LOCKED OUT IN THE LOCKDOWN
To Move or Not To Move – A Pastoralist Dilemma!

Kanna K. Siripurapu
WASSAN-RRAN, Hyderabad, Telangana. Email: kanna@wassan.org

1. INTRODUCTION

The Indian states of Andhra Pradesh (AP) and Telangana (formerly undivided AP) has a vibrant traditional pastoralist culture and populations. The rainfed regions of AP and Telangana has a thriving mobile pastoralism. In addition the others forms of pastoralism which includes: agro-pastoralism, semi-nomadic, village pastoralism, urban pastoralism, settled pastoralism and permanent migration is also found significantly in both the states (Sharma, *et al* 2003).

The major traditional pastoralist communities of AP and Telangana includes Golla, Kuruma and Lamabdi (known also as Banjara/Sugali). The noun Lambadi is prominent in Telangana and Sugali is popular in AP for Banjara community. The Lambadi/Sugali is categorized as a (De-notified) nomadic tribal community in the official categorization of tribes and other indigenous communities of India. They are one of the largest tribal populations of the country and believed to have migrated from Mewar region of the North Indian state of Rajasthan and settled in AP and Telangana more than four centuries ago (Dhanavath, 2020; Reddy, (*eds.*) Kurup and Burman, 1961).

Golla (also known as Yadava/Yaduvanshi) belongs to the other backward caste (OBC) are one of the dominant traditional mobile pastoralist communities of AP and Telangana. They rear cattle from the belief that they too belong to the same lineage into which Lord Krishna was born. The name Golla, is derived from “Gopal”, a Sanskrit word, meaning caretaker/protector of cows (Joshua, 2019; Yaadav, 2010).

Kuruma (known also as Kuruba in Karantaka and Dhangar in Maharashtra) are primarily sheep rearing traditional mobile pastoralist community of AP and Telangana. They are classified as OBC and are one of the dominant traditional mobile pastoralist communities in AP and Telangana. Kuruma has a close affiliation with sheep and both sheep and wool forms an integral part of their social fabric and culture.

In addition to the traditional pastoralists Siripurapu, *et al* (2020) found about 13 other non-traditional pastoral communities belonging to the OBC and SC communities are now practicing mobile pastoralism in AP and Telangana. Ironically, the traditional pastoral communities are found to be moving out of pastoralism and taking up settled agriculture on owns lands, pursuing government or private jobs, moving to urban centres and even abroad in pursuit of better economic prospects.

Nationally, Andhra Pradesh (34 million) and Telangana (32 million) ranks 6th and 8th respectively in terms of livestock population. AP has 6.5 million Buffalos and Telangana has 4.2 Buffalos, putting the states at 6th and 9th places nationally. Out of the total 74.26 million sheep in India, Telangana is home to 19 million (26%) and AP is home to 17.6 million (24%) of sheep making them the top two states with the most number of sheep population. Both AP and Telangana together has 50 % of the total sheep population of the country. It is widely accepted that sheep like camels and yaks are almost exclusively maintained under mobile pastoralist system. In addition, both the states have significant number of cattle, goat and pig populations maintained under different extensive pastoral systems (GOI, 2021).

The existence of long history of traditional pastoralism, prevailing traditional pastoralist communities, and significant livestock population maintained predominantly under mobile pastoralist system makes AP and Telangana states very important for pastoralism in the Deccan plateau and South-eastern coastal regions of the country. However, studies on mobile pastoralism in Deccan Plateau region of AP and Telangana and coastal AP still remains either flimsy or absent (Siripurapu, *et al* 2020; Sharma, *et al*. 2003). Similar to rest of the sub-continent disaggregated data of the communities either traditionally or actively engaged in mobile and other permutations of pastoralism is absent in AP and Telangana. The already least studied and understood mobile pastoralist system of AP and Telangana was reported to have faced many challenges during the COVID-19 induced lockdown (Cfp, 2020; Nagualvancha, 2020).

2. SIGNIFICANCE OF THE STUDY

A nationwide Novel Coronavirus (also known as COVID-19) induced lockdown was declared by the government of India on the 24th March, 2020, as a measure to contain the spread of the outbreak. Although, COVID-19 pandemic was primarily considered as a public health emergency but it turned out to be more than just a public health crisis. The COVID-19 induced worldwide lockdown has brought the world to a screeching halt, affecting every aspect of the human society, from economy, social relationships, community bonding, traditional practices, occupations, physical and mental health, to mobility, among others.

One of the hardest hit from the lockdown and restriction on movement are the most vulnerable and marginal sections of the society, particularly the migrant labour. Although, the issue and plight of migrant labour (mostly engaged in the formal/informal industry and service sectors) captured much attention of the state, media, civil society organizations and society as a whole, but the other equally vulnerable and traditionally perpetual migrants – the pastoralists did not capture the attention of the state and society.

Pastoralist communities and their livestock have been traditionally traversing the landscapes of the sub-continent for hundreds of years, yet they remain invisible institutionally.

Traditional pastoralist communities across the sub-continent have been branded as backward, uneconomical, environmentally and ecologically damaging and in the worst case scenario few of them were criminalized by the Colonial Government by notifying them as "criminal tribes" through passing the "The Criminal Tribes Act, 1871 (Kapadia, 1952; Singh, 2008). (Also see: Piliavsky, 2015. The "Criminal Tribe" in India before the British).

In addition to carrying the burden of criminalization, traditional pastoralists across India have been subjected to systematic institutional ostracization (Sharma, *et al* 2003). For decades traditional mobile pastoralists have been denied of their customary grazing rights in and around the protected areas. This is despite the recognition of their customary rights under "The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (Siripurapu, 2020; Desor, (ed), 2013, Sabharwal, 2000; Sharma *et al*. 2003).

Pastoralism in India is already beset with multiple issues and challenges – ever shrinking commons and natural grasslands (ATREE, 2020; ATREE 2019; Down To Earth, 2019; TERI 2017; Vanak, *et al*. 2017; Jitendra, 2017; Sharma *et al*. 2003), ever increasing conflict with the forest department regarding the access to customary grazing lands located inside the forests and protected areas, branding of indigenous pastoralist livestock as inferior and upgradation of such breeds through artificial insemination using semen of exotic breeds, and promotion of sedentary livestock farming (Down To Earth, 2019; TERI 2017; Dong, 2016, FES, 2012), among others.

As if the existing challenges are not enough, the COVID-19 induced lockdown brought new challenges to the centuries' old mobile tradition – it brought almost everything to a standstill. Pastoralists were left at crossroads and in a dilemma whether to move or not move during the lockdown (Actionaid, 2020; Khanna, 2020; Mitra, 2020; Mukherjee, 2020; Nagulavancha, 2020; Roy, 2020; Sarkar, 2020; Thomas, 2020).

