

LIVESTOCK SECTOR BRIEF

SUDAN

Food and Agriculture Organization
of the United Nations • **FAO**

Livestock Information, Sector Analysis
and Policy Branch • **AGAL**



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Data contained in this Livestock Sector Brief are taken from official sources. Official sources are no guarantee for data accuracy and the figures reported in this brief should be taken as indicative and not be used for official purposes. The Food and Agriculture Organization of the United Nations assumes no responsibility for its accuracy, completeness and coherence.

PREFACE

The Livestock Sector Briefs (LSB) are intended to provide a quick overview and an approximate outlook for the livestock sector of the respective country using figures and quantitative indicators originating from official sources. The LSBs are complemented by a synthesis of policy documents available in the public domain.

The majority of the data in the LSBs refer to the country as a whole and come from FAOSTAT, which is available on the internet (<http://faostat.external.fao.org/default.jsp>). FAO, as part of its mandate, compiles information and data on various aspects of food and agriculture from all countries. The data are analysed and interpreted to support FAO's programmes and activities and, in accordance with the basic functions of the Organization, they are disseminated to the public through publications, CD-ROM, diskettes and the Internet. The country level data are officially submitted to the Division for Statistics of FAO (ESS) by various ministries of the respective countries. For details of data collection procedures see <http://faostat.fao.org/abcdq/about.htm>. The figures submitted often display inconsistencies across ministries, for example reported meat production does not always match reported meat consumption when taking into account imports and exports. FAO tries to reconcile the figures, to the effect that FAO statistics may differ from those originally submitted.

The LSBs utilise FAOSTAT data from the following domains: human population, land use, agriculture production, food supply and agricultural and food trade. These are used to derive a standard set of indicators that can quickly be compared across the countries.

Data on the economy are from the World Bank's World Development Indicators CD-Rom, which is also available online <http://www.worldbank.org/data/> and is updated every year. Animal health data are taken from the Office International des Epizooties (OIE) HANDISTATUS II <http://www.oie.int/hs2/>. These are official data supplied by member nations.

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1. GENERAL INFORMATION

Human population, land and socio-economics

Human population	32.9 million
Population density on total land	13.8 persons/sqkm
Annual growth rate (1990-2000)	2.3 %
Population in agriculture	19.5 million
As proportion of total population	59.2 %
Total land area	2,376,000 sqkm
Agricultural land	1,338,330 sqkm
As proportion of total land	56.3 %
Land under pasture	1,171,800 sqkm
As proportion of total land	87.6 %
Irrigated area	19,500 ha
Agricultural land per 100 people	407 ha
Agricultural land per 100 people in agriculture	687 ha
Agricultural population density on agricultural land	14.6 persons/sqkm
GDP ¹	10,809 million US\$
GDP annual growth rate (1990-2000)	5.3 %
GDP per capita/year ¹	330 US\$
GDP per capita annual growth rate (1990-2000)	2.9 %
Agriculture, GDP	na million US\$
As proportion of total GDP	na %
Livestock, GDP ¹	na million US\$
As proportion of agricultural GDP	55 %
Human development Rank	139 Ranking ²
Human development index	0.505
Poverty incidence ³	
Total	na %
Urban	na %
Rural	na %

¹Constant 1995 US\$ ² The HDI rank is determined using HDI values to the fifth decimal point – from 177 countries, as compiled by the UNDP; ³ National poverty line; na: not available

Source: World Bank (2002); UNDP (2004); FAO (2005a)

- Sudan is a low-income rural economy with the livestock sector estimated to contribute to around 55% to the agricultural value added. Economic reforms have been initiated as far back as the late 1970s, but growth was only modest up to the early 1990s. Since 1992 the government has implemented a fiscal stabilization program that includes: rationalizing the tax and customs system, monitoring and controlling public expenditures, streamlining the budget process, and reforming fiscal accounting. From 1997 onwards, reforms were deepened and speeded up with the assistance of an IMF staff monitored program. In the mid 1990s, Sudan

adopted a federal system and three levels of political institutions operate today: the federal, states and district governments.

