

## AN ETHNOVETERINARY ASSESSMENT OF PASTORAL COMMUNITIES RECEIVING COMMUNITY-BASED ANIMAL HEALTH CARE IN BURKINA FASO

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*Une recherche ethno-vétérinaire a été menée dans le district de Déou (Burkina-Faso) pour déterminer l'impact de 2 projets vétérinaires implantés actuellement dans la zone. Le premier projet relève des services classiques de vulgarisation vétérinaire gouvernementaux, le second concerne la formation d'auxiliaires vétérinaires par des vulgarisateurs gouvernementaux sous les auspices du projet sahel burkinabé. La recherche avait 5 objectifs: (1) mesurer le statut actuel des pratiques vétérinaires sur les plans culturels, économiques, environnementaux et traditionnels dans le district de Déou; (2) déterminer les impacts du programme de vulgarisation gouvernemental; (3) déterminer les impacts des programmes de vulgarisation du projet auxiliaire vétérinaire; (4) apprécier les besoins pressants en élevage des éleveurs de la région; (5) apprécier les relations entre la population, les animaux et l'environnement dans la zone et comment ces relations affectent la santé animale. Il est clair d'après les résultats de cette recherche que la combinaison entre la vulgarisation vétérinaire gouvernementale et la formation communautaire des auxiliaires de santé animale représente la plus efficace pour assurer la santé animale dans la communauté pastorale du district de Déou. Un environnement rapidement évolutif, des changements culturels et économiques dans ces communautés ont créé des besoins dynamiques en santé animale qui nécessitent d'être en permanence enregistrés afin d'assurer la meilleure couverture possible dans le domaine vétérinaire*

### INTRODUCTION

In pastoral production systems, the well-being of humans depends to a great extent on ecosystem and animal health (Winrock International, 1992; Horowitz, 1980; Horowitz, 1982). However, pastoral societies, because of their mobility, cultural uniqueness and distance from established infrastructure, are typically difficult to reach with traditional governmental and non-governmental (NGO) animal health care programs (NOPA, 1992). The challenges of working with pastoralist groups have made innovative approaches necessary, especially in the field of veterinary medicine. One community-based approach to the provision of animal health care has been the training of veterinary auxiliaries (VAs), members of a community elected by neighbors to learn simple veterinary techniques and treatments (Sollod, 1991; Stem, 1994). Other innovative programs rely on government extension workers who live in the targeted area. Such community-based programs have now become key components in animal health care programs throughout Africa, but their actual impacts upon communities have rarely been measured.

The purpose of this study was to examine the impacts of two community-based veterinary programs currently being implemented amongst the Kel Tomasheq and Fulani living in Déou District, Burkina Faso. The two programs are being implemented through cooperation between the Burkina government and the Project Sahel Burkinabey (PSB). The first program consists of the normal governmental rural veterinary extension service, the second of VAs trained by government extension workers under the auspices of PSB.

The research had five objectives: (1) To measure the current status of cultural, economic, environmental, and traditional veterinary practice parameters in Déou District, (2) To determine the impacts of the government extension program, (3) To determine the impacts of the VA program, (4) To outline the pressing animal husbandry needs of villagers in the area, (5) To outline the relationships between people, animals and the environment in the area, and how these relationships affect animal health. The approach taken was to use ethnoveterinary techniques to measure the current status of animal health, economic, environmental and social parameters, as well as historic trends in these parameters, in order to develop base-line data for the region (McCorkle, 1996). Recent changes in these parameters that may have been caused by the two community-based veterinary programs were also measured.

### METHODS

Déou is located in Burkina Faso's northernmost Oudalan Province. In this district, there are 18 permanent villages of five to 30 families whose members are of one or a combination of the following ethnic groups: Kel Tomasheq, Tuareg, Kelawel (all Tomasheq speakers), Fulani, Songai, Mossi, Fulcè. In addition, there are numerous smaller settlements that are occasionally occupied by migrating pastoralists. Two permanent villages of different ethnic structures were studied in order to have a comparative basis for the information gathered.

Dibissi Village has approximately 650 residents, of which greater than 95% are Kel Tomasheq and the rest are Fulani. A large community of Tuareg refugees surrounds the village. Almost all families survive by practicing a form of agro-pastoralism, although some have remained strictly pastoral and some have become strictly agricultural. As early as 60 years ago, all villagers were strictly pastoral. Historically keepers of small ruminants,

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community members now also keep cattle, camels, donkeys, chickens and guinea fowl, as well as sheep and goats. Ferrerio is a village of approximately 1,200 residents, of which 60% are Kel Tomasheq and the rest are Fulani. There is a very large community of Tuareg refugees encamped around the village. The mixture of agricultural and animal husbandry practices parallel those of Dibissi. However, change from strict pastoralism began approximately 50 years ago. The mixture of livestock is also similar to that of Dibissi.

The government provides community-based veterinary services through 'Officiers de Zone d'Encadrement des Ressources Animal' (ZERA). Project Sahel Burkinabey, supported by an NGO, has trained VAs in both villages.

#### Quantitative Methods:

Twelve men were selected from each community to be interviewed individually. They were randomly identified in order to be representative of the full spectrum of ethnic, age, economic, social and livelihood parameters. Each individual was interviewed on two separate occasions using two different questionnaires.