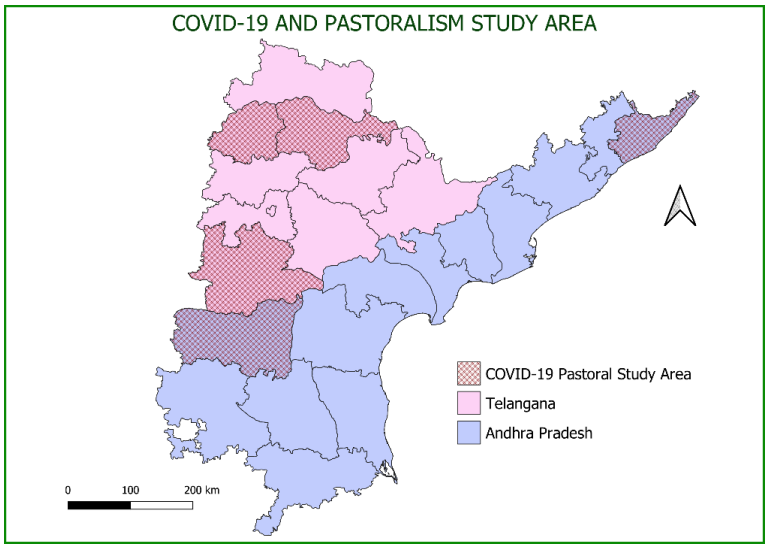
Within a week into the COVID-19 induced lockdown reports started surfacing in different media platforms about the predicament of pastoralists. Both the formal and informal news about stranded pastoralists and their challenges prompted the Centre for Pastoralism (Cfp) to commission a preliminary study in April, 2020. The preliminary study was conducted across Eight Indian states of Andhra Pradesh, Gujarat, Himachal Pradesh, Madhya Pradesh, Maharashtra, Rajasthan, Telangana, and Uttarakhand. Results of the study helped in the identification of key issues faced by pastoralists across the sub-continent. The key challenges identified are: 1. Problem in access to grazing and migration, 2. Problem in procurement and marketing of milk, 3. Problem in selling animals as meat, 4. Shortage of labour, 5. Problem of shearing sheep, 6. Problem in obtaining adequate ration, and 7. Facing social stigma (Cfp, 2020).

Following the identification of the key issues, the more in-depth study was commissioned by CfP during May-June 2020, to explore deeper into the identified issues, with the objectives to gain new insights, policy advocacy, designing new frameworks of economic development, and for further research.

3. METHODOLOGY

3.1. Study Area

The Indian states of Andhra Pradesh (AP) and Telangana have been designated as the study area of the present study. A total of 29 villages from two districts of Kurnool and Srikakulam districts of Andhra Pradesh and a total of 46 villages from three districts of Kamareddy, Nagar Kurnool and Rajanna Sircilla of Telangana (formerly undivided Andhra Pradesh) have been randomly selected (Bryman, 2012; Bartlett, II, *et al*., 2001) for the purpose of the present study (table 1).



Nagar Kurnool district of the Indian state of Telangana is geographically located at 16.4833° N and 78.3333° E, (Gov. Telangana, 2020a). Kamareddy district is located at 18.3167° N and 78.3500° E and the district was bifurcated from the district of Nizamabad and formed as a separate district in 2016. It is bordered by Nizamabad District on the North and Rajanna Siricilla district and Siddipet district on the East, Medak district on the South, Nanded district of Maharashtra State and Bidar district of Karnataka State on the West. The geographic area of the district is 3,652 km2. (Gov. Telangana, 2020b). Rajanna sicrcilla district of Telangana is located at 18.3889° N, and 78.8092° E and it is bounded by Karimnagar, Kamareddy and Siddipet districts of Telangana (Gov. Telangana, 2020c).

In general, the topography of the study area of Telangana is highly undulating and hilly, covered in semi-arid savannah like forests with tall grasses (Rawat and Adhikari (*Eds*.) 2015). Climate of the region is generally hot with four seasons. The hot season is from March - May and May is generally the hottest month of the year. The South-west monsoon extends from June - September and the North-east monsoon follows up till the end of December. The cold season is from December - February. The average daily maximum temperature of the region

is about 43°C and the average daily minimum temperature of 23°C is experienced during summer. Summers are usually very hot and the temperature could rise up to 44°C. The rainy season extends from June - September.

Kurnool district of the eastern Indian states of Andhra Pradesh is located at 15.6443° N, and 78.1108° E. It is flanked by Tungabhadra and Krishna rivers. It is bordered by Mahabubnagar district of Telangana State in the North, Kadapa and Anantapur districts of AP in the South, Bellary district of Karnataka State in the West and Prakasam district of AP in the East. It has geographic area of 17658 sq. km and home to 4.63 percent of the total population of the state. The mean temperature of the district is 33.5°C during summers and 23.4°C during winters. The mean rainfall of the district is 659 mm and the district is referred to have a steppe climate (Climate-Data.org, 2019).

Srikakulam district is the located to the extreme Northeastern region of the Indian state of Andhra Pradesh. It is located at 18°-20' and 19°- 10' N and 83°-50' and 84°-50' E and meshed with rivers of Nagavali, Vamsadhara, Suvarnamukhi, Vegavathi, Mahendratanaya, Gomukhi, Champavathi, Bahuda and Kumbikota Gedda. The district is flanked by Vizianagaram district of AP in the South and the Indian state of Odisha on North and West and the Bay of Bengal on the East. The district has an area of 5837 sq. km. and 11.76 % of the area is covered under forests, 17 % of area is under agriculture, and 8.5 % is under permanent pastures (GOAP, 2021).

Table 1. Details of the Study Area of the Present Study

S.No	State	District	No. of Villages
1	Andhra Pradesh	Kurnool	19
		Srikakulam	08
2	Telangana	Kamareddy	10
		Nagarkurnool	22
		Rajanna Sircilla	14
TOTAL	**2**	**5**	**73**

3.2. Sampling

Purposeful Sampling (Cresswell, 2013), a concept which is usually preferred for conducting qualitative research studies was adopted for selection of resource persons. As the objective of the study is to capture the lived experiences of COVID-19 of different pastoralist communities, the maximum variation sampling strategy (Miles and Huberman 1994) was found suitable for this purpose. Resource persons belonging to the different pastoralist communities are purposefully selected for interviews and a specially designed questionnaire was deployed for conducting the interviews.

Field coordinators were trained on administering the questionnaire and data collection. Interviews were conducted with the pastoralists at their camp sites as per their convenience, strictly adhering to social distancing and following the other safety protocols prescribed by the government of India to contain the pandemic.

A total 7 pastoralist communities were selected based on the knowledge of their traditional involvement with mobile pastoralism in the study area. A total of 73 interviews were conducted (27 AP and 46 Telangana) for the purpose of data collection (table 2).