Human population trends

Values expressed in 1,000

Population segment	Year				Annual growth rate (%)	
	1980	1990	2000	2002	1980-1990	1990-2000
Total	19,387	24,927	31,437	32,878	2.5	2.3
Rural	15,518	18,292	20,082	20,389	1.7	0.9
Urban	3,870	6,635	11,355	12,489	5.5	5.5

Source: FAO (2005a)

Trends in agricultural¹ land

Values expressed in sqkm

Land type	Year				Annual growth rate (%)	
	1980	1990	2000	2002	1980-1990	1990-2000
Total	1,104,600	1,232,350	1,338,330	1,338,330	1.1	0.8
Cropped ²	124,600	132,350	166,530	166,530	0.6	2.3
Pastures	980,000	1,100,000	1,171,800	1,171,800	1.2	0.6

¹The sum of area under arable land, permanent crops and permanent pastures

²Arable and permanent crops

Source: FAO (2005a)

- Sudan is the largest country in Africa. The area currently cropped is estimated at over 17 million hectares, about 20 percent of the potential arable land. Land tenure rights are uncertain and contentious. Since 1970 all land is formally owned by the government, except for about 1% of private land located along the Nile and other scattered areas along other water courses. In irrigated areas land has been usually surveyed and registered, and the government leases it to tenants and private entrepreneurs. Contracts are for 25 years and production is large-scale and mechanized. The government gives usufruct rights to farmers in rain-fed surveyed and registered land. Conversely, the land used for pasture and for subsistence cultivation is unregistered and communally owned under customary land laws.

2. LIVESTOCK RESOURCES

Livestock populations

Values expressed in 1,000

Species	Year				Annual growth rate (%)	
	1980	1990	2000	2002	1980-1990	1990-2000
Cattle	18,354	21,028	37,093	38,183	1.4	5.8
Sheep and goats	30,371	35,977	84,643	89,621	1.7	8.9
Pigs						
Poultry	27,000	32,263	36,465	37,000	1.8	1.2
Total LUs	12,484	14,434	27,375	28,424	1.5	6.6

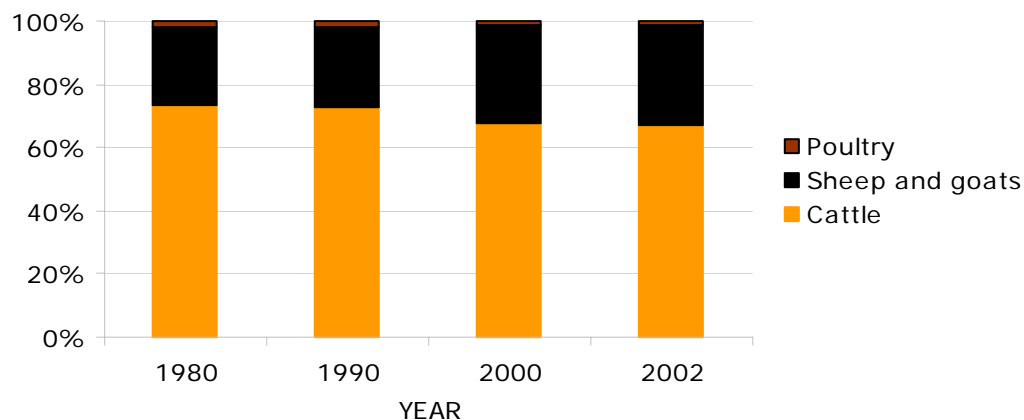
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LU: Livestock unit; **conversion factors:** cattle (0.50), sheep and goats (0.10), pigs (0.20) and poultry (0.01)

Source: FAO (2005a)

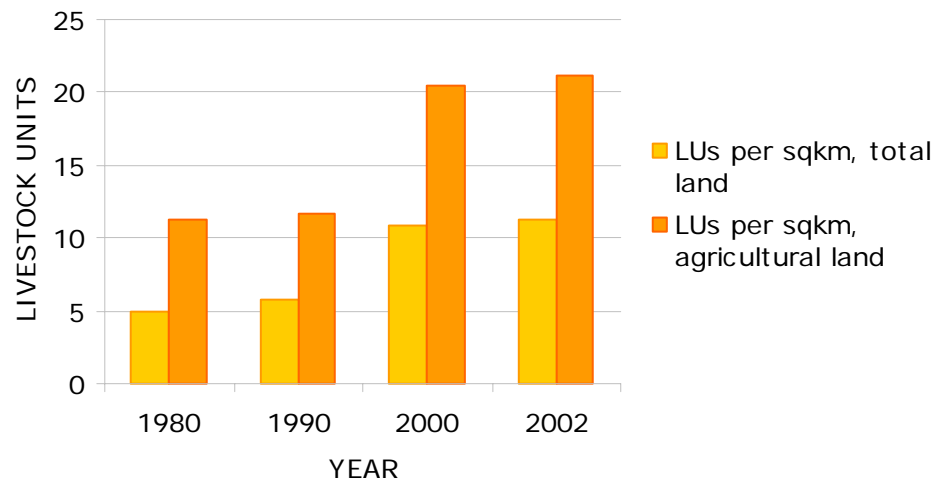
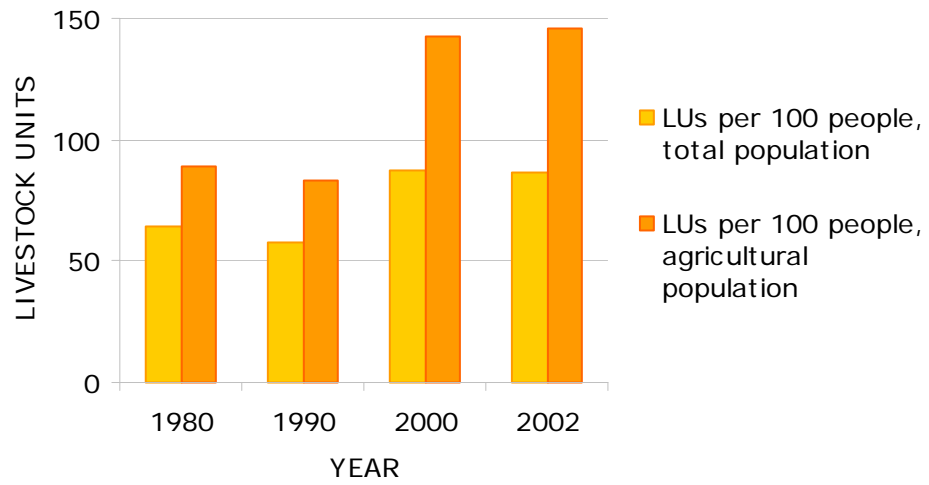
- Sudan has the second largest livestock inventories in Africa, next to Ethiopia. Good natural pastures cover almost 24 million hectares and the nomadic pastoral sector accounts for more than 90% of the huge animal population. Cattle and sheep and goats provide an important capital asset and a risk management tool for pastoralists and farmers in times of drought, and they are increasingly important in agricultural irrigated areas as well.

