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Some traditional husbandry and ethnoveterinary practices of the Messerya Humr Baggara transhumants of southern Kordofan

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In Africa Sudan ranks second only to Ethiopia in cattle population (21.7 million) heads (LED 1995). Out of this 14.6 million heads are Western Baggara cattle. It is worth mentioning that by 1979/80 livestock population in the country exceeded the proper stocking rate by 5.5 million AU (Animal Unit) (Abdel Ghaffar and Darag 1992). Today the situation is more aggravated by the continuing expansion of cropping at the expense of rangelands.

The Messerya Humr tribe of southwestern Kordofan is one of the biggest of the Baggara Arab sub-tribes of the Sudan, the other sub-tribe being the Messerya Zurug. The Messerya tribe as a whole owns 5.8 million cattle, thus contributing substantially to the national economy of the country. The Humr have been pastoralists from far back in history; first of all with camels however. They took to cattle when they were forced to move to areas not suitable for camel raising (Cunnison 1960). Although most Baggara tribes share some traditional animal health care practices, the Messerya Humr transhumants managed to maintain and sustain a larger number of livestock which implies greater skills of animal husbandry and health care. Some of the husbandry and health practices adopted by them contribute di-

rectly to livestock production. It is therefore the intention of this paper to illustrate some of these traditional practices so that professionals and planners may investigate their validity, improve them where and when necessary and eventually disseminate some among other similar pastoralist societies.

Husbandry Practices

Mobility

Mobility is an adaptive mechanism to overcome limitations of grazing, water scarcity and labour demands (El Wakeel and Abu Sabah 1993). El Muglad is the home base, main cultivation area and biggest market town of the Messerya Humr. Once the rains come they move north to Babanusa, to avoid biting flies and to get out of the mud. Cattle graze in the woodland savannah area there from July to mid-September. They trek south to El Muglad (this area is a plain of non-cracking red clay) where they remain in and around the town until mid-December after harvest time. The Messerya Humr are dominantly pastoralists, but they also cultivate millet as their main staple and peanuts and sesame on a limited scale as cash crops. Their diet consists mainly of millet grain

and milk, but when the price of millet is high it can be substituted by sorghum or maize. For this reason and due to water shortage they trek southward and spend a shorter time in the 'Goz' sandy area before moving further south to the region of Bahr el Arab where they spend the dry summer period until they trek back north (Fig. 1).

Grazing Patterns and Herd Management

In addition to cattle the Humr keep sheep, goats and sometimes, horses. They use cattle for cash, milk, meat and as beasts of burden. A herd composed of a hundred cows ought to have two carefully selected bulls, but sometimes cows in heat may be served by foreign or stray bulls from outside the herd in the open range. Messerya herdsman graze cattle separately, while sheep and goats are herded together. The reason is that cattle can travel for longer distances than smaller ruminants. The only time when mixed grazing is allowed is when pasture is abundant and water is available in the vicinity of the homestead. Pre-weaned calves of less than one year (*munslab*) as well as lambs and kids are kept indoors, within the camp and in some instances tied with a common rope called *ribig*. One year old calves (*holi*) are allowed to graze nearby and around the homestead. All year round calves and bull calves are kept in thorn-fenced kraals. They are allowed to suckle their dams twice a day during milking time in the morning and evening. Rarely are cows kept in confinement – only when they are sick, when the herd is small, or to avoid the risk of grazing the surrounding crop farms.

Bulls of smaller size are usually castrated for fattening and selling, while bigger bulls are kept for breeding purposes. The process of castration is normally performed on bulls three to four years old by a skilled husbandman and

it is usually done by mechanically crushing the testicles with a hammer. Branding for identification is done on one to three years old calves by using hot iron. It is usually performed on *Corban*, the Islamic holy festival day, as good omen.

