

THE ROLE OF CAMELS AND DONKEYS IN RURAL TRANSPORT IN DUNDAYE DISTRICT OF WAMAKO LOCAL GOVERNMENT AREA OF SOKOTO STATE, NIGERIA

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ABSTRACT: The study assessed the role of camels and donkeys in rural transport in Dundaye district of Wammako local government area of Sokoto State. Seventy five (75) respondents (animal transporters) were selected randomly from the study area, data were collected from primary and secondary sources, primary sources were through structured questionnaire, while secondary sources were from periodicals, documents, proceedings and journals. Data collected were analyzed through descriptive statistics. Results of the findings revealed that based on coat colour 4 distinct types of camels were identified 30% *Ja* (red) was more than any other colour and 7 different types of donkeys were identified with 36% *Ehokusu* (cream) more than others, on loads carried; 61.33% camels were used for moving crops stalk from one location to another, while 38.48% donkeys fetch water for their owners, 41.24% preferred camels because it could be sold after long time use to generate income, 32.48% camels can take them to places where they can board a vehicle, 58.67% camel and 50.67% donkeys transporters encountered disease infections and reluctance to move respectively. It is recommended that veterinary doctors should visit interior villages periodically to treat sick animals and animal transporters should form associations so as to attract assistance from government and non-governmental organizations.

KEYWORDS: role, camels, donkeys, rural, transport.

1 INTRODUCTION

Pack animal is a term used to describe goods carrying animals. Animal uses energy to pack or carry load over long distances; pack animals play an important role in transporting man and goods in arid and semi-arid regions of the world. In Nigeria, despite the introduction of motorized transportation camels and donkey remain an important means of transportation. Camels and donkeys provide a cheap and reliable alternative for both short and long distances transport. Many kinds of goods are regularly transported over short and medium distances whenever the volume or value of trade is too low to make motorized transport feasible and where roads are bad or non-existent [1]. The higher concentration of camels and donkeys are found in Nigeria around the northern part of the country (Sokoto, Kano, Katsina and part of Borno States with Sokoto State having the highest population of the animals [2]. Sizeable populations of donkeys are also found in Bauchi, Taraba and Adamawa States in Nigeria.

Transport by beast of burden is sometimes considered to be a traditional form of Tropical African transport that is still very widespread and important. Transport of goods to and from a local river or well or of fire-wood, apart from the use of animal is sometimes undertaken by human beings on their head in the rural areas. However, the beast of burden is the only

possible form of transport over a network of bush paths or in hilly country where no roads exist. Transport is of direct interest and importance to everybody in one way or the other [3].

The bulk of food produce in Nigeria and indeed the study area come from the rural areas which need to be transported from place to place. However, most of the villages lack good roads for transportation of food produce. Camels and donkeys serve as a very important means of transportation and are readily available in the villages, do not require foreign exchange for their purchase, expertise for services among others. The importance of transport in the lives of Nigeria's people is not in doubt but it is never easy to isolate its precise significance. Roads form the most widespread modern transport mode in Nigeria as elsewhere. Although road network densities are low, the importance of road transport is increasing everywhere in spite of rising fuel costs [3]. Road transport has traditionally provided the essential backbone of most tropical African transport systems and patterns of economic development since the beginning of the twentieth century, linking coast ports with inland areas or points of production for export or of population concentration. Road has very significantly influenced the pattern of economic development in the past and has continued to do so today.

There are 14.5 million camels in world, 70 percent of which are found in Africa. More than 70% of the total world population of camels is raised in the tropics. Approximately 91% of all in Africa are found in tropical region, where as in Asia the situation is reversed as more than two-thirds of that continents' camel population live outside the tropics. Tropical countries with large camel population are Sudan, Somalia, Ethiopia, Mauritania, Saudi Arabia and India. The camel population is declining in number in non-tropical regions of Africa. On the other hand camel numbers have been increasing rapidly in some tropical African countries. It seems inevitable that the decline in numbers would continue where the camel is only used for transport purposes. In the countries around the Mediterranean, machines have already virtually displaced camels in the transport industry although, small numbers of camels are still used for ploughing and other field work, they may ultimately almost disappear from the field soon [4].

Camels are used for the transportation of agricultural and other produce especially in the rural areas. The camel is specially adopted to thrive in semi-arid environment because it can survive without water for long period of time. For this reason, it is commonly found particularly in the north Sudan and Sahelian zones, where it provides some solutions to transport problems across the Nigeria-Niger boundary [4].