Contribution of different species to total livestock units



Source: FAO (2005a)

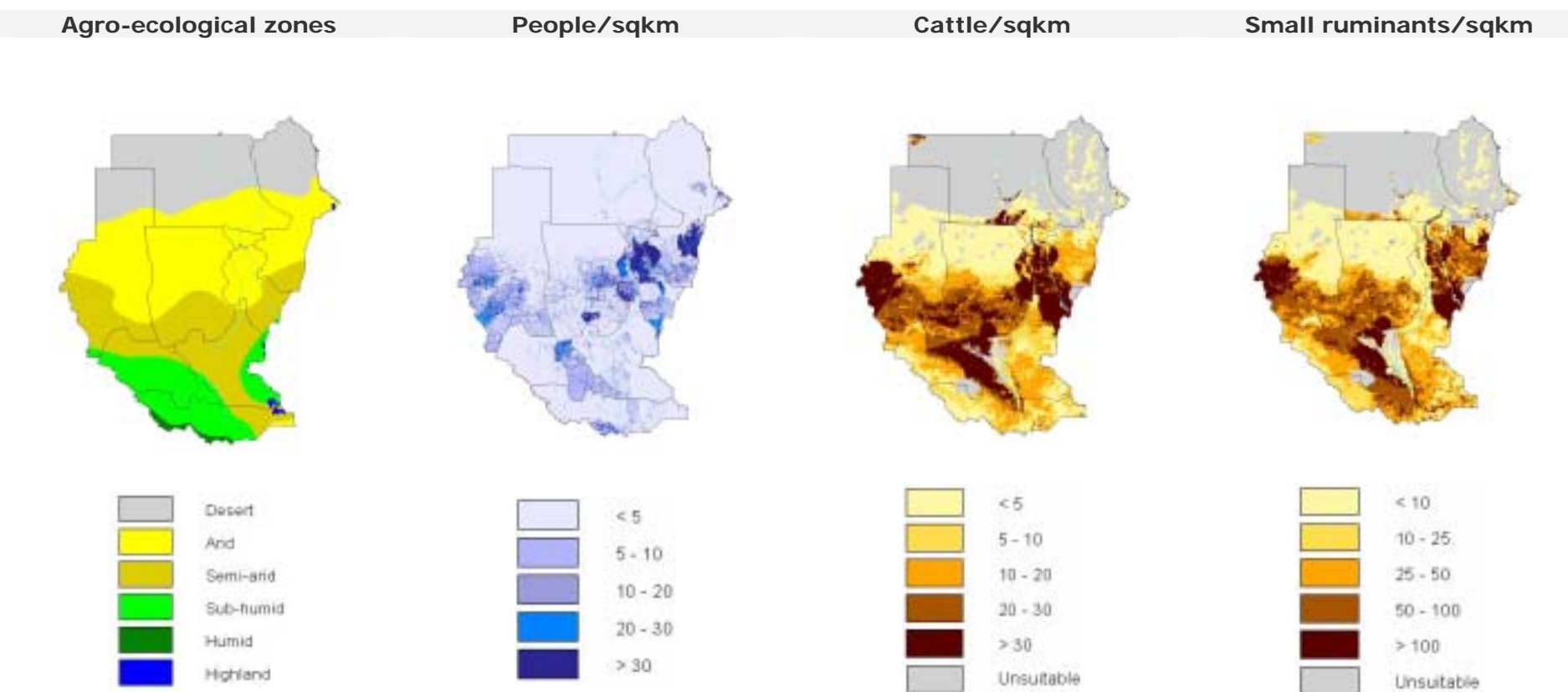
Selected indicators of livestock resources



