

Full Length Research Paper

Participatory rural appraisal of livestock diseases among the Fulani community of the Barkin Ladi Local Government Area, Plateau State, Nigeria

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Occurrence of various livestock diseases particularly foot and mouth disease, infectious bursal disease, contagious bovine pleuro pneumonia, babesiosis and trypanosomosis were established among the Fulani community of Barkin Ladi Local Government Area, Plateau State. For this study, different techniques of participatory rural appraisal such as open-ended interview, probing, triangulation, transect and proportional piling with key informant/translator were applied in randomly selected 30% of the Fulani community. Analysis of data indicated that haemorrhagic septicaemia was the most important while babesiosis and contagious bovine pleuro pneumonia were the most prevalent diseases in the community. Other significant livestock health problems recorded during appraisal exercise were Newcastle disease, fascioliasis, brucellosis, tick and tsetse fly infestation. There was no evidence of rinderpest outbreak in the area of investigation during the last 5 years. Participatory rural appraisal proved to be a useful tool to collect reliable data that can be utilized to empower and integrate the rural livestock-owning communities in the control/eradication of animal diseases.

Key words: Participatory rural appraisal, open-ended interview, proportional piling, key informants, animal disease control.

INTRODUCTION

Naturally, farmers are a rich bank of practical veterinary knowledge. It is expected that traditional communities, who are entirely dependent on farming, should make it their priority and business to gather and preserve all information about breeds, production methods and diseases (Adesehinwa, 2003). The depth of the knowledge and skill are usually related to the degree of socio economic dependence a society has on livestock farming (Chamber, 1983). The best source of traditional livestock knowledge is from a combination of livestock-pastoral

and agro-pastoral systems with large component of animal husbandry (Chamber, 1994). This kind of knowledge so sourced, is termed existing veterinary knowledge or ethno-veterinary knowledge.

In recent times, collection of existing veterinary knowledge through surveys became an important method of identifying and prioritising animal health problems within communities, particularly for rural development (Schwabe, 1984). Very often, these ethno-veterinary surveys have been carried out as part of a baseline study for an animal health project. Therefore, beyond more accurate epidemiologic analysis, the inclusion of livestock owner information in project design and disease control strategies will insure appropriateness of animal health interventions and lead to better acceptance of disease

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control interventions by the animal-owning public (Chamber, 1983). It is in this light that the participatory rural appraisal (PRA) which evolved out of rapid rural appraisal is now used as a general project design and monitoring tool, which has shown to be very timely, accurate and a cost effective means of collecting essential information for project formulation (Chamber, 1994). Participatory rural appraisal is an effective qualitative tool for researchers to collect data at the community level and places more emphasis on the empowerment of the community to process and utilise the information on their own. This information can be used to design better animal health projects and delivery systems, more successful, timely and sensitive surveillance and control strategies or as new perspectives for innovative research hypotheses in ecological epidemiology (Schwabe, 1984).

The objectives of this study were to rapidly overview the range of the Fulani community's animal health problems and determine the prevalence and importance that the people have on each of the problem.

MATERIALS AND METHODS

The appraisal team was made up of a key informant/translator, an epidemiologist/researcher, a veterinary clinician, a sociologist and economist. First we identified our key informant and translator, the son of one of the head of the Fulani settlements and a student veterinary doctor, who introduced us to the heads of the Fulani settlements visited in Barkin Ladi local government area of Plateau State, Nigeria. A total of 15 settlements (30%) were randomly selected for visitation.

The techniques used were open-ended interview together with a checklist, probing, triangulation, transects and proportional piling. The open-ended interview session was a friendly participatory discussion with the livestock owners on the types and breeds of livestock kept, what animal problems are occurring or have occurred in their livestock farm and how have they managed the problems. The questions asked were ordered such that they progressed from general themes to specifics. As much as possible we allowed the respondents to determine the direction of interview. The checklist was used to guide the appraisal team in the sourcing of accurate and adequate information.

The checklist used includes the following details:

- a) Introduction of the appraisal team
- b) Identify the respondents
- c) Types of livestock spp kept
- d) Types of husbandry systems adopted
- e) The grazing location
- f) Identify and describe three (3) diseases for each livestock spp kept from each respondent
- g) Proportional piling exercise on disease importance
- h) Direct examination/observation (transect) and clinical examination, where necessary.

We used triangulation and probing (qualitative enquiries) to confirm information sourced from the interview through the use of multiple distinct method and informants. The flexibility of the open-ended interview and triangulation were employed to improve the

quality and reliability of the information gained. We also employed transects, which is the process of setting out and walking a straight line or as straight as possible right through the community. For every Fulani settlement visited, we began at the limit of the settlement lands and walk straight forward, (noting all the details of features observed) only deviating when a physical obstruction prevented direct passage to the opposite side. The aim was to physically examine the apparently ill animals, directly observe production systems, livestock and community life, not just the main street, but in the side street, backyards and forgotten corner(s). We were accompanied by the community members and stopped to ask questions as the need arises. Lastly we employed the method of ranking and proportional piling to know the order of priority the Fulani community placed on the animal health problems listed.

