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## Ethno-veterinary practices: the perception among the Fulani cattle rearers in Adamawa State, Nigeria

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**Abstract**

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One hundred homesteads in ten sedentary villages situated north of the State capital were selected because of high density of livestock and used for this study. Questionnaire was used to obtain data on production constraints and types of husbandry practices. The predominant husbandry system is extensive constituting (53.06%). Production constraints in order of importance are diseases (59.0%); feed (37.0%) and theft, (4%). Diseases that affect animals are FMD (36.0%); Helminthosis (31.0%); Pneumonia (10.0%); Dermatophilosis (8.0%); whilst Foot rot and Trypanosomiasis accounted for 5.0% each, with abortion and Blackquarter having 3.0% and 2.0% respectively. Most homesteads (64.28%) treat the animals using their knowledge of ethnoveterinary medicine whilst 15.31% call for veterinary services (orthodox medicine) and 20.41% combine ethnoveterinary and orthodox medicine. Ethnoveterinary and orthodox practices have existed for long together in the treatment of animal ailments, but the basis for which some of the practices are employed might not be explained, it simply works. Though there are limitations, these may be the reasons why orthodox medicine practices are sought.

**Key words:** Ethno-veterinary practices, orthodox practices, animal farmers/herdsmen and diseases.

## Introduction

Domestication of animals started during the Neolithic period out of the desire to provide food for the household and a safe guard against when hunting was poor. The dog was assumed to be the first animal to be domesticated and used as a companion while the horse was used for work, (Ambrose et. al., 1982). Thereafter, man herded food animals to cater for the increasing population of his household.

Ethno-veterinary medicine/practice (EVM) is the sum total of all practice methods, supplementary materials and attempts of any kind in which for years have enabled man to protect his animals from sickness, to alleviate or relieve suffering so as to bring about healing and to increase animal production within minimum cost for improved human protein intake (ITDG & IIRR, 1996, Abdu et. al., 2000). It is also referred to as the method of healing animals traditionally using different species of plant, especially the roots, stems, leaves and grasses (ITDG & IIRR, 1996). A large number of herdsmen rely on a range of ethno-veterinary practices to keep their livestock healthy. These traditional animal healthcare practices include the use of medicinal plants, surgical techniques and management practices to prevent and treat a wide range of diseases and problems encountered by livestock farmers (ITDG & IIRR, 1996; Nwude, 1997).

The livestock production in Nigeria is beset by many problems, which include poor nutrition, poor management and diseases. Poor nutrition has always been considered as the most critical factor in livestock production; but in recent times, disease cause more economic losses (Bakunzi and Serumaga-Zake, 2000).

Treatment by conventional means has in recent times been out of the reach of the ordinary farmer, often due to high cost of drugs. The herdsmen have since recognized the use of herbs in treating animals' disease (Bizimana, 1998; Chiezey et. al., 2000). It is therefore imperative to say that ethno-veterinary practices started since the domestication of animals, and invariably, the desire to have these animals for food and companionship, thus the need to maintain their health.

The knowledge of EVM might have evolved from the strong ties developed between man and his animals, which extended to the family members.

Traditional healers could have received powers or knowledge to heal animals from their ancestors, grandparents, through visions or dreams and to others by inheritance (Chiezey et. al., 2000; Alawa et. al., 1997, Verbal discussions, 2002).

Most herdsmen are aware of diseases that affect their animals, knowledgeable of the signs and treatment (Abdu et. al., 2000). Therefore, the art and skills of ethno-

veterinary practices must have been in existence in Nigeria before its recent exposure at an international workshop (in the year 2000) in Kaduna.

The aim of this study was to assess the perception and importance of ethno-veterinary practices in animal healthcare delivery among animal owners/herdsmen in Adamawa State.

## Materials and Methods

Ten sedentary villages (a village here is defined as a settlement with ward head, comprising of more than 50 households) made up the study area. The villages are situated north of the State capital, and spread within five (Song, Gombi, Hong, Mubi, Maiha) local government areas. Ten (10) questionnaires were distributed to animal farmers in each village through the assistance of the village heads and extension agents (of ADP) of different extension blocks on market days. These questionnaires were collected after two weeks of administration. Households that could not give written answers, the questionnaire were read to the family by the extension agent and answers recorded.