Source: FAO (2005a)

Agro-ecological zones and densities of livestock species (2000)

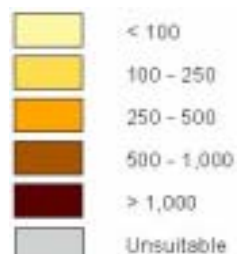
Density calculated on total land area¹



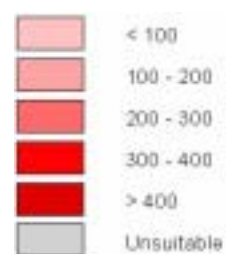
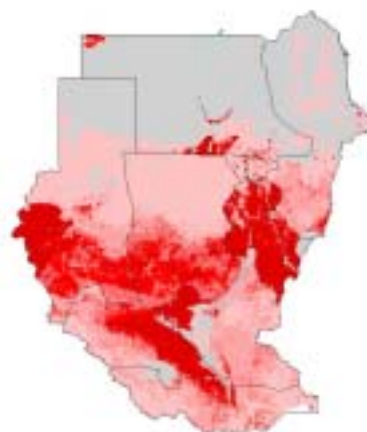
¹Densities for livestock populations and production are based on total land suitable for livestock production

Source: FAO (2001); LandScan (2002), FAO (2005b)

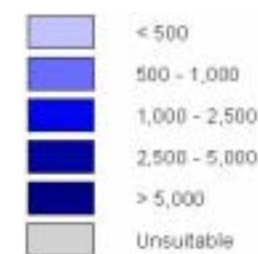
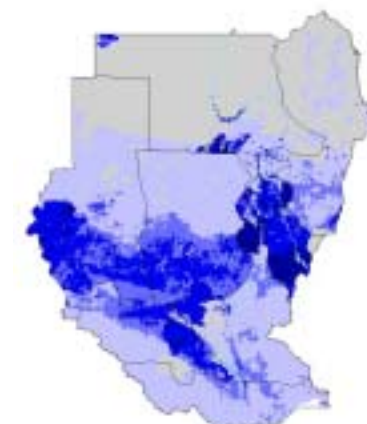
Poultry/sqkm



Beef offtake/sqkm



Milk offtake/sqkm



Source: FAO (2005b); FAO (2003)

- Three farming systems characterize Sudan: irrigated (21.1% of agricultural GDP), rain-fed semi-mechanized (e.g. hand-driven threshers) (6.3%), and rain-fed traditional agriculture (12.5%). Rain-fed is the dominant farming system in terms of rural population and includes transhumance, nomadic and sedentary agriculture comprising over 90% of the animal population. This system exists to some extent in every state, but it is most prevalent in the three Kordofan states, the three Darfur states, Sinnar, and the Blue and White Nile States. Some commercial broiler companies have been established in the vicinity of Khartoum, but over three quarters of poultry are raised in rural villages.

