal trading in Forogaranga. Photo: Albert González Farran/UNAMID

The unit value of sheep has varied little since 2000. Each sheep has been worth around US\$100, in constant 2015 US dollars (Figure 2). The spike in 2009 may well be a statistical aberration,<sup>3</sup> possibly one where numbers exported and value of exports were recorded in different years.

Sudan also exports live camels, cattle and goats in appreciable numbers. In almost all years, however, sheep represent 85% to 90% of the numbers and value of live animal exports.

Among the export of other livestock, the most notable is that of camels, very largely livestock that are trekked or trucked to Egypt. Numbers recorded vary considerably annually. In recent years, the unit value registered for camels has risen dramatically: on average a camel is worth as much as US\$3,000. Given that these stock pass the border at several points, how well recorded they are is an open

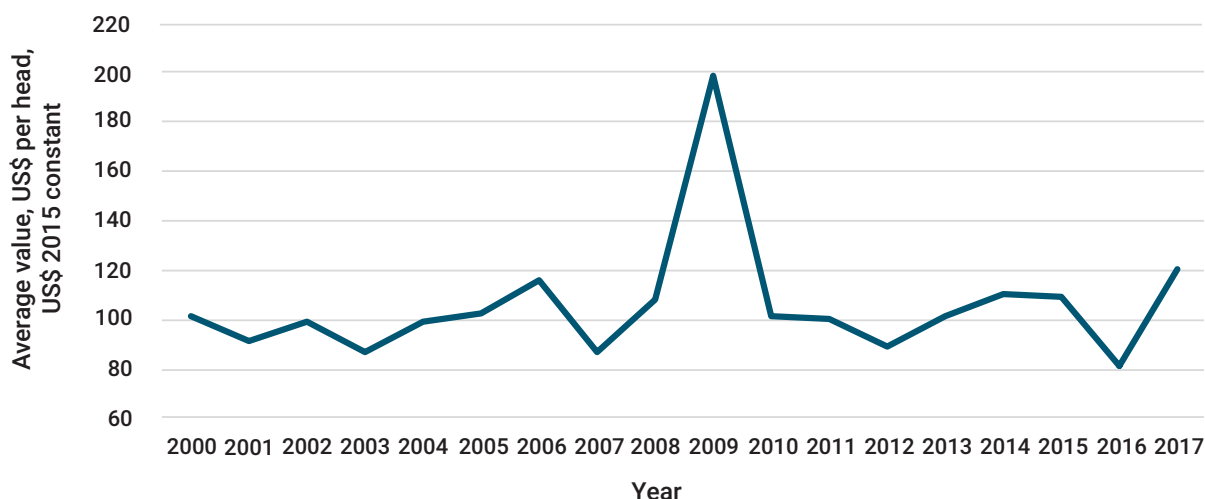
question. Indeed, it may be that some routes, especially those that move camels from Darfur north-east to Egypt cross the border in the desert across an unmarked and unpatrolled line in the sand and dust.

**Exports of sheep meat** are much smaller in tonnage and value than live animals. For example, in the 2010s, while the value of live sheep exported has been US\$200 million and more, the maximum value of sheep meat recorded, in 2012, was less than US\$30 million (Figure 3).

Sheep meat exports seem to decline since 2000, although the unit value realised has been rising in constant terms.

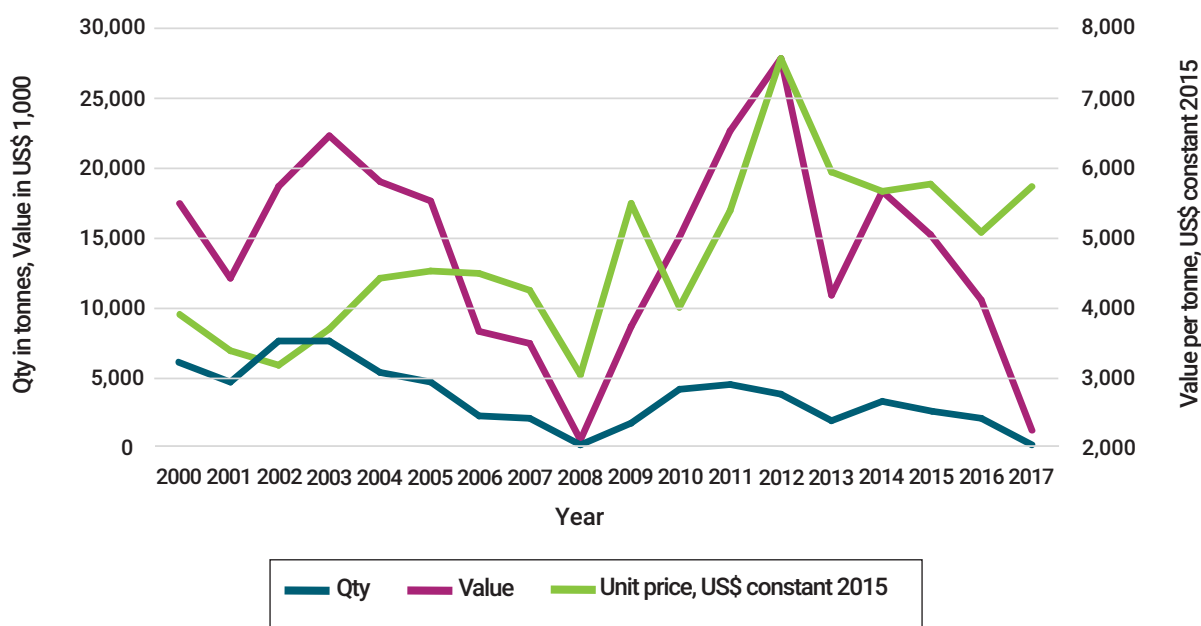
Exports of sheep meat fell in 2007 and 2008, presumably hit by the ban on imports into Saudi Arabia.

FIGURE 2 AVERAGE VALUE OF SHEEP EXPORTED FROM SUDAN US\$ CONSTANT PER HEAD, 2000 TO 2017



Source: FAOSTAT

FIGURE 3 EXPORTS OF SHEEP MEAT FROM SUDAN, 2000 TO 2017



Source: FAOSTAT

### 2.3 Livestock supply chains

Livestock are typically sold from herders to aggregators (gallaga). Independent traders, with their own small capital, gallaga buy locally from herders in camps or villages, assessing stock by eye, paying cash in one-to-one deals, buying 10–15 head at a time. Sometimes they work on commission for the herders, selling on their behalf to larger traders (Figure 4).

Gallaga bulk up livestock, then take them to secondary markets for sale to small traders (jallaba). In some cases, the first buyer is an agent (wakil) of a large-scale trader.

Babiker (2007) adds detail from his survey in 2007.

“Secondary markets are located at the main towns ..., e.g. Nyala, El Fashir, Eddein, Kadogli, El Obeid, Kosti, Kassala, Malakal<sup>4</sup> livestock markets, etc.

The main agents in these markets are

gallaga, wakils, and jellaba. The brokers may work as independent small-scale traders (Jellaba) and some as agents (Wakils) or sub-agents for the big traders.

