Short Communication

An appraisal study of donkey in three Northern states of Nigeria

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Abstract

This qualitative study on donkey was conducted in Bauchi, Kano and Kebbi States of Nigeria. The objective of the study was to understand the role, significance and potential areas needing intervention in donkey rearing in the rural setting. The study was also used to obtain first-hand baseline information on the state of knowledge on the donkey in the states surveyed. Sixty two locations were visited comprising 36 from Kebbi, 19 from Bauchi and 17 from Kano States respectively. Rapid Rural Participatory Appraisal (RRPA) technique with check list of questions and farmers' participation was employed in villages/towns randomly selected to cover all the ecological zones in each of the three States. A meeting of one to two hours was organized with the farmers and donkey owners. Observations were made on donkeys at home and in the field. Problems mentioned by respondents included: Colics (Anomari), ulcerative lymphangitis, inflammation of the tongue, interdigital dermatitis, ear sore, fistulous withers, unknown causes of lameness and nervous system disorder called locally as "chinkai chinkai". There were generally poor or no veterinary facilities and services in most of the villages and towns. It was not the farmers practice to take donkeys to clinic for treatment. Mortality was high during the late dry season in most places but also occurred in the rainy season in some places. Areas for further investigations were also highlighted.

Keywords: Nigeria, Appraisal, Northern States, diseases, donkey

Introduction

The socio-economic significance of donkeys in rural setting in Northern Nigeria needs no emphasis. It is estimated that there are over 3 million donkeys in Nigeria with the northern part of the country harbouring the highest number. In Nigeria, these species of animals have been virtually neglected by research scientists, government, livestock policy makers, veterinarians and livestock entrepreneurs, yet they are, very much, a part of the rural and

urban communities in the North. Socially, the donkey is an important means of transport among the rural populace in many areas of northern Nigeria. They are used for transporting farm produce to and from local markets, villages and towns. Draught donkeys are becoming popular as a source of energy supply for agricultural exploitation (Hassan, 1995; Katsina, 1990; Campbell and Lasley, 1985; Jahnke, 1982). For years to come the donkey will continue to play vital roles in the rural

1982). For years to come the donkey will continue to play vital roles in the rural settlements. Another major obstacle to improved production of these hardy, resilient to diseases and prolific species of livestock however is diseases. Donkeys suffer from economic value (Mattiolo *et al.*, 1994). There is a gap in the overall knowledge on incidence of diseases in these animals in Nigeria. Further understanding of the role, significance and potential areas needing intervention in donkey rearing in the rural setting are the primary objective of this investigation. The study will also be useful in obtaining first-hand baseline information on the state of knowledge of donkeys in the States surveyed.

Materials and Methods

The study was carried out in Bauchi, Kebbi and Kano States. The States fall within Latitudes 9°30'N and 12°33'N and longitudes 3° and 11°45'E and are located in the northern Guinea in the south to Sahel zone on the North. The Rapid Rural Participatory Appraisal (RRPA) technique with check list of questions and farmers' participation was employed in villages/towns randomly selected to cover all the ecological zones in each of the three states. A meeting of one to two hours was organized with farmers and donkey owners. Observations were made on donkeys both at home and in the field. The Rapid Rural Participatory Appraisal (RRPA) method was employed in this study because it helped to define the nature of the problem, ascertain the extent to which the problem affected the people keeping the animal, examine the difficulties to be overcome, locate persons or groups interested in or opposed to the keeping of the donkey, assess resources available for up keeping of the animal and seek for solution.

Sixty two locations were visited comprising 36 from Kebbi, 19 from Bauchi and 17 from Kano States respectively. The farmers were informed of our visits and 30 to 50 of them were randomly interviewed. Aspects covered during the interview included farmers' household

characteristics, herd size and composition, types of donkeys kept, reproductive indices of donkeys, type of husbandry management, animal health care delivery for donkeys, uses of donkeys, marketing, extension services, problems and constraints militating against donkey production.