3. LIVESTOCK PRODUCTION

Trends in annual production of meat, milk and eggs

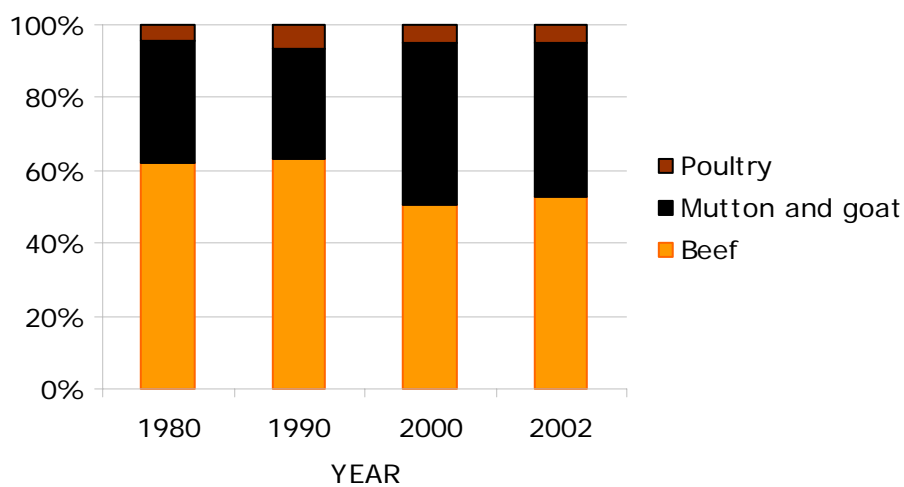
1,000 metric tonnes

Product	Year				Annual growth rate (%)	
	1980	1990	2000	2002	1980-1990	1990-2000
Meat, total	448	412	665	698	-1	5
Beef	235	218	296	325	-1	3
Mutton and goat	126	105	261	262	-2	10
Pig						
Poultry	16	22	30	30	3	3
Milk, total	2,323	3,283	4,908	5,057	4	4
Eggs, total	32	33	45	47	0	3

Blanks represent no data

Source: FAO (2005a)

Composition of total meat production



Source: FAO (2005a)

Carcass weights and percentage slaughtered by species

Species/year	Carcass weight (kg/animal)				Percentage slaughtered/year			
	1980	1990	2000	2002	1980	1990	2000	2002
Cattle	165.0	137.0	113.8	121.3	7.8	7.6	7.0	7.0
Sheep	17.5	16.0	16.0	16.0	26.7	21.0	19.4	18.7
Goat	13.0	13.0	13.0	12.9	26.5	17.6	23.5	22.2
Pigs								
Poultry	1.0	1.0	1.0	1.0	60.4	67.0	82.3	81.6

Blanks represent no data

Source: FAO (2005a)

Milk yields and proportion of dairy animals

Species/year	Milk yield (kg/year)				Percentage milked			
	1980	1990	2000	2002	1980	1990	2000	2002
Cattle	500	480	480	480	14.7	22.3	17.5	17.5

Source: FAO (2005a)

Egg yields and proportion of laying birds

Species/year	Eggs (kg/year)				Percentage laying			
	1980	1990	2000	2002	1980	1990	2000	2002
Chicken	5.6	5.4	5.1	5.2	21.5	19.0	24.1	24.6

Source: FAO (2005a)

- Meat production increased significantly in the last decades, supported by increased animal slaughter rather than increased productivity, which even declined in bovine meat production.
- The government plans to increase livestock production and productivity, establish disease-free zones, develop a program of integrated treatment and inoculation, encourage private service of animal health care providers, and set up contingency plans to cope with potential droughts.

Estimated feed used for livestock production

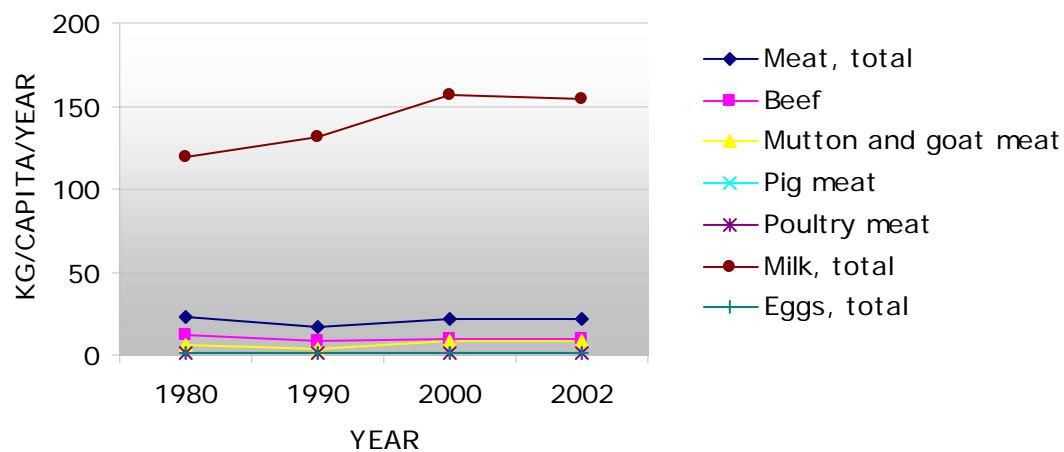
1,000 metric tonnes

Product	Year				Annual growth rate (%)	
	1980	1990	2000	2002	1980-1990	1990-2000
Maize	1.0	1.6	1.7	1.7	4.5	0.9
Barley						
Sorghum	100.0	35.4	117.4	223.5	-9.9	12.7
Millet	0.0	5.0	25.0	28.9		17.4
Wheat						
Brans	179.0	307.2	326.0	353.1	5.5	0.6
Rice Paddy, equivalent						
Roots and Tuber, dry equivalent						
Pulses						
Oil crops	0.0	0.0	0.0	0.2		

Blanks represent no data

Source: FAO (2005a)

Trends in annual per capita production of meat, milk and eggs



Source: FAO (2005a)

