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Constraints and Opportunities for Donkey Owners in Tamil Nadu

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ABSTRACT

The trend of the donkey population in Tamil Nadu portrayed a drastic decline, urging the scientists to explore the reasons behind the decline. Hence, a research study was conducted to analyze the challenges and opportunities of donkey rearing in Tamil Nadu. The study was carried out in eight districts of Tamil Nadu which were selected purposively based on the donkey population. The data were elicited from totally 160 respondents through focus group discussion and interview method. Theft of donkeys, decreased demand for donkeys due to modernization, shrinkage of common grazing land, disease management and lack of government support to conserve donkeys were enlisted as the major constraints by the donkey owners in Tamil Nadu. As an intervention, microchips were implanted in donkeys to help the donkey owners in identifying the donkeys during dispute. As the donkeys were still relied on transporting goods and consumables in hilly terrain, the draught performance of the donkeys needs to be explored in tropical climates. Majority of the donkey owners in Tamil Nadu are involved in marketing the donkey milk due to its medicinal properties. Hence, assured market linkage and policy interventions were the need of the hour to help the donkey owners as well as to ensure the welfare of donkeys in Tamil Nadu.

Key Words: Constraints, Opportunities, Donkey, Owners

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INTRODUCTION

The donkeys which are the invisible workers widely considered as beast of burden still being reared by various sectors of the community for various purpose. Apart from transportation and hauling purpose, the donkeys were also reared for milk purpose. There is a high demand for donkey's milk due to the belief that the donkey milk cures various ailments in human beings. Moreover, some sections of the society still retain one or two donkeys as their ancestral practices. However, due to urbanization and mechanization, the demand for donkeys for transportation and hauling purpose decreased drastically which could be evidenced from the recent trends in the donkey population in the state. As per the 20th livestock census, the donkey population in India and Tamil Nadu declined 61.23 per cent and 84.4 per cent in 2019, respectively. In this scenario, it is the need of the hour to explore the challenges and opportunities of donkey farming in the state which would be helpful in attracting the attention of the policy makers towards the welfare and upliftment of the donkeys as well as the marginalized people who involved in donkey rearing. Hence, an ex-post facto research study was designed to explore the Constraints faced by donkey owners and opportunities available in donkey farming in Tamil Nadu.

MATERIALS AND METHODS

An ex post facto research design was framed with an objective to analyze the challenges and opportunities of donkey farming in Tamil Nadu. This scientific study was carried out during 2021 and 2022 in eight districts *viz.,* Thoothukudi, Krishnagiri, Theni, Dindigul, Vellore, Tirupathur, Tiruchirappalli, Tiruvallur districts of Tamil Nadu which were selected purposively based on the

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Table 1. Constraints in donkey rearing in Tamil Nadu.

Factors	Rank based Quotient (RBQ)	Rank
Theft of the donkeys	90.10	**I**
Utility of donkey is declining	80.93	**II**
Shrinkage of common grazing land	64.48	**III**
Disease management in donkeys	51.25	**IV**
Lack of government support to conserve donkeys	36.66	**V**
Labor management	26.87	**VI**

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donkey population. Twenty donkey owners from each selected districts were selected using snow ball sampling method forming 160 sample size in total. The data were elicited from the donkey owners through focus group discussions. In each discussion 8-12 respondents participated. A pre - tested well-structured interview schedule was also utilized to collect the data from the donkey owners. The data collected were ranked using Rank based Quotient (RBQ) method.

RESULTS AND DISCUSSION

Constraints in donkey rearing

The Constraints faced by the donkey owners were ranked and the results are depicted in the table 1.

