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Two major specialist groupings can be distinguished in the pastoral zone of the Sudan that extends from 10°N to 18°N. These groupings are:

- the "*abbala*" or camel-owning group, who also herd sheep and goats but who have no or very few cattle;
- the "*baqqara*" or cattle group (the term is extended here to cover all cattle raising groups, irrespective of ethnics belongings), also with sheep and goats and very small numbers of camels.

There are several tribes in each group, a tribe being defined as an integrated and autonomous political and social unit. Affinities among tribes of the same specialization exist through historical and blood ties. The camel tribes own fewer camels per head of population than do the cattle ones but slightly more sheep and goats (**Table 1**).

Table 1 - Livestock numbers per head of population for the two major pastoral groupings

Owning group	Human population (10 ⁶)	Animals per person			
		Camels	Cattle	Sheep	Goats
Camels (abbala)	1.48	2.16		6.91	3.25
Cattle (baqqara)	1.26		9.10	5.08	1.44

The human population of the Sudan was estimated at 26.48 million with the pastoral tribes accounting for 2.83 million (**Table 2**). Most pastoralists, who can be ascribed to 38 major and many minor tribes (**Table 3**), inhabit Kordofan (25% of the total population), with large proportions in Eastern (23%) and Darfur (18%) regions and smaller ones in Central (6%), Northern (4%) and

Table 2 - Distribution of the human population (million) of the Sudan in 1990

Region	Pastoral	Rural	Urban	Total
South	0.00	5.93	0.86	6.79
Central	0.34	3.58	1.23	5.15
Darfur	0.72	2.79	0.48	3.99
Kordofan	1.02	2.38	0.57	3.97
Eastern	0.65	1.23	0.98	2.86
Khartoum	0.05	0.43	1.84	2.32
Northern	0.05	1.11	0.24	1.40
Total	2.83	17.45	6.20	26.48

Khartoum (2%) Regions. In total the pastoral population is equivalent to almost 11% of all the Sudanese people, compared to 23% in urban areas and 66% non-pastoral rural dwellers.

The pastoral population has increased in numbers at an annual rate of 3.6% over the last 35 years. The proportion of pastoralists in the total population has, however, declined from 13.2% to 10.2%.

The Abbala

Camel production is an activity of the arid and semi-arid north of the country.

In Kassala Province the plains around Kassala town, the strip extending from the Atbara river valley to the Ethiopian border and the central Butana neighbouring Gezira and Khartoum Provinces are the main camel herding areas. The Hadendowa, Beni Amer, Rashaida, Bisharin, Shukriya, Lahawin, Bawadra, Kawahla and Ahamda own at least 1.15 million camels, 4.23 million sheep and 0.80 million goats.

In Northern Kordofan the northern sandy semi-desert areas, the sandy “qoz”, the “gardud” sandy and clay pediplains and the gum belt are the strongholds of camel production. The Kababish, Kawahla, Hawawir, Hamar, Shanabla, Dar Hamid and other tribes of the region raise 1.16 million camels, 2.84 million sheep and 2.10 million goats.

Camel production is practised in areas in Northern Darfur that have similar ecology to those in Kordofan. There are many tribes involved, the main ones being the Meidob, the Zaghawa, the

Zayadiya and parts of the Rizeiqat. Camel numbers are smaller in Darfur, 0.69 million, than in the other Provinces and they are accompanied by 2.62 million sheep and 1.46 million goats.

Camel owning groups comprise about 1.48 million people, 48% of whom are found in Northern Kordofan, 35% in Kassala and 16% in Northern Darfur with the remaining 1% scattered in other northern provinces. With the exception of the Kababish, camel-owning tribes that do not keep cattle are small with an average of about 60,000 people owning in the region of 100,000 camels and about four times as many small ruminants.

The majority of camel tribes are Arabs. Those which are not (e.g. the Beja) have been strongly influenced by Arab culture and religion, and are Muslim and speak Arabic, beside their indigenous language. The exceptions are the western Meidob and Zaghawa who, in particular, have retained much of their own languages.

Animals are raised for subsistence and to provide products for sale or exchange. Cereal grains are the principal commodity that camel tribes need to import into their economies. In the past, in addition to providing material sustenance, animals were a source of prestige for the owner. Traditional attitudes to production are changing and a more market oriented production system is gradually developing.

Differences in wealth are evident among the abbala. The majority of families own some 30 camels

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and 100-300 head of small ruminants. Families with larger numbers of each species are "rich", those with smaller numbers are "poor". Small ruminants are the category of stock which provides most of the interchange within the system, at least until enough are acquired to convert into the more desirable camels.

