

Ethnoveterinary Perceptions of Cattle Illnesses in Western Kenya

Peter A. Nyamanga*, Collette A. Suda* & Jens Aagaard-Hansen†

*University of Nairobi

†DBL – Institute for Health Research and Development

Abstract

This study explores Luo farmers' ethnoveterinary perceptions of animal illnesses in western Kenya. It focuses mainly on terms, signs and causes. It examined how some aspects of the indigenous ethnoveterinary knowledge are consistent with scientific veterinary perceptions while others don't quite fit the scientific typology. On the basis of the research findings it is recommended that local perceptions should be taken into consideration by extension workers and practitioners in order to make their communication and curative work more effective.

Key words: Ethnoveterinary medicine, extension workers, illness & disease, indigenous knowledge, Luo, perceptions

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Introduction

Local perceptions and practices concerning cattle health care have been referred to as ethnoveterinary knowledge (Martin and Mathias 1999; Mathias *et al.* 1996). Both traditional and modern perceptions and practices are utilized by members of the Nyang'oma community to understand animal health problems and ways of dealing with them. Much of this knowledge is indigenous and has been passed on from generation to generation.

According to Borchgrevink (2002) the past two decades has seen considerable interest in Indigenous Knowledge (IK) within the applied fields of development anthropology as well as extension work. This interest has emerged out of the assumption that a better understanding of local ethnoveterinary knowledge and practice is central to an effective provision of animal extension services (Borchgrevink 2002).

In Kenya, an international organization called Intermediate Technology Development Group (ITDG) through its local agent 'Intermediate Technology (IT) Kenya' has recognized the value of indigenous knowledge in promoting domestic animal production (Wanyama 1997). 'IT Kenya' systematically collects information on ethnoveterinary knowledge and uses it in its animal health care delivery programs (ITDG and IIRR 1996).

This study was conceived from the idea that livestock farmers have specific perceptions about how animal illnesses are caused and transmitted and about the prognosis of a given health problem. Such perceptions influence their selection of preventive and curative approaches to animal illnesses. Within 'human medical anthropology', Eisenberg (1977), Foster & Anderson (1978) and later Kleinman (1980) have introduced the double concepts of 'illness' and 'disease' referring to explanatory models of health problems as seen from the lay perspective and the biomedical practitioner's perspective respectively. As expressed by Eisenberg "patients suffer 'illness'; physicians

* Corresponding author: Peter A Nyamanga,
Institute of African Studies, University of Nairobi.
P.O. Box 30197, Nairobi – 00100, Kenya.
Email: nyamangapeter@yahoo.com

diagnose and treat 'diseases' (1997). This paper makes use of this dichotomy to conceptualize the explanatory models of the farmers and the veterinary practitioners operating within the formal system. It discusses the ethnoveterinary perceptions of cattle illnesses among the Luo of western Kenya as compared to the views of the scientifically based practitioners and how the perspectives are often mixed. Considerations of these local perceptions are necessary when designing livestock extension programs and improving curative services. A case is made for more cross-disciplinary research within this field.

The Luo, who inhabit western Kenya, are a polygynous and exogamous group with a patrilineal kinship structure where inheritance is passed via the male line (Hauge 1974, Ochola-Ayayo 1976). Currently, they practice a mixed economy. Much earlier, they were considered to be a pastoral society, but later incorporated both agriculture and fishing into their subsistence economies (Ocholla-Ayayo 1976:17). Traditionally, cattle were the major indicators of wealth. They still continue to occupy an important position in the socio-economic and cultural lives of the Luo. They are a major source of livelihood in most households as they provide meat, milk and blood as well as bedding and dressing materials. They are a source of cheap labor and are paid as bride wealth. They provide income either from their sale or the sale of their meat while their dung is often used as fuel or manure in the gardens and also for smearing the floors and walls of grass thatched houses. They support agricultural activities by drawing the oxen plough. Cattle have been kept for wealth and prestige purposes. Depending on the number of cattle kept, one was accorded status in the society (see Hauge 1974, Suda 1986, Ochola-Ayayo 1976 and Ndisi 1974). Under the market economy, cattle are a source of liquid capital as they are always sold to raise money to meet family

requirements (see also Okumba 2001). Ensuring that cattle are kept healthy is, therefore, a major preoccupation of livestock farmers.

