

*Review*

## Donkey traction, use and welfare needs at Daman region of Dera Ismail Khan, Pakistan

Muhammad Shuaib Khan<sup>1,5\*</sup>, Muhammad Ghias Uddin Shah<sup>2</sup>, Syed Atta Husain Shah<sup>2</sup>, Jamil Ahmad Gandahiz<sup>2</sup>, Sumera Ali Khan<sup>3</sup>, Farooq Alam<sup>4</sup>, Ghulam Murtaza Lochi<sup>2</sup> and Syed Mubashir Hasan<sup>5</sup>

<sup>1</sup>Gomal College of Veterinary Sciences Gomal University, Dera Ismail Khan, Pakistan.

<sup>2</sup>Faculty of Animal Husbandry and Veterinary Sciences, Sindh Agriculture University, Tandojam, Pakistan.

<sup>3</sup>Department of Livestock and Dairy Development Khyber Pakhtoon Khawa Pakistan.

<sup>4</sup>Area Office UBL Main Branch, Dera Ismail Khan, Pakistan.

<sup>5</sup>Faculty of Veterinary Medicine University of Putra, Malaysia.

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This paper reviews donkey utilization in the livelihood of people in the arid zone of Dera Ismail Khan and adjoining areas of Khyber Pakhtoon Khawa, commonly known as Daman. The physical atmosphere of Daman region is rather harsh and the annual rainfall is low. The lands are sandy to muddy or mixed, very poor in nutrients and relatively salty. Most of the region is a broad plain approximately 500 to 600 m above the sea level. Donkeys are gradually more popular in the Daman region due to the harsh conditions and the decrease in available fodder. They are particularly used by women and aged people who usually do not work comfortably with other animals like bulls or camels. However, donkeys remain out of favour due to financial, public and scientific constraints. Unlike in other regions of Khyber Pakhtoon Khawa where donkeys are only used for transport and pack animals, in Daman region, it is still common to find donkeys ploughing in small fields. Livelihood of many people living in Daman depends upon the functioning of this species domestically and commercially. Keeping in view of the importance of management and welfare needs of donkeys in the Daman region, a survey was carried out to briefly describe management, utilization and well being of donkeys and the health concerns in this deprived region of Khyber Pakhtoon Khawa, Pakistan.

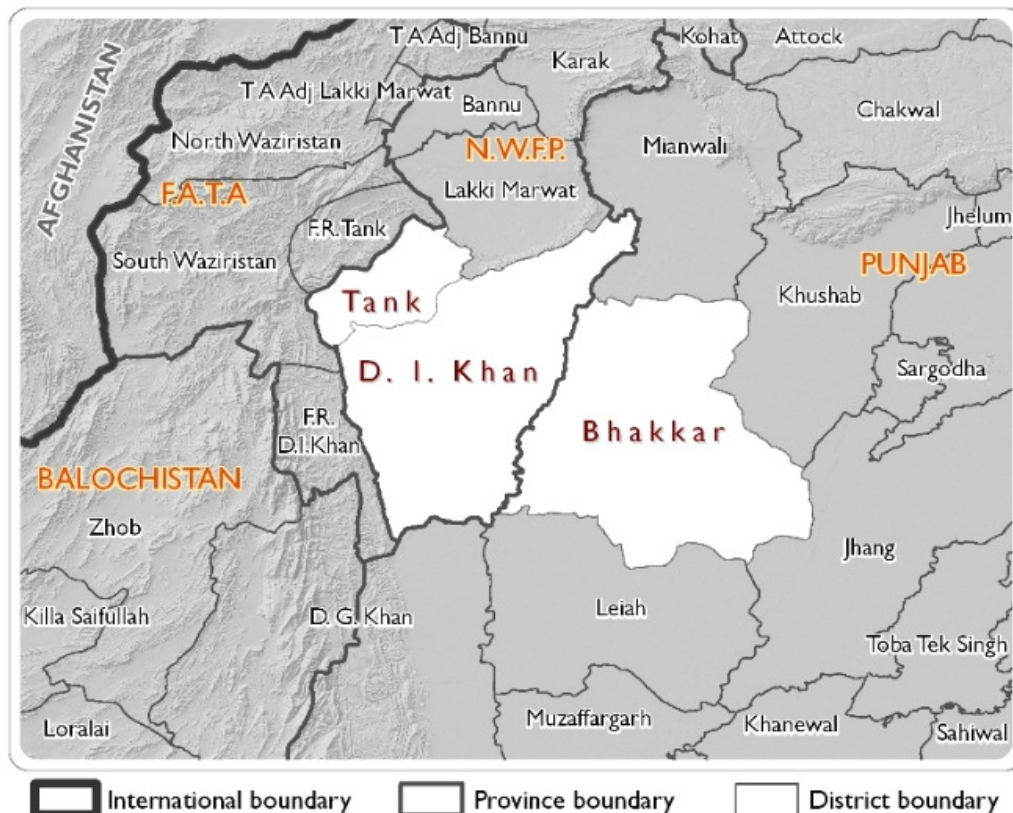
**Key words:** Donkey, traction, use, welfare, Daman, Dera Ismail Khan, Pakistan.