Table 2. Details of the Mobile Pastoralist Communities Participated in the Present Study

S.No	Name of the Community	Category	Pastoralist Type	Number of Interviews		Total
				Andhra Pradesh	Telangana	
1	Chenchu	PVTG	Non-traditional	0	2	2
2	Golla	OBC	Traditional	8	8	16
3	Kuruma	OBC	Traditional	9	16	25
4	Kuruva	OBC	Traditional	5	0	5
5	Lambadi	NT	Traditional	0	11	11
6	Sugali	NT	Traditional	5	0	5
7	Yerra Golla	OBC	Traditional	0	9	9
			GRAND TOTAL	**27**	**46**	**73**

3.3. Data Collection

A specially designed questionnaire was administered for the purpose of data collection. Personal interviews were conducted with the resource persons and the interview questions are primarily focused on the following points with regards to the lockdown: (i) movement, (ii) livestock markets, (iii) income and expenses, (iv) Labour, (v) veterinary care, (vi) access to groceries and ration, (vii) social stigma, and (viii) perceptions about COVID-19's impact on life in general. The data collected was predominantly qualitative in nature, however, Boolean and numeric data is also collected for the purpose of the study.

3.4. Data Analysis

The qualitative data collected was quantitized and statistically analyzed by conventional tubular analysis method in the form of averages and percentages, adopting the methods prescribed by Snedecor and Cochran (1994).

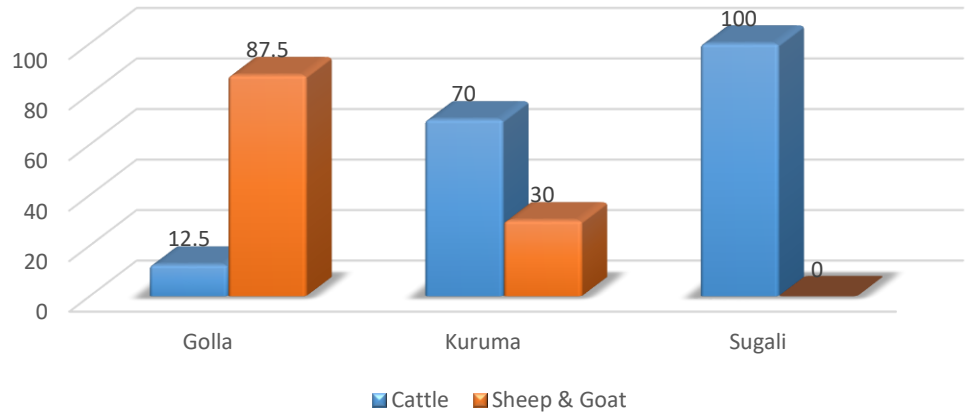
4. RESULTS

4.1. Mobile Pastoralism in Andhra Pradesh

A total of 27 mobile pastoralists participated in the present study. Participants of the present study belongs to Srikakulam and Kurnool districts of Andhra Pradesh (AP). The pastoralist communities participated in the study have been identified as Golla, Kuruma, Kuruva and Sugali in the study area. Although all the four communities have been known to practice mobile pastoralism traditionally but they belong to two major social categories. While the Golla, Kuruma and Kuruva belong to the other backward community (OBC) category, the Sugali (known also as Lambadi / Banjara) belongs to the Nomadic Tribes (NT) category (table 1).

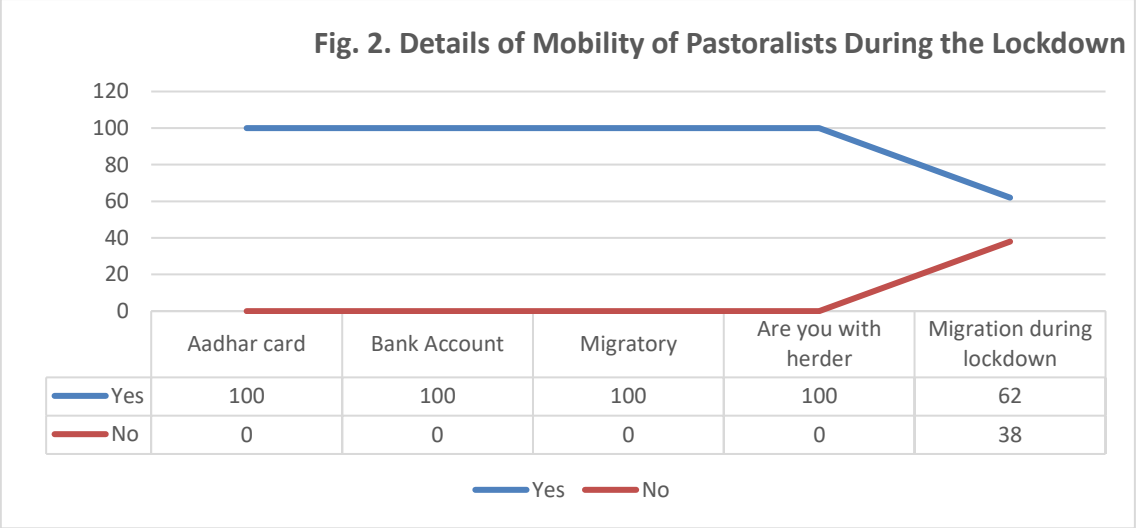
The major pastoralist livestock species reported from the study area are cattle, sheep and goat. The results of the study suggests that the majority of the Golla community (87.5 %) are sheep and goat rearers and only 12 % are cattle herders. The Kuruma community are predominantly cattle herders (70 %) and about 30 % of the community rears sheep and goat. On the contrary, 100 % of the Sugali community of the study area are cattle herders (fig. 1).

Fig. 1. Pastoral Livestock Compostion of the Study Area of AP



4.1.1. Mobility of Pastoralists during the Lockdown

All the participants of the present study have reported to practice mobile pastoralism, have Aadhar card and bank accounts. Although all the participants were present with their livestock during the lockdown but 62 percent were on migration. The remaining 38 percent have reported to be grazing their livestock in and around their native places (fig. 2).



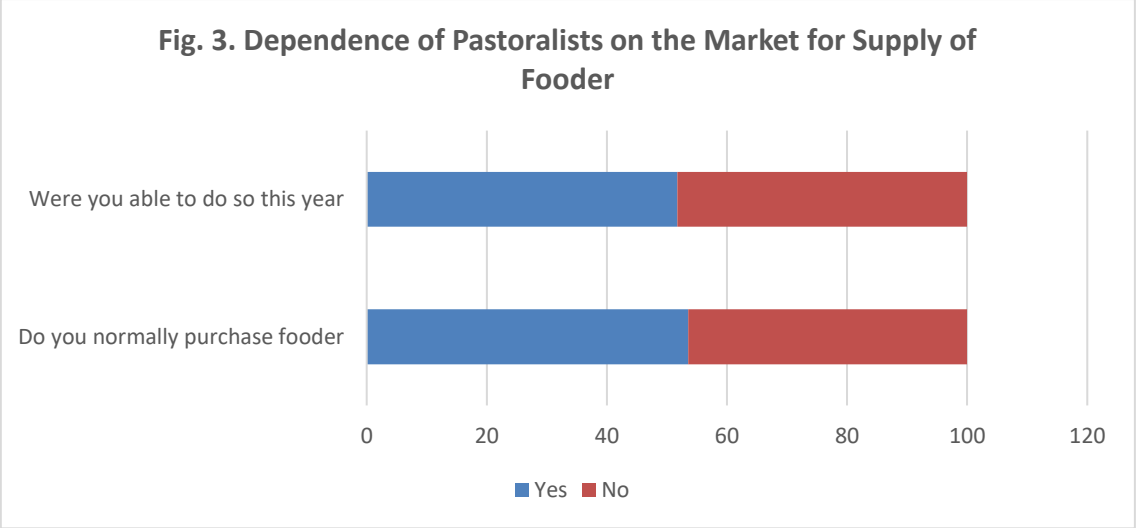
4.1.2. Patterns of Seasonal Migration in the Study Area

The annual seasonal migration of the pastoralists of the study area can be broadly divided into two categories: migration over commons-forest lands and migration over farms-cultivable fallows. The migration over commons and forest lands usually practiced from June/July to October/November and migration over farms and cultivable fallows is practiced from November/December to May/June.