Production systems

Camel owning groups are pastoralists in that livestock provide their main wealth and subsistence. Grain, usually bulrush millet but sometimes sorghum in wadi beds is occasionally grown in favourable places or in good years: most grain is acquired by purchase or exchange, however. In times of low animal productivity, or when gum prices are high, then gum is tapped by some pastoralists to provide additional income.

The traditional way of life is being steadily eroded under modern influences. Induced and spontaneous settlement is taking place, perhaps more so in Kassala than in the western provinces. It is estimated that the percentage of animals owned by the abbala has been reduced from about 85 in 1970/1971 to about 60 in 1989/1990. Semi-nomadism or transhumance is associated with rainfed cultivation and with access to crop residues on the large state - and privately - owned agricultural schemes.

Table 3 - Pastoral tribes: human and livestock population numbers ('000)

Tribe	People	Livestock		
		Camels	Cattle	Sheep + Goats
Ahamda	40		440	515
Awlad Humeid	88		725	636
Batahin	65	117		304
Beni Amer	94	164	210	453
Beni Halba	55		395	115
Beni Hussein	35	80	198	86
Bisharin umm Nagi	32	58		96
Dar Hamid	71	112		465
Fellata	60		425	125
Gima	40		440	515
Habbaniya	75		548	150
Hadendowa	78	65		215
Hamar	73	112		632
Hasaniya	75	122		481
Hawawir	73	109		479
Hawazma	92		654	279
Huseinat	74	118		578
Ingessana	?		?	?
Kababish	172	340		1 278
Kawahla	127	253	118	1 697
Kenana	110	42	615	749
Lahawin	40	100	95	865
Ma'aliya	30		210	60
Ma'aqla	15	15		75
Maganin	25	70		425
Messengeriya Humr	95		855	288
Messengeriya Zuruq	85		604	258
Meidob	60	171		989
Rashaida	98	305	154	873
Rizeiqat	180	86	2 580	1 234
Rufa'a el Hoi	58	50	415	781
Rufa'a el Shariq	92	104	510	791
Seleim	49		488	746
Shenabla	76	118		463
Shukriya	83	165	317	1 549
Ta'aisha	70		504	140
Zaghawa	75	155	42	1 274
Zayadiya	50	143		850
Minor tribes	120	210	125	1 741
Total	2 830	3 200	11 487	23 250

Camel herders who also cultivate do this either on private land or in some of the major development projects. The Beja, for example, grow "dura" or sorghum in wadi beds and on the terraces during the short flood periods that prevail in the Red Sea hills. In addition, some Beja have tenancies in the Gash and Baraka schemes where in addition to cereals (including Sorghum or bulrush millet in the Baraka) they grow cotton and castor as cash crops.

The Butana tribes have a similar system, some growing cereals on small plots near their settlements or cultivating as tenants on the New Halfa scheme: some of the richer members of these tribes own small mechanized farms. In Darfur and Kordofan the abbala tribes grow some “*dukhn*” in the southern parts of their respective “*dar*”.

Livestock and crops, while not completely integrated as a system, complement each other. Some animals are sold every year to raise cash for household goods and even to buy feed or medicines for the other animals. The type and number of animals sold varies according to the needs and to the owners’ perceptions of herd structure.

Community and individual wealth

Although there are 18 important tribes whose main wealth is camels 49% of the people involved and 51% of the camels are in five tribes or tribal groups. These five tribes, however, own only 36% of the sheep and 39% of the goats of the total of these species that belong to the abbala. The five groups in question are the Beja (Hadendowa, Amara, Bisharin and Beni Amer), the Kababish, the Rashaida, and the Meidob and the Zaghawa.

The concept of individual wealth can be related to the numbers and types of animals that a family owns. A family obviously varies in size but is normally considered to average seven people, these being the head of the house and his wife, two married sons and one unmarried son or daughter. “Rich” Beja, for example, own somewhere in the region of 50 camels (**Table 4**), while rich Rashaida own 400 and even a “poor” Rashaida owns an average of 40 camels. In total the Beja tribes, who comprise about 23% of camel owners, own about 19% of all the camels belonging to the “abbala” and slightly over 18% of sheep and goats combined. The Kababish comprise about 12% of the people, own 11% of the camels and 17% of the small ruminants. The Rashaida are the richest of the camel tribes: they amount to 5% of the people but own 10% of the camels although they are not so well off in small ruminants, owning only 8% of these animals. The Zaghawa (5% of people, 7% of camels and 17% of sheep and goats) and Meidob (4% of people and 5% and 14% of camels and small ruminants) are intermediate in standing.