### INTRODUCTION

The majority of Pakistan lies in arid and semi arid zones according to Pakistan agriculture climatic classification (Chaudhry et al., 2004). Hence greater part of the populace sustains their livelihood through agriculture and livestock keeping activities. Agriculture and livestock sectors in Pakistan are not only dependent relative on rainfall but also on the irrigation or canal water, which comes from periodic rainfall as well as melting of ice and snow glaciers.

Dera Ismail Khan is the southernmost district of Khyber Pakhtoon Khawa lying on the elevation of 571 to 600 m above the sea level. It has a total geographical land of 0.896 million hectares, out of which 0.300 million hectares were cultivated (Khan, 2003). Most of the Dera Ismail Khan District is a dry alleviated plain commonly referred to as "Daman" (Marwat and Khan, 2008). The mountains in the district are those of Khisore Range which lies in its northeastern part.

\*Corresponding author. E-mail: [anatomistkhan@gmail.com](mailto:anatomistkhan@gmail.com).



**Figure 1.** Map of Khyber Pakhtunkhwa with Dera Ismail Khan District boundaries highlighted. Source: Draft Multi Cluster Assessment Mission Report (2009).

The summer season is dry and hot, June and July are the hottest months, during which the mean maximum temperatures elevate to 46 to 49°C. December, January and February are the coldest months. The district is bounded on the north by Tank and Lakki Marwat Districts, which constitute the main Barani areas of the arid zone of Khyber Pakhtoon Khwa. The Daman area has a prime importance because it is connected in the east by Mian Wali and Bhakkar Districts of Punjab, in the south by Dera Ghazi Khan District of south Punjab and in the west by tribal area adjoining Dera Ismail Khan District (Anonymous, 1998; Figure 1).

Pakistan has about 4.7 million donkeys (Anonymous, 2010, 2011). The number of donkeys increases with a growth rate of 2.95 per annum (1956 to 2001) (Hasnain and Usmani, 2006). There has been an enormous raise in the donkey population from 0.9 million in 1970 to 3.9 million in 1996 (Starkey and Starkey, 1997). Even though donkeys are found in all the areas of the country, the greater number is found in the pastoral societies, smaller towns, mountainous areas and arid zones of the country. Total population of donkeys in Khyber Pakhtoon Khwa is 409,185 (Anonymous, 2006).

Donkeys are kept primarily for transport. They pull carts and carry different goods predominantly in arid zone and mountainous areas (Khan, 1997). In the Daman region,

donkeys are mainly used for pulling carts, carrying drums and gallons of water (Figure 2) and other goods like fire wood (Figure 3), grains, mud, clay etc. which are used locally for house usage and commercially (Wilson, 1991). The donkeys are the main source of carriage and transport for different commodities like bricks, cement bags, gravel, sand, fodder and animal manure (fertilizer). In the Daman region, the total donkey population is 43,252 (Anonymous, 2006, 2007). If the pack is correctly sited on the back of the animal and a suitable loading and unloading techniques are used, a donkey can simply bear between 27 and 40% of its individual weight (Goe, 1983). All farmers in the Daman region have one or more donkeys. These donkeys carry fresh drinking water to residences by means of carts specially designed for water drums and gallons (Figure 2). The other popular role of donkey is usage as a guard animal with the herds of sheep, goats and cattle. Donkey ploughing is also common in small pieces of land.

#### **MANAGEMENT AND WELFARE OF DONKEYS IN THE DAMAN REGION**

Donkey owners of the Daman region have common stables for their animals not specific for donkeys where



**Figure 2.** Specially designed donkey cart carrying water gallons at Daman region of Dera Ismail Khan.



**Figure 3.** A group of donkeys carrying fire wood to the local market at Daman region of Dera Ismail Khan.

they stay for night while in the day they openly graze in different places in the locality. The floors of these stables are not prepared according to the prerequisite of the animal's requirements and always wet with their urine, muddy and not appropriately cleaned. The mangers are made of mud, stones and bricks. There is no proper ventilation system in these stables and they are not spacious. Mostly the donkey owners provide drinking water (not necessary clean) to the animals by buckets of different sizes but a small number of them make available separate water troughs for their donkeys and other animals in the stables.