With the assistance of the heads of the 15 settlements, meeting was arranged in each settlement according to the suitability of time, venue, local politics, conflicts, culture, farm practices and weather for the farmers. Efforts were made to include farmers of all age groups. For all the visits we had, we subject all data recorded at the end of each visit to iterative analysis and participatory analysis. The iterative analysis was among the appraisal team so as to analyse data on the spot and make changes in the methods/approaches as the need or interest arises, while for the participatory, we discussed preliminary findings and hypotheses with the community members and key informants. This approach could be termed final participatory checking.

RESULTS AND DISCUSSION

The data were sourced and recorded as non-numeric, non-categorical testimony, explanations and interpretations of the participants. The open-ended interview and triangulation exercise revealed that more than 90% of the respondents do not seek for veterinary consultation; rather, when cases become complicated, they visit pharmacy shop to lodge complaint, as reported by (Adesehinwa, 2003). The respondents admit that they are aware of the availability of veterinary services and know where to contact veterinarians or seek for expert interventions. But, they do not because of lack of trust in the veterinarians and that the charges for their services are always on the high side. The few that sought for veterinary interventions have a common quality background in-formal pastoral education or have educated children/relations who advice them of the benefits. The types of livestock kept are only bovine, ovine and avian species. They all practice extensive farm management. It was revealed that there are no specific grazing lands for grazing their livestock. However, during the rainy seasons every farm owner has specific area to graze his livestock, as reported by (Ajala, 2004). It is only in the dry season that they need to migrate to lush areas for grazing.

The farmers complained of increase in the incidence of diseases during the rainy season which agrees with (Okoli, 2003). Farmers obtain more income and food from livestock in March/April, August and December, because these periods are festive periods. Respondents observed

that whenever there is tick Infestation in both cattle and goat, there are high incidents of conjunctivitis and fever among the community as a result of manual removal of ticks from the animals and burning of the ticks respectively. Based on the clinical signs/history given by the respondents, with the experience and skills of physical examination of clinically-ill animals by the appraisal team and results of laboratory analysis of samples collected, we were able to group all the problems of the livestock among the respondents according to the types of species reared. It was observed by the appraisal team that there has been no rinderpest outbreak in the community in the last five years. We observed that the Fulani communities of the Barkin Ladi Local Government Area have names for some of the diseases/conditions they witness on their farms.

The outcome of our ranking and proportional piling exercise with the respondents reveals the order of importance they give to the various animal health problems experienced on their farms. This order is a function of losses incurred as a result of each problem. Our transect walk confirmed all the information sourced during the open-ended interview. In addition, all the houses inhabited by the respondents are mud houses and about 70% of them used fenced-confinement for their livestock. Most of the settlements have nearby streams and rivers as the only source of water. However, they face challenges during the dry seasons, when most of the streams dry off. At such times, farmers in challenged areas source for water from the closest source (often in another settlement) with planned rationing in place with the host-settler. We collected samples (faecal, blood, carcasses, skin scrappings, and urine) for laboratory analyses and ticks for Identification. Though the findings of this study are unique, they are not a complete departure from the results of work done on livestock health and production development in Nigeria.

Based on the outcome of this work, there is great need to stimulate, build and foster a good relationship between rural farmers and livestock health providers. This can be achieved via participatory awareness campaign, training and integration of the rural farmers (who form bulk of the livestock farmers in Nigeria) in the modern livestock production methods, management and control of animal diseases for effective animal health information system, rural development and adequate food security.

Conclusion

This study has been able to highlight the importance and application of PRA to detect and understand the grass root problems facing the livestock production in relation to their importance as perceived by the rural farmers, thereby, identified as an important tool for disease

control, rural development and food security. Occurrence of various livestock diseases particularly foot and mouth disease, infectious bursal disease, contagious bovine pleuro pneumonia, babesiosis and trypanosomosis were established among the Fulani community of Barkin Ladi Local Government Area, Plateau State, with haemorrhagic septicaemia as the most important while babesiosis and contagious bovine pleuro pneumonia were the most prevalent diseases.

Other significant livestock health problems recorded during appraisal exercise were newcastle disease, fascioliasis, brucellosis, tick and tsetse fly infestation. It is evident that there was no rinderpest outbreak in the community during the last 5 years. Further, the relationship between the Fulani community in Barkin Ladi local government area and the livestock health care providers was found to be poor. It is our sincere hope that this work will open grounds locally in the introduction of more appropriate, timely and sustainable livestock health and production development approaches to promote wider participatory application of community-based animal health services so as to reduce the isolation of vulnerable livestock farmers who constitute the majority in the country from national and international livestock research and development.

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