4.1.3. Sources of Fodder and Water in the Study Area

The pastoralists of the study area maintain their livestock under extensive mobile grazing system. The mainstay of fodder and water of the pastoralist livestock of the study area are cultivable fallows, forest / protected areas and village commons (100 %). In addition, about 53 % of the pastoralists depend also on the market for fodder. Cultivable fallows are the mainstay of fodder and water during the months of December – June, when flocks/herds are grazed over the cultivable fallows. It was during this time of the season when pastoralists depend also on the market for supply of fodder. However, it was observed that only cattle herders depend on the market for fodder and sheep/goat rearers never access the market for supply of fodder. Sheep/goat pastoralists exclusively depend on cultivable fallows, forests/protected areas and village commons to meet the fodder and water needs of their flocks. Like any year, the cattle pastoralists (51 %) of the study area reported to have purchased fodder from the market for their cattle during the lockdown (fig. 3).

It was noticed that forests and protected areas and village commons are used for grazing the flocks/herds during July – October/November, when the flocks/herds should be kept away in order to prevent them from straying into farms and raiding crops.



4.1.4. Impact of the lockdown on the sale of livestock-based products and penning

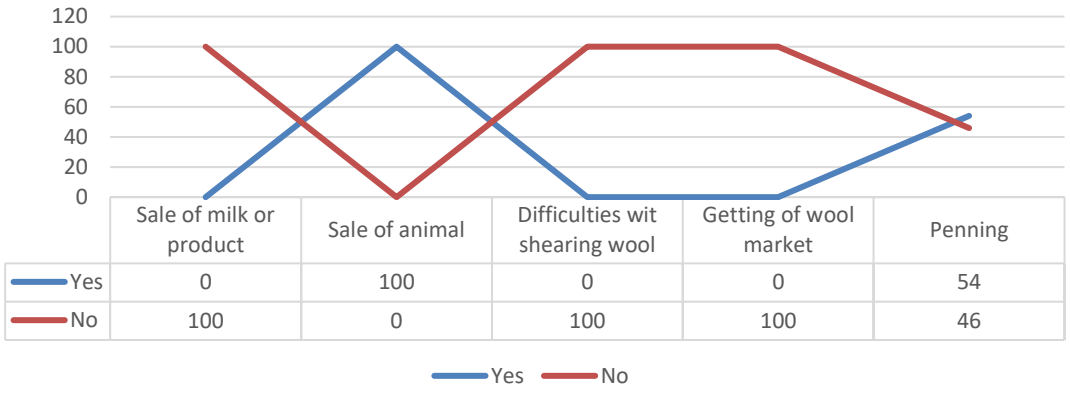
It was observed that there is no perceptible impact of the lockdown on the sale of livestock-based products and penning in the study area. The imperviousness of livestock product based income is because the pastoralists of the study area do not indulge in the sale of milk, other dairy-based products and wool. Pastoralists of the study area keep only draught animal breeds and not milch cattle breeds. They do not milch cattle and milk is left for the calves to suckle. Occasionally, milk is used or domestic purposes and not for sale.

The sheep and goat breeds reared by the pastoralists of the study area are predominantly meat purpose breeds. Neither wool is sheared nor is milk drawn from the sheep and goats by the pastoralists of the study area. All the sheep and goat breeds reared in the study area are hairy breeds and do not produce any wool.

It was observed that penning is practiced in the study area, however, only sheep and goat pastoralists practice penning traditionally and cattle pastoralists do not practice penning in the study area. It was reported that cattle pastoralists sell the dung directly to farmers. Farmers usually visit the cattle pastoralists to buy dung and it is usually brought in truck loads (known locally as units).

Although, lockdown did not have any significant impact on penning but it was reported to have an impact on the sale of dung as farmers could not visit the cattle herds for purchase of dung due to restrictions on the movement and unavailability of vehicles for transportation of dung (fig. 4).

Fig. 4. Impact of the Lockdown on the Sale of Livestock-based Products and Penning

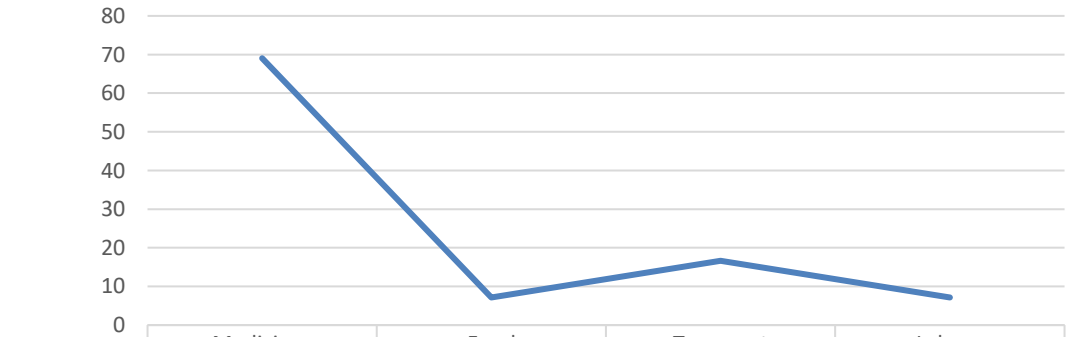


	Sale of milk or product	Sale of animal	Difficulties wit shearing wool	Getting of wool market	Penning
Yes	0	100	0	0	54
No	100	0	100	100	46

4.1.5. Expenses Incurred by Pastoralists of the Study Area during the Lockdown

The major expenses incurred by pastoralists of the study area are purchase of medicines for livestock, transportation of livestock, food and hiring labour for taking care of the livestock. The majority of the pastoralists (69 %) reported to have incurred higher expenses for purchasing medicines for livestock during the lockdown than normal times. Higher expenditure on transportation of livestock was also reported by pastoralists (17 %) of the study area. However, it was noticed that only sheep and goat pastoralists reported to have incurred higher expenses for transportation of livestock. Cattle pastoralists did not report incurring of expenses for transportation of livestock. The other two higher than normal expenses reported by the pastoralists during the lockdown are food (7 %) and hiring labour (7 %). Pastoralists of the study area reported to have paid slightly higher amount to buy food and hire labour during the lockdown (fig. 5).