There are 40 million donkeys in the world, they are found in every continent of the world except in Polar Regions. In Nigeria, it is restricted in its distribution mainly by the presence of tsetse-fly such that the number is very small or totally absent in tsetse-fly areas and many in tsetse-fly free areas [4]. [2] estimated 55 million donkeys and mules serving a key role in the agriculture economy of third world countries of which donkey is one of the most important draught animals in the world. In Nigeria, donkeys were introduced via the trans-Sahara caravan trade. In Sokoto State, distribution of donkey is such that out of total number of 247,989 donkeys, 2,760 are owned by the pastoralists, while 244,197 are found within the villages with 1,032 for urban centre [2].

The use of donkeys and camels for transport in Africa dates back to history times. This is in contrast to the situation in many African farming systems, where farmers have recently stated to use donkeys or camels because of changes in land-use patterns, agro-ecological conditions and labour availability. Transport by beast of burden is one of the most ancient forms of transport that preceded even the invention of the wheel vehicles that has survived to the present day. The use of donkeys as pack animals or for pulling of a cart has enabled small-scale farmers to participate in the market economy. Camels and donkeys have reduced the domestic burden of rural women and have created employment and income generating opportunities for many people [4].

It is not surprising that pack animals and humans provide an estimated 80 percent of the power input both on farm and transport in the developing countries. On roads inaccessible by vehicles such as those on hilly sides, muddy rivers, valleys and on loads where size and scale of enterprise as well as finance rule out motorized vehicle, pack animals are the means farmers have to transport goods other than head portage [5]. Although, pack animals make their greatest contribution in transportation, they also play an important role in land tillage. They are also used to power stationary equipment such as water pumps, sugarcane crushers, grinding mills just to mention a few.

2 MATERIALS AND METHODS

Sokoto State is made up of 23 local Government Areas (LGAs) covering a total land mass of 26,648,480 square kilometres. The State is located within 11° 30'-13° 55' North and longitude 4° 7'- 6° 56' East in north western Nigeria. It has a population of 3,696,999 [6]. Inhabitants are mainly Hausa and Fulani by tribe. There are two seasons rainy and dry, the rainy season is short which starts in April/May and ends in September/October with annual rainfall of 500mm-700mm [6]. The State

experiences a long dry season (October-May) and cold dry spell harmattan period, (November-February) and a hot dry spell (March-May).

The predominant occupation of the people in the area is farming, livestock rearing and fishing. Crops cultivated in the area include cereals such as millet, sorghum, and to a lesser extent maize. Groundnut and cowpea are legume crops grown mainly for cash [7]. Dundaye Local Government Area was purposively selected based on the intensity of camels and donkeys in the area. Five (5) villages: Dandutsi, Danjawa, Dundaye, Gawotumi and Gidandaro were selected. Fifteen (15) animal transporters (camels and donkeys transporters) were selected randomly from each village making a total of number of 75 respondents. Both primary and secondary data were collected, primary data were collected using structured questionnaire through interview. Data collected were analyzed through descriptive statistics.

3 RESULTS AND DISCUSSION

Table 1. Distribution of Camels by (Breeds) Coat Colour

Breed	Frequency	Percentage
<i>Ja</i> (red)	27	36.0
<i>Bakinbiri</i> (black)	19	25.33
<i>Mahari</i> (rider)	17	22.67
<i>Taguwa</i> (female)	12	16.0
Total	75	100

Results in Table 1 revealed that based on coat colour 4 distinct types of camels were identified *Ja* (red) 36%, *Bakinbiri* (black) 25.33%, *Mahari* (rider) 22.67% and *Taguwa* (female) 16%. A reasonable proportion 30% of the respondents owned *ja* (red) camels. Camels are identified by the owners through the skin colour or behaviour. In general, 4 (breeds) distinct types of camels were identified based on coat colour. This finding is similar to [9] who reported that camels of each country or locality carry hereditary traits which designate one from the other in no uncertain manner. Similarly, family lines within each breed are recognized by traditional camel-owning communities. Environmental influences however, give rise to types which are more easily distinguished by the inexperience persons. All the types identified were one-humped camel *Camelus dromedarius*.