It was evident from the data (Table 1) that theft of the donkeys was the most serious constraint ranked by majority of donkey owners. It was opined that the donkeys were lifted/smuggled during early morning hours from the villages and transported to nearby state of Andhra Pradesh for illegal slaughter and sale of donkey meat. Most of the owners reduced their herd size due to the above said constraint. This was in line with the findings of Gichure *et al* (2020) who reported that majority of the donkey owners in Kenya ranked theft of donkeys for slaughter as the prime most constraint. The donkey's skin was in high demand for the preparation of Ejiao, a Chinese traditional medicine which pose a great threat to the global donkey population (Goodrum *et al,* 2022). The demand for donkey hides for the ejiao industry in China will have impact of this pressure on donkey populations for low-income rural households worldwide who were reliant on donkeys for their livelihoods and the potential adverse impact on the welfare of donkeys themselves (Bennet and Simone, 2020). The animal welfare measures were not followed in trading and hence the donkeys suffer during the transit period (The Donkey Sanctuary, 2019). The illegal trade of donkeys leads to disease outbreaks especially outbreak of equine influenza which was reported in many West African countries (Brooke, 2019). Based on this constraint reported by donkey owners, the latest technology of microchipping of donkeys with microchip implants to identify the donkeys in case of theft was adopted on a trial basis in Vellore and Krishnagiri districts. The donkey owners stated that the microchip implantation in donkeys will help them to identify their donkeys in disputes.

The second constraint ranked by the donkey owners was the decrease in the utility of donkeys due to urbanization and modernization. As most of the hills are connected with plains by motorable roads, the demand for donkeys to transport the goods to the peak of the hills was declining. Due to this the livelihood of the owners who depend on the donkeys was affected. In recent years donkeys are used in hilly areas of Vellore and Krishnagiri district to transport food grains, manure salt etc., where there are no motorable roads. Zaman *et al* (2014) stated that donkeys contribute around 80.0 per cent of annual household food needs of the equid owners in Uttar Pradesh.

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Shrinkage of the common grazing land was ranked as the third constraint by majority of the donkey owners. Due to intensive agriculture and urbanization, the grazing lands have been converted into human dwellings and there is acute shortage of grazing lands for the donkeys to graze. Dixit *et al* (2015) reported that grazing pressure in terms of livestock per unit of permanent pastures (PP) and grazing land (GL) at country level increased from 35 to 52 animals during 1982 to 2007 whereas, carrying capacity of per unit of permanent pastures and grazing land was less than 1 adult cattle unit. He also stated that increasing trends in the grazing pressure were noticed in Punjab (833 animals/ha') followed by Uttar Pradesh (142), Tamil Nadu (126) and Andhra Pradesh (69) during 1980-81 to 2007-08. It was observed that majority of the donkeys are let out for grazing and the shrinkage in grazing land had major impact on the health of the donkeys. Due to limited grazing lands, the donkeys graze near garbage dumping areas there by accidentally feed on plastic bags, which in turn results in impaction leading to Colic.

The fourth constraint reported by the donkey owners was disease management in donkeys. Donkeys were more prone to pneumonia, colic and wounds. As the donkeys were stubborn in nature, they exhibit pain due to colic at the end of the course, by that time it would not be possible to save the animal. As most of the time the colic was due to impaction, the surgical intervention was needed to relieve the animal from the pain. But at the field level, the veterinarians were not trained to perform surgeries in the donkeys. Further, the donkeys do get affected by various ailments namely tetanus, rabies, rhinitis, wound infections, eye infections etc. Thus, it is high time to capacity build the field veterinarians in treating various ailments of donkeys. Singh *et al* (2010) stated in their study that the colic (>80.00 %) was the commonest equine ailment in India followed by trypanosomiasis, lameness, respiratory tract infections and wounds/ abscess and injuries. Gichure *et al* (2020) reported that donkeys were more prone to Tetanus, lameness, helminthiasis and mange infestation.