The “Baggara”

Cattle husbandry is practised in areas that are less harsh than those where camels are found. As a consequence the migratory patterns of the baqqara tribes are less extensive than those of the “abbala”. The annual rainfall in the “cattle belt” is seldom less than 500 mm and animal husbandry is frequently associated with crop production.

Southern Darfur is a major cattle raising area, the principal tribes here being the Rizeigat, the Habbaniya, the Ta’aisha, the Beni Halba, the Beni Hussein and the immigrant Fellata. The total population of 410,000 in these tribes represents 83% of the Province’s cattle nomads and 33% of all such in the Sudan.

In Southern Kordofan it is the Messeriya (both Humr and Zuruq), the Hawazma and the Awlad Humeid that are the principal tribes. Their population amounts to 272,000, this being 86% of Southern Kordofan cattle nomads and 22% of all those in the Sudan. The Awlad Humeid are also found in White Nile as are the Seleim, Ahamda and Gima people, as well as part of the Kenana. These tribes comprise almost the totality of cattle nomads here and are equivalent to 17% of Sudanese cattle nomads.

In Blue Nile the dominant tribes are Rufa’a el Hoi, Rufa’a el Shariq, the Kenana and the Kawahla. Kenana people also inhabit Kassala Province as do the Shukriya: some of the camel-owning groups also have comparatively large numbers of cattle. Numbers of cattle nomads are smaller in both these Provinces. The tribes listed total 121,000 in Blue Nile and 124,000 in Kassala and are respectively 97% and effectively 100% of cattle nomads there, equivalent to 9% and 10% of all the Sudan’s cattle nomads.

These five major areas of cattle production are thus home to 1.26 million baggara people who collectively own 11.47 million cattle, 6.40 million sheep and 1.81 million goats. The majority of the baqqara are of Arab origin, the major exception being the Fellata who are recent immigrants from West Africa. Penetration by the baqqara southward into the savanna belt has resulted in some admixture of indigenous African blood into the people: they remain, however, for the most part faithful to Islam and use Arabic as the mother tongue.

The baggara were able to escape some of the worst effects of the 1984 drought. This applies particularly to those living in Blue and White Nile Provinces as they were able to retreat to the better-endowed riverain areas.

Production systems

The baggara are pastoralists by the same definition as are the abbala, in that almost all their wealth and most of their income derives from livestock. They are less mobile than the camel-owning group, most are in fact semi-settled or many even have at least part of the family fully settled. Strictly speaking it would probably be more appropriate to refer to them as transhumants rather than as nomads.

The cultivation of cereals, especially *"dukhn"*, is a widespread practice among the cattle people. In Kassala the *"dukhn"* is often replaced with *"dura"*. Many families particularly in Darfur region also collect gum on a regular basis and many own gum trees and actively promote their regeneration and growth. Crop residues, from own fields and from the large scale developments, are an important source of dry season livestock feed.

Table 4 - Distribution of families (average of seven members) by wealth ranking in some camel-owning pastoral tribes

Tribe and Livestock species	Wealth rank (Number of animals)		
	Rich	Average	Poor
Beja:			
Camels	50	20	5
Sheep	70	40	15
Goats	45	25	10
Kababish:			
Camels	300	100	20
Sheep	300	100	20
Goats	90	50	20
Rashaida:			
Camels	400	200	40
Sheep	50	35	20
Goats	12	8	5
Zaghawa and Meidob:			
Camels	270	135	25
Sheep	320	110	25
Goats	150	100	75
Other tribes:			
Camels	300	100	20
Sheep	310	105	22
Goats	100	65	50

Many baggara also engage in irrigated or mechanized agriculture either on private land or as tenants on the large schemes. There is a continuing tendency by all tribes to become more involved in commercial production of crops as well: some examples include cotton by the Hawazma, groundnuts by the Messeriya and mechanized sorghum by the Rufa'a el Hoi and the Kenana.

There is also a gradual transition to more commercial livestock production among the baqqara, as among the abbala. Some rear cattle with more commercial ends than their fellows and rely on goats for the provision of household milk and meat. Subsistence is still provided by animals but cash raised from their sale or the sale of their products is spent on domestic needs or on consumer goods or is used to pay taxes. Some cash may be recirculated into the herd by purchase of breeding females. Decisions on which animals to be sold are usually made by the household head. Both cattle and sheep are sold but the relative proportions of each vary in the several provinces and among the tribes.