Results

The respondents were adult men within the age range of 25 – 65 years with more than ten years experience in handling livestock including donkeys. They were all married to an average of two wives with an average family size of six persons. Based on coat colour pattern described by farmers, six distinct types of donkeys were observed in the survey areas namely: Ehokusu, Aurako, Gobo, Bakinjaki, Gwambaza and Jangora. Unlike other livestock, donkeys are kept solely by men but are catered for and maintained mainly by men and children. However, any household member can make use of them should the need arise. Table 1 shows donkey holding sizes per household in different States and locations visited. The survey revealed that there is hardly any household without a donkey except among some Fulani household who do not keep donkey due to labour shortage. Donkeys are allowed to free range and no special feed supplementation or concentrates are provided. However, they have access to different types of "cut and carry" fresh grasses, browses and fodder species during the rainy season, but during the dry season there is scarcity of feeds. Fadama lands also provide forage resource for grazing donkeys especially in the dry season. Crop residues which are the main sources of feeds in the dry season, include: stovers and cereal residues of sorghum, millet, maize, rice and guinea corn, legume haulms of groundnuts and cowpea and cowpea husks. The crop residues are packed and stored on roof tops or sacks in the field surrounded by thorns until required for dry season feeding. They are also stored on tree trunks, open huts, spare rooms or 'rhumus'. They were also given food remnants and water *ad lib*. They are usually not herded

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with other livestock since it is the general belief of the farmers that they would never get lost. Donkeys are also not housed at any period of the year. They are left outside the house or in the open court yard of building at night.

The farmers indicated that there was ready outlets for sales and restocking of donkeys. Replacement animals come from within or

outside the herd. Selection is based on temperament body size, etc. Sales outlets include: markets, exchange and to neighbours. Mature donkeys cost between ₦2,000 – ₦10,000 depending on age, usage and sex. Income were generated directly by selling donkeys or indirectly by using for farm operations and transport.

Table 1 Donkey holding sizes per household in different locations from three states in Northern Nigeria.

Village/Town	State	No. per/household
Faragei	Kano	0*
Godadi, Rukubalo, Gungun Sarki	Kebbi	0*
Kaerfa, Ladin Dankade, Ajingi, Wudil, Kademi	Kano	1
Alwasa, Zuru, Maga	Kebbi	1
Tafawa Balewa, Wadaci, Talase, Barra, Alkalari, Darzo, Sade	Bauchi	1 – 2
Kaleko, Tagwaye, Gulu, Doka	Kano	1 – 2
Felande, Galadima	Kebbi	1 – 2
Arawa, Gadam, Maiwa	Bauchi	1 – 3
Kutama, Kumbosto, Yar Rutu	Kano	1 – 3
Gindi, Rumtuwo, Kimo	Kebbi	1 – 3
Katagum, Sakwa, Sirko, Miri	Bauchi	1 – 4
Karfi, Bunkure	Kano	1 – 4
Kalli, Kalgo, Bunza, Tondi gada	Kebbi	1 – 4
Madobi, Sumaila	Kano	1 – 5
Gotom Dikko, Dangoma, Maidahini, Ribah, Birni Yauri	Kebbi	1 – 5
Bagel, Toro, Bongo, Bajoga, Soro, Ningi	Bauchi	> 5
Bayawa, Gwandu, Ambursa, Bagudo, Andarai, Mahuta		
Marafa, Duhu, Dirin, Daji, Shanga, Tunga Giwa	Kebbi	> 5

*Purely transhumant Fulani Settlement.

Table 2 is a summary of reproductive indices of donkey from the states surveyed. Major disease problems mentioned by respondents include: Colics (*Anomari*)¹ ulcerative lymphangitis,

inflammation of the tongue, interdigital dermatitis, ear sore, fistulous withers, unknown causes of lameness and nervous system disorder locally called "chinkai chinkai".