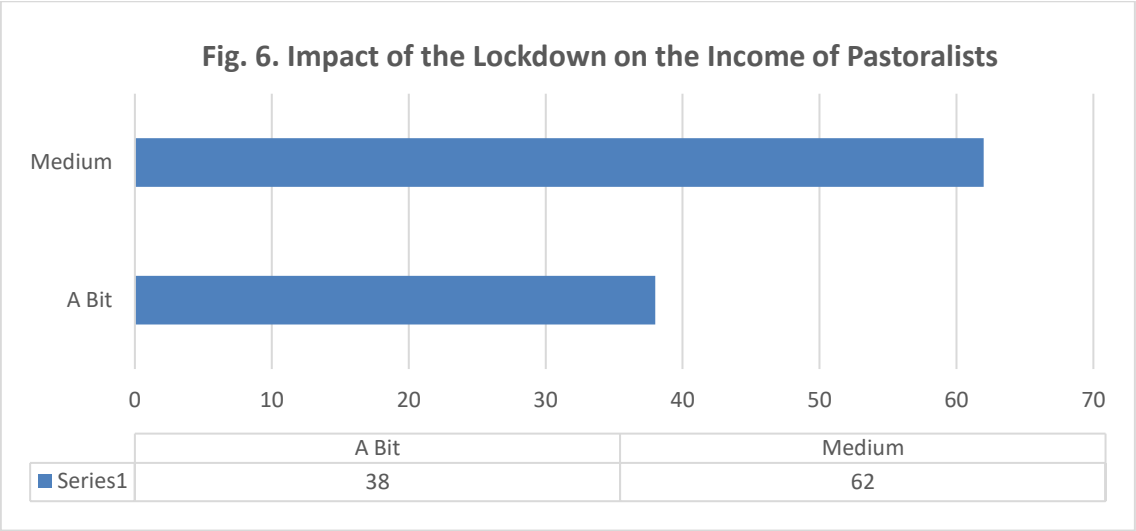
Fig. 5. Details of Expenses Incurred by Pastoralists During the Lockdown



	Medicines	Food	Transport	Labour
Series1	69	7	17	7

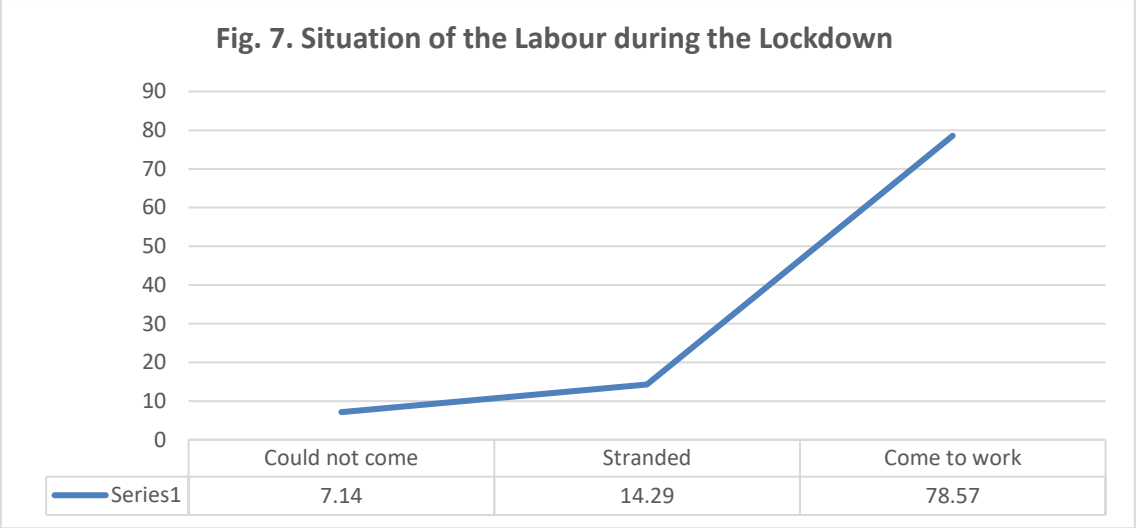
4.1.6. Impact of the Lockdown on the Income of Pastoralists of the Study Area

Pastoralists of the study area reported a mild (38 %) and medium (62 %) impact of the lockdown on their income. Almost all the cattle pastoralists of the study area reported a mild impact on their income and all the sheep and goat pastoralists reported a medium impact on their income due to lockdown (fig. 6). The impact on the income of sheep and goat pastoralists could be due to suspension of village markets, low-key celebration of the major festivals and very high freight charges for transportation of the livestock in the study area (fig. 5).



4.1.7. Situation of Labour during the Lockdown

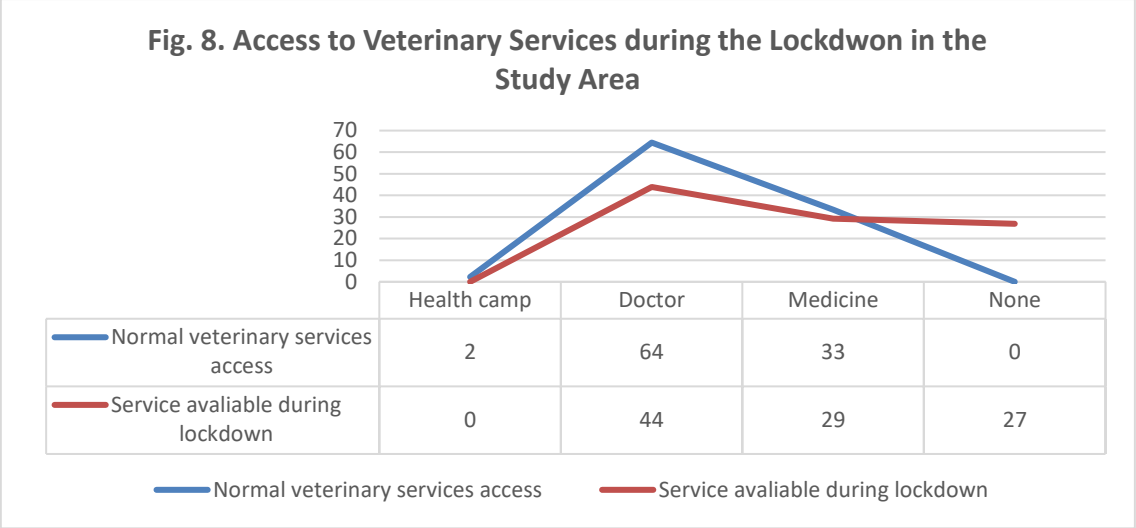
Despite the restrictions on movement due to COVID-19 induced lockdown, the majority (62 %) of the pastoralists participated in the study reported to be migrating (fig. 2). Pastoralists owning large numbers of livestock reported to have been employing labour for an extra hand. The average number of labour hired by sheep and goat pastoralists is 2 and cattle pastoralists is 1. About 78.5 % of the owners have reported that hired labour accompanied the flock/herd and moved without any restriction. About 14.2 % of the owners reported that labour and livestock was stranded at far off places due to the lockdown and 7 % owners reported that labour could not join their duties due to restrictions on the movement (fig. 7).