Community and individual wealth

While camels are the main wealth of the abbala they comprise only 18% of total animal numbers, with sheep contributing about 56% of numbers and goats about 26%. In contrast the baggara cattle amount to 58% of all animals owned by the group, sheep are a further 32% and goats about 10%. Individually and collectively the total number of animals kept by baqqara is more than that kept by abbala. Numbers alone, however, should not be considered to be true indicators of real wealth as the relative values of the species in money and production terms are certainly more important.

The 27 major cattle tribes, together with the minor tribes that are also classed as baqqara collectively own 11.5 million cattle, 6.40 million sheep and 1.81 million goats. The Rizeiqat are the major tribe in Southern Darfur and own 52% of the provincial cattle and 51% sheep. In Southern Kordofan some 80% of cattle and 85% of sheep are owned by the two Messeriya tribes and the Hawazma. In the other provinces livestock wealth is relatively evenly distributed among the tribes.

At the level of the family there are differences in wealth of a type similar to that noted for the abbala. Inequalities between "rich" and "poor" are however more evident in the two western provinces than in the east (**Table 5**).

The Rizeiqat are the richest individuals overall: they constitute only 12% of all baqqara but own 22% of the cattle and 11% of the sheep owned by the group as a whole. The Seleim, the Ahamda, the Gima, the Rufa'a el Hoi and the Rufa'a el Shariq own marginally greater proportions of cattle than are their representation in human numbers but these tribes plus the Kenana and the Awlad Humeid are relatively richer in sheep.

Social organization

Clear roles and functions in the production process can be discerned at the levels of the tribe, the sub-tribe and the household.

The tribe

In the past the tribe was a more autonomous and integrated entity than it is at present. The identity of the tribe was supported and reinforced in many ways, through traditional leadership within the unit itself, and prominent members of it being elected or appointed as local and regional councillors and sometimes assuming high office in government itself.

Success was always mixed with some measure of failure. At the regional level the tribe may often have been supreme. Equally often, perhaps, the self-interest of the traditional leadership overrode that of the tribe as a whole. On occasions an overriding national interest was forced on the tribe by the central autocracy from Khartoum.

The importance of these roles and these factors is now diminished but the tribe still acts, however, as the spatial and cultural unit. Tribal cohesion and self-expression is maintained in:

. retaining the nominal right to the "*dar*" (in spite of the fact that Government considers all land without individual or formal legal title to be the property of the state no tribal land has yet been

expropriated without priority going to the indigenous population - the case of the Rufa'a el Hoi and mechanized farming has already been cited, the New Halfa scheme was nominally developed to resettle the Nubians but the Shukriya and associated tribes occupy almost half of its area, and most tenancies in the Gash and Baraka schemes have been allotted to tenants from the Beja tribes, with some distinction of the rich among the tribespeople;

. development of water sources by astute representation on boards controlling district, regional and national development plans;

. provision of services and infrastructure by obtaining budgetary allocations as in (ii);

. improved livestock, especially veterinary, services and especially for the major epidemics such as rinderpest;

. continued representation on political and decision making bodies at all levels and perhaps especially on the Livestock and Meat Marketing Corporation;

. reinstatement recently (1991) of native administration with tribal chiefs given full administrative, judicial and taxation powers over their domains.

. and continuing the tradition of convening tribal conferences.

Table 5 - Distribution of families (average of 7 persons) by wealth ranking in the main cattle-owning areas

Area and Livestock species	Wealth rank (Number of animals)		
	Rich	Average	Poor
Southern Darfur:			
Cattle	210	77	28
Sheep	63	21	7
Goats	9	3	2
Southern Kordofan:			
Cattle	154	56	21
Sheep	63	21	7
Goats	4	3	2
White Nile:			
Cattle	210	77	28
Sheep	210	70	28
Goats	9	3	2
Blue Nile:			
Cattle	196	70	28
Sheep	189	63	21
Goats	125	40	3
Kassala:			
Cattle	140	49	21
Sheep	154	56	21
Goats	125	40	3

The sub-tribe

The sub-tribe operates in much the same manner as the tribe, with the various factions attempting to maintain their rights and privileges or to usurp those of others. As for the tribe, some cohesion has been lost and not least, here also, because individual interest is assuming dominance over that of the group. Sub-tribal groups are often in the anomalous situation of collaborating while competing. Collaborating to keep out people and interests not of the tribe and competing for influence and affluence within the tribe. The contributions of the sub-tribe to the organization of production are:

- . guarding rights to grazing, water and cultivation areas through local leadership and local courts;
- . settlement of disputes arising from conflicts of interest;
- . organizing grazing movements and timing, by the use of scouts, and especially in the rains, by monitoring pasture condition and sources of water;
- . protecting people and property at critical times by group action (e.g. in the case of cattle theft, but this traditional response and the resort to arms is looked upon with more and more disfavour by higher authorities);
- . helping to maintain services in the group area;
- . representation at the local level.