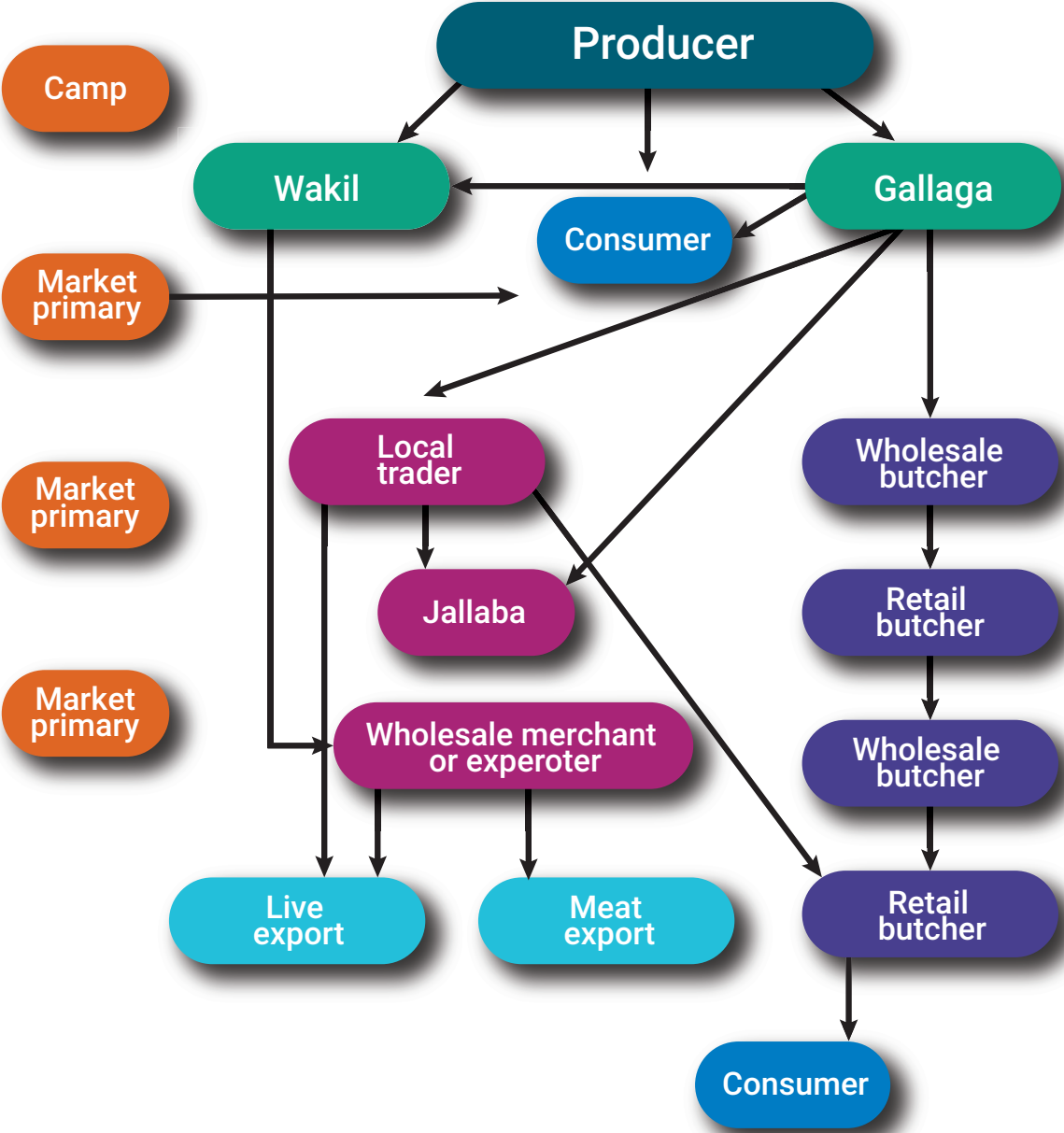
Middlemen (Sabbaba) are important beside guarantors (Eldamin) for the completion of the transaction. A second broker may sell to a third broker in the same market or in another secondary market and this process goes on until the livestock are bulked into larger lots and reach the terminal markets”.

Eldamin know local herders, reassure buyers that stock are legitimate, not stolen, and get a small commission for this service.

Almost all traders operate with their own capital. Little or no bank credit is used.

Once large enough lots of livestock are formed, they are then trucked to terminal markets within Sudan, above all Omdurman, or to Red Sea ports, above all Sawakin, for export.

FIGURE 4 THE LIVESTOCK SUPPLY CHAIN



Source: Babiker 2007

## BOX 1 A VILLAGE MARKET IN BUTANA – CENTRAL SUDAN

Some village markets are of local importance only.

They are patronised by people of the same village and neighbouring villages infrequently, may be once a week.

In some cases, these markets are not officially organised but a group of itinerant traders who come to a village at certain times during the year, with pick-up trucks loaded with groceries to supply the village shops.

In El Edaid El Humr village, about 105 km from Gadarif, for instance, these traders come seasonally to sell consumer commodities and buy animals. They come from El Faw, about 120 km away, and stay for three to four days. Together with the proper village markets, they form the primary markets.

Source: Babikir 2007, verbatim text

TABLE 4 SHEEP MARKETING COSTS IN SUDAN, 2007, VALUES IN SUDAN DINARS (SDD)

Component	El Obeid	El Khewi	Omdurman	Export	
	Secondary market	Live animal market	Terminal market		
<b>Purchase price</b>	<b>12,656</b>	<b>14,023</b>	<b>10,038</b>	<b>17,000</b>	
Taxes and official fees	450	388	660	1,025	
Variable costs	667	644	924	2,464	
Value added	632	567	1,709	1,040	
<b>Total costs</b>	<b>14,405</b>	<b>15,622</b>	<b>13,331</b>	<b>4,530</b>	
<b>Sale price</b>	<b>15,876</b>	<b>17,000</b>	<b>15,531</b>	<b>21,530</b>	
Shares of market price	Purchase price	0.88	0.90	0.75	0.77
	Taxes and official fees	0.03	0.02	0.05	0.05
	Variable costs	0.05	0.04	0.07	0.11
	Value added	0.04	0.04	0.13	0.05
Margins	As % of cost	10.2	8.8	17.2	2.9
	As % of purchase price	9.3	8.1	14.7	2.2
	Total	1.00	1.00	1.00	1.00

Source: Extracted from Abdel Jabbar, 2007, and modified

Transport costs rise with poor roads. Some stock are lost in transport. Trucking is considerably cheaper than trekking; but only applies where there are roads. And often only when they are dry. The following example shows the transformational effects of road upgrading.

“El Khewi, about 100 kilometres west of El Obeid, has become the terminal of the newly constructed tarmac road connecting it to El Obeid along the highway to central Sudan up to Port Sudan. A new animal quarantine site, with 25,000 head capacity per year, equipped with all the necessary veterinary services, was established at El Khewi in 2002. The construction of the road has turned El Khewi into a main market, where exported animals, thanks to the new quarantine, are shipped directly from there to Port Sudan. In 2003, for instance, about 412,237 heads of sheep were trucked directly from El Khewi to Port Sudan, which was about 22% of sheep exported that year.

At the same time El Khewi quarantine has eased the pressure on El Kadro export quarantine located at the outskirts of Khartoum”, (Babiker 2007).

Subsequently the road west has been asphalted all the way to Alfashir, the principal town of North Darfur.

### 2.3.1 Costs and prices

Margins earned in livestock trading appear modest (Table 4), despite mention that herders do not know the market price and may deal with only one buyer – which could leave them open to being paid a low price. Herders receive between 75% and 90% of the price paid in the final market.

Comparing price movements in markets shows that sheep prices correlate across markets, especially since 2000. Markets are, it seems, integrated and becoming more so with time. (Bushara & Abdelmahmod 2016, Bushara & Babiker 2016) The spread of mobile telephones has probably contributed to this.

TABLE 5 COSTS OF TRUCKING AND TREKKING OF SHEEP FROM EL OBEID TO OMDURMAN, 2007

Item	Trucking (0.5 days)	Trekking (30 days)
	Cost SDD/90 head	Cost SDD/100 head
Truck rent	75,000	0
Loading and unloading	6,750	0
Shepherd (two)	10,000	30,000
Shepherd guide	0.00	30,000
Shepherd expenses	1,000	27,000
Drinking water	0.00	15,000
Trader expenses	1,000	21,000
Pass points feed	5,000	0
Losses and death	5,695	31,639
Opportunity cost of capital	0.00	14,405
<b>Total</b>	<b>104,445</b>	<b>169,044</b>
<b>Cost per head</b>	<b>1,160.50</b>	<b>1,690.44</b>

Source: Babiker 2007

### 2.3.2 Risk

Hazards are significant in both livestock production and trading. On the production side, livestock may be lost to disease, drought, and, in some areas, to rustling.

Trade is subject to the hazards not only of disruptions from regulations, see the next chapter, but also of changing terms of trade between the value of livestock and the price of food. Terms of trade can turn sharply against livestock when rains fail encouraging herders to sell off their animals who now lack feed; and when crop harvests are lost so that food prices rise.

“**Terms of trade risks** are high in animal production and marketing. When rainfall is short, crop and pasture yields alike decline. This leads animal owners to sell while food prices rise. The terms of trade between animals and crops are a valid measure of the risks facing livestock producers. One measure of risk is the coefficient of variation (cv) of prices, defined as the standard deviation divided by the mean. [Data from Gedarif Market 2004 to 2005] show that the cv of quarterly sorghum prices was 0.47 from 2001 through 2005, while that for sheep was 0.70 and that for the sheep/sorghum terms of trade was 0.92” (Babiker 2007).