The hooves of donkeys kept in the Daman regions are commonly full of mud, manure, sand and small pieces of gravel. They are not properly shod and their hooves are not properly cleaned and trimmed. The saddles used by Daman villagers are made locally. The materials used for saddles are mostly old clothes, old blankets and other raw material enclosed by polythene made sheets.

Due to the dirty stables, the donkeys are very much infested with worms. They are always naturally exposed to the nematodes and cestodes (Getachew et al., 2012). The ticks are always present on the skin of donkeys (Billeter et al., 2011). Donkey owners in the villages at Daman region are very deprived. They cannot afford the deworming of their donkeys as well as other animals at regular intervals. Most of them are also illiterate so they have less awareness concerning the health, management and welfare of their animals. The dirty environment poses this species to the infectious metritis (Hebert et al., 2012) and other infectious urinary tract diseases. Serious problem of piroplasmiasis has an economic significance where working donkeys are concerned. Due to this infection, working capability of the donkeys are considerably decreased (Machado et al., 2011) and the animal become weak and emaciated. Some knowledge of diseases of donkeys and other equines are often extracted from research data of diseases in horses (Pearson et al., 1997). Although the diseases that all the equines can have might be similar, the behaviour of diseases is intermittently different. For example, donkeys are less at risk to African horse sickness than are horses (Coetzer and Erasmus, 1994), but both are equally susceptible to *Trypanosoma brucei* (Connor, 1994) which is very fatal disease for working donkeys. Their vulnerability to disease may be somewhat different from horses, and may be close to that of other equines species.

The most important and traumatic mechanical setback of the working donkeys in the Daman region are lameness, saddle sores and wounds which become septic in this region because of lack of care and ignorance. The ignorance among the owners of the working and draft animals make the situation more complex and they suppose in being paid work out of these underprivileged creatures at any price. Lameness is caused by traumatic injuries and pressure cause by

carrying loads. Saddle sores are caused by more pressure, friction, and rubbing of the saddle or girth against the skin of the animal during carriage. The majority of the sores and wounds are caused by uneven loads being placed on the regions of the back.

Many of the other health problems in donkeys are metabolic as well as infectious in origin resulting from ill-treatment by owners and from ill-fitting or deficiently premeditated harnesses. Traditional and unconventional methods of treating donkey diseases are normally used (Twerda et al., 1997). In view to reducing the gastrointestinal parasite load, broad spectrum anthelmintics should be used after every four months. Tropical ectoparasitic dips and baths may be done to reduce the ectoparasitic diseases. In some countries like UK, the donkey sanctuaries are there for the refuge of the unwanted donkeys (Burden et al., 2011). Pakistan's Government can also make a policy for the old donkeys that have lost their working capability.

There has been very limited research work on suitable foodstuff and fodder for donkeys and other equines under conditions of maintenance and other working and metabolic activities. The animals at the work place are seriously under-fed, emaciated and debilitated. They are provided with wheat and grain straw or rice husks which contain very hardly any nutrients and metabolites. They are sometimes fed with green fodder nor given any salts and minerals, despite of this fact that they work for more than six hours a day.

## RECOMMENDATIONS FOR DONKEY HEALTH AND WELLBEING IN THE DAMAN REGION

In Pakistan, there is little concern on the management and welfare of the donkey. An imperative need to organize future study plan and investigation actions at the grass root level and to have planned research and development programs specifically designed for donkeys may provide some guidelines to scientists and those involved in other equines research and welfare activity to take care of the health and research of donkey and other animals. Primarily, investigations on donkeys are likely to be under taken by several different veterinary health and research institutions collaborating in all networking and cooperative ventures.

There is an intense need to work for the working donkeys in the Daman region broadly. Welfare actions should be carried out for the villagers of the area for the well being of this underprivileged animal. On the basis of certain recommendations, the donkeys should be helped consequently and we can also make a better plan for the welfare for the donkeys that are much ignored today.

## CONCLUSIONS

Being a low cost draft animals, donkeys can respond the

requirements of deprived farmers who cannot afford mechanized agricultural and livestock farming. This may be helpful in the recent situation of energy crises in Pakistan. Donkeys could decrease the unpleasantness of their effort, free some labour, save some energy and fuel in less populated areas. They may enable farmers to increase their cultivated land. If donkeys are used for transport, it may make possible farmers entrance to other new markets and may be helpful to decrease the pollution from the fuel etc.

Donkeys are the mainly ignored and disregarded animals in Pakistan. The farmers of Daman region and arid zone are usually entirely ignorant of management techniques and welfare needs. Nearly all the donkey owners and farmers of this area are untrained and unaware, which makes any improvement in the management and wellbeing of their donkeys as well as other livestock species very improbable. Ignorance connected with scarceness, illiteracy and lack of knowledge is very difficult to achieve targets of modern agriculture and livestock farming trends.

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