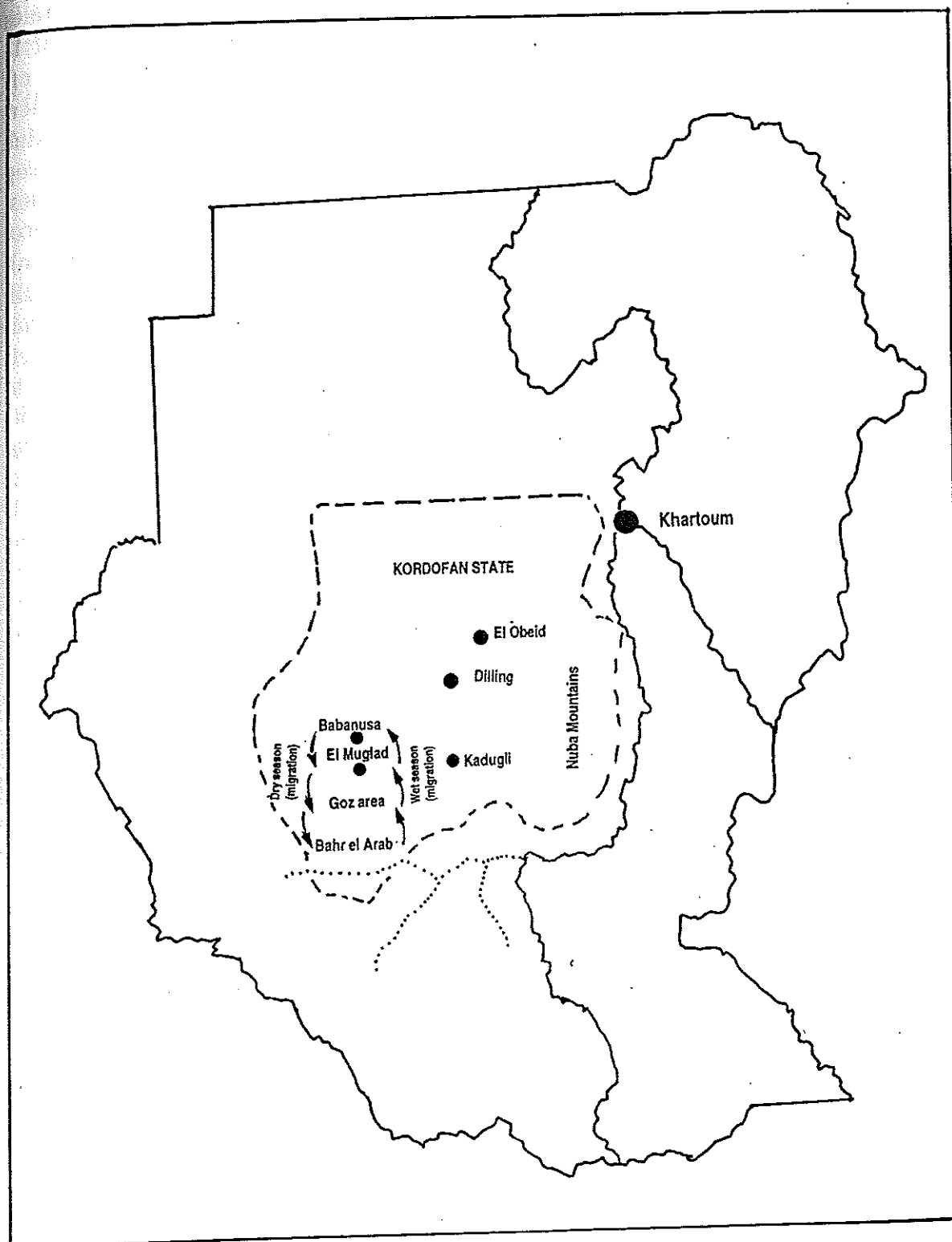
Supplements

Generally fodder supplements are not given. However, critical supplements are given to calves who are emaciated or otherwise in poor condition and also to animals which fail to graze naturally due to reasons of health during the late dry season. The supplement is usually crushed millet or *dura* sorghum bran mixed with sour milk (*roab*). Salt is provided twice, or more often, to all animals during the periods when grass is dry, especially at the onset of rains (*rushash*). This practice is not performed during the wet season as it is believed that the pasture is then rich in salt.

Breeding

Regulating the breeding season is an important aspect in coinciding the birth of a calf with a period of better nutrition, which usually is the wet season. High mortality rates are observed obviously among calves born during the dry season when both pasture and water are scarce. Breeding is regulated by concentrating the cow's oestrus cycle in a discrete interval which is known as synchronization. In modern veterinary science this is done by injecting or feeding progesterone compounds to the cow (Bath *et al* 1978). The function of these hormonal compounds is to block final maturation and ovulation of the follicle. Upon withdrawal of the drug, follicle matures and ovulation takes place usually within three to five days. This type of synchronization is very expensive and unsuitable for traditional systems. However, pastoralists resort to more simple procedures, at minimum or no cost. The

Figure 1. Migration routes of the Messerya Humr of southern Kordofan



synchronization technique – *dukama* as the Messerya call it – is based on allowing the suckling for a short period or preventing it altogether. To prevent it entirely thorns are attached in two rows to a rope, or a piece of cloth, tied around the calf's muzzle; when it tries to suckle the thorns pierce the dam and she runs away. This process of preventing suckling leads to accumulation of milk in the cow's udder and brings the cow into heat; she can be serviced immediately or at the planned time and more offspring can be produced this way. It should be noted that pastoralists prefer to multiply their herds. This technique is unique to Messerya herdsmen in that only they practice this on the cow in contrast to techniques that use males for breeding prevention. Major problems of this local procedure is that the cow gets dry soon after conception and the calf gets suckled for a shorter period and consequently gets less nutrition. However, pastoralists emphasise the number of animals rather than their quality.