## Results

In all 100 copies of questionnaires were distributed to ten sedentary villages with each village given 10 questionnaires for ten households. Twenty (20%) of the households were interviewed and answers recorded while 80 (80%) filled in the questionnaires themselves, out of which 2 (2%) were not recovered.

Thirteen farmers (13.26%) have been keeping animals for more than 10 years, 45 farmers (45.92%) for 7-10 years, whilst 40 (40.82%) of the respondents have been keeping their animals for only 1-6 years (Table 1).

Fifty two (53.06%) farmers practice extensive system of husbandry, 46(46.94%) semi-intensive while no household practiced intensive system (Table 2).

The study also revealed that, the serious problems associated with animal farming was disease, (59.0%); followed by feed (37.0%); then theft (40.0%) while land pose no problem, (Table 3).

Seventy (36.0%) of the respondents complained of foot and mouth disease (FMD) and 60 (31.0%) helminthiasis. Pneumonia and dermatophilosis had 20 and 15 respondents, (10.0% and 8.0%) respectively. Foot rot and trypanosomiasis had 10 (5.0%) each and abortion 5 (3.0%), whilst blackquarter was 3 (2.0%) respondents (Table 4). sixty-three farmers (63) (64.28%) prefer ethno-veterinary practices, 20 (20.41%) both orthodox and EVM while 15 (15.31%) represent orthodox medicine only (Table 5).

**Table 1:** Duration of keeping animals

Duration (years)	Respondents	
	Number	(%)
1-3	20	20.41
4-6	20	20.41
7-10	45	45.92
> 10	13	13.26
Total	98	100

**Table 2:** Livestock management System(s)

System	Respondents	
	Number	(%)
Extensive	52	53.06
Semi-intensive	46	46.94
Intensive	0	0
Total	98	100

**Table 3:** Livestock production constraints

Constraints	Respondents	
	Number	(%)
Land	0	0
Feed	50	37
Diseases	80	59
Theft	6	4
Total	98	100

**Table 4:** Diseases commonly diagnosed

Condition	Respondents	
	Number	(%)
Helminthiasis	60	31
Pneumonia	20	10
Abortion	5	3
Foot rot	10	5
Dermatophilosis	15	8
Trypanosomiasis	10	5
Blackquarter	3	2
Foot and mouth	70	36
Total	193	100

**Table 5:** Veterinary practices employed

Methods of treatment	Respondents	
	Number	(%)
Orthodox	15	15.31
EVM	63	64.28
Orthodox and EVM	20	20.41
Total	98	100

**Table 6:** Other common diseases and their herbal treatments in the study area

Ailment/condition	Treatment	Route of administration	Type of animal
Abortion	Use <i>Ficus sycomorus</i> bark, pulverized, add potash and enough water	Orally	Cattle
Coccidiosis	<i>Aloe secundiflora</i> leaves are crush and add to drinking water	Orally	Birds
Cough/colds (pneumonia)	Use the bark of either Cocoyam ( <i>Colocasia esculenta</i> ) or Masarith ( <i>Aloe edongesis</i> ) pulverize and sun dry	Use hollow tube to blow powder into the nostrils	Cattle, sheep, goats, donkeys and horses
Constipation	Crush the seed of <i>Carica papaya</i> (paw paw) to powder	Orally	Cattle, sheep and goats
Dermatophilosis	Local beer (Burkutu) is rubbed on the affected area/site daily for 2 weeks	Topical	Cattle and Horses
Diarrhea	Mix banana flower sap with ash of maize cob in enough water	Orally	Cattle, sheep, goat and donkeys
Dystocia	The bark of <i>Hynondrasis hynandra</i> , is crushed and enough water added	Orally	Cattle
Eye problems	Fresh young leaves <i>Bauhinia thonningii</i> are crushed and added to water, allow to sediment and use the clear supernant.	Intra ocular	Cattle, sheep and goats
Ticks	Tobacco ( <i>Nicotiana tubaccum</i> ) leaves are crushed and mixed with cold water. The mixture is rubbed	Topical	Horses and donkeys mostly.

	on the infested area. It could also be used for eye problems		
Worms	The bark of ( <i>Khaya senegalensis</i> or <i>Kh. Ivorensis</i> ) is soaked in water or the leaves provided to the animals	Orally/Eaten	Cattle, sheep and goats.