Methods

Research site and population: This study was conducted in Central Sakwa location, Nyang'oma division, Bondo district of Nyanza province, western Kenya. The division lies along the shores of Lake Victoria. The area where the fieldwork was conducted comprised nine rural villages and a small township with an estimated population of about 5000 mainly Luo inhabitants.

Study design and data collection: Data collection was conducted for a period of one year from December 2002 to December 2003. The population comprised all persons within the location who kept livestock. The unit of analysis was an individual livestock farmer. A total of 32 farmers were interviewed using open-ended interview guides. In addition, individuals who possessed expert indigenous knowledge on cattle healthcare were also sampled for key informant interviews. Twenty key informant interviews were held with traditional healers such as herbalists, bone-setters and specialists in castration, dehorning, retained placenta removal, docking, false teeth extractors and ear notching/slitting experts. Other key informants included livestock traders, livestock farmers whose animals had been treated using ethnoveterinary medicine, untrained 'quacks' as well as retired veterinary clinicians and serving government veterinary officers.

Snowball sampling technique was used to identify these individuals with key information on ethnoveterinary medicine. Other qualitative methods of data collection such as focus group discussions, narratives and direct observations were also applied. The interviews were mainly conducted in Dholuo (the vernacular language) and recorded in English. Data analysis was

based on coding and identification of themes and trends as is standard for qualitative data.

Results

Livestock farmers in Nyang'oma community have various perceptions about kinds of illnesses that afflict their animals. This knowledge comprised the names of illnesses, their signs, causes, the seasons when they are more prevalent, as well as how to prevent and cure them. For example, farmers identified sickness in a cow by looking at a number of signs. Some signs were those that were directly seen at the surface of the animal, for example, rough hair coat, thin body, observable parasites (e.g. ticks and tsetse flies), big udders, wounds or swellings. Other signs include stool color and texture. Thus, illness could be signified by bloody stool or stool that is too loose or too hard. Some signs pertained to the general behavior of the cattle, such as dullness, restlessness, inability to eat well or difficulty in moving around (e.g. limping). Other significant signs included saliva flowing from the mouth, running nose, watery eyes or breathing difficulties. Finally, birth complications (e.g. retained placenta) were recognized as a problem.

The farmers reported that sometimes illnesses could not be diagnosed when an animal was still alive, and only a post-mortem examination could reveal the problem. The farmers had their own indigenous ways of conducting post-mortem examinations. They usually checked internal organs such as liver, heart, lung, stomach, intestine and blood. For example, an infection of the great bowel (*tuomar oduko*) was identified when the post-mortem revealed dry great bowels. Post-mortem examination was done mainly as a side benefit in the process of slaughtering the animal for consumption, and not with the sole aim of trying to find out the cause of death. However, if the farmers established that the animal had died of an infection, they would throw away the bad

parts or the whole carcass depending on the extent of the infection.

The study identified several causes of cattle illnesses. Some of them were consistent with a scientific veterinary rationale. Thus, the farmers believed that 'agents' such as *nyuogo* (lice), *maugo* (tsetse flies), *okuodo* (ticks), *omboto* (fleas), *njofni* (worms) and *chwe* (leeches) could cause illnesses. Snakebites and spittle as well as physical injuries were also associated with ill health. Other substances like poor fodder or ingestion of indigestible materials (e.g. polythene bags) were also reported to undermine animal health.

Several other animal illnesses do not fit the conventional scientific nomenclature. Some of these illnesses are described here below.

Arema is an animal illness in cattle that is identified early enough before it threatens the life of an animal. The term *arema* is derived from the Luo word *remo*, which translates into blood. It is a condition which is perceived to indicate that there is too much blood in the body. The illness was perceived to result from the lush green grass that animals feed on at the beginning of a rainy season. The signs of *arema* were associated with limping, rough and dark hair coat as well as dullness. An animal which is experiencing the early stages of *arema* shows signs of restlessness and abnormal agility. The treatment or preventive remedy was to reduce the blood volume in the body through a practice locally known as *boro* (venipuncture). Using a bow and an arrow specifically made for that purpose the great neck vein was punctured and blood allowed to flow. A preliminary treatment involved massaging the affected limp regions with warm water or cloth dipped in hot water to heat up the clotting blood.