Table 2 *Summary of reproductive indices of donkey in three states of Northern Nigeria.*

	Household	
	Hausa	Fulani
Age at first foaling (months)	24 – 60	24
Months of high foaling (season)	Harmattan Rainy Season	Harmattan Rainy Season
Foaling interval (months)	10 – 36	12 – 24
Weaning age (months)	6 – 24	6 – 12
Birth type	1	1
No of foaling before being sold out	3 – 20	Do not sell out
Mortality rate (%)	0 – 30	0 – 20
Season of highest mortality	Late dry season Rainy season (in Kano State only)	Late dry season

Discussion

In all locations visited, donkeys were used as beast of burden, for ploughing and ridging in few places (but not yet universally adopted due to cost of implements and lack of awareness that donkeys could be used for such operations), transportation and carting of farm produce and for fetching water. In some locations owners do hire the donkey out but perform the farm operations themselves to prevent the animals from being maltreated, malhandled and overworked. The age range at which donkeys are first used for traction is 2 to 5 years and their tractive period is five years. The average cost of a pair of donkeys and the drawn implements were: 2 donkeys (₦ 5,000 – ₦ 10,000) Cultivator (₦ 2,000 – ₦ 3,000), Ridge (₦ 4,000 – ₦ 10,000), Yoke (₦ 150 – ₦ 200). The age at first foaling was high in some places due to poor nutrition. Donkeys born during the rainy season (June to early October) had enough to eat to sustain them over the dry season while those born in the harmattan (late October to late February) had less due to fast drying of grasses and crop residues at this time of the year. The implication of this is that the young ones will not have enough feeds for their development. Mortality among the young donkeys was high during late dry season due to starvation as a

result of insufficient feeds and feeds resources. However, the reason for the mortality in the rainy season exhibited in Kano State may be due to accumulation of disease organisms in the soil in the dry season provoked as a result of rain, lush pasture and probable overfeeding of the fresh pasture. Other reason(s) for this rainy season phenomenon exhibited needs to be further investigated.

There were generally poor or no veterinary facilities and services in most of the villages and towns. The farmers used traditional and indigenous knowledges to treat their sick donkeys. In some areas where veterinary clinics exist, there were no drugs and vaccines; farmers therefore rely on self medication and the use of fake drugs at cut – throat prices. It is not the farmers' practice to take donkeys to clinic for treatment.

Donkeys have bright future and prominent role to play in Nigerian economy if proper attention are accorded to them. Efforts should be made to control donkey diseases through regular vaccination programmes and campaigns. These programmes could be brought to the farmers in form of practical demonstrations, discussions during the monthly technology review meetings, scientific seminars, workshops and conferences. In addition, the Federal, State and Local

Governments should make available veterinary clinics, drugs and vaccines for effective control and treatment of livestock diseases. The state government should provide credit facilities to livestock farmers to enable them purchase donkeys and donkey-drawn implements; to improve donkey breeding and fattening programmes. The unique traits in donkeys that should be exploited include: its hardiness, ability not to succumb easily to diseases, docility and amenability to training.

The states through their Agricultural Development Projects (ADP) should liaise with the relevant universities and research institutes for forages, browses, and grasses available, their evaluation, development and management in the state. This could lead to reduction in feeding problems during the dry season. There is need for donkey extension messages for farmers to adequately appreciate the potential of this animal in the country. This in turn would make the extension agents to appreciate the problems and constraints of the farmers keeping donkeys. Veterinary officers, drug companies, poster, handbills, radio programmes etc could be used to supplement extension agents' efforts and for rapid dissemination of information on donkeys. There is need to investigate and fabricate appropriate donkey draught drawn implements and ensure donkey traction programmes. It should also include a thorough study on the effect of traction on donkeys. The state government should provide more grazing reserves (or reactivate already existing ones) to supplement whatever the farmers could provide for the dry season feeding of their animals. This would reduce overgrazing during the dry season. The farmers in turn should take advantage of abundant crop residues and grasses available in the state to plan for animals' dry season feeding. A systematic screening and assessment of the presence of bacterial, viral, parasite and fungal diseases in donkey should be embarked upon in the country. Testing of the efficacy of some of the traditional medicines in current use by the farmers should be carried out so that they could be properly documented, refined and improved

upon in order to adopt them for intervention at the farmers level. Donkey is not yet integrated into women's domestic work core. The use of donkey milk and hides have not been documented in the country. Further studies should be embarked upon in these areas.

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