

CHAPTER FOUR

Camel Production in Ethiopia

Camel owners have well recognized their animals. They give the greatest value for camel. In Ethiopia, pastoral communities are the people to whom the camel is greater than any material wealth. Wealth and social status of individuals and households in the pastoral areas of Somalia are measured by the number of camels owned. Camel is highly linked with pastoral lifestyle and economy. As an ensemble of all economic and social values, camel is part of poetry and adulation among Somalis. Camel milk in songs and poetry provides the single most potent metaphor for all that is good, beautiful, and just in life. Camels are also used as bride-price and as payment to blood compensation among the Somalis. Camels are slaughtered for Moulid (Birth day of the Prophet Mohammed), wedding, funeral and when payment to blood compensation is effected in contractual agreement.

Wealth and prestige in Afar community also depends on the status and size of individuals' camels than on their cattle and goat herds. An Afar pastoralist prefers not to sell camel, though it fetches much more market value than cattle and goats. The ideal in Afar community is to have large herds. Afar whether settled in agricultural schemes or living in towns invest on camels, which are kept for them by relatives in the rural areas. Camels are sold only during times of crisis and when there is a need to balance the sex ratio of the herd.

Somali pastoralists see camels as a banking system or security against drought, disease, and other natural calamities that affect smaller stock more seriously. Their lineage members commonly provide households that lose their livestock due to drought with camels. Camels also act as a linking factor between different lineage groups and promote group solidarity.

Major Constraints of camel production

Lack of better management, nutrition and health care

Production constraints

Lack of essential steps towards the development of a sustainable breed improvement programs in the camel rearing society of the country

The productivity of camels is generally low and the camel has been given little research and development attention

The future perspective of camel research in Ethiopia

In this section an attempt is made to outline an appropriate strategy for future research in this area;

The camel has until now received less attention than other domestic species. Much of the work so far has been carried out by individuals, with little institutional support. Some topics, such as anatomy and disease, have

attracted considerable attention, while others have been largely neglected, and research has tended to remain isolated and unrelated to production systems as a whole. There has therefore been little impact on development efforts.

The role of camels for transport in Africa and Asia seems to be declining, so that emphasis in the future should probably be placed on their potential for meat and milk production and their possible use for traction. Nevertheless, the importance of the camel as the traditional means of transport for pastoral groups should not be overlooked. Camels also enable transport costs to be kept low by walking themselves or other products to market, sometimes traveling considerable distances in remote areas.

Information on supply and demand for camel milk is scarce, but it would seem that pastoralists often keep more animals than are required to meet their subsistence needs, which implies a surplus of milk which could be marketed.

Since there have been few efforts to improve camel productivity in Ethiopia, supplies of both meat and milk will continue to develop in line with herd numbers. Moreover, unless efforts are made to expand existing local and export markets and to introduce camel products to areas where they are as yet unknown, market demand will tend to remain at the present level.

Subsistence demand, on the other hand, will probably rise in line with population growth in arid rural areas.

Research and development work on camel production is carried out by institutions in several countries with substantial national herds, for example by the national veterinary schools of Sudan, Egypt, Somalia, Saudi Arabia, Iran, Iraq, Pakistan, India and Senegal. Other research institutes, such as the Desert Centre in Egypt, the Arid Zones Research Institute at Alice Springs in Australia, and the Bikaner Institute at Rajasthan in India, are also working on camels, and further research is sponsored by international organizations, such as the Institut d'Elevage et de Médecine Vétérinaire des Pays Tropicaux in France and the United Nations Environmental Programme.

This work should focus on the characteristics of camels, their environment, available technology, marketing possibilities and relevant economic and social factors. Since work is being carried out in many different countries it will be important to coordinate efforts in order to avoid duplication and ensure the better use of limited funds. The need for proper coordination may well justify the setting up of a Camel Production Research Institute (CAPRI) in one of the countries with a large camel population or in affiliation with one of the already existing livestock research organizations. It will also be important for governments to adopt a multidisciplinary approach to the design and implementation of development projects based on research findings.

With regard to specific research topics, there is a need to develop a standard procedure for classifying the numerous types of camel in Africa. Many breeds in the different (often neighbouring) countries are probably the same, differing only in name and in minor characteristics. Accurate population estimates are also needed, as estimates now available fluctuate widely.

Slow herd growth rates are in part attributable to the low reproductive performance of the camel. Its physiology of reproduction, including oestrus, gestation and parturition, is only partly understood. The role of such factors as climate, nutrition, pathology, endocrinology and inbreeding need to be further investigated. Is it true, for example, that the presence of excess males and sterile females tends to lower reproductive performance? As the camel appears to be an induced ovulator and a seasonal breeder, the potential of oestrus synchronization procedures for increasing fertility might usefully be investigated.

The causes of high calf mortality rates should also be investigated, and the best methods for reducing them identified. Improved survival rates will result in faster herd growth, releasing more animals for slaughter at an earlier age to meet consumer preferences. The current practice of marketing old and culled animals only may be due to the risk of high calf losses.