Table 2. Distribution of Respondents Based on (Breeds) Coat Colour of Donkeys

Breed	Frequency	Percentage
<i>Ehokusu</i> (cream)	27	36.0
<i>Goho</i> (grey)	19	25.33
<i>Jangora</i> (brown)	11	14.67
<i>Auraki</i> (light colour)	10	13.33
<i>Gwambaza</i> (an old donkey)	4	5.33
<i>Bakinjaki</i> (black)	2	2.67
<i>Ja</i> (red)	2	2.67
Total	75	100

Results in Table 2 showed that based on coat colour 7 different types of donkeys were identified *Ehokusu* (cream) 36%, *Goho* (grey) 25.33%, *Jangora* (brown) (14.67), *Auraki* (light colour) 13.33%, *Gwambaza* (an old donkey) 5.33%, *Bakinjaki* (black) 2.67% and *Ja* (red) 2.67%. Majority 36% of the animal transporters had *Ehokusu* (cream colour). Based on coat colour 7 different types of donkeys were identified. Animals born of specific coat colour are genetically and environmentally determined however, the local animal owners use certain features in identifying their animals. Apart from the commonest way of identifying male and female gender, it is colour that is distinct which could be use by inexperience people for easy identification of the animals. This confirms [1] who reported that *Ehokusu* constitute the highest type of donkeys found in Sokoto State, Nigeria.

Table 3. Distribution of Camels and Donkeys by types of Load Carried

Types of load Carried	Camel		Donkey	
	Frequency	Percentage	Frequency	Percentage
Farm produce From the farm	46	61.33	25	33.33
Onions to market	40	53.33	2	2.67
Grains to Market	24	32.0	14	18.67
Planks	8	10.67	-	-
Fetch water	-	-	29	38.67
Fire-wood	2	2.67	11	14.67
Grasses (fresh)	-	-	28	37.33
Others	4	5.33	2	2.67

*Multiple responses.

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Results in Table 3 depicted that camels carry different materials including; farm produce from the farm 61.33%, onions to market 32%, planks 10.67%, fire-wood 2.67% and others 5.33%. While donkeys carry farm produce from the farm 33.33%, onions to market 2.67%, grains to market 18.67%, fetch fire-wood 38.67%, gather grasses 37.33% and others 2.67%. Majority 61.33 % of camels were used by owners for moving crops stalk from one location to another. The animal transporters owned little or no farm. However, the use of camel for transportation of goods and services was their major occupation. Majority of the people in the study area were farmers and Moslems; the movement of crops biomass from the farm to the house after harvest is done in Moslem dominated northern Nigeria to build fence around their houses. The use of crops stalk after harvest to construct thatched fence around houses is to prevent people from looking directly into their compound, it also serve the purpose of preventing strangers from going into the compound directly on arrival until they are identified before entry might be permitted to certain limit. The harvesting season is a good time for the animal transporters because it is a season when they are quite busy, this also means some money. Camels and donkeys are important means of transport in the rural area especially among famers especially during the harvesting season.

The finding is similar to [4] who reported that most of the transport activities performed by camels and donkeys take place in the household within the community and are related to subsistence tasks such as the collection of firewood, water and transport to and from farm fields. Also [3] Brains reported that the bulk of food produce in Nigeria comes from the rural areas which need to be transported from place to place. Furthermore, most of the villages lack good roads for transportation of food produce. Camels and donkeys serve as a very important means of transportation and are readily available in the villages.

For donkeys, 38.67 % fetch water for their owners. A reasonable proportion (38.67 %) of donkeys fetches water for their owners. This is an indication that due to non-availability of water for domestic use within the house premises donkeys are used for fetching water for household use from the neighbourhood. This make donkey an important domestic animal for everybody to acquire and use it for this purpose especially if the person cannot use head portage for fetching water for domestic use. This confirm [1] who reported that because of non-availability of motor able roads in many parts of Sokoto State the animals (camels and donkeys) are used for transportation of either farm produce from farm to house and to the market places and also the movement of agricultural inputs to farmers' house. The finding is also similar to [9] who reported that in Ethiopia, donkeys are major mode of transport. They transport at least 12 different commodities including food to remote areas as well as guns and ammunitions during war. Similarly, [10] reported that most household use donkey carts for the transport of water, furthermore donkey carts are used by many households for marketing maize and potatoes which are sold in local markets.