### 2.3.3 Animal health

As will be seen in the next chapter, epizootics – or a disease event in a non-human animal population that is similar to an epidemic in humans – threaten livestock directly with death and disease, and threaten livestock trading as restrictions and bans reduce demand for stock. The government operates vaccination and quarantine for livestock destined for export.

“There are quarantine facilities at Showak and at Kassala. The quarantine facility in Showak was established in 1997 but started operation in 2005. It was established for sheep destined for Saudi Arabia during Haj. Its capacity is 20,000 head of sheep and 3,000 of camels. For vaccination and supervision purpose export animals are kept in the quarantine facility for 3 weeks. The final health certificate is issued in Port Sudan. The facility at Kassala follows more or less the same procedure”, (Babiker 2007).

The ministry has also established areas declared free from specified diseases. For example,

“Butana is identified as a disease free zone with respect to rinderpest<sup>5</sup>, despite veterinary services there being poor. There are seasonal campaigns for vaccination and treatment, but there is a general complaint about the inadequacy of the services especially the lack of mobile services to follow the animals during seasonal migrations. Maintenance of disease free status is essential to preserve export markets and hence should not be compromised. To maintain the status [in] the face of animals converging on the Butana areas from numerous and distant places, it is essential to provide quarantine services at the entrance and exit points to Butana in addition to immunization programs against any endemic diseases as well as facilities for treatment of contagious diseases”, (Babiker 2007).

## 2.4 Recent developments in livestock marketing

During interviews, traders and herders (Annex A1) reported the following changes in livestock seen since Babiker completed his report in 2007:

**Livestock traded:** cattle have become less important in markets, while camels and above all, sheep have become important. Exports to Saudi Arabia explain the increasing attractiveness of trading sheep.

**Payments:** bank transfers are more common than before, as the banking system has expanded. Payments for significant numbers of animals may be by post-dated cheques. (Deals for small numbers of animals remain largely cash in hand.) For exported sheep, traders may pay part of the price at time of transfer of livestock, then pay full price when payment has been received from Saudi. Form of payment and deferred pay depend heavily on personal trust between traders and herders.

**Communications:** the spread of mobile phones and networks has allowed large traders at the main markets to stay in close touch with the smaller traders and agents out in the field who supply them. Traders may be able to contact herders as

well by phone, but only when they are within reach of a network.

**Transport:** Trekking is, with one exception, largely something of the past. Livestock usually move in trucks. (Trucks that travel to Sawakin with livestock for shipping, afterwards divert north to Port Sudan where they load diverse imported goods and haul them back to the cities of central and western Sudan.)

Roads have been improved. For example, the road west from El Obeid is now asphalted all the way to Elfashir.

The exception to trucking is moving stock from remote areas with no roads or roads that are impassable in the rainy season. Camels headed north to Egypt may also be trekked across the desert.

**Facilities:** more markets are now equipped with vaccination and quarantine facilities plus offices to issues the corresponding certificates. El Khewi is an example where such facilities have been established in the last ten years.

**New opportunities:** an export agent mentioned that live cattle were now being exported from Sawakin

to Qatar. A Khartoum trader reported buying both sheep and cattle, then fattening them before either exporting live or slaughtering before exporting meat.

“After buying we brought the sheep or cattle to Khartoum and kept them in a barn farm for fattening. The fattening period for sheep is between 30–45 days and from 60–90 days for cattle. After that we selected the best quality animals for exporting. We export live and slaughtered animals. The percentage is 60% slaughtered and 40% live. The cattle export is mainly for Egypt and followed by Qatar.” (Trader in Khartoum)

**In general,** livestock marketing has been upgraded since the early 2000s, but by incremental changes to existing practices, rather than by radical changes.

The trade in exported sheep has become ever larger and more valuable. Evidence of its value can be seen in the sheep prices reported as normal in recent years (Table 6). A herder selling ten large sheep might expect to be paid US\$2,500 or more. In the early 2000s, it seems that the price of sheep might have been little more than US\$75 a head.

TABLE 6 REPORTED PRICES PAID FOR SHEEP IN 2019/2020

Market	Size	Prices in Sudan pounds			US\$*
		Min	Max	Typical	
Kassala	Large	16,000	17,000	16,500	311
Elkhowi	Large			15,000	283
Elkhowi	Small			8,000	151
Eddein	Small			8,000	151
Eddein	Large	12,000	14,000	13,000	245
Eddein	Medium	7,000	9,000	8,000	151
Elfashir	Large			13,000	245
Elfashir	Small			8,000	151

\*Exchange rate = 53 to US\$  
Source: Interviews with traders, August 2020

SECTION 3

**THE 2007 OUTBREAK  
OF RIFT VALLEY  
FEVER AND OTHER  
DISRUPTIONS  
TO LIVESTOCK  
MARKETING IN  
SUDAN SINCE 2000**



# 3. THE 2007 OUTBREAK OF RIFT VALLEY FEVER AND OTHER DISRUPTIONS TO LIVESTOCK MARKETING IN SUDAN SINCE 2000

Rift Valley Fever (RVF) is a viral disease first identified in 1931. The virus transmitted by mosquitoes infects livestock. For livestock, its main effect is to cause abortions in pregnant animals. RVF is a notifiable disease for the World Organisation for Animal Health (OIE).

It can also spread to humans, manifesting itself in symptoms similar to influenza, with death rates as high as 20%. Human cases tend to show up before it becomes apparent that local livestock are already infected. It is endemic to East Africa, from where it has spread into the Horn of Africa and Arabia.

Outbreaks very frequently lead to a ban on imports of live animals from the affected country (Dar et al 2013).

When asked about RVF and other interruptions to livestock marketing since 2000, almost all interviewees could recall outbreaks of RVF leading to bans on exports to Saudi Arabia, controls on livestock movement, and restrictions on slaughtering. In addition, interviewees also mentioned the political turmoil since late 2018 with the overthrow of the Bashir government, and inflation in the prices of fuel and inputs since 2018.

## 3.1 2007 outbreak of Rift Valley Fever

In September 2007 cases of human RVF were seen in central Sudan. A few weeks later RVF was detected in livestock in White Nile State. By October 2007 the livestock ministry had informed the OIE of the outbreak. To control it, government restricted livestock movements, kept animals under surveillance in the most affected states of Gezira, Sennar, and White Nile, vaccinated stock in parts of Upper Nile and White Nile, sprayed insecticides against mosquitoes, and put restrictions and controls on abattoirs. By early 2008 the outbreak was under control.

Almost 700 human cases were identified and almost one third of patients [or sufferers], 222 people, died.

Losses of livestock were not recorded, although it is thought that many sheep and goats died or suffered abortions. A ban on exports of livestock was introduced in November 2007 and was only lifted by August 2008. Box 2 provides more detail of the outbreak.

## BOX 2 THE 2007 RVF OUTBREAK IN DETAIL, TAKEN FROM HASSAN ET AL. 2014

The Sudanese outbreak in 2007 followed unusually heavy rains resulting in severe floods. The first human RVF cases appeared at the beginning of September 2007.

Then, in October 18 2007, the Federal Ministry of Health (FMoH) Sudan asked the WHO to assist in the investigation and control of a suspected hemorrhagic fever outbreak and after analysis of human patient samples, an RVF outbreak was declared 10 days later. Two weeks later, the Sudanese Ministry of Animal Resources and Fisheries informed OIE that positive cases of RVF had been found in cattle and sheep at the end of October in White Nile state at the same place where human cases were reported. Later, RVFV positive goats were detected.

A task force from FMoH and Federal Ministry of Animal resources and fisheries started to deal with the outbreak with assistance from the Eastern Mediterranean Regional Office of WHO in terms of technical support. The outbreak lasted until January 2008. During the outbreak, 698 human cases of RVF were recognised with 222 deaths (case fatality rate: 31.5%).

No records of the total number of cases in animals are available.

The most severely affected areas were three agricultural states in central Sudan near the White Nile and the Blue Nile (White Nile, Sennar, Gazira). Interestingly, the virus was detected here already in 1973 during a previous RVF outbreak close to Kosti in the White Nile state. It has been suggested that infected animals passing Gazira state introduced and caused the outbreak close to Wad Madani on their way to Khartoum or to Port Sudan in the northeast. According to WHO, the majority of the human cases were seen in Gazira, an area with agriculture and irrigation canals. Many RVF cases were also detected in Khartoum, but it was suggested that patients were infected in rural areas.

**Controls:** For control of the RVF outbreak in Sudan, the committee aimed to target both human and animal health. To minimise the risk of transmission in slaughterhouses, strong precautions were applied. Unfortunately, no information was available about how dead animals were disposed of.