4. CONSUMPTION OF MEAT, MILK AND EGGS

Trends in annual consumption of meat, milk and eggs

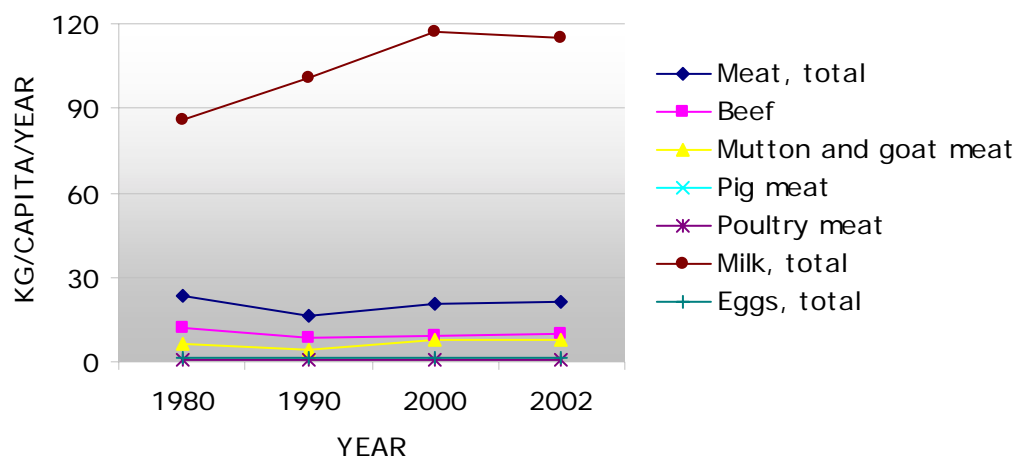
1,000 metric tonnes

Product	Year				Annual growth rate (%)	
	1980	1990	2000	2002	1980-1990	1990-2000
Meat, total	448	412	656	689	-1	5
Beef	235	218	294	325	-1	3
Sheep and goat	126	105	255	254	-2	9
Pig						
Poultry	16	22	30	30	3	3
Milk, total	1,665	2,506	3,675	3,791	4	4
Eggs, total	28	28	38	40	0	3

Blanks represent no data

Source: FAO (2005a)

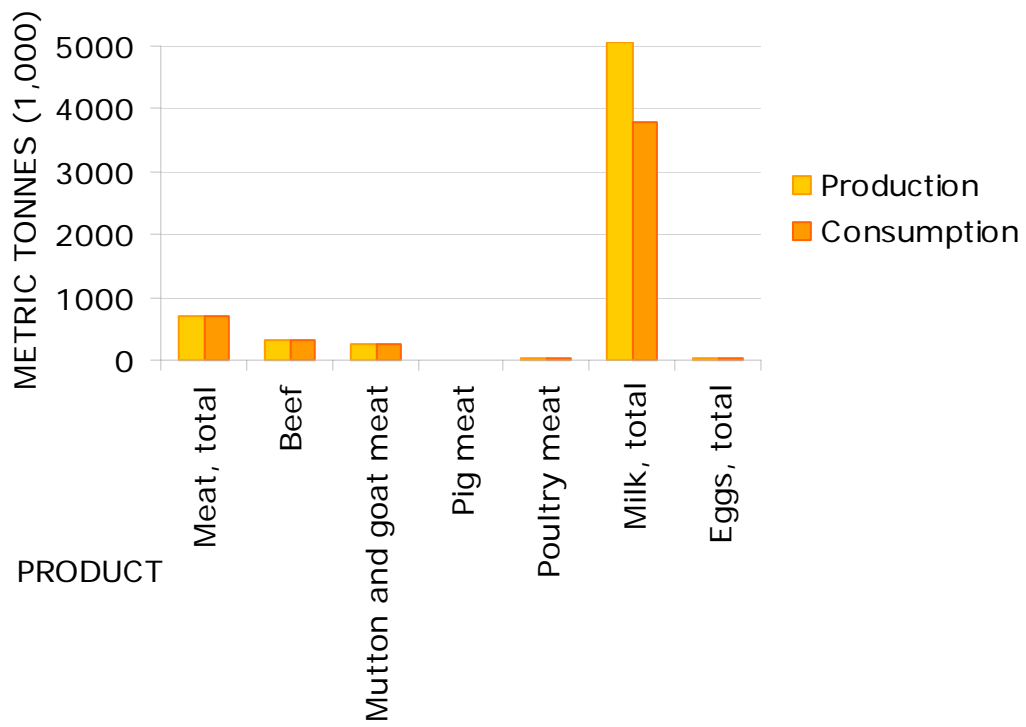
Trends in annual per capita consumption of meat, milk and eggs



Source: FAO (2005a)

- Per-capita GDP growth and increased population in the last decade have been accompanied by an increased demand for meat products, particularly mutton, goat and cattle. However, national per capita meat consumption has been stagnant and is still well below the average of developing and developed countries (30 and 80 kg/year per capita respectively).