Table 4. Distribution of Respondents According to Reasons for Preference of Motor to Animal Transport

Reason	Camel		Donkey	
	Frequency	Percentage	Frequency	Percentage
Availability	40	41.24	8	5.79
Go through bush path	26	16.80	25	27.47
Its mine	19	19.59	9	9.89
Easy to control & convenience	10	10.31	15	16.48
Take me where I can board a vehicle	-	-	30	32.48
*Multiple responses	*		*	

Results in Table 4 revealed that camels as a source of income and availability 41.24%, go through bush path 16.80%, its mine 19.59%, and easy to control and convenience 10.31%. For donkeys' source of income and availability 5.79%, go through bush path 27.47%, its mine 9.89%, easy to control and convenience 16.48% and take me where I can board a vehicle 32.48%. A major proportion 41.24 % of the respondents used camel as means of transport because it is a source of their income for them and it is available at all times. Some camel owners use it exclusively for transportation of goods and services as their major occupation therefore; camel to them is a major source of income. The owners of camel serve other members of their community and outsiders conveying their goods and services to different destinations. The use of camel for transport is very high especially during the dry season after harvesting of crops. This is because the crops stalk usually used for construction of thatched fence around their surroundings got decay during the rainy season and are replaced almost every year.

For the case of donkeys, a high proportion 32.97 % of donkeys takes their owners to places where they could get a vehicle. This is because of non-existence of motor able roads in some interior villages. Donkeys are availability at all times which make the use of donkeys very common in Sokoto State. Apart from that the state shares an international boundary with Niger Republic and some desert features like large area of sand especially during the dry season is very common in the area therefore, making movement of either motorcycle or vehicle almost impossible in some areas where there are no good roads. Considering this situation, transportation by beast of burden is the best option for people living around such areas.

Table 5: Distribution of Respondents Based on Problems Encountered by the Animal Transporters

Problems	Camel		Donkey	
	Frequency	Percentage	Frequency	Percentage
Diseases infections	44	58.67	28	37.33
Inadequate feeds	19	25.33	7	9.33
Inadequate drinking water	18	24.0	2	2.67
Lack of shelter	14	18.67	8	10.67
Reluctance to move	-	-	38	50.67
*Multiple responses	*		*	

Results in Table 5 showed that for camels' disease infections 58.67%, inadequate feeds 25.33%, inadequate drinking water during dry season 24% and lack of shelter 18.67%. For donkeys; disease infections 37.33%, inadequate feeds 9.33%, inadequate water during dry season 2.67%, lack of shelter 10.67 and reluctance to move 50.67%. Majority 58.67 % of camel transporters had disease infections as one of their major problems. One of the commonest problems with rearing of animals is disease infections. In Nigeria, majority of the animals are reared in the rural areas that are very difficult to be accessed by veterinary doctors, some of the animal transporters do not know where to take their animals when the animal is sick. Those who know where to go for treatment of their livestock may not have money to pay for the treatment.

For donkeys, 50.67 % of the respondents the beast of burden were reluctance to move. The inability of the donkey to move is associated with many factors such as improper handling of the animal, the animal may want to be eating while moving. For no reason the donkey will refuse to move. Little skills are required in handling the donkey especially when it is carrying load. The handler of the animal is expected to be controlling the load carried by the animal and the same time be directing the animal on where to go, when to stop and vice versa. If the handler is an experience person in using the animal,

he would handle it well and go to bush path of long distances without much problems. In contrast, if the handler is inexperienced, poor handling result to the animal refusing to move. There are some instances when the animal might be on the move but wish to be grazing. In this case, a net is use in covering the mouth of the animal to prevent frequent stopping to eat grasses. In rare cases the animal is either handled properly or its mouth covered but refused moving. Furthermore, in an event of refusal to without any problem noticed by the handler a cane is use in beating the animal to enable it move.

4 CONCLUSION AND RECOMMENDATIONS

The findings of the study revealed that four distinct (breeds) types of camels were identified based on coat colour with red (*Ja*) colour having majority and seven (breeds) types of donkeys were identified with cream (*Ehokusu*) having majority. On the types of loads carried; camels were used in conveying farm produce from farm to the house, while donkeys were used in fetching water for domestic use, on the preference of motor to animal transport, camel owners prefer it because it is a source of income. On the contrast, donkey owners prefer it to motor transport for it can go through bush path where there is no proper road. It is recommended that veterinary doctors should visit the interior villages periodically to treat the sick animals that cannot be taken to veterinary clinic due to long distances and animal transporters should form associations so as to attract both government and non-governmental organizations attention especially in the provision of water veterinary clinics in the rural areas.

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