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Cattle keeping among the Dinka from Southern Sudan

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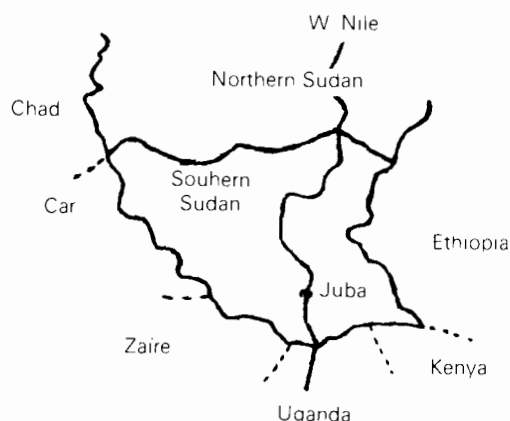
Summary

Milk is of major concern in the diet of the Dinka. The way these tribes are keeping cattle and the problems they encounter are discussed. A realistic and long term programme to improve productivity within transhumant herds should be based on a good understanding of conditions, cattle and people from the area.

Résumé

Le lait occupe une grande place dans l'alimentation des Dinka. L'élevage, tel qu'il est pratiqué par ces tribus et les problèmes rencontrés sont étudiés. Un programme à long terme et réaliste en vue d'améliorer la productivité du cheptel transhumant doit s'appuyer sur une connaissance approfondie des équilibres existants.

The Southern Sudan contains 6.6 million heads of cattle, a large part of which are in the hands of the Dinka community (500 tribes and 1 million people).



The Dinka cattle are of Nilotic type (group Sanga-long horned), medium to large and they are considered a dairy type. Although these cattle are bred and raised to produce milk, and the herds are large, they are unable to produce enough milk to satisfy demand around the capital, Juba.

"Juba area" is the area around the town (400 sq km). This report is the result of a survey of the cattle from this area (8 000-10 000 head), during the dry season.

Livestock in the economy and society

Cattle are by far the most important livestock in the Dinka's hands. They play a dominant role in the economic, social, political and spiritual life of this

people. From the economical point of view, the cattle provide an essential part of the food supply; material for manufacturing goods as well as acting as a famine reserve in April, just before the first *Sorghum vulgare* harvest.

They also play an important role in the religious and social aspects of the community; the social factor of most significance being the cost of a bride. In order to marry, a man must be able to transfer an agreed number of cattle to the bride's family; the frequency of these exchanges creates a certain amount of cohesiveness within the community, since several people will have an interest in the success of a marriage.

Cattle camp management

Climatic conditions determine the grazing pattern of the Dinka herds: during the dry season (January to May) the cattle herders settle on the low lands of the "toich" which at this time of the year, offers the best communal grazing land composed mainly of *Echinochloa sp.*, *Hyparrhenia rufa* and *Andropogon gayanus*. In April and May the rains begin and last 6 or 7 months. Then the toich, with its flat, easy impermeable soil becomes flooded and biting flies and mosquitos are ripe. Therefore, the cattle camps move to the higher lands in search of better grazing (mainly *Hyparrhenia rufa*) and remain there for the rest of the rainy season.

It is during this period that cultivation is carried on the permanent Dinka settlements. Then, in October and November the camps begin to move back to the toich and by January, after most of the vegetation has been cleared by fire, the toich becomes the ideal grazing ground again.

The cattle camps vary in size depending on the number of family groups living there: each family occupies one hearth site. A family group will return to the same camp year after year. Each family group's cattle are tethered in a circle around their respective hearth. Day and night a dung fire burns in the middle of each hearth to keep the flies away. Each morning, the first task is to rub the fine dung ash in to the cattle's coats protecting them, during the grazing period, from the biting flies.

At 8.30 a.m. the milking commences: the calves are released to suckle their mothers for a few minutes, then cows are milked. After this has been completed, the herd leaves for grazing which takes up to 8 or 9 hours of the day. There are roughly 10 large transhumant cattle camp during the dry season, depending on the year, and they have 200-1200 heads of cattle. The smaller camps, 10-200 heads of cattle, are more numerous numbering 25-30.

In a typical camp, most of the cattle are female (about 55% of adult cows and mature heifers), emphasizing the cattle herders place on milk production. However, since only 60% on average of the cows are lactating this would indicate that infertile cows are kept because of the prestige of having a large herd.

Wide differences in the reproductive performance in the camps are observed, they are mainly due to the management and education level of herders. For example, the calving rate per year drops from 66% to 25% in camp where cattle are kept mainly for social reasons.

Dry season feeding is a major problem. Apart from the toich no other feeds or grasslands are available for the large nomadic herd at that time of the year. No studies have been carried out to determine its carrying capacity, within the Juba area.

In Bor area (about 200 km North), the dry season stocking rate has been estimated at 8 ha/250 kg (Ilaco 1982). However, in Juba, even though the pastures are better, more than 8 000 heads are stocked on about 30 000 ha of grazing land during the dry. This situation will worsen in the future as the herd naturally increase (estimated at 3.5%) and as more and more cattle camps are forced into the area as a result of the insecurity at the Ethiopian border.

Performance of the Dinka cattle

The following information is based on interviews with cattle owners and data collected: average daily yield 0.7 kg; length of lactation 7-8 mths; calving interval 13.5-15.5 mths; age at first calving 4 years; weight of calf 16-18 kg.

Since milk production is the cattle herders objective, it is interesting to compare the results with that of Dinka cattle under improved management at Mafao Farm (FAO/UNDP/RMA project), where the seven best cows on 38 (first lactation) average 445.4 kg/lact. That shows what can be gained by selection within the local herds and also by improved management.

Animal health survey

Bovine trypanosomiasis is by far the biggest health problem for cattle and it limits livestock development in tse tse fly areas. Trypanosomes were detected on 15% of thin blood smears ($n = 353$). There are no attempts to control tse tse fly. Nilotic cattle are rarely affected by tick borne disease (state of premunition). 30% of smears show *Theileria mutans*; 80% of the herds tested ($n = 10$) have evidence of *Brucella abortus* infection, 9.6% of the cows tested show a positive result to the Rose Bengal Plate Test ($n = 197$). Parasites are usually not of major concern, except from the productive point of view. Streptotrichosis is the most common skin condition.

Transhumance is the Dinka's response to the climatic and environmental conditions of the area. Lack of food during the dry season is affecting the productivity and results from overstocking which itself is correlated with the role of the cow in the Dinka society.

Legume trees planting, mineral supplementary feeding, vaccinations could solve many problems, if associated with an attractive livestock marketing programme and a strong extension programme.

A realistic approach to improve the Dinka cattle should be restricted to getting rid of the worst cattle. Crossbreeding should take place later.

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