4.1.8. Access to Veterinary Services during the Lockdown

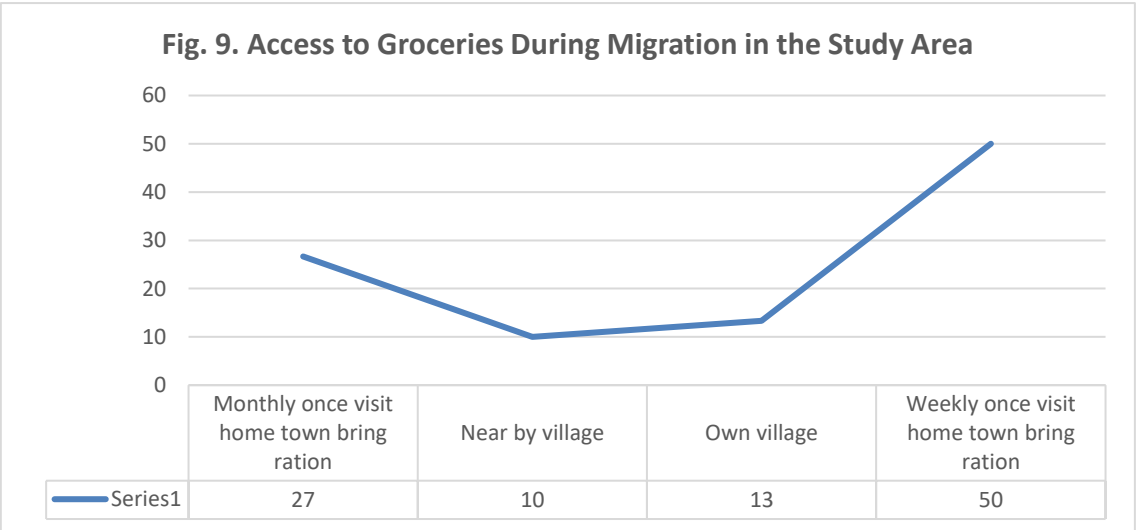
Pastoralists of the study area mainly depend on public veterinary clinics for animal health care. About 64 % of the participants reported that during normal days they usually visit the clinic for consultation and getting medical help needed for their livestock. About 33 % reported that they collect free medicines from the public veterinary clinics during normal days. Only 2 % reported that they have accessed animal health camps during normal days.

During the lockdown however, it was reported that both the availability of veterinary surgeons and supply of free medicines for livestock was limited at the public veterinary clinics in the study area (fig. 8). Only 44 % of the participants could consult the veterinary surgeon and only 27 % could avail free medicines from the public veterinary clinics during the lockdown. It was reported that there was a very limited supply of free medicines at the public veterinary clinics which forced them to procure medicines for livestock from private drugstores at higher prices. Perhaps unavailability of free medicines and paying out of the pocket to buy medicines from the private drugstores is the main reason for escalation of expenditure on livestock health care during the lockdown.



4.1.9. Access to Groceries and Provisions during Migration in the Study Area

Pastoralists of the study area depend on two major sources of supply of groceries and supplies. However, the two sources vary as per the migration pattern. Usually, the main source of groceries and supplies during the months of December to June are farmers who host/hire flocks/herds for penning on their farms. Pastoralists of the study area usually fetch ration from home once in a fortnight during the months of July to October/November, when flocks/herds will be moving in and around the forested areas, away from villages and habitations (fig. 9).



4.1.10. State Support and Stigma on Movement

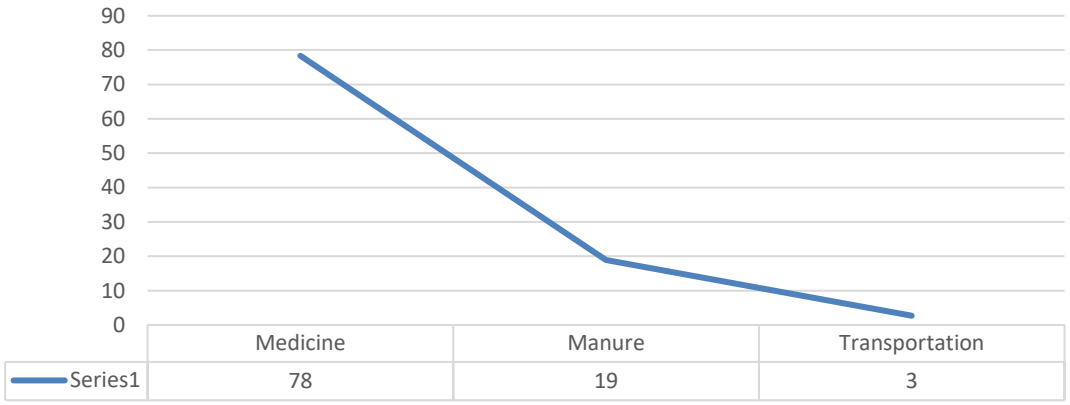
It was reported that all the pastoralists participated in the study have received a nominal support from the state during the lockdown. All the participants of the study received INR 1000 and ration for a month from the state government during the lockdown. Except for a couple of stray incidents of host villagers raising concerns about outsiders arriving at their village, there were hardly any restrictions on movement of the pastoralists in the study area.

Neither there was any need for any certificate nor was any stigma faced by the pastoralists in the study area.

4.1.11. The Major Challenges Faced by the Pastoralists during Lockdown in the Study Area

The three major challenges faced by pastoralists of the study are unavailability of medicines for livestock (78 %), difficulty in the sale of manure due to lack of transportation facilities (19 %) and transportation of livestock (3 %), (fig. 10).