Nutritional investigations should continue to focus on the capacity of the camel to survive under stress. The relationships between anatomical peculiarities, such as those of the digestive system, and the camel's physiology are still not fully understood. The roles of trace elements, sodium balance and vitamins need special attention, especially in pregnant females and newborn calves.

To return to milk production, the existence of the surplus resources alluded to above needs to be confirmed and their extent in different countries or areas assessed. It will then be important to find out why camelmén have so far been reluctant or unable to sell surplus milk. Would higher prices lead pastoralists to increase their sales of camel milk and milk products? These questions should be addressed in the context of a broader examination of the social, cultural and economic factors which may limit milk production under current pastoral systems. The situation calls for a concerted intergovernmental effort, since almost every country in Africa shows a deficit in dairy products (ILCA, 1979a).

The wide dispersal of pastoralists in the arid zone would make a formal milk collection, processing and marketing system difficult to establish and maintain. However, small marketing systems might be possible in areas where camel owners have settled. Reports of the poor keeping quality of camel milk have been made alongside those to the contrary. Research is needed to clarify this question and identify not only the best form in which

the commodity could be collected from often remote producers, but also the most acceptable form for its potential consumers. Conversion into butter, cheese or ghee are alternatives which should be investigated before a marketing strategy is selected.

Efforts to encourage the marketing of camel meat must address similar constraints. The arid zones of Africa (with under 500 mm rainfall) comprise one third of the continental land area (approximately 7.026 million km²). Most of the 12 million camels of Africa are found in these areas, in addition to 31 million cattle, 26 million sheep and 35 million goats. Whether it is advisable to increase or to decrease the livestock numbers in this zone is difficult to ascertain. Both stocking rates and carrying capacities vary considerably from one area to the next, and also from year to year. Nevertheless, in Africa, as in most of the developing world, there is an urgent need for increased animal production to overcome the large protein deficiencies referred to earlier. Cattle have been raised on ranches and under feedlot conditions utilizing agro-industrial products. The performance of most tropical breeds under these conditions has in the main been disappointing, since they often require more than 15 feed units (FU) per kg of weight gain compared with only 6 FU for most temperate breeds (ILCA, 1979b). The camel has a slow rate of growth and has not been selected for meat production in Africa, so that it is very unlikely to fare any better than tropical breeds of cattle under intensive or semi-intensive conditions. Extensive methods, based on the improved utilization of those rangelands on

which its ability to survive is hard to surpass, might pay better dividends. However, pastoralists raise their camels as a means of transport and a source of milk, so that any attempt to increase herd offtake for meat would have to ensure the continued supply of milk within the system. In addition, the general resistance of urban consumers to camel meat would have to be overcome. As previously advocated for milk, work is required to find out whether camel meat can be turned into other products, such as canned meat and sausages, and to gauge the acceptability of these on local and foreign markets. Attempts to process camel meat into animal feeds for other species should also be undertaken.

Should research confirm the existence of a large potential market for camel milk and meat products, major efforts to improve range management and utilization by the traditional herders will have to be made. Research on browse plants for cattle and small ruminants is developing fast in some parts of Africa, but little work has yet been carried out on the feed value and palatability of these species for camels. Such work is clearly needed, since of all the domestic species raised in the arid zones, camels are the major users of browse. Work on pastoral infrastructure (water points, roads, fencing, milk collection points) needs to be accelerated, with due regard to social, economic and environmental constraints. Better grazing controls are also needed, to protect both the environment and the pastoral societies themselves.

In the longer term a stratified production system might be envisaged in some areas; in which young animals could be purchased from pastoralists and finished on camel or mixed species ranches in ecologically more favorable areas. At such facilities, whether private or government owned, efforts could be made to breed and select for better performance. Stratification of this kind, however, requires heavy expenditure and is little suited to the current needs of the pastoralist. It should therefore be approached with caution. In the shorter term it would probably be more advisable to concentrate on improving the subsistence base provided by camels in traditional systems. Often the breeding and calving periods coincide and the pastoralist is confronted with a situation in which all his animals breed, calve and milk at the same time. As a result, a period of plenty may be followed by one of scarcity. The need to determine the minimum herd structure and size to meet the needs of the pastoral family on a continuous basis, will therefore be of particular concern.

Where camels have been used for traction, for example on the north coast of Africa, the output from one animal is alleged to exceed that of a pair of mature zebu oxen. If this performance level can be confirmed, it would seem appropriate to extend the use of camels for ploughing in areas where they are raised but are not as yet used for this purpose. Such development efforts should begin with a survey of the local acceptability of introducing new roles for the camel. The cost and efficiency of implements, i.e. yokes, carts, ploughs, harnesses and saddles, should be investigated. Existing techniques

in the training and management of camels for traction should be observed and evaluated for possible transfer into new areas. Finally, research should continue to compare the performance of the camel with that of other species, especially cattle and equines, for all the various functions which it can perform.