In common with other pastoralist groups the Messerya Humr, however, also use other techniques, some of which are mechanical. For example, to prevent mating, they tie off the male organs of the sheep as the Tuareg do (Ba 1982) or use aprons like the Somali, the Maasai and the Mongols (cf. Mares 1954; Schinkel 1970; Lattimore 1941 respectively).

Ethnoveterinary Practices

Messerya herds have been plagued by different common diseases. Rinderpest, Foot and Mouth Disease, Bovine Pleuropneumonia, Contagious Caprine Pleuropneumonia, Anthrax, Hemorrhagic Septicaemia, Blackleg, Trypanosomiasis, Tick-borne and Parasitic diseases, to

mention just a few. Contagious diseases like Rinderpest can raise mortality rates of a herd up to 90% in a period of 48 hours. Regular veterinary services offered by the government are by far short of covering all herds in the country due to several constraints such as high drug prices, lack of proper storage facilities, general infrastructure, large number of animals, inadequate number of technicians in the profession, etc.. As a result, livestock owners, especially in predominantly pastoral areas, are confronted with these disease problems and have to seek ways of treating and saving their animals. The Messerya have therefore, developed several methods to prevent or control some of their livestock ailments. Sick animals are identified and diagnosed in different ways; one of these is by the condition and appearance of the coat. A rough animal coat with erect hair is an indication of illness. Also an empty bowel and rumen (hunger groove) can be a sign of inappetence. A sudden drop in milk production of milking cows is diagnosed as udder inflammation. If a cow is affected by Foot and Mouth Disease the calf is not allowed to suckle, instead the cow will be milked repeatedly during the day and the milk will be discarded. Here, in brief, are some of the most common diseases and traditional treatments carried out by the Messerya Humr:

Contagious Bovine Pleuropneumonia (CBPP) and Rinder pest diseases

These are two highly contagious diseases and cause high mortality among herds. The first is caused by Mycoplasma and the second is a viral disease, but both are controlled by quarantine measures. Traditionally, the infected herds are kept in isolation to ensure that the others remain healthy. This practice is congruent with modern prevention

practices and reflects the awareness of the pastoralist of the nature of the disease.

Retention of placenta

Normally, afterbirth tissues are expelled within half an hour to three hours after calving but in some cases and for different reasons when the placenta is retained for longer periods, e.g. six hours, it should be removed before it causes metritis, an inflammation of the uterus, and leads to infertility of the cow. The treatment in modern veterinary medicine is performed by injecting the animal with oxytocin hormone, which is very expensive and may not be available in such remote areas. Expulsion of the placenta is definitely brought about if the cow is drenched with the juice of crushed and boiled nuts of *Gardenia lutea*, a herbaceous plant locally known as *Ful Abon Gawi*. The nuts of this crop are on some occasions eaten by humans after boiling and shelling.

Jaundice

This disease is usually observed in young calves. The traditional treatment employed is cauterization. The calf is branded along its two flanks by an iron device known locally as *muhwar*. The calf is temporarily weaned and the normal milk is substituted by sour or de-fatted milk. In modern medicine jaundice is treated by giving the animal fluids and tonics, as it is known that fats cannot be digested since bile is being secreted in the body fluids. As a result feeding whole milk will increase the stress on the animal. Incidentally, the same method is applied in modern veterinary medicine to treat horse tendonitis.

Injuries and Wounds

Fistulous withers (chronic deep suited wounds), which are inflicted on animals by saddles, harnesses, overload and/or

unbalanced weight distribution on the back of the animal, are treated traditionally by smearing or rubbing the affected area with ashes, bull's urine, fresh cattle dung or diesel oil. Observations showed that after such treatment wounds dry up and healing occurs very fast. The scientific explanation of this is that these substances form a physical barrier from external stimuli. Fresh dung is known to be sterile. Thus the wound gets a chance of developing granulation tissues underneath and healing ultimately occurs.

Bloat

Bloat is a condition where the animal's rumen swells by entrapped gases which accumulate, causing distension. This takes place when the animal feeds on a large amount of certain legumes. In the rangelands of northern Kordofan where the Messerya graze their animals, a very palatable and nutritious legume species is locally known as *Lusieg* (*Zornia glochidiata*). It is the major cause of bloat to animals in these areas. The transhumants respond by first drenching the animal with a solution of soap and oil; if this does not help they resort to piercing or puncturing the animal's rumen with a knife, to release the gases. In many cases the animal is saved. These treatments have explanations and counterparts in modern veterinary medicine. Oils play a major role as defrothing agents in destroying the gas bubbles that form inside the rumen, thus releasing the tension in it. Piercing or puncturing the rumen is known as trocarization, whereby a troca and canula are used to release the gases.