Questionnaire #1 was designed to collect general information concerning animal husbandry and health, cultural, economic and environmental parameters. It consisted of both open and closed ended questions and lasted approximately two hours. Questionnaire #2 was designed to collect specific information concerning the efficacy of the ZERA and VAs, animal husbandry needs and their possible community-based solutions, and the relationship between humans, animals and the environment. It consisted of pictographic rankings as well as open and closed ended questions, and lasted approximately one hour.

#### Qualitative Methods:

Group discussions with members of the communities were used to gather general, anecdotal and historical information. Men and women of all ages and ethnic groups attended these discussions. Tools used during the discussions included map making, time-lines and participatory rural appraisal diagrams (Vijayraghavan, 1992). Separate group discussions with the women in each village were held. Issues concerning female work patterns, animal ownership and veterinary care were covered.

## RESULTS

Key results only are reported in this summary. Using the information gained from questionnaire #1, disease lexicons for cattle and small ruminants were developed :

<b>CATTLE</b>		
<b>Tomasheq (Kel Tomasheq)</b>	<b>Fulfuldi (Fulani)</b>	<b>English</b>
Tandirdjar	Bethe	Contagious Bovine Pleural Pneumonia (CBPP)
Caara	Caara	Rinderpest (RP)
Tintinsé (Takawassat)	Koynguel	Blackleg (BL)
Tenede (Sudum)	Surfu	Pasteurellosis
Bernde	Bernde	Pasteurellosis
Iniliss (Tinilis)	Safa	Foot and Mouth (FMD)
Tindarte	Pittel	Anthrax
<b>SMALL RUMINANTS</b>		
Magassi (Tenede) (Sudum)	Sorfu (Djontere)	Pasteurellosis
Bernde	Bernde	Pasteurellosis
Achins (Achne)	Djiam	Bloat
Bidi	Burde	Streptothricosis
Tindarte	Pittel	Anthrax
Achiyed	Gugna	Famine
Tarchimte	Caara	Peste de Petits Ruminants (PPR)
Iniliss (Tinilis)	Safa	FMD

Pasteurellosis and Bloat are not definitive diagnoses. The symptoms provided by the respondents for tenede, bernde, magassi and achins were too non-specific to determine an etiology without laboratory analysis. In the area of animal diseases, it was found that the most important diseases of cattle in 1996, in order of importance, were pasteurellosis, FMD, BL, diarrhea, internal parasites and CBPP. Historically, RP had been the most important disease prior to 1972, and then BL become most important until 1984. Anthrax diminished in importance after 1990. The most important diseases of small ruminants in 1996, in order of importance, were pasteurellosis, bloat, internal parasites, diarrhea, anthrax, PPR and streptothricosis. From 1972 to 1984, changes in small ruminant disease patterns over time were not observed. Famine, due to drought, has been a major killer of livestock.

In the area of traditional veterinary practices, it was found that the following plants were used most often :

<b>Tomasheq</b>	<b>Fulfuldi</b>	<b>Treatments</b>
adjar	tirehi	wounds, bites, internal parasites, retained placenta
tadjalalt	kooli	wounds
adardahane	dandarehi	retained placenta
tadhante	nguiguili	internal parasites, retained placenta

No practitioners of traditional veterinary medicine were identified. Rather, each ethnic group was regarded as more knowledgeable in the animal group which it traditionally herded in the past. Therefore, the Tomasheq were viewed as most knowledgeable about small ruminants and the Fulani about cattle. A community system exists in which a knowledgeable neighbor will assist another when animal health problems arise.

In the area of community-based veterinary assistance, it was found that in Dibissi, 66% of the interviewees said that they had used the services of a VA in the last year, of whom 50% were satisfied with the results. On the other hand, 92% in Ferrerio had used a VA and 78% were satisfied with the results. The diseases treated included pasteurellosis, internal parasites, emaciation, diarrhea and FMD. In Dibissi 58% of the interviewees had asked the ZERA to vaccinate their cattle in the last year. In Ferrerio, 50% had asked for similar services. The interviewees had not bought oral medications from the ZERA. However, during some disease epidemics the ZERA provided injectable medications which the interviewees paid for.

In the area of economics, it was found that the average price quoted for a cow unvaccinated for RP in both villages was significantly lower than for a vaccinated animal. Members of both villages were unable to differentiate between the purpose of different vaccines. Very few interviewees sold animal products, other than live animals, as an income source. In the area of resources for the future, improved veterinary services were the most commonly identified need. Easily available livestock concentrates, improved water sources, and the reversal of environmental degradation were also frequently identified. In the environmental area, all interviewees had significantly changed their migratory patterns during the last ten years. The most commonly stated reasons were diminished herd sizes and environmental degradation. Because they had fewer animals they no longer saw the value of moving them to seek the best pasture. Also, the pastures had become so degraded that there was little difference in the quality of forage available. The environmental quality of all stops on migratory routes had significantly decreased.

## DISCUSSION

Effective government vaccination campaigns have caused changes over time in important bovine diseases for the two villages studied. No parallel shifts have occurred in small ruminant diseases. The two communities are relying on the ZERA for vaccination services and control of disease outbreaks, while they are relying on the VAs to provide routine veterinary care. It is clear from the results of this research that the combination of government veterinary extension and community-based animal health auxiliaries is the most effective method of veterinary health care provision in the pastoral communities of Déou District. Rapidly evolving environmental, cultural and economic changes in these communities have created dynamic animal health care demands that need to be continually monitored in order to ensure the best possible provision of veterinary care.

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