Production versus consumption for meat, milk and eggs (2002)



Source: FAO (2005a)

5. TRADE IN LIVESTOCK AND LIVESTOCK PRODUCTS

Trade in agricultural and livestock¹ products

Values in million US\$

Product	Exports				Imports			
	1980	1990	2000	2002	1980	1990	2000	2002
Total	806		1,799	1,963	1,763		1,546	1,715
Agricultural	552.8	549.8	398.8	370.2	396.1	236.5	442.1	478.2
% agricultural	68.6		22.2	18.9	22.5		28.6	27.9
Livestock	57.2	95.8	85.1	148.4	6.9	29.0	19.4	32.3
% livestock	7.1		4.7	7.6	0.4		1.3	1.9

Blanks represent no data

¹Total trade in goods and services expressed in current US\$. Source: World Bank (2002)
Agricultural trade refers to all agricultural products, while livestock trade refers to trade in livestock products and live animals. Source: FAO (2005b)

Export/import 'dependency' for livestock products

Product	Exports as percentage of production				Imports as percentage of consumption			
	1980	1990	2000	2002	1980	1990	2000	2002
Meat, total	0.01	0.00	1.29	1.20	0.00	0.00	0.04	0.03
Beef and buffalo	0.01	0.00	0.80	0.12	0.00	0.01	0.10	0.00
Sheep and goat	0.00	0.00	2.36	3.04	0.00	0.00	0.00	0.04
Pig	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poultry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30
Milk, equivalent	0.00	0.00	0.03	0.00	1.31	3.41	1.18	2.29
Eggs, total	0.00	0.00	0.00	0.00	0.18	0.50	0.64	0.99

Source: FAO (2005a)

Product	Net exports as percentage of production				Net imports as percentage of consumption			
	1980	1990	2000	2002	1980	1990	2000	2002
Meat, total	0.01	0.00	1.24	1.82	0.00	0.00	0.00	0.00
Beef and buffalo	0.01	0.00	0.70	0.16	0.00	0.01	0.00	0.00
Sheep and goat	0.00	0.00	2.36	6.24	0.00	0.00	0.00	0.00
Pig	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Poultry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30
Milk, equivalent	0.00	0.00	0.00	0.00	1.31	3.41	1.14	2.29
Eggs, total	0.00	0.00	0.00	0.00	0.18	0.50	0.64	0.99

Source: FAO (2005a)

- The export of oil since 1999 has changed Sudan's patterns of trade flows: the merchandised trade balanced crossed over into surplus for the first time in 2000 and Asian countries (China) surpassed Middle Eastern countries as main trade partners. The country is a net exporter of live animals, meat and leather, though

70% of the milk consumed is imported. The most important livestock export destinations are Saudi Arabia, Libya, Jordan, Egypt, U.A.E., Iraq and Kuwait. Exports increased during the 1990s, mainly driven by the private sector, but a ban on meat and livestock exports was in place during 2000 and 2001, as a result of an outbreak of the Rift Valley Fever in early 2000. Exports have been rebounding since 2002.

- Sudan is a member of the Common Market for Eastern and Southern African States (COMESA); the African Common Market Agreement; the Organization of Islamic Conference and the Arab League. It is also a signatory of the Trade Facilitation and Development Agreement among the Arab countries and an observer at WTO. It signed bilateral agreements on trade and economic cooperation with a number of countries, including Syria, Jordan, Tunisia, and Libya.

Trade in live animals

Species	1980			1990			2000			2002		
	Export	Import	Net trade	Export	Import	Net trade	Export	Import	Net trade	Export	Import	Net trade
Quantities (count)												
Cattle	12,566	1,953	10,613	13,004	700	12,304	163	80	83	1,853	0	1,853
Sheep and goats	421,820	0	421,820	627,654	0	627,654	590,236	35,531	554,705	1,769,630	25,165	1,744,465
Pigs		0	0		0	0		0	0		0	0
Poultry (1,000)	0	121	-121	0	1,100	-1,100	3,397	211	3,186	1	491	-490
Value (1,000 US\$)												
Cattle	4,019	108	3,911	7,500	850	6,650	48	61	-13	587	0	587
Sheep and goats	40,166	0	40,166	75,000	0	75,000	44,530	2,526	42,004	122,214	1,236	120,978
Pigs		0	0		0	0		0	0		0	0
Poultry (1,000)	0	109	-109	0	1,370	-1,370	1,888	330	1,558	2	850	-848
Total	44,185	217	43,968	82,500	2,220	80,280	46,466	2,917	43,549	122,803	2,086	120,717

