



SOME ASPECTS OF CAMEL RAISING IN THE BUTANA AREA OF THE SUDAN

Adam Drosa ¹, Khitma Elmalik ², Amir Salih ³ and Omer Abdelhdi ⁴

¹Ministry of Animal Resources, Sudan,

² Faculty of Veterinary Medicine, University of Khartoum, Sudan,

³ Dept. of Animal Nutrition, Faculty of Animal Production, University of Khartoum, Sudan,

⁴ Dept. Animal Production, Faculty of Nat. Res. & Envi. Stud., University of Kordofan, Sudan.

Abstract:

The overall objective of this study is therefore to probe the changes in herds and their structure specially herd population, current production system; production performance and constrains that hinder camel production in Butana area of Sudan. A well planned questionnaire was designed for the purpose of study. The results obtained showed three production systems, the nomadic migratory 22 %, semi-nomadic 36 % and the sedentary production system 42 %. It also reflected a negative decrease (-10.97) in camel herd population under migratory system and a positive increase of (5.2 %) in camel herd population in sedentary system. Milk yield per lactation for migratory was 1654.4 kg and 2925 kg for the sedentary system. The mean herd size was 62 head for migratory and 118 for sedentary, with male to female percentage of 25.6 % and 74.4 %, respectively. The practice of the Nomadism by the herders showed a decrease along years 1984, 1994 and 2003 with percentage of 73.3 %, 33 % and 22 %, respectively. Each year is independent of the other and not on an additive basis. The results reflected high illiteracy among herders groups of age (30–49 years) and (above 50 years) old was 67.7 %. Natural disasters as drought and man made halts as encroachment of mechanized agriculture on pasture, insecurity and tribal conflicts and wars were the main constrains of camel production. In conclusion, Nomadism is declining and giving a way for settlement and increase of production.

Keywords: Butana area, camel production, grazing system, herd population.

Contact Address: Amir Salih, University of Khartoum, Dept. of Animal Nutrition, Khartoum, Sudan, e-mail: ahmedamir1979@gmail.com.

Introduction:

Information concerning management, feeding, nutrition and production performance of camels is scanty. According to FAO statistics, Sudan camel population is 4.5 million heads (FAOstat, 2009). The camel, a multipurpose animal, is an important component in the dry and semi dry eco-systems, where it makes optimal utilization of the meager vegetation and limited water resources better than any other domestic animal species. The survival of the pastoralists is dependent on camel especially during severe prolonged drought which is difficult to other animals to produce or live. Camels are owned by nomadic tribes who took complete responsibility and care of their animals (Darosa, 2000). The predominant management system of camels is by migratory pastoralists in subsistence production system (Schwartz and Dioli, 1992), however camels are kept for milk production and transport purposes (Buron and Saint-

Martin 1988, Sooud et al., 1989, Abedl-Rahim et al., 1994). Both features are important for the mobile pastoral system (Kaufmann, 1998). Recent technologies in husbandry, breeding, nutrition, disease diagnosis and management had not been adopted by animal's owners. This is either because of their ignorance to these advances or the negligence of the authorities on the importance of camels. Recent changes in nomadic system such as expansion of mechanized agricultural schemes and their socio-economic impact on camel herds have not been quantified. The overall objective of the study is to probe the changes in herds and their structure specially herd population, production system, production performance and constraints that hinder camel production in Butana area of Sudan.

1. Materials and methods:

2.1 Study area:

The area of study is Butana plains in eastern Sudan which lies between Latitude 13° and 16.50° N. Most of this plain is inhabited by camel owning tribes although the southern rich plains were gradually converted into mechanized agricultural lands. The northern and eastern parts of this area lie in poor savannah where rainfall reaches 218 mm, while the southern parts which are the rich savannah reaches up to 518 mm which may decline to 76 mm during droughts (Abass and Musa 1988). The dominant plant cover in Butana is trees and shrubs of different species where camel herders spend all summer season. The middle Butana is covered by *Acacia nubica* and *Acacia melephera* are scattered along the course of seasonal valleys.

2.2 Data collection:

The Data was collected using questionnaire technique designed to cover aspects of herd population, production system, production performance and constraints that hinder camel production in Butana area of Sudan. The data was then sorted and subjected to statistical analysis using Statistical Package for Social Sciences program (SPSS, 2005).

2. Results and discussion:

The results obtained showed three production systems, the nomadic migratory 22 %, semi-nomadic 36 % and the sedentary production system 42 %. These findings agreed with previous results reported by Wilson (1984) and Jasra and Isani (2000). Illiteracy among camel herders groups of age was (32.3 %) for herders aged 15–29 years, (67.7 %) for 30–49 years and > 50 years old, respectively indicating high illiteracy rate among middle and old herders which goes in line with Majid and Sakr (1998) who stated domination of illiteracy among camel herders (70%). The average herd size was 62 heads for migratory and 118 for sedentary grazing systems, with male to female percentage of 25.6 % and 74.4 %, respectively showing high tendency of keeping large number of females. Irrespective of sex, herd composition less than one year represented 14.4 % of the herd, 23.9 % less than 4 years, 48.9 % less than 14 years and 12.9 % above 14 years old. This goes in agreement with Wilson, (1978) except for age group 1-4 years which was higher (36 %) than that in the present results. The practice of the Nomadism by the herders showed a significant decrease ($P<0.001$) along years 1984, 1994 and 2003 with percentage of 73.3 %, 33 % and 22 %, respectively. Each year is independent of the other and not on an additive basis (Fig. 1). In addition, a negative decrease (-18.5 %) in camel herd population under migratory system revealed a positive increase (5.2 %) in sedentary system (Table 1).

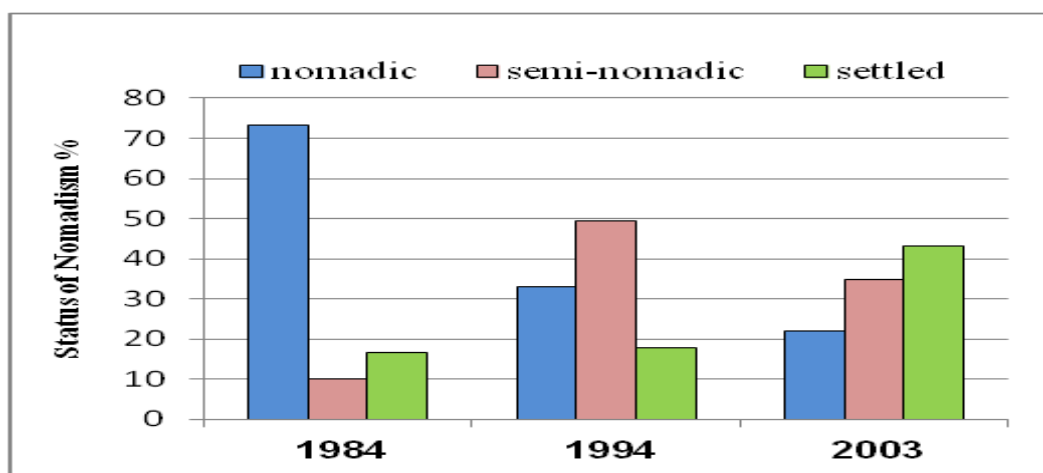


Fig. 1: Status of Nomadism along years (84, 94 & 2003).

Table 1: increase and decrease in herd size for grazing systems in the year 2003.

%	Factor	Grazing system	
		Migratory	Sedentary
Increase	Birth	3.5	5.5
	Purchases	0.6	0.3
	Other	0	0
	Total	4.1	5.8
Decrease	Mortality	14.3	0.5
	Sales	7.5	0.1
	Other	0.72	0
	Total	22.5	0.6
Total increase/ decrease		%18.50-	%5.20

The results also indicated high mortality rate among young calves (76.5 %) compared to adult camels (18.9 %) and other losses (4.5 %) from 2001 to 2003, this goes in accord with Wilson, (1984) who mentioned 50 % mortality rate in one year of age.

Average daily milk yield and total milk yield per lactation was (4.3 and 1645.4 kg) for migratory and (7.5 and 2925 kg) for the sedentary system, respectively which agreed with that mentioned by Yagil, (1985). These differences may be due to the difference in lactation length which was shorter in migratory system than sedentary due to availability of feeds. It was found that the migratory system is no longer profitable for camel production compared to sedentary where the yearly expenditure was exceeding the yearly income (59.4 vs. 40.6 %). The study found that illiteracy, diseases, tribal conflicts and wars are the main constrains that hinder camel production in the study area.

In conclusion, the decline of Nomadism is giving a way for settlement and increase of camel production in Butana plains.

References:

- Abass, B. and Musa, B.E. (1988). A rapid field survey of camel husbandry in northern Butana. As cited by Musa B.E, Melaku, A. and Wilson, R.T. (Eds). Camel Research Paper from Sudan. International Livestock Centre for Africa. Addis Ababa, Ethiopia, 1-12.
- Abedl-Rahim, S.E., Abdel-Rahman, K. and El-Nazeir, A. (1994). Production and reproduction of one-humped camels in Al-Qasim region, Saudi Arabia, Journal of Arid Environment, 26: 53-59.
- Buron S. and Saint-Martin, G. (1988). Evaluation de L'élevage du dromadaire dans les Qaddai géographique Tchqde. GTZ and IEMVT. Maisons-Alford, France. CRADN/ ACSAD/ P94/ 2000.
- Darosa, A. El. M. (2000). Urine odour change in diagnosis of camel Trypanosomiasis: A verification of an ethno-veterinary practice. M.Sc thesis, University of Khartoum, Sudan.
- Jasra, A.W. and Isani, G.B. (2000). Socio-economics of camel disease of camel herders in Pakistan. Camel Applied Research and Development Network CRADN-Pakistan/ ACSAD/ P94/ 2000.
- Kaufmann, B.A. (1998). Analysis of pastoral camel husbandry in North Keynia. Hohenheim Tropical Agricultural Series. No. 5 Verlag Josef Margraf, Weikersheim, Germany.
- Majid, A and Sakr, I. (1998). Socio-economics of camel disease of camel herders in east Sudan.
- Schwartz, H.J. and Dioli, M. (1992). The one humped camel (*Camelus dromedarius*) in eastern Africa: A practical guide to disease, health care and management. Verlag Josef Margraf, Weikersheim, Germany.
- Soad, A.O., Al-Motairy, S.E. and Hashimi, A. (1989). Milk production and fertility of camels in Saudi Arabia. In: J. L. Tisserand (Ed.). Séminaire sur la digestion, la nutrition et l'alimentation du dromadaire, Feb. 27- March 1, 1989. Ouargla, Algeria. Ciheam, Paris, France, 167-170.
- SPSS, (2005). Statistical Package for Social Sciences, windows evaluation program version 15. <http://www.spss.com>.
- Wilson, R.T. (1978). Studies on the livestock in southern Darfur, Sudan. Notes on Camels. Trop. Anim. Health., 10, 19, 25.
- Wilson, R.T. (1984). The camel. Longman Group Ltd, Essex.
- Yagil, R. (1985). The desert camel: Comparative physiological Adaptation. Verlag Karger, Basel.