Restrictions of animal movement were introduced. Normally, the system of pasture in Sudan includes free movement of herds over large distances. To assess the situation, surveillance of animal cases in the most affected states (Gazira, Sennar, and White Nile) was performed. Vaccination of animals at high risk was implemented at the later stages of the outbreak in other states, such as Upper Nile state, south of White Nile state. To control the vectors, insecticides were used among animals and in the environment.

**For Sudan:** Both the domestic and international animal market of the country has a huge economic impact. This was clearly demonstrated during the ban of animal trade from November 2007 to August 2008. Since most of the export animals came from the rural areas of Sudan, one could expect the ban to have the most severe impact on rural households and the rural economy. Unfortunately, no studies have been undertaken to explore that. The disease killed and caused abortions in many animals such as sheep and goats. They are an important source of food, milk, and meat, and this animal trading brings money into the rural communities in the affected regions.

Source: Hassan et al. 2014

### 3.1.1 Impacts of 2007/08 ban

Most of the traders and herders interviewed recalled the 2007 RVF episode. Of the 16 persons interviewed, seven saw 2007 as the worst disruption they had faced, in large part because the ban on exporting to Saudi lasted so long.<sup>6</sup> One informant reported that slaughtering for local sale was also suspended.

#### 3.1.1.1 Impacts on traders

Some **traders** lost their capital, especially those who had shipments of sheep turned back, and some dropped out of business altogether. They took shelter in either raising livestock or trading other goods. Some were able to return to trading, although building up capital took years in some cases. Others were never seen as traders again. Some of the traders we interviewed said:

“Many traders dropped out of business because they lost their capital especially for those whose shipments were sent back.” (YO)

“Many of my colleagues abandoned their jobs. After they lost their capital due to the 2007 ban, they instead worked as middlemen or agents for traders or firms.” (KON).

“In 2007 I was still a small trader in North Kordofan. Some of the traders affected by the ban decided to return back to their home area and practise their original jobs such as animal raising and farming. Some of them were lucky and return back to work in the trading sectors under different umbrellas such as middlemen or agents. Other totally disappeared from the sector and we never saw them again.” (MH)

“2007 ban was catastrophic for us because it lasted such a long time. Due to the long time of ban in 2007 I lost big part of my capital and after a while I used the remaining of my capital to trade in crops. Others lost all of their capital, and facing money claim from local traders or from producers many of them disappeared.” (MA)

“... knew many colleagues who disappeared since 2007 ban. Some of them migrated or Libya or to Saudi Arabia and other Gulf countries.” (EA)

“At that time I worked mainly as middleman ... Many traders were sent to prison because they didn't succeed to pay for the sheep they collected from traders and producers. Others disappeared from the market.” (AhH)

“This was most difficult time we had in our work ever. I was one of the most negatively affected traders in East Darfur. I lost my capital because my shipment of 2000 sheep was sent back to Sudan by KSA. My plan was to pay the 50% to the supplier after exporting the sheep. Therefore, after paying all expenses I lost capital and dropped out of business. I left the market for 7 years.

I dropped out from the market in 2007 and remained jobless for some time. I sat in my house jobless, where I was thinking and planning about what to do next. With the support of my colleagues and my social network, I return to work as an agent with big firm. Because of my experience, they paid me a percentage of the net return which is something profitable and good for me and at the same time such job keeps me around. After about 7 years I gradually returned to the market as a small trader and now I am back to my early situation as one of the main traders in Eddein.” (SM)

#### 3.1.1.2 Impact on herders

For **herders**, the main impact was a fall in prices.

“During this period sheep prices were low. At that time we rely totally on livestock therefore the impact was huge. Now we have alternatives such as cropping...”

In 2007 we were totally relying on livestock therefore we were negatively affected and we have to sell our sheep at low prices to meet our household expenses...

2007 ban was a turning point for many herders. Due to the stop of sheep export for whole year people started to think about alternative. The best alternative is to start crop cultivation.” (EM)

“This was the longest ban. It takes around one year during which there big fall in sheep prices. Due to the long period many left

the work on livestock trading because they lost their capital. This 2007 was hard for us because at that time we have no alternative other than livestock raising.” (OM)

“In 2007 I was working in the herd of my family/father. At that time we were not settled and following transhumance way of living. I remember the prices for sheep was about half of its actual price.” (MS)

“The ban was about 11 months long. It was very long. As producers, the prices I got when I sold my sheep was about 50% of the real price. Many traders left the market and others changed to crop trading instead.” (SA)

“2007 Rift Valley Fever. This was long time ago and our animals were not affected.

At that time I was small herder with my family. There fall in prices and the ban took long time before has been lifted.” (AbH)

Other herders, however, were less affected:

“No impact on household because we live at rural area and we rely mainly on animal products. No conflict and tension.” (EM)

“It doesn’t affect the livestock in our area. But we heard it appeared in Khartoum.” (OM)

“2007 Rift Valley Fever. We hear about it from the news. It doesn’t affect our animals. May be in other parts of the country. I remember there were high restrictions in slaughtering in slaughterhouse. However, people continue to consume meat. There huge reduction in prices. We use to sell sheep with about 30% of its actual price. It takes about one year to lift the ban. I can remember that sheep prices were reduced by 60%.” (ME)

### 3.1.2 Corroborating evidence

Although we could not directly access prices of sheep in Sudanese markets in 2007–08, these are graphed in Bushara & Abdelmahmod 2016 (Figure 5).

In real terms, between early 2007 and late 2008, sheep prices in Omdurman market fell from 1.4 to 1.0: a 29% fall.

In sum, the 2007 outbreak was costly. The ban lasted almost one year. For most engaged in livestock, there was no relief from the ensuing disruption. Traders lost capital and went out of business, at least temporarily. Herders saw prices of livestock fall to as little as one third of the previous prices. Some herders reported that they could shelter in semi-subsistence pastoralism; but others complained that they had few alternative sources of income then, and so were badly affected by the near-collapse of the livestock market.

## 3.2 2019 outbreak of Rift Valley Fever

In September 2019 RVF was detected among goats in Red Sea State:

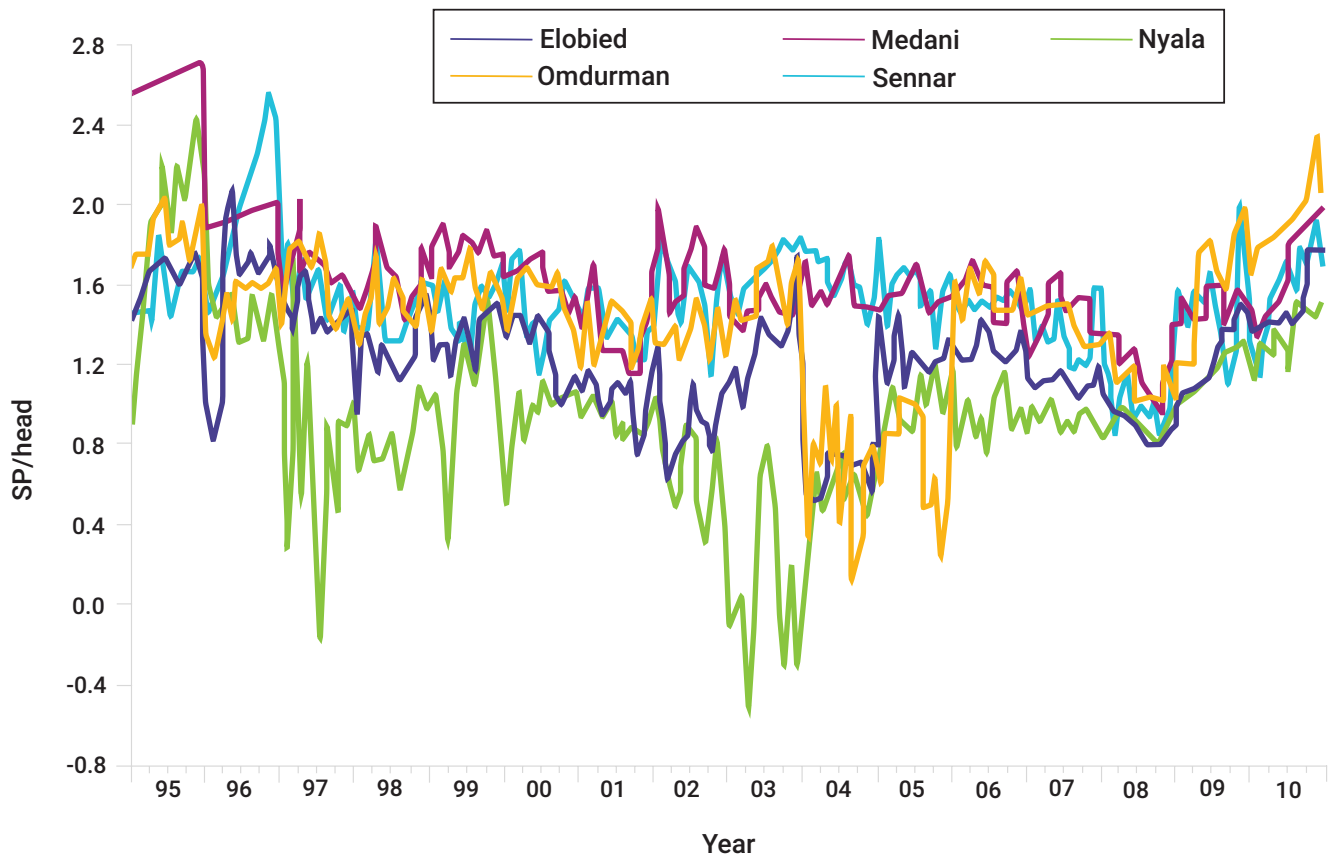
“There were few abortions in goat herds observed after heavy flooding in September 2019. There is no cattle or sheep population in the area. It is a dry area within the series of the Red Sea Hills. Surveillance, biosecurity measures and increased awareness is on going”, (Report to OIE from veterinary authorities in Sudan).