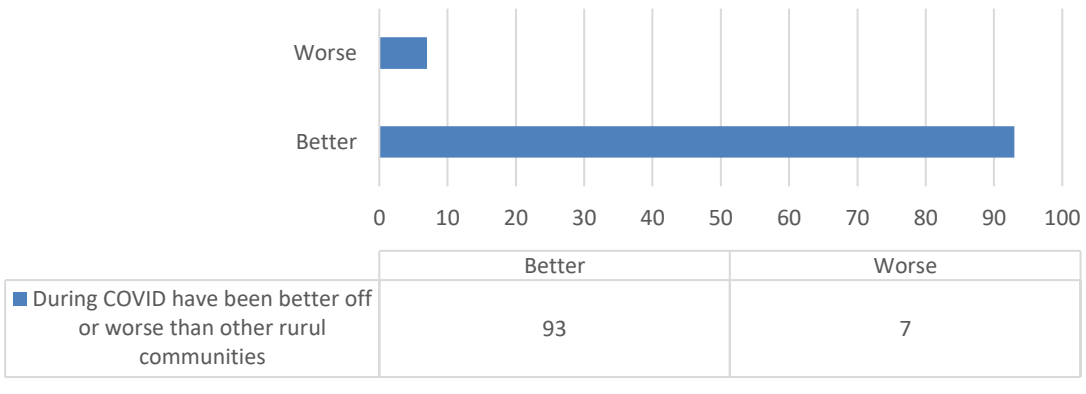
Fig. 10. The Major Challenges Faced by the Pastoralists during the Lockdown



4.1.12. Perception of the Pastoralists about Life in Relation to Other Similar Communities

In response to the query about their perception on life in relation to the other similar communities during the lockdown, the majority (93 %) unequivocally said that they feel that their life is better-off when compared to the other similar communities during the lockdown. Only 3 % of the pastoralists participated in the study complained that they feel their life is worse-off when compared to the other similar communities (fig. 11).

Fig. 11. Perception of the Pastoralists about Life in Relation to Other Similar Communities during the Lockdown

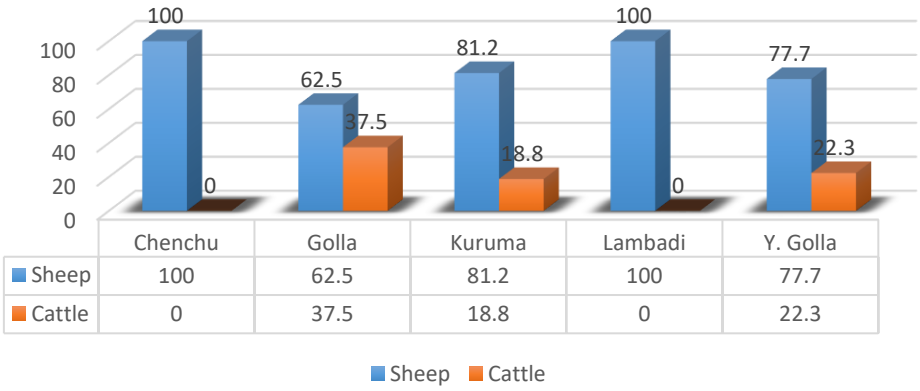


4.2. Mobile Pastoralism in Telangana

A total of 46 mobile pastoralists participated in the present study. Participants of the present study belongs to Kamareddy, Nagarkurnool, and Rajanna Sircilla, districts of Telangana state (formerly undivided Andhra Pradesh). Both traditional and non-traditional pastoralist communities participated in the study. The traditional pastoralist communities have been identified as the Golla, Kuruma, and Lambadi and the non-traditional pastoralist community was identified as Chenchu, a particularly vulnerable tribal group (PVTG), indigenous to the study area. Although the Golla, Kuruma, and Lambadi communities have been known to practice mobile pastoralism traditionally but they belong to two major social categories. While the Golla, Kuruma and Kuruva belong to the other backward community (OBC) category, the Lambadi (known also as Banjara / Sugali) belongs to the Nomadic Tribes (NT) category (table 1).

The major pastoralist livestock species reported from the study area are cattle, sheep and goat. The results of the study suggests that the majority of the Golla community (62.5 %) are sheep rearers and only 37.5 % are cattle herders. Similarly the Yerra Golla (77.7) and Kuruma (81.2) community are predominantly sheep herders. On the contrary, 100 % of the Chenchu and Lambadi community of the study area are cattle herders (fig. 12).

Fig. 12. Pastoral Livestock Compostion of the Study Area of Telangana

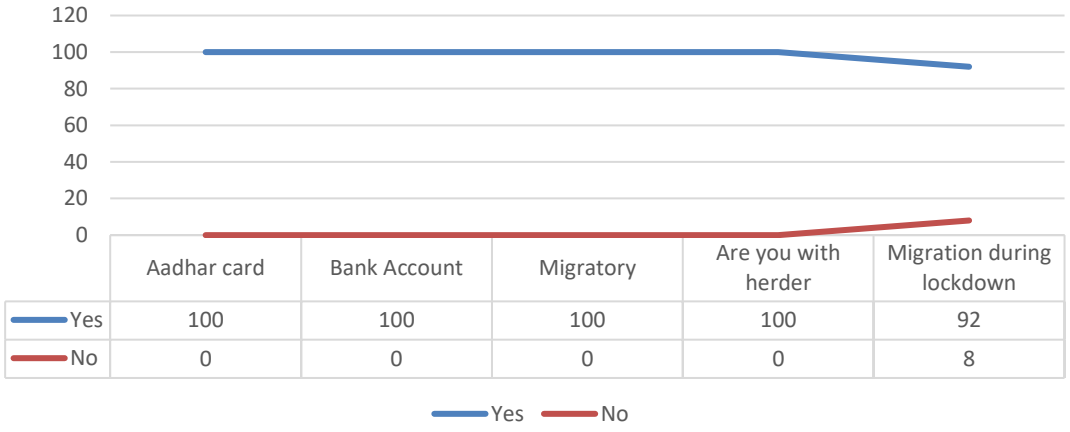


	Chenchu	Golla	Kuruma	Lambadi	Y. Golla
Sheep	100	62.5	81.2	100	77.7
Cattle	0	37.5	18.8	0	22.3

4.2.1. Mobility of Pastoralists during the Lockdown

All the participants of the present study have reported to practice mobile pastoralism, have Aadhar card and bank accounts. It was reported that all the participants were not only present with their livestock during the lockdown but also majority of them (92 %) were on migration. Only 8 percent of the participants have reported to be grazing their livestock in and around their native places (fig. 13).

Fig. 13. Details of Mobility of Pastoralists During the Lockdown



	Aadhar card	Bank Account	Migratory	Are you with herder	Migration during lockdown
Yes	100	100	100	100	92
No	0	0	0	0	8

4.2.2. Patterns of Seasonal Migration in the Study Area

The annual seasonal migration of the pastoralists in the study area of Telangana can be broadly divided into two categories: migration over commons-forest lands and migration over farms-cultivable fallows. Similar to the seasonal migration pattern of AP, the seasonal migration of pastoralists Telangana from June/July to October/November includes traversing over the commons-forest lands and migration over farms-cultivable fallows is practiced from November/December to May/June.