The household

The household is usually and extended rather than a nuclear family unit. The reasons for this are the mixed species nature of the livestock holdings which often require separate herding and management and the diversity of other production tasks which demand varied skills and strengths. The household thus usually comprises a man and his wife and their married sons plus unmarried sons and daughters. The household unit comprises sub-units, each with its own house or tent, usually placed close to each other and perhaps around the periphery of the bedding ground of the animals.

Sons who succeed in establishing their own herds and their own households usually camp and move in proximity to their father. Other family units, also of close relatives, are also found grouped at some distance the one from the other.

The household roles differ to a considerable extent from those of the higher units. They include:

- . producing and rearing children to maintain continuity and to achieve economic and social goals;
- . providing and organizing labour for herding, cultivating and other activities;
- . taking of decisions with respect to herd policy, (management, sales and hospitality) and sale of agricultural products and purchase of consumption needs;
- . generating income from wage labour or from commerce to supplement family cash resources and for investment in additional livestock;
- . purchasing, preparing and cooking (and often collectively eating) household food;
- . ensuring that herd size and productivity is adequate to start new households when married sons have families of their own;
- . fulfill cultural and social obligations to relatives, neighbours, the tribe and passers-by in order to maintain and enhance the household status in the wider community.

External relations

The tribe, from being an autonomous and self contained cultural unit, has been forced in to more and more involvement with its external environment. In particular it has to deal with government at all levels.

Major changes in governance were instigated at independence. It is from this time that a certain degree of dissatisfaction with the native administration started, and has continued, to accrue. Much stems from the so-called democratization process and the new roles the tribal elite annexed to themselves in government and in public life.

The functions of the former Native Administrations were devolved to Local Government Councils between 1969 and 1972. In 1973 a new Local Government Act was placed on the statutes, supposedly founded on the philosophies of self-rule and self-reliance. Old provinces were confirmed and new ones created under the act. Within each province were area, rural and village councils. The propagators and proponents of the new Act, in addition to self-rule and self-reliance, assigned high priorities within its context:

- breaking the forces of tribalism which were viewed as obstacle in the process of development;
- taking decision-making to the grass-roots level to encourage active involvement and participation in development through mobilization of the resources of the rural masses.

In 1983 a new enactment introduced the Regional Government Act to the Statute Book. This added yet another and superior tier to that already existing by creating seven regions. In 1986 a conference on regional and local government convened in Khartoum and made new recommendations for the political and administrative organization of the Sudan. The recommendations were submitted to the Council of Ministers for endorsement.

These multiple changes in government and administration at all levels, and especially the abolition of the Native Administration, have had multiple effects on the pastoral populations. It is considered that an "administrative vacuum" exists, the principal shortcomings of which are:

1. inability to control the increase in the incidence of tribal conflict (which in the past was usually quickly resolved by tribal elders) without too much bloodshed or loss of consequent declines in water and grazing resources, encroachment on other tribes' territories, planned and unplanned expansion of irrigated and mechanized agriculture;
2. an "arms race" and increase in the ownership of illegally acquired modern weapons in order to be at least at parity with the other contestants in the conflicts cited in (1);
3. an increase in the incidence of organized and large scale armed robbery, especially in Darfur Region (normally blamed on Bedayat from Chad and as narrated by a Zhagawa chief (1989) "in the past it was my duty as a tribal chief to raise my men once a robber is traced into my territory, because very soon he would become a danger to all neighbouring groups ... also I would be questioned by the District Commissioner at Kutum, as to why I did not act accordingly ... presently it is not my responsibility to do so, and if a group comes after a robber the most I can do is offer them hospitality";
4. a sharp reduction in the amount of animal tax collected since the now-responsible Local Government Officers are not native to the area, do not live with the people, do not understand the tribesmen's psychology and are present in the camps or markets only to collect tax — the net tax yield is even further reduced when compared to the old system of making the tribe responsible for collection as the collectors are paid wages and incentives, drivers and others have to be employed and vehicles have to be provisioned and maintained.

The above adverse effects have instigated the present government to restate the native administrative system, and as of mid. 1991, the system came back with full, judicial, administrative and tax collection powers.