By October, the OIE had been informed. In the same month human cases were reported as well. Cases of both in human and livestock disease had also been seen River Nile State.

On 13 October 2019, a total of 10 suspected RVF cases were recorded in Barbar and Abu Hamed localities, of River Nile State. Of the 10 suspected RVF cases, five samples were tested and four were found positive for RVF. From 19 September 2019 until 11 November 2019, a total of 293 suspected human RVF cases, including 11 associated deaths have been reported from six states; including the Red Sea (120), River Nile (168), Kassala (2), White Nile (1), Khartoum (1), and Al Qadarif (1) States. The most affected age group is 15–45 years old, which accounts for 83% of the total suspected cases. The male to female ratio is 2.6, with a high proportion of the cases being farmers (37.5%).

These human RVF cases are concomitant with abortions and deaths among goats in the areas where the human suspected and confirmed cases have been reported. From 25 September through 3 November 2019, 21 goats in Red Sea State were reported as positive for RVF, including 4 deaths;

FIGURE 5 MONTHLY DEFLATED WHOLESALE PRICE (SUDANESE POUND PER HEAD) OF SHEEP IN THE SELECTED MARKETS, JANUARY 1995 – DECEMBER 2011



Source: Bushara & Abdelmahmod 2016, Fig. 2

and in River Nile State 16 goats, with 3 deaths, and 37 sheep, with 5 deaths, were confirmed positive for RVF by ELISA test at the Central Veterinary Research Laboratory in Khartoum (WHO, 2019).

In mid-October Saudi Arabia banned imports of livestock from Sudan. The ban lasted until late January 2020.

### 3.2.1 Impacts of 2019 ban

#### 3.2.1.1 Impacts on traders

Some traders considered this interruption to be the worst they had experienced. Not only did they

have to cope with the ban on exports, but they also experienced large rises in the prices of inputs, transport and services. Moreover, the political ferment of 2019 – protests against the Bashir regime began in late 2018 leading to its fall with subsequent turbulence over a transition lasting until at least late 2019 – further disrupted trade.

As in 2007, traders had little defence against the lack of trade: they took the losses. Some traders dropped out of trading, going back to herding, intending to resume trading when conditions allowed.

Here is what they told us:

“The ban was announced in difficult time when there was huge rise in prices, which means we invest a lot of money in feeding and fatten of cattle.

My trade in cattle is mainly with some companies working in slaughtered meat – beef – in Khartoum and I also sell in the local markets for butchers and middlemen. During the ban the work with them was stopped and there was no alternative. Due to stop in trade and the cost of feeding the cattle in my hand I lost a lot of money. We are almost sitting with work and waiting to hear about lifting the ban.” (EA)

“Worst: 2019. This is catastrophic year for me. My shipment was sent back from Saudi Arabia. Other traders were also affected and about 8 ships were sent back to Sudan. When the ships arrived back to Sawakin, the port had no facilities to accommodate such big number and therefore a big proportion of the sheep died.” (SS)

“Worst was 2019. Large numbers of sheep [were] sent back from Saudi Arabia and therefore we were not paid by the traders and firms, those that sent sheep back.

Unfortunately we have no other alternatives. For me, I left the port during the 2019 ban and returned to my home city Kassala. There, I worked as middleman in the livestock market.” (OA)



Animal trading in Forogaranga. Photo: Albert González Farran/ UNAMID

“Just before the ban, I bought 3,500 heads of sheep and brought them to Khartoum for fattening and prepared them for export. Out of a sudden I heard about the ban. I normally keep the sheep from 30–45 days for fattening. During the ban I kept them for more than 60 days before taking the decision to sell in the local market with low prices. I can estimate that my loss was about 40%. This caused huge damage to my activities. Now I am working at a minimum and I had to fire 70% of my skilful labourers so as to reduce the cost of managing the business.” (MH)

“During the 2019 ban I stopped trading. I returned to my home in a village near Kassala where my family is settled, and I joined them and worked as a herder like before when I was not a trader. I had no other alternative. I resumed my activity in trading after the ban was lifted.” (AO)

“This ban had a huge impact on my work. I sent 1,200 heads of sheep to a trader whom I trusted for exporting. I got the advance payment and it was 25% of the total amount of money and the rest I got as a cheque. The shipment of this trader was sent back and he was not able to pay me the 75%. The 1,200 sheep I collected from different producers and small traders and now I have to pay them. I expected to be in prison at any time.” (AhH)

Others were affected, but did not necessarily see this as the worst they had experienced:

“This ban was for a relatively short period compared to 2007 ban. So, we are roaming around and try to work in other casual jobs such as such as selling crops in the local market.” (MA)

### 3.2.1.2 Impacts on herders

For herders, the disruption resulted in fewer sales of livestock and at lower prices. They also reported that they were hit by large rises in the prices of inputs, transport and services. And they also mentioned the political turmoil of 2018–19.

Herders responded by holding their livestock back, depending on their farming for food and income, and by taking up other jobs such as artisan gold mining.

“This is relatively short about 4 months...we have alternatives and it is mainly cultivation. Most negative impact was on traders. Producers practising farming besides animal raising are less affected. Because they [have] alternative[s]. Some traders also change the specialisation and work on crop trading.” (EM)

“2019. It is due Rift Valley Fever as we heard about it from the news, but it doesn’t appear in our area.

Although this was for [a] short time, it [had a] big impact on producers. It comes when there was increase in many inputs such as drugs, vaccines and feed concentrations. Also due to the increase in fuel, there [was an] increase in the prices of livestock transportation. I can say the prices of sheep fell and, at the same time, living expenses increased very much. This put a huge impact [on] our herds. We have to sell more number of animals to meet the expenses.

What worked well is to pull back and minimise sheep trading and concentrate on herding and come back again to the market when there is improvement of the prices and marketing.

Some herders and small herders went to work in the traditional gold mining areas as miners if they have enough capital or work in other casual jobs if they have nothing.” (OM)

“During the 2019 ban, I can estimate a loss of about 20% of my sheep. This is because of a radical increase in the price of different inputs we needed and at the same time having to sell our sheep at low prices.

This high loss [was] because inputs are very expensive and there is a huge rise in the prices for services. For example, transporting of one head of sheep from local markets to Elkhawi increased from 10 to 100 SDGs. Also for people, the [cost of] transportation increased from 150 to 1500 SDGs per person. This happened because of lack of fuel in the area. Also there was huge increase in [demand for] fuel for vehicles. [The cost of] animal drugs also increase 6 times.

In 2019 and 2020 I deal with it by reducing the trading and being more herding oriented.” (MS)

“I reduce my work on buying and selling and concentrate more on looking after my herd. With the shrinkages in marketing all people involved in the sector were negatively affected. Many traders left the area. Some [of] them decided to leave the region and settled in Khartoum and we never saw them again. Normally it is difficult for traders to stay in the area where they used to work [so they leave to] work in other jobs such as middlemen or agents. They feel like they lost their social status as traders.