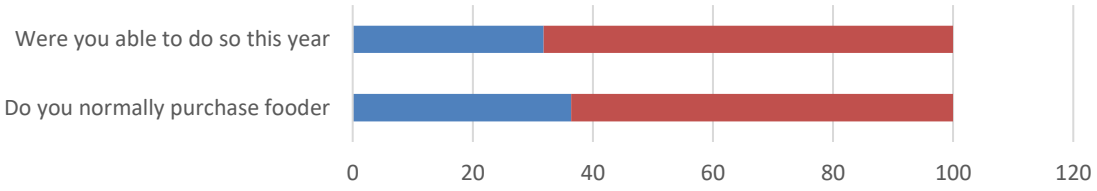
4.2.3. Sources of Fodder and Water in the Study Area

The pastoralist livestock of the study area is predominantly maintained under the extensive mobile grazing system. The mainstay of fodder and water of the pastoralist livestock of the study area are cultivable fallows, forest / protected areas and village commons (100 %). However, about 36 % of the pastoralists (only cattle herders) depend also on the market for fodder. Cultivable fallows are the mainstay of fodder and water during the months of December – June, when flocks/herds are grazed over the cultivable fallows. It was during this time of the season when the cattle pastoralists depend also on the market for supply of fodder. Similar to AP, it was observed that only cattle herders of Telangana depend on the market for the supply of fodder and sheep rearers never depend on the market for supply of fodder. Sheep pastoralists exclusively depend on cultivable fallows, forests/protected areas and village commons to meet the fodder and water needs of their flocks.

However, an interesting arrangement has been reported by the sheep pastoralists of the study area. A kind of barter system exists between farmers and shepherds of this region. Although, shepherds do not purchase fodder from the market but they give away lambs to farmers in return for supply of fodder for the flock. On an average lambs worth INR 12000 are usually given away by individual shepherds to farmers for allowing their flocks to graze on private farmlands.

Like any year, the cattle pastoralists (31.8 %) of the study area reported to have purchased fodder from the market for their cattle during the lockdown (fig. 14). It was noticed that forests and protected areas and village commons are used for grazing the flocks/herds during July – October/November, when the flocks/herds are kept away in order to prevent them from straying into farms and raiding crops.

Fig. 14. Dependence of Pastoralists on the Market for Supply of Fooder



	Do you normally purchase fooder	Were you able to do so this year
Yes	36.36	31.82
No	63.64	68.18

Yes No

4.2.4. Impact of the lockdown on the sale of livestock-based products and penning

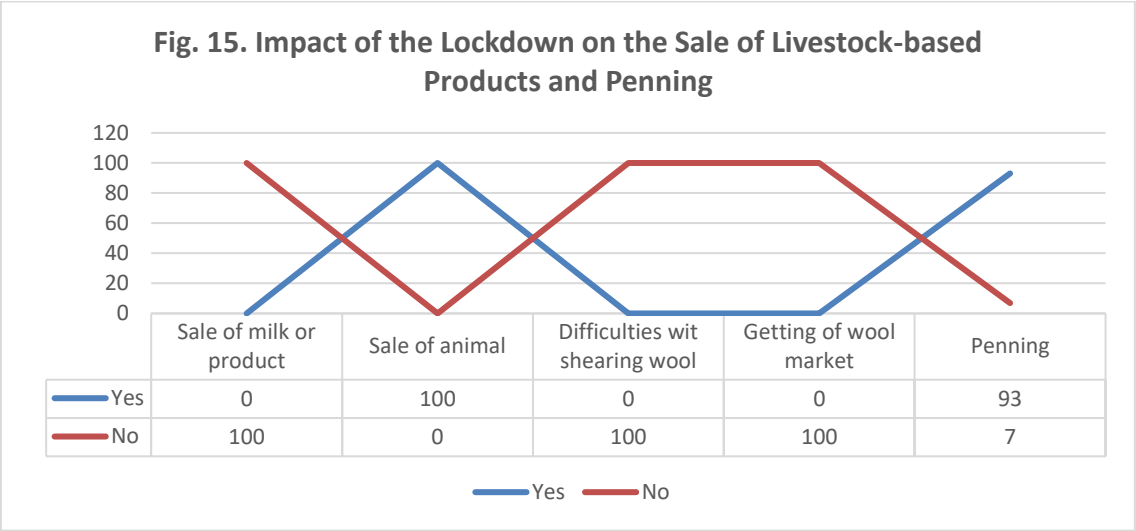
It was observed that there is no perceptible impact of the lockdown on the sale of livestock-based products and penning in the study area. The imperviousness of livestock product based income is because the pastoralists of the study area do not indulge in the sale of milk and other dairy-based products and wool. Pastoralists of the study area keep only draught animal breeds and not milch cattle breeds. They do not milch cattle and milk is left for the calves to suckle. Occasionally, milk is used or domestic purposes and not for sale.

The sheep breeds reared by the pastoralists of the study area are predominantly meat purpose breeds. Neither wool is sheared nor is milk drawn from sheep by the pastoralists of the study area. All the sheep breeds reared in the study area are hairy breeds and do not produce any wool.

It was observed that penning is practiced widely in the study area. Both the cattle and sheep pastoralists practice penning traditionally. Farmers hire both cattle and sheep pastoralists for penning their herds/flock at their farms in the study area. It was reported that both the cattle and sheep pastoralists sell the dung directly to farmers. Farmers usually visit the pastoralists to buy dung and it is usually brought in truck loads (known locally as units).

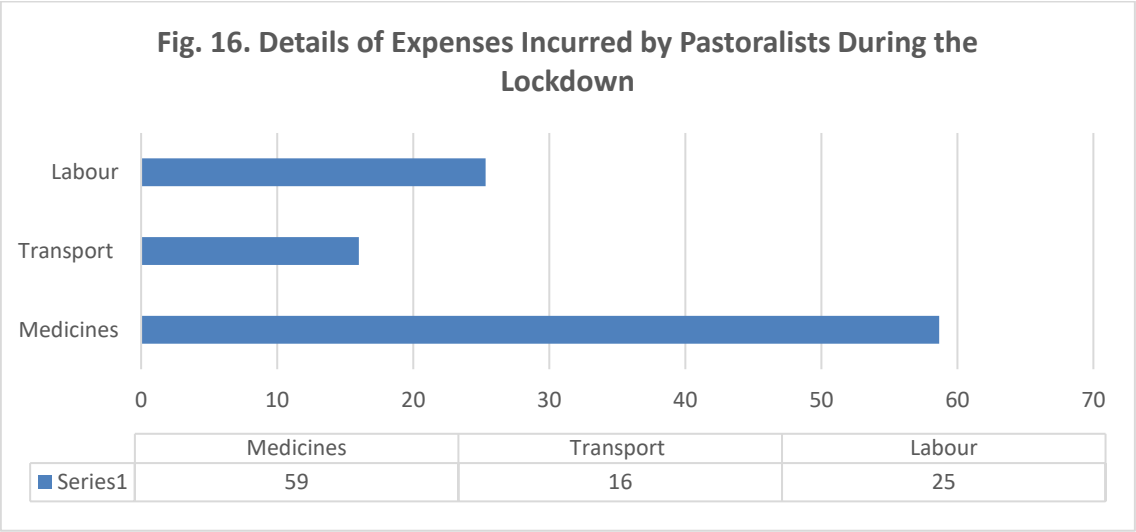
Although, lockdown did not have any significant impact on penning but it was reported to have an impact on the sale of dung as farmers could not visit the cattle herds for purchase of

dung due to restrictions on the movement and unavailability of vehicles for transportation of dung (fig. 15).