Lack of government support to conserve the donkeys was ranked as fifth serious constraint by the donkey owners. Fernando and Starkey (2020) stated that development professionals must recognise working equid use and management as an appropriate and affordable technology for people with minimal resources.Tamlin *et al* (2020) stated that a systems-based, one welfare approach for donkeys is urged to identify linkages and root causes of issues and support the development of sustainable collaborative solutions. Delphine (2015) opined that working donkeys, horses and mules should be explicitly included in livestock policy and programmes. If they were not defined as livestock, horses, mules and donkeys should be defined as working animals and their needs be addressed accordingly in policy and programme development and implementation. Thus, the donkey owners expect more government schemes to conserve the donkeys and to empower the livelihood of the donkey owners.

The sixth constraint ranked by the donkey owners was the labour management in donkey rearing. Majority of the donkey owners reported that the family members were involved in donkey rearing and hence the labor management was ranked as the least constraint. Majority of the respondents revealed that the donkey rearing was their ancestral practice and hence the donkeys were part and parcel of their life but being kept at the lower level in the social status of the community.

Opportunities in donkey rearing

The opportunities in donkey rearing in the present scenario were elicited through Focus Group Discussions. It could be observed from the study that the donkeys were reared not only for draught purpose but also reared for milk. Though the donkeys were reared in different agroclimatic regions of Tamil Nadu, they were predominantly concentrated in highlands. The donkeys were used as pack animals in highlands for transporting goods.

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Donkey as pack animal

The donkeys were reared as pack animals for transporting consumables and goods in hilly terrain. Donkeys are low-cost mode of transport and could reach uneven and harsh highlands, and hence people still prefer donkey as a mode of transport in hilly terrains. Apart from that, the donkey rearing respondents in plains stated that the donkeys were the most preferred mode of transport in carrying fertilizers and manure for the farm purpose. Many families depend on donkeys for their livelihood in this region. Hagmann and Prasad (1995) reported that there was no significant difference in the draught force between donkey and cattle species. He also stated that the work rate per hour for ploughing with donkeys was 65 per cent of that cattle. The apparent ability of donkeys to survive droughts better than cattle were considered an important source of draught animal power in semi-arid areas (Nengomasha *et al,* 2000).

Donkey milk

The donkey milk was considered as a precious commodity by the society due to its medicinal values. The respondents revealed that the donkey milk was fed to the new born children to enhance the immunity. Guo *et al* (2007) reported that the donkey milk contained 9.53% total solids, 1.57% protein, 1.16% fat, 6.33% lactose, and 0.4% ash on average, which was more similar to mare and human milk than to the milk of other mammals. He also quoted that the percentages of eight essential amino acids in protein of donkey milk were 38.2%, higher than those of mare and cow milk. Anuradha *et al* (2020) stated that donkeys' milk could be considered as a potential new dietetic food and a good alternative for infant nutrition in the case of bovine milk protein allergy. As the fat content in the milk is very low when compared to that of other species it could be used in diet therapy. Kocic *et al* (2020) reported that the non casein bioactive peptides of donkey milk were responsible for the anti-inflammatory property of donkey milk and colostrum and indicated its utility in the treatment of inflammatory skin diseases. The use of donkey milk as moisturizer in cosmetics were also been reported in various studies (Brumini *et al,* 2016). In this regard, the donkey owners reported that they are keen in rearing donkeys intensively if they were assured with proper market linkage.

CONCLUSION

Due to urbanization and modernization, the donkey population drastically reduced in Tamil Nadu. The people who were involved in donkey rearing were marginalized people of the society. As an ancestral practice they were also culturally bounded with these animals but due to the decrease in the demand for donkeys, their livelihood was affected. The theft of the donkeys was ranked as the prime most constraint by the respondents. The decreased demand for donkeys due to modernization, shrinkage of common grazing land, disease management and lack of government support to conserve donkeys were other constraints enlisted as the major constraints by the donkey owners. They were expecting both policy intervention and technological empowerment to overcome these constraints. The skill empowerment training in value addition of donkey milk would help in this venture. The avenues to utilize the draught force of the donkeys in eco-tourism need to be explored.

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