In recent years there was a trend where more numbers of herders started to engage with cultivation. I think that this is due to a huge increase in the cost associated with animal raising and also they have the chance to reduce the number of animals they sell in order to buy food and other household items.” (ME)

“This ban came at a critical time, just after the political change and was challenging for the new transitional government. During the same time there was real economic crisis. There was lack of fuel and essential goods. All of these crises compounded the effects of the ban and made it terrible.

My main aim of raising sheep is for marketing. Therefore, bans very much affected my business and I was forced to sell in the local market even with lower prices to meet the cost of feeding my herds.

In order to withstand the situation and survive we have to be flexible. During bans I used to trade in cash crops such as groundnut and gum arabic between Elkhawi and Khartoum.” (SA)

“I think this was due to mistake from the Sudanese government to announce for the disease without making sufficient investigations.

This ban comes when the prices of inputs are very high. I am among the herders whose

sheep were sent back from Sawakin. The 250 sheep were taken by a trader I know very well. The agreement is to pay me after he gets his money. The whole sale collapsed.

During bans I took the sheep back to my village and to be kept there until the lift of the ban. This is better than leaving the sheep in the market where watering and feeding is really expensive.

Sheep prices are very sensitive to bans. As soon as there has been news about sending back of shipment to Sudan, immediately the sheep prices fall here in Nyala, South Darfur. Sometimes prices fall to less than 50% of the actual price.

During the bans, shepherds working with traders to care for sheep, they mainly went to work in traditional gold mining. Middlemen and agents, they normally shift to crop marketing or other marketing, where they can work as brokers. Traders who lost a lot normally disappeared from the area and migrate to Khartoum or to Libya.” (AbH)

Some of the herders reported that their community and local safety nets offered some compensation to those losing their livestock. For example:

“Compensation and support from relatives for those [who] lost their herd or sheep for trading is still practice[d] among my community.” (AbH)

“For middlemen and herders affected by bans, they can get some kind of support from their network or from their relatives and kinship. For example, in our community in Elkoma village we try to compensate those negatively affected by bans by sharing across the community and ask[ing] people to contribute by providing small number of heads or even one head from each. The collected heads will be given to the traders or middlemen [who] lost his herd or capital. This practice is common among relatives and kinships in our area.” (ME)

In some communities, however, such social solidarity had been lost:



Animal trading in Forogaranga. Photo: Albert González Farran/  
UNAMID

“The tradition of compensation by collecting sheep or money from the community members or the kinship to be paid to losers is not like before, it is less practised currently. This is because here in Tina we are not from the same ethnic backgrounds and we become more traders than traditional herders.” (OM)

“Elkhowi is a big market where people come from different backgrounds. Therefore, the idea of solidarity and compensation for those who lost their capital or herd is not common. It is practiced in limited scale among close friends and networks.” (MS)

One herder reported that anthrax was more serious in 2019 than RVF:

“2019 (RVF). It doesn't appear in our area. We have more other serious disease that is currently affecting livestock such as Anthrax.” (ME)

### 3.3 Suspended Umrah and restricted Hajj in 2020

In late February 2020, reacting to the threat of COVID-19, Saudi Arabia suspended visas for pilgrims wanting to attend the year-round Umrah<sup>7</sup> to the Kingdom. In March it also restricted Umrah travel to Mecca by its own citizens. Later, it announced that the July 2020 Hajj would be limited to just 10,000 pilgrims, from persons already residing in Saudi Arabia. The Hajj usually attracts two to three million visitors.

One consequence was a huge fall in demand for livestock: Hajj pilgrims typically sacrifice a sheep as part of their rituals.

#### 3.3.1 Impacts on traders

Traders have seen demand for exported sheep severely cut back in 2020. In some cases, shipments of sheep have been sent back from Saudi. Here is what they report:

“We were aware of the Coronavirus in advance and we long expected that this year there will not be Hajj and that therefore there would be no export, so this was less of a shock. ... therefore, we concentrated on local marketing for Eid season to survive.

We have not been able to access alternative markets, due to restrictions of movement and curfews. Instead, I work in the local market as guarantor.” (YO)

Traders reported fewer livestock brought to market in Gadarif. Prices of sheep had fallen to one third of usual levels, owing to a fall in demand. Sheep for export had to be sold locally.

“This year, we heard from the news that there would be no Hajj well in advance. Therefore, we were prepared. However, this doesn't mean that we are not affected. We lost one of the most important seasons of exporting. So we rely mainly on local selling.

I have no alternative. I keep working with the minimum for local deals which always are small and the returns are also not significant.” (KON)

“During Coronavirus, the number of sheep exported has decreased and it is now very small. For example in a normal situation 1–2 ships daily leave the port to Saudi Arabia. During Coronavirus, we ship 1 or 2 per week. This is due to a reduction in terms of the demand. Also, the number of sheep that traders would like to export gradually decreased.

The negative impact has been huge because it comes just after previous 2019 ban. Withstanding two successive bans has been extremely challenging. Many traders, agents and middlemen have failed and dropped out of business.” (OA)

“During Coronavirus, we bought from Kordofan which is nearer to Khartoum compared to Darfur and it was a small number because we stopped exporting during the Coronavirus. This is not because the exporting was stopped, but because the demand from the international market was very low compared to normal situations. Even if we received an order it was difficult to respond to it due to the restriction in movement.” (MH)

“During Coronavirus I stopped working in the market and I returned back home with my extended family, who are sheep and camel raisers.

Worst 2020. [The] sending back of shipment[s] with no clear reason. I got my sheep back from Saudi Arabia.

During Hajj I was working in the local market. Just before the Hajj season I sent 200 sheep together with my colleagues to Saudi Arabia and it was sent back unfortunately. Currently I am in Sawakin to care for my sheep that were sent back last week. We did all the required quarantines and health regulations for the 200 sheep including vaccination and quarantine so as to get the exporting permission. Nevertheless, the shipment



Animal trading in Forogaranga. Photo: Albert González Farran/INAMID

was sent back and I don't know what is the reason.

Now I am keeping the sheep in a place near the port and am providing fodder and water to the folk and also hire two shepherds. This is costing a big amount of money.

In the coming days I will decide to transport the sheep back to Kassala to sell in the local market or give another try." (AO)

"During Coronavirus there was no sheep export from Eddein. Concerning cattle, it continues to work but in smaller numbers than normal. Cattle bought from Eddein are mainly taken to Khartoum and sold for local consumption.

During Coronavirus most of the deals were for local consumption and were in small numbers. Large traders and firms stopped buying and we only work for local trading now.

But during Coronavirus, these prices are almost half of these normal rates." (MA)

"This is my main season to trade in sheep for export, and also some traders in Khartoum. This year [we] lost this season, and [also a] couple of months were affected by the 2019 [ban].

The main plan to is to look for alternative trades other than livestock. One can work in crop trading or can open a small shop. During bans traders are always the most negatively affected group in the sector.

There is (no) access to alternative markets due to the Coronavirus restrictions. Therefore, we continue to work in the local market where the demand is very low." (EA)

"Coronavirus has caused market activities to be at a minimum, and all of my sales have been for local consumption in the city of Elfashir.

I continue to work in the local market. The impact of the 2019 ban was huge, and before

the sector was totally recovered, we have to deal with Coronavirus restriction including closing of markets to avoid crowding. Therefore, our livelihood has been very negatively affected.

Some of my colleagues abandoned the trading in livestock because it has become unreliable due to the frequent bans. Instead, they have started to work as farmers, cultivating commercial cash crops such as groundnut and hibiscus." (AhH)

"During Coronavirus, there was no trade in sheep for export and all deals are small sales meant for local consumption. Also for cattle, the number sold in the market was small. There was lack of transportation and movement between markets was restricted and the whole situation was not allowing us to work.

In recent years, the amount of sheep we are exporting to Saudi Arabia has increased significantly, but at the same time the frequency of bans and the sending back of shipments also increased. I don't know what are the reasons, because we follow the required animal health regulations. This means we are working and always afraid to hear news of sending back of ships or [the] emergence of diseases. I can say that this business is becoming more uncertain and dangerous. We feel that we are not getting any support from the government.

For myself and colleagues affected by bans, the first option is to try to benefit from our network and get support from them by being accommodated by traders who are less affected by bans, and to work with them as agents or middlemen. Some of the affected traders, they changed their discipline and worked in crop marketing as agents or middlemen.