Diarrhoea

Diarrhoea leads to an animal losing body fluids and electrolytes and consequently becoming very weak and even dying of excessive dehydration. In young calves diarrhoea may be caused by over con-

sumption of milk or through infection. It is treated by hot branding or cauterization encircling the root of the tail.

Fatigue

This takes place when pack bulls and horses have excessive exercise or fatigue during a tough journey after a long rest. This condition is similar to what is known as Monday Morning Disease that also occurs as a result of excessive exercise after a long rest. It is caused by depletion of glycogen in muscles and the release of lactic acid which results in muscular pain. Traditionally, this is treated by drenching the sick animal in human urine and sometimes with oil of animal origin mixed with sesame three times a week. Treatment by feeding energetic or tonics like oil and grain seems rational and useful.

Control of biting flies

In addition to being a source of nuisance some flies and insects such as *Tabanus sp.* and *Tse tse*, are also disease transmitters. They disturb the animals, thus substantially reducing the time which the animals could have otherwise spent on grazing or resting. These flies are one major reason for hastening the movement of pastoralists with their herds without fully utilizing areas of abundant pasture. The Messerya use the smoke of fire from cattle dung to repel these flies. Normally, flies become more active in the evening. The herd is divided and animals are grouped around heaps of ignited dung cakes.

Conclusions

It is likely that there are areas of traditional management and ethnoveterinary practices adopted by the Messerya Humr transhumants that can be of inter-

est to professionals and planners. Some of these can be used among other stock raisers with little modifications and/or improvements. The attractive part of these techniques is their simplicity and low cost, especially in Africa, where pastoralism is a common mode of subsistence production and where financial abilities are limited. Good examples of useful management methods practiced by these pastoralists are oestrus synchronization and placenta expulsion. Other practices warrant more investigations and verifications and the chances of accumulating useful knowledge are not remote.

Recommendations

- Develop basic understanding of the traditionally accepted husbandry procedures to evaluate and encourage them to preserve and persevere with the useful ones.
- Investigate and critically analyse their ethnoveterinary knowledge and practices to determine their potential use and application – for example, the medicinal value of some plants used to cure animals.
- Integrate traditional and modern (ethno)-veterinary practice whenever possible and introduce necessary improvements.
- Recruit and train suitable candidates from among the herdsmen as paravets; this can help as they are more familiar with the environment and livestock and actually stay with the herds. The local herdsmen speak the local language and can better communicate with their own community.
- Provide simple, basic needs and easy to-use equipment to enhance the paravets' job.

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men interviewed in this study for their
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Résumé

Dans cette étude les auteurs passent en revue et documentent certaines des pratiques traditionnelles des Messerya Humr, pasteurs transhumants dans le sud-ouest Kordofan. Les informations présentées ici sur les pratiques d'élevage, et en particulier sur les pratiques ethnovétérinaires, furent recueillies au cours d'enquêtes, d'interviews et d'observations chez ces pasteurs. Mais ces connaissances et ces pratiques ne sont pas nécessairement uniques à cette communauté; elles peuvent être plus répandues chez d'autres groupes Baggara du Sud-Kordofan. Ainsi, les auteurs estiment que de telles informations pourraient aider ceux qui travaillent dans les services de l'aide au développement à réexaminer la pertinence de ces pratiques pour la science et les techniques vétérinaires modernes. Il serait éventuellement possible d'utiliser et d'améliorer les moyens traditionnels – ceux-ci étant par surcroît en général moins coûteux – et de les introduire dans d'autres groupes de pasteurs.

Resumen

La contribución intenta revisar y documentar algunas de las prácticas tradicionales del grupo transhumante Messerya Humr en el suroeste de Kordofán. Se describen las prácticas pastoriles y etnoveterinarias que ellos utilizan en la cría de su ganado. La información presentada se basa en censos, entrevistas y observaciones realizadas entre pastores Messerya Humr. Algunas de las prácticas son comunes también en otras tribus Baggara en el sur de Kordofán. Los conocimientos reflejan la sabiduría aborigen y tradicional para manejar los rebaños. Esto tal vez estimule a profesionales y especialistas para el desarrollo a que incorporen tales conocimientos a su perspectiva científica. De repente son capitalizables y mejorables, ya que prácticas tradicionales generalmente son más baratas que técnicas modernas. El beneficio podría ser diseminado, además, entre otros grupos de pastores.

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