There were, however, some divergent views concerning bloodletting as a treatment for *arema*. One veterinary officer in Nyang'oma believed that:

A sick animal needs blood to fight illness using white and red blood cells. Letting such an animal lose so much blood is itself harmful to that animal. *Aremo* is just a bacterial infection and is not caused by too much blood in the animal's body.

Another veterinary graduate in the community had a different view. To him bloodletting had some curative value. He said that:

It is like first aid being done to animals when they first fall sick. Through bloodletting the population of disease causing micro-organisms is reduced thereby allowing the antibodies to fight the few remaining micro-organisms leading to recovery of the animal.

Achany is derived from the Luo word *chanjo* which means 'walking with difficulty' because the feet are sore. This condition was identified by limping or wobbling movement resulting from sores and wounds. The wounds were perceived to develop between the hooves of an animal as a result of walking on a hard, dry and hot surface in search of pasture and water during the dry season. The direct remedy was to take the affected animal to a wet or muddy place where the wounds would be cooled and softened to enable them to heal. Some medicinal plants are used to treat *achany*. One of them is *Ogaka* (Cactus) whose leaves would be cut and placed where the animals normally walk so that they can step on them and as they break, the sap flowed into the wounds thereby disinfecting and healing them. Solutions of potassium permanganate, 'Omo' detergent and table salt would also be sprinkled on the hooves and given to cows to drink as disinfectants of the wounds that develop in the mouth as a result of the illness.

In some cases, lay people used biomedical terms to refer to *achany*. For example, the word Foot and Mouth Disease (FMD), is used to refer to parts of the animal body which are

affected by *achany* but their perception of its cause influences the type of therapy which they seek to deal with the problem.

Aginga is a vernacular word used in reference to a condition which is manifested through swelling under the ears of a calf. The term *ging'* or *ding'* in Dholuo means swelling around the neck close to the ears. It is believed that this illness is caused by suckling too much milk. A preventive strategy is to leave very little milk for the calf to suckle after milking has been done. The swelling around the calf's ear is perceived to contain 'bad blood', which had to be let out to expedite recovery. The treatment includes chopping off, slitting or notching the ears to let this 'bad' blood flow out. The swollen parts could also be cauterized using hot objects as a way of heating up the blood that was perceived to have clotted in the swollen areas in order to resume normal blood flow.

Jimo are bad teeth that locals identified as growing between the normal ones and were perceived to be painful when a cow is grazing. During interviews, the veterinarians concurred that a cow's teeth may get deformed thereby causing discomfort in feeding. In some cases, there was an agreement between the veterinary practitioners and the traditionalists, e.g. to remove *jimo* (false teeth).

The veterinarians were, however, not communicating the implications of ethno-veterinary perceptions to farmers. A senior veterinary officer pointed out this when he said that:

In practice, we do not address ethno-veterinary perceptions. ... because even though herbal medicine is partly recommended by the veterinary personnel, the government has not introduced any policy to deal with ethnoveterinary perceptions since the idea has not been brought forward by the practitioners for support. The practitioners are never willing to expose their perceptions to the government.

An interesting finding was that veterinary officers who were born and brought up in Nyang'oma when faced with own animal health problems often resorted to some of these very traditional remedies. A veterinary officer captured this by saying that:

We have grown up with these beliefs. It is not easy to totally brush them aside even though our training tells us to do just that. Many people still believe in witchcraft and will secretly visit the diviners when they believe that their animals have been bewitched.

The unwillingness to openly articulate the ethnoveterinary perceptions was due to stigmatization. Some farmers were unwilling to openly associate with what is viewed as retrogressive, primitive or backward practices.