## Discussion

Ethno-veterinary practice has been in existence for quite some time in Nigeria, it is as old as animal farming. Most herdsmen and animal owners acknowledged the prime period of high productivity in animals and therefore keep these animals for 7-10 (45.92%) years. Animals kept for shorter period, 4-6 (20.41%) years are within test period, cattle start reproducing after about 3 years (Voh Jr et. al., 1989). Animals kept longer than 10 years are mainly culls (Table 1).

Extensive and semi-extensive are the two major husbandry systems used by the herdsmen, 53.06% and 46.94% respectively. The reasons are obvious; animal owners want their animals fed properly as well as been protected from infectious agents and invariably high productivity in terms of milk yield and weight gain (Table 2).

Within the study area, major production constraints have been diseases (59%) and feed (37%), these are true reflections problems of the sub-Saharan region (Alawa et. al., 2000) (Table 3).

The problem of diseases 80 (59.0%) is another reflection of the sub-Saharan region where diseases beset animal production (Bakunzi and Serumaga-Zake, 2000; Chiezey et. al., 2000). In this study FMD ranks high (36%) among diseases found in the herds; this could be attributed to lack of vaccine(s) to control the disease. However, EVM method of 'dashe' (stop and infect) has assisted cattle owners but at times fail. Of recent, the use of honey to control the spread of infection within herd has been tried (preliminary work to be reported). Helminthiasis (31.0%) is another disease that limits animal productivity (Chiezey et. al., 2000), and many works on the activities of various plants extracts tested as anthelmintics have been reported, Ijomah et. al., (1997); Jagun et. al., (1997); Neils, (2000); Nwude, (1997); Abdu et. al., (2000); Githiori et. al., (2003); Alawa et. al., (2003); Ademola et. al., (2004). The herb mostly used by herdsmen for the treatment of helminthiasis is *Khaya senegalensis* or *Kh. Ivorensis* leaves are given, at times water extract of the bark, administered 2-3 times a year, (Table 6). The use of these plants must have been beneficial to them and thus its continued use. Another interesting thing is that these herdsmen have known when best to treat their animals (Jan-Feb and April-May) whether signs of helminthiasis are seen or not (Verbal discussion, 2002).

Other diseases like pneumonia, dermatophilosis, trypanosomiasis, foot rot and blackquater have been diagnosed in their herds by the orthodox practice. However, they claim that some of these diseases (pneumonia and dermatophilosis) could be cured by them (Appendix 1) and do not pose much problems to their animals. The orthodox practitioners may need to investigate these methods of treatments further, so that we can learn from them. Blackquater becomes a problem only when animals have returned from the lower Benue valley; however, the herdsmen attributed the occurrence of the disease to the wickedness of their contemporaries who 'evoke evil spirits' to destroy the best animals in their herds (Verbal discussion, 2002).

Animal farmers have to contain large number of disease conditions and have to keep these animals healthy for high productivity. In this study 64.28% practice EVM while 20.41% prefer combination of EVM and orthodox practices and 15.31% go for orthodox medicine only (Table 5). The large number of animal owners resorting to EVM was because of high cost of veterinary drugs (Adeyemi 1998; Chiezey et al., 2000; Bakunzi and Serumaga-Zake, 2000; Alawa et al., 2003).

Trypanosomiasis and Foot rot are diseases that the herdsmen acknowledged their limitations. Trypanosomiasis which is been referred to as 'sammore' is detected when animals eat sand and therefore they go for orthodox practices. They are yet to find a plant that can cure the condition.

Other conditions like abortion, the herdsmen treat with *Ficus sycomorus*, the bark is dried and sufficient quantity of water and potash added, used when there is retained placenta but could cause abortion.

In Nigeria the integration of EVM with orthodox practices has not been attempted to our knowledge. It is imperative to state that EVM have contributed to the control of some disease conditions which else while have not been reported for orthodox services. EVM has wide acclaim amongst the animal farmers especially in the developing world (Adeyemi 1998). However, the herdsmen of Adamawa State have since adapted and probably 'legalized' EVM which we believe have contributed to the low demand for orthodox practices.

## Conclusions

Undoubtedly animal farmers/herdsmen have been practicing ethno-veterinary medicine for quite some time and it has been benefited to them. The orthodox practices cost more due to escalating prices of drugs; however, both practices could be fully integrated to have an acceptable animal healthcare delivery systems (acceptable methods of enhancing the health of animals using herbs but improved through orthodox practices).

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