Net trade: Exports less Imports

Blanks represent no data

Source: FAO (2005a)

Trade in livestock products

Product	1980			1990			2000			2002		
	Export	Import	Net trade	Export	Import	Net trade	Export	Import	Net trade	Export	Import	Net trade
Quantities (metric tonnes)												
Meat, total	33	6	27	0	14	-14	8,554	295	8,259	8,368	196	8,172
Beef	29	6	23	0	13	-13	2,373	289	2,084	400	13	387
Mutton and goat	4	0	4	0	0	0	6,172	5	6,167	7,962	92	7,870
Pig		0	0		0	0		0	0		0	0
Poultry	0	0	0	0	0	0	0	0	0	0	91	-91
Other	0	0	0	0	1	-1	9	1	-10	6	0	-6
Milk, equivalent	0	21,845	-21,845	0	85,404	-85,404	1,647	43,543	-41,896	75	86,924	-86,849
Eggs, total	0	50	-50	0	140	-140	0	244	-244	0	401	-401
Hides and skins	3,951	0	3,951	4,400	0	4,400	4,210	9	4,201	3,874	55	3,819
Value (1,000 US\$)												
Meat, total	99	23	76	0	50	-50	20,992	218	20,774	19,890	225	19,665
Beef	89	23	66	0	50	-50	3,302	218	3,084	566	21	545
Mutton and goat	10	0	10	0	0	0	17,674	0	17,674	19,313	129	19,184
Pig		0	0		0	0		0	0		0	0
Poultry	0	0	0	0	0	0	0	0	0	0	75	-75
Other	0	0	0	0	0	0	16	0	-16	11	0	-11
Milk, equivalent	0	6,613	-6,613	0	26,220	-26,220	593	15,237	-14,644	45	27,856	-27,811
Eggs, total	0	76	-76	0	460	-460	0	1,013	-1,013	0	1,914	-1,914
Hides and skins	12,732	0	12,732	12,900	0	12,900	4,868	41	4,827	4,473	49	4,424
Total	12,831	6,712	6,119	12,900	26,730	-13,830	26,453	16,509	9,944	24,408	30,044	-5,636

Net trade: Exports less Imports

Blanks represent no data

Source: FAO (2005a)

6. LIVESTOCK HEALTH

Total number of cases/outbreaks of selected diseases reported in all susceptible species

Disease	1997	1998	1999	2000	2001	2002	2003
African swine fever	000	000	000	000	000	000	000
Avian Influenza ¹	000	000	000	000	000	000	000
Bluetongue	(1989)	(1989)	(1989)	(1989)	(1989)	(1989)	(1989)
BSE ²	000	000	000	000	000	000	000
CBPP ³	(1990)	(1990)	(1990)	(1990)	(1990)	(1990)	160/8
Classical swine fever	000	000	000	000	000	000	000
Foot and mouth disease	(1990)	(1990)	(1990)	(1990)	(1990)	(1990)	.../...
Lumpy skin disease	(1990)	(1990)	(1990)	(1990)	(1990)	(1990)	6/3
Newcastle disease	(04/1995)	(04/1995)	(04/1995)	477/4	(05/2000)	1,740/3	6,630/6
Peste des petits ruminants	(1990)	(1990)	(1990)	(1990)	(1990)		248/...
Rift Valley fever	(1973)	(1973)	(1973)	(1973)	(1973)	(1973)	(1973)
Rinderpest	(04/1991)	.../...	(1998)	(1998)	(1998)	(1998)	(1998)
Sheep and goat pox	1/1	(07/1997)	(07/1997)	10,400/5	(04/2000)		.../15
Swine vesicular disease	000	000	000	000	000	000	000
Vesicular stomatitis	000	000	000	000	000	000	000

¹ Highly pathogenic avian influenza; ² Bovine spongiform encephalopathy; ³ Contagious bovine pleuropneumonia

no./no. number of cases/outbreaks, ... no information, - disease not reported, 000 disease never reported; (month/year) date of the last reported occurrence of the disease in previous years

Source: OIE (2004)

- Animal diseases severely affect livestock production and productivity countrywide. Three Federal Departments, the Animal Health Department, the Epizootic Disease Control Department and the Veterinary Public Health Department, are responsible for controlling diseases through veterinary clinics, animal health centres, and hospitals at the district, provincial and regional levels. Today field veterinary services are carried out through 10 mobile units attached to centers consisting of dispensaries, offices and storages. The mobile units function as field diagnostic laboratories, carry out vaccinations and provide treatments and surveillance. Furthermore, there are 62 mobile truck units, containing refrigeration units, mobile crushes and camp equipments.

7. REFERENCES AND FURTHER READING

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