Other illnesses were associated with causes that were more difficult to interpret scientifically. An illness locally known as *yamo* (wind) is one of those conditions whose real cause was not well known. The condition is associated with a combination of symptoms such as swellings on the body. It is believed that *yamo* originates in the stomach from where it spreads to other parts of the body. Another condition is *ndagla* (witchcraft) which is perceived to be the cause of illness and death in animals and humans. The belief was that somebody may have planted magical substances in the home or in the cowshed to make domestic animals sick. Another animal health problem is associated with *dhoho*. This is the evil eye. When a person with an evil eye looks at an animal or another person, the victim falls sick. The symptoms are swellings and painful wounds all over the body. *Tuo thuno* (illness of the udder) that was identified to frequently occur just after birth was considered a case of *dhoho*. From the scientific perspective, however, this condition is referred to as mastitis, a bacterial disease.

Discussion

This study has shown that Nyang'oma livestock farmers have a set of perceptions relating to illnesses that afflict their cattle. These perceptions defined the causes of animal illnesses, influenced how the illnesses were named as well as the mode of treatment or prevention. Their ethno-diagnoses involved the identification of various bodily and functional signs and symptoms that indicated the kind of sickness afflicting an animal. The farmers identified sickness in an animal by looking at various bodily and behavioral changes. Wirtu *et al.* (1999) observed similar diagnostic criteria as being used by the farmers of central Ethiopia in order to isolate the kinds of illnesses afflicting their livestock. From such signs livestock farmers were able to identify and name different types of animal illnesses prevalent in their areas. They depended on the most prominent clinical signs to give names to various illnesses. Such a terminology has also been identified by Heffernan *et al.* (1996) among the Samburu pastoralists who have pointed out that the Samburu herders, for example call, 'Nairobi sheep disease' *nadomanyita* (red intestines) because of the bloody diarrhoea that is its principal clinical sign. Samburu farmers also rely on post-mortem examination to diagnose and name illnesses such as rinderpest. Wanyama and Keter (2002) have recognized classification of illness using cause as the criterion among the Samburu and the Kamba in Kenya. They recommend that ethnoveterinary practice could be subdivided into two main areas, the medico-religious domain that relies on divination as a basis of diagnosis and therapy and herbal medicine that is associated with treating the organic physiological aspect of illness regardless of the underlying cause.

Certain animal illnesses were identified through diagnostic procedures that are not congruent with the biomedical methods of

diagnosis. However in some cases, the diagnosis followed the accepted scientific methods and produced results that were closer to the biological perspective. Further, farmers often used biomedical terms in reference to certain animal illness.

Interviews with trained veterinary officers revealed that there were some difficulties in reconciling the biomedical knowledge with the more indigenous aspects of ethnoveterinary perceptions and practices. It is only in very few cases that some similarities were found as in the case of *jimo*.

The veterinary officers generally ignored the ethnoveterinary perceptions and their effect on treatment. Even where there was agreement on the perceived efficacy of a particular herbal medicine, no effort was made to harmonize the perceptions nor was anything done to address perceptions about the dangers of certain practices such as venipuncture and ear slitting.

It is, however, important to note that many veterinary officers who come from Nyang'oma share the same perceptions with the farmers thus they influence their practice to some extent. The problem is that government policy does not formally address ethnoveterinary issues (Mugunieri *et al.* 2003). Meanwhile, these traditional perceptions continue to guide ethnoveterinary practices. The ethnoveterinary and the conventional veterinary perceptions therefore continue to operate parallel to one another. However, to make extension activities more effective, compatibility between expert and lay peoples' concepts and perceptions may be very important. Consequently, knowledge of lay people's perceptions is necessary.

Conclusion

The study has shown marked differences between the explanatory models regarding cattle ailments among lay people and veterinary practitioners in western Kenya. The practitioners should take these differences into account

when providing curative services as well as when planning and implementing extension programs.

During the past three decades a lot of anthropological research has been conducted on human ethnomedicine with encouraging results (Kleinman 1980, Whyte 1997, Sindiga *et. al* 1995). In contrast, little attention has been given to animal healthcare. This study recommends a closer collaboration between anthropologists and veterinary practitioners and extension workers when investigating animal health problems. Research should be encouraged in the area of indigenous perceptions regarding ethnoveterinary animal health to show their impact on animal healthcare delivery. The government policy should therefore be reviewed to cover ethnoveterinary perceptions.

Evidently, ethnoveterinary perceptions and practices are deeply rooted in local cultures. It is therefore necessary to carry out further studies to determine cultural variations of these perceptions and how they influence animal healthcare delivery system.

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