There was no access to other markets because it is same all over the country. We just try to work in local markets. Concerning the prices, there is reduction in the prices but it is however still higher than last year's prices." (SM)

Interestingly, one trader seemed less affected by the pandemic and the fall in demand from Saudi Arabia than other traders:

“But now, during the Coronavirus, we also continue to export sheep to Saudi Arabia but in much smaller quantities compared to the normal situation. We are facing many challenges during the process. Sheep trucking is becoming very expensive due to lack of fuel. And also due to the curfew and restriction of movement between states, the transportation takes a very long time.

Besides selling to Hajj markets in Saudi Arabia I also have access to other markets across Saudi Arabia. This is why the negative impact was minimal.” (SS)

Trader SS reported that prices changed only a little.

### 3.3.2 Impacts on herders

Herders could not sell the stock they expected, and when they did, the prices had fallen by one third to one half of previous and expected levels. Some herders had bought livestock to fatten prior to sending to Saudi, so they took heavy losses.

“The impact of Hajj restrictions affected both herders and traders in many ways. Hajj is always [an] important selling season for herders. [For] four to five months we select the sheep heads we would like to sell in Hajj season and give them more care and feed concentrates. Fattened sheep prices are significantly higher. This year I invested a lot but there was no Hajj. The impact on traders is even worse.” (EM)

“Due to very low demand even in the local market I didn’t sell for trading.” (OM)

“For me Hajj is the most important business season. I normally started 5 to 6 months ahead from the time of Hajj [by] buying small sheep and raising them. So, this year we lost this important season and we have to sell our sheep at low prices in the local market.” (MS)

“I consider the 2020 Hajj as continuation of 2019 ban because they are close to each other. Therefore, the impact was complex.

For me I bought about 700 small sheep before, 6 months, so as to sell them in Hajj season for large traders and also in the local market for Eid al Adha. Due to the ban I sell the sheep at low prices – about 50 % of its actual price.

I am even better than other herders and traders, those who already transported their sheep to Khartoum and port in Sawakin. Some of them brought back the sheep to Elfashir and others decided to sell in other places in the country with low prices.

I just decided to withdraw from trading and concentrate on herding. This is [due] to the rapid increase in inputs, and at the same time prices are very low.” (ME)

“During Coronavirus there has been a real reduction in the numbers and types of livestock brought to market. I can estimate that the number of sheep brought to market is about 25% of its actual capacity and the numbers of camel and goat sold were very small as well.

Due to many factors it was not possible to access alternative markets. There were restrictions of movement, curfews and also transportation was very expensive.” (SA)

“After getting the sheep back from Sawakin due to the 2019 ban, my idea is to sell in the Hajj season for export traders and also in the local market. And due to the Coronavirus restrictions I also lost the Hajj season.

Hajj is [an] important season for export and also for local marketing. Due to the restriction traders didn’t come to Nyala to buy and at the same time, the local market was not as [it] always [is] due to the restriction in movement – not a lot of people show up in the market. Here in Nyala the price of the big sheep was about 11,000 SDGs. In normal situation the price is not less than 16,000 SDGs for large sheep.

Due to Coronavirus restrictions, access to alternative markets was not possible. The prices are also low.” (AbH)

Some herders were able to shelter from the disruptions of 2020 by focusing on cropping. Because the rains had been plentiful in 2020, harvests were good and prices unaffected by the turmoil.

“No alternative markets (for livestock). However, in general, herders are expanding on cultivation this year especially...so far we had good rainy season and we expect good harvest ... In recent bans in 2019 and during Coronavirus we are less affected because we have alternatives from crop cultivation. During the Coronavirus crop prices are still good and not affected like sheep.” (EM)

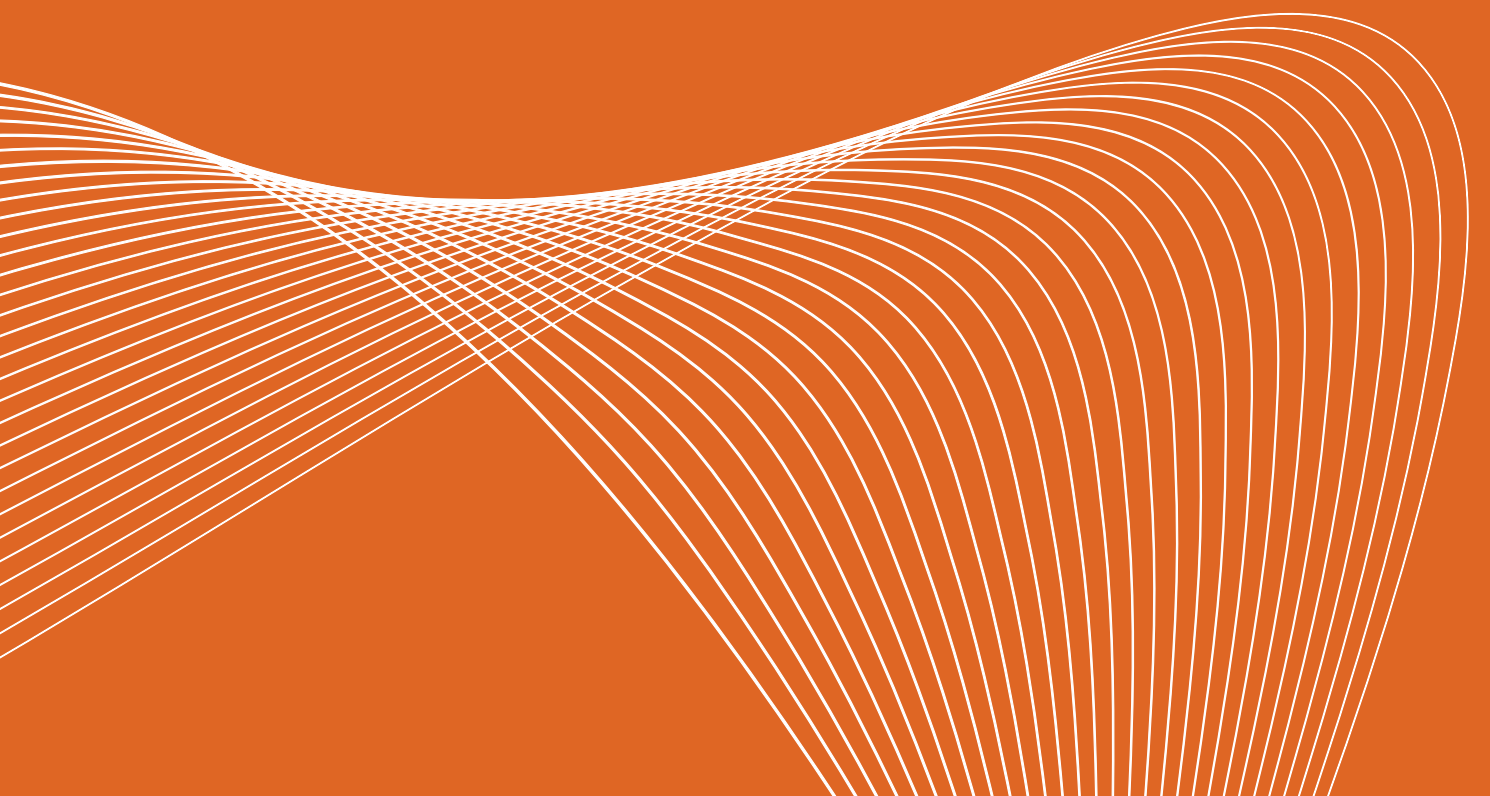
“Hajj is a very important season for herders. However, this year we had a good rainy season and we expect to have a good harvest and we hope this compensates what we lost from Hajj. 2007 was more challenging to us. At that time we had no alternative like we have now, which is farming.” (OM)

“I just decided to withdraw from trading and concentrate on herding. This is [due] to the rapid increase in inputs, and at the same time as the prices being very low.” (ME)



Sudan's Multi-donor Trust Fund in action. Photo: Salahaldeen Nadir/World Bank

SECTION 4  
**DISCUSSION**



# 4. DISCUSSION

## 4.1 Key points

Sudan raises large numbers of camels, cattle, sheep and goats. It exports live animals in large quantity, mainly sheep to Saudi Arabia – up to 5 million head a year – and camels to Egypt – up to 250k a year. It also exports chilled and frozen meat, mainly to Saudi Arabia, the Gulf states, and Egypt.

In the almost 20 years since 2000, exports of sheep and sheep meat have multiplied by three or more times, becoming a trade officially worth more than US\$400 million a year.

The marketing chain is well adapted to pastoralism. Traders have created ways to collect livestock of different types and ages, seasonally from transhumant herders, and move them across 1,500 km or more to Sawakin on the Red Sea for export to Saudi Arabia. Studies suggest that the chain is effective and relatively efficient – in the sense that no one in the chain seems to make more than normal profits on trading. Most transactions in the chain depend on the trust of personal relations at all steps from the local agents who buy from herders through to the port agents in Sawakin.

Livestock marketing has been improved through time, although by incremental changes rather than by radical steps. For example, roads have been asphalted, quarantine and vaccination facilities have been created. Some evidence suggests that increasingly some of the lean stock bought from herders are then fed on pastures and feed to fatten them up before slaughter or live export.

The chain is sometimes heavily disrupted. Since 2000, at least three major perturbations have taken place: Rift Valley Fever

outbreaks of 2007 and 2019, the pandemic of 2020 and the associated partial suspension of the Hajj in Saudi.

When the chain has been disrupted, herders and traders alike have had few alternatives to selling and trading livestock, so that losses have been heavy. Herders have either not been able to sell their stock, or have had to sell their stock at prices one third or less than expected. Traders have been bankrupted, often going out of business, after which they have struggled to build up enough capital to get back into trading.

That said, the chain has been resilient. Once export bans have been lifted, marketing has rebounded to previous levels; and subsequently grown even larger.

Herders, it seems, have become a little more resilient to these shocks because increasingly they have other options when livestock marketing fails. Crop production is apparently much more common in herding communities across Sudan<sup>8</sup> than it was ten or more years ago.



Livelihood outside El Fasher. Photo: Albert Gonzalez Farran/ UNAMID



Sudan's Multi-donor Trust Fund in action. Photo: Salahaldeen Nadir/World Bank

an avoided outbreak to the cost of public veterinary measures to prevent outbreaks – bearing in mind that with RVF, the benefits also spill over into avoided human disease and death. It seems the government of Sudan takes the threat of RVF seriously for both stock and humans: a good start. It also seems from the interviews that traders understand the need to vaccinate and quarantine stock for export.

Some shocks may be unforeseeable and unavoidable. This raises the question of whether some form of insurance or mutual assistance fund would be feasible and desirable for either herders or traders. This might, for example, consist of a modest annual premium paid in return

for an assured monthly payment during specified incidences of shocks – index linked to sheep prices in Omdurman, for example? Compensation might be far from complete – full compensation would almost certainly require an unaffordably large premium, but payments might relieve hardship and allow traders to recommence business once the hazard was passed.

Sudanese traders exporting live animals may be vulnerable to price setting by importing countries. Of greater concern are cases where livestock have been returned to Sudan upon inspection in Saudi Arabia for reasons purportedly about animal health, but where traders suspect the motives may be convenience for the importers who have either over-ordered or else have a better offer from a rival exporter. That raises the question of whether slaughtering within Sudan then sending chilled or frozen meat might be a better and more reliable option. The economics of this, however, remain to be established. Moreover, this is not an option for the millions of sheep sent for the Hajj, when sacrifice demands a live animal, not a frozen carcass.

## 4.2 Lessons and questions

The export of sheep from Sudan is a growing and profitable trade that provides income for many herders, including many on low incomes. The value of sheep that can be exported live has risen notably since the mid-2000s, by perhaps as much as three times per head. Both production and marketing may look low-tech and informal, but this underplays its importance for livelihoods.

Livestock marketing may look basic to some eyes, but it is being upgraded as and when it makes sense and is profitable.

The risks are considerable: major shocks such as the disruptions described here are costly. A question for policy-makers and those working with livestock herders and traders is whether ways to reduce the occurrence of major shocks, and to reduce the severity and costs of them, can be devised.

In this respect, veterinary health measures against further outbreaks of RVF can be valuable. Indeed, a pertinent question is to compare the value of

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# ENDNOTES

- 1 Most of the chicken is imported, with Brazil a leading supplier.
- 2 These increases are of a scale that were this Brazil exporting to China or the US or the EU, they would be heralded as a triumph. The fanfare for NE Africa is barely heard, since few expect to see economic success in Sudan and neighbouring countries.
- 3 It calls into question just how accurate the official record may be. Exports, when so many sheep pass through Sawakin port, are relatively easy to record, but there's no accounting for clerical error.
- 4 In 2007 Malakal was part of Sudan: now it lies in South Sudan and no longer forms part of sheep marketing chain.
- 5 This was written in 2007. In the early 2010s, as a result of concerted campaigns, the disease was declared eliminated worldwide. This triumph of veterinary medicine was especially important in Africa where rinderpest had long been a scourge of pastoral herds.
- 6 Of those not seeing this as the worst case another three were not yet trading and thus had too little experience of the outbreak.
- 7 Umrah refers to pilgrimages to Mecca that can be undertaken at any time of the year. The Hajj, however, is the main ceremonial pilgrimage that takes place within one specified lunar month, to which all Muslims should try to attend at least once in their lives.
- 8 Increasing crop cultivation has been especially noticeable in Darfur since 2000 (Sulieman & Young 2019, Young & Ismail 2019).

# ANNEXES

## A1 LIST OF INTERVIEWEES

	Initials	Occupation	Location	Date
Traders: Central & East	YO	Trader, Guarantor	Gadarif	13 Aug 2020
	KON	Trader large	Gadarif	16 Aug 2020
	SS	Trader	Kassala	18 Aug 2020
	OA	Agent	Sawakin	18 Aug 2020
	MH	Trader	Khartoum	24 Aug 2020
	AO	Trader	Kassala & Sawakin	21 Aug 2020
Traders: West	MA	Trader	Eddein	19 Aug 2020
	EA	Trader	Nyala	30 Aug 2020
	AhH	Trader	Elfashir	22 Aug 2020
	SM	Trader	Eddein	20 Aug 2020
Herders	EM	Herder	Elnuhood	27 Aug 2020
	OM	Herder	Tina	29 Aug 2020
	MS	Herder	Elkhowi	26 Aug 2020
	ME	Herder	Elkoma, Elfashir	26 Aug 2020
	SA	Herder large	Elkhowi	20 Aug 2020
	AbH	Herder	Nyala	29 Aug 2020

## A2 RVF OUTBREAKS – MAJOR RIFT VALLEY FEVER OUTBREAKS AND REPORTED CASES AMONG HUMANS, 1997–2010

Outbreak dates	Geographic distribution	Estimated no. of cases	No. of cases reported	No. deaths confirmed	Precipitation	Control measures
1997 Dec–1998 Jan	Kenya, Somalia, Tanzania	89,000	No documented reports	478	Heavy rainfall and flooding	Active surveillance; safety education; distribution of masks, gloves; slaughterhouse monitoring
1998 Sep–Dec	Mauritania	No documented estimates	300–400	6	Heavy rainfall	Active surveillance; public awareness/education; mosquito control; animal movement control
2000 Aug–2001 Sep	Saudi Arabia, Yemen	20,000†	886	123	Rainfall; virus introduction	Active surveillance; public awareness/education; mosquito control; animal movement control
2006 Nov–2007 Mar	Kenya, Somalia, Tanzania	75,000 30,000 40,000	700 114 264	158 51 109	Heavy rainfall and flooding	Active surveillance; public awareness/education; mosquito control; ban on livestock slaughtering; closure of livestock market; vaccination Jan 2007
2007 Sep–2008 Jan	Sudan	75,000	747	230	Heavy rainfall and flooding	Active surveillance; public awareness/education; targeted vaccination; ban of livestock imports by Saudi Arabia and Egypt
2008 Jan–Jun	Madagascar	10,000	476	19	Heavy rainfall	Active surveillance; public awareness; mosquito control; animal movement control
2008 Oct–2009 May	Madagascar	No documented estimates	236	7	Heavy rainfall	Active surveillance; public awareness; mosquito control; animal movement control
2010 Feb–2010 May	South Africa	No documented estimates	242	26	Sustained heavy rains	Public awareness/education; mosquito control
2010 Sep–2010 Dec	Mauritania	No documented estimates	63	13	Heavy rainfall	Public awareness; mosquito control; animal movement control

Source: Dar et al. 2013, from: (6–24). FAO, Food and Agriculture Organization of the United Nations. †Data available for Jizan region only.



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Cover: Animal trading in Forogaranga. Photo:  
Albert González Farran/UNAMID



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