Acquisition of animals

The most common method of acquiring livestock is, of course, through birth and natural increase. Herds can also be built up by purchase of animals. Money for purchase comes from savings, from sale of other animals, from wage labour or from remittances from relatives involved in commerce. Pastoral societies have, however, several other mechanisms for ensuring that all their members share in and benefit from the common wealth. Many of these mechanisms are designed to ensure that, within the context of sharing, the wealth stays in the family or at least in the tribe. Some of the methods that have developed for acquiring and disposing of stock are common to many groups while others are particular to only one:

- . the Hadendowa present a newly born child with a female animal of each species of stock the family owns;
- . the Kababish give a female camel to a new born child;
- . the Hawazma new born son is given a cow by his father's brother on anticipation of a future marriage to the latter's daughter;
- . the first time a Kababish child has a haircut he receives a female animal from his father;
- . in all tribes a man who marries receives animals from his father's brothers and from his age-group agnates;
- . among the Nilotes the dowry is paid in cattle provided by both paternal and maternal kin and the receiving family divide it in a similar fashion;
- . in all tribes a proportion of household heads distribute animals to their sons over the course of the lifetime;
- . among the Hadendowa the newly married spend the first year with the family of the bride to allow their own herd to increase;
- . some Hadendowa pool resources to buy a female camel which becomes the property of one of the group but the offspring are distributed in turn to the original contributors.

Animal management

There is little or no capital investment by the owners in animal management. Herding is done in the age-old way, one or more herdsmen being constantly with the stock when they are at pasture. All household members, from the very young to the very old, women as well as men, have some responsibility at some point in the production process. Herds are, strictly speaking, often larger than what is strictly required to assure subsistence because there is always risk of loss through epidemic disease, starvation as a result of drought and loss to predators (human thieves as well as animal killers). Animals are also the principal investment vehicle of pastoralists, a means of capital accumulation, a store of wealth and, possibly, a source of pride and prestige.

In recent years, and especially since the 1984 drought, there has been a tendency for concentration of livestock in fewer units. It is the age-old story as the rich (and probably financially capable and economically astute) have got richer and the poor have got poorer. For the poor, as for the rich, the costs of production have shown a steady and in many cases an obviously unmeetable rise. Water may now have to be paid for, herders want wages and not a portion of production (although they probably continue to appropriate or misappropriate that also), supplementary feed and minerals have to be bought, and drugs (once provided free) are expensive. Commercial attitudes are also developing which by their nature require concentration of animal wealth in fewer hands. The move to commercial production is exemplified by the shift in age, from older to younger, of the stock that are trekked from the production areas through local marketing to the major urban and export channels in the capital.

Organization of labour

In the past all labour was found in the family. Men were primarily responsible for herding and care of the livestock and women largely looked after the domestic needs of the household but also had some clearly defined livestock tasks. As families have become involved in agriculture it is again the men who do most of the work but women are important at sowing and harvest times.

In general terms the old order still prevails. There has, however, been a shift to employing labour

from outside the household and, conversely, for household members to seek paid work outside the family business of herding and farming.

The household head is the senior manager: he supervises the overall requirements and allots tasks to individuals of his family. A "*murah*" of 300 sheep requires two men to herd it as does one of 100 head of camels. Smaller herds, of any species, may be combined with those of other families and herded communally on a labour rotation basis. A few cows, sick animals and young animals born out of season are herded near the camp or settlement by the women of the household or by young boys.

The tasks associated with daily management of the herds and flocks include supervision of grazing, protection of the stock and the provision of water. Ensuring that animals have adequate water is a major and often time-consuming and laborious task and largely explains the need for two herders for relatively small groups of animals. Even so, more labour may be required to provide water, especially if the source is a deep well or has low output. The dry season is particularly demanding of labour as grazing may be distant from water sources and these latter produce little water.

At the camp the women and girls are responsible for many tasks. They are helped by boys until these are eight years old, when they are given herding tasks. Female activities are diverse, including preparing and cooking food, providing domestic water, gathering fuel, collecting wild fruits and herbs, mending tents, curing skins and working leather, spinning and weaving, looking after the poultry and sick animals, and processing the milk to butter or cheese.

In general there are no taboos in most tribes against women undertaking the milking of the animals. They do in fact often milk all species except camels, which are too big and strong for them. Women also help with shearing in those groups that take wool from sheep for neg-making.

Animal wealth should increase with family size so that sons are fully employed and are also fully provided for. If herders have to be hired they have traditionally been paid largely in kind: a "*hog*" or 2-year old camel for herding camels for a year and six or seven "*tini*", or yearling sheep of mixed sexes, for looking after sheep. Times are changing, however, and according to a Rashaida "paid herders are becoming kings and we have to meet their terms".

The use of hired labour has greatly increased during the 1980s. Principal reasons for this include a reduced family size and some educated members of the family moving to better paid jobs in the local centres, the national capital or even abroad. An ironic situation exists in some cases where sons of owners have gone to Saudi Arabia or the Gulf States to look after expensive racing camels or other high value stock. The increased need for seeking herders from outside the family has resulted in a classic demand-supply situation and labour has become expensive. Wages vary by tribe and by species herded (a camel herder expects twice as much as a shepherd) but hired labour imposes additional costs on the owner such as the provision of food and clothing and the use of a donkey or other riding or pack animal.

The labour problem is one that is mainly confined to traditional male tasks. Female family members have, as yet, not had the same opportunities in education and in travel as their menfolk and at least for the time being most are still at home.

Risk-avoidance strategies

The diversification of species and herds are traditional strategies that reduce and spread risk. The adoption of cultivation is another such which broadens the resource base even further. External wage labour is also to some extent another strategy.

Pastoralism has always been a high risk occupation. It is more so in modern times in unstable and unsteady and at all times weak economies which are also open to external competition. The traditional skills of pastoralists in making the best use of grazing resources, of water supplies, of controlling disease in their animals, and of obtaining market information are now needed more, and to a higher degree, than ever before.

Drought has been a menace since time immemorial. To cite just a few in recent times the Shukriya say they lost 20%, 30 % and 60% of their camels, sheep and cattle in 1947-1948. The Zhagawa and many other western tribes suffered heavy losses in 1974-1975. Drought and famine, said by many to be man-induced through population increase and the explosion in livestock numbers with no provision for supplying more feed, are now apparently endemic, occur more and more often and are brought successively to the attention of the world via the media.

Traditional strategies to combat risk also include manipulating herd structure so that the proportion of breeding females is high. Accumulation of large herds (which has often been, and to some extent still is, considered as a pastoral ploy to gain prestige) of which at least some will survive in the event of drought or disease is another. Nomadism and transhumance are also ecological adaptations to the rigours of a stern environment and both assume more importance at times of more than unusual difficulty.

Modern strategies include reinforcement of traditional ones and the adoption of new methods. Supplementary feeding over longer periods and in greater quantities than hitherto is one such new strategy. Money to buy feed may be realized by selling some animals which is itself a new strategy. Liquidation of assets in the form of selling all one's animals is literally the last resort: the poor suffer first and most severely and the rich benefit by being able to augment their own resources at low cost.

Conclusions

Pastoralism has never been a static profession. The patterns and speed of change, however, are probably faster now than at any time in history.

The normal disparities in wealth among tribes and members of tribes have widened considerably. There are now very rich and very poor. Livestock ownership and other forms of wealth are concentrated in the hands of the former and many of the latter have had to abandon their pastoral way of life altogether. For the rich also it may be that pastoralism is now only a part of a more diversified business which itself is a modern form of risk avoidance.

Components of such a diversified household economy could include, in addition to livestock herding and cultivation, trading locally and internationally in livestock, transport of goods and people, and ownership of a shop. A sample of nomads, when asked what their perceptions of a comfortable life might be, indicated that a relatively well-to-do Shukriya might have a profile that included:

- . ownership of 80 camels and 300 sheep;
- . a shop in a main town such as New Halfa or Gedaref;
- . ownership of a mechanized farm with a tractor that could also be hired out;
- . a lorry also for rent;
- . a "hawasha" tenancy on the New Halfa scheme.

Among the Rashaida the aspirations of the rich would be similar to those found in the Shukriya but more camels would be needed as well as a stake in the business of exporting camels to Egypt. By contrast the impoverished Rashaida, although perhaps no longer true pastoralists, would have more traditional values and would seek:

- . provision, organization and improvement of pastures;
- . development of water supplies for people and animals;
- . better veterinary services for stock and improved human medical and education facilities;
- . means to ensure an adequate grain supply;

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. "productive" sons to contribute to family welfare, since "vitality is not measured in numbers but in concern for the family".

Modern developments have resulted in a general weakening of group cohesion and decision-making. This has resulted in part at least from the decline in the value ascribed to reciprocal rights and duties and a corresponding rise in the value of personal and individual gain. These changes have themselves resulted in part not only from the loss of grazing and water resources but also from the loss of the control of these resources.

There is now more cohesion at the household level than at the tribal and sub-tribal levels but even this is continuing to decline. This is not to say that some traditional customs have not survived. The rich and powerful can still smooth the rough passage of life for the poor and needy by, for example, helping to provide education, interceding with the administration, and providing some comfort and succour during drought and famine. While these practices are still actively sought by the poor, who consider them to be the dues payable by blood relations the newly urbanized rich look upon them as more and more of a burden. Some old practices have disappeared or are rapidly disappearing. Assistance in building herds and stock loans are now the exception rather than the rule mainly, it would seem, because of the higher economic value of stock and the lack of need by the wealthy for mutual and reciprocal services.

Pastoralism is evolving rapidly from a subsistence oriented, hunter-gatherer production system in which group welfare was seen as an important component of the whole to a system that is more commercially directed and in which self interest is assuming more importance. Livestock production per se might benefit as a result but the social and economic repercussions for a majority of former producers will remain.

BIBLIOGRAPHY

Adams M. - The Baggara problem: attempts at modern change in Southern Dho'far and Southern Kordofan. *Development and Change*, 1982, 13 (2) : 259-289.

Ahmed A.G.M. - The Rufa'a al Hoi economy. *In*: Some aspects of pastoral nomadism in the Sudan. Khartoum, Economic and Social Research Council, 1976.

Asad T. - The Kababish arabs: power, authority and consent in a nomadic tribe. London, C. Hurst and Co, 1970.

Barth F. - Economic spheres in Darfur. *In*: FIRTH R., ed. - Themes in economic development. London, Tavistock Publications. 1967. P. 149-77. (ASA Monograph n_6).

Barth F. - Human resources: social and cultural features of the Jebel Marra project area. Department of social anthropology, 1974. (occasional paper n_1).

Cunnison I. - Baggara arabs: power and the lineage in a Sudanese nomad tribe. Oxford, Clarendon Press, 1966.

Dafalla H. - The Nubian exodus. London, C. Hurst and Co, 1975.

Davies H.R.J. - Population change in the Sudan since independence. *Geography*, 1988, 63 : 249-255.

El Hassan M.O. - Lower order planning units for rural development in the Sudan. Sudan research unit, Faculty of arts, University of Khartoum Press, 1971. (African studies Seminar paper n_11).

El Sammani M.O., Abdalla B., El Tayeb G., Suliman M.M. - Nomads of the semi-desert belt of northern Kordofan and Darfur Regions, Vol. 1, Economic and social research council of the national council for research. 1984, report n_15.

Government Of Eastern Region Sudan - Population of the eastern region based on 1983 national census. Department of Statistics. 1984. (in Arabic).

HAALAND G. - Pastoral systems of production, the socio-cultural context and some of its ecological implications. In: O'KEEFE P. and WISNER B., ed. - Land use and development. London, International African Institute, 1977. P. 179-193. (African Environment special report. n_5).

Haaland G., ed. - Problems of savannah development: the Sudan case. , University of Bergen. Department of Social Anthropology Bergen, Studia University Bookstore, 1980. (Department of Social Anthropology occasional paper n_19).

Hewison J.W. - The role of animals in the life of the Sudan, Land use department files. 1958. (Unpublished Office file Report).

Hill L.G. - Hababin village economy. Sudan Notes Rec., 1968, 49 : 58-70.

Holy L. - Neighbours and kinsmen: a study of the Berti people of Darfur. London, Hurst, 1974.

Khalifa A. H., Simpson M.C. - Perverse supply in nomadic societies. Oxford Agrarian Studies, 1972, 1 : 46-56.

Ministry For Social Affairs, Population Census Office - First population census of Sudan 1955-1956, Notes on Omodia map. Salsburg, Austria., KIESEL R., 1958.

Mac Michael H.A. - The tribes of northern and central Kordofan. Cambridge, Cambridge University Press, 1912. 259 p.

Morton J., Fre Z. - Red Sea Province and the Beja. London, Oxfam, 1986.

Reid J.A. - Some notes on the tribes of the White Nile Province. Sudan Notes Rec., 1930, 13 : 149-208.

Salih H.M. - The Hadendowa: pastoralism and problems of sedentarization. Ph. D. Thesis, University of Hull, 1976. (Unpublished)

Seligman C.G., Seligman Brenda Z. - The kababish, a Sudan Arab tribe. Harvard African Studies (Varia Africana), 1918, 2 : 105-184.

SORBO G.M. - Nomads in the scheme. A study of irrigation, agriculture and pastoralism in eastern Sudan. University of Bergen, 1974.

Sudan Government Population census in Wadi Halfa rural area and town. Khartoum , Department of Statistics, 1974.

Tully D. - Culture and context in Sudan. New York, State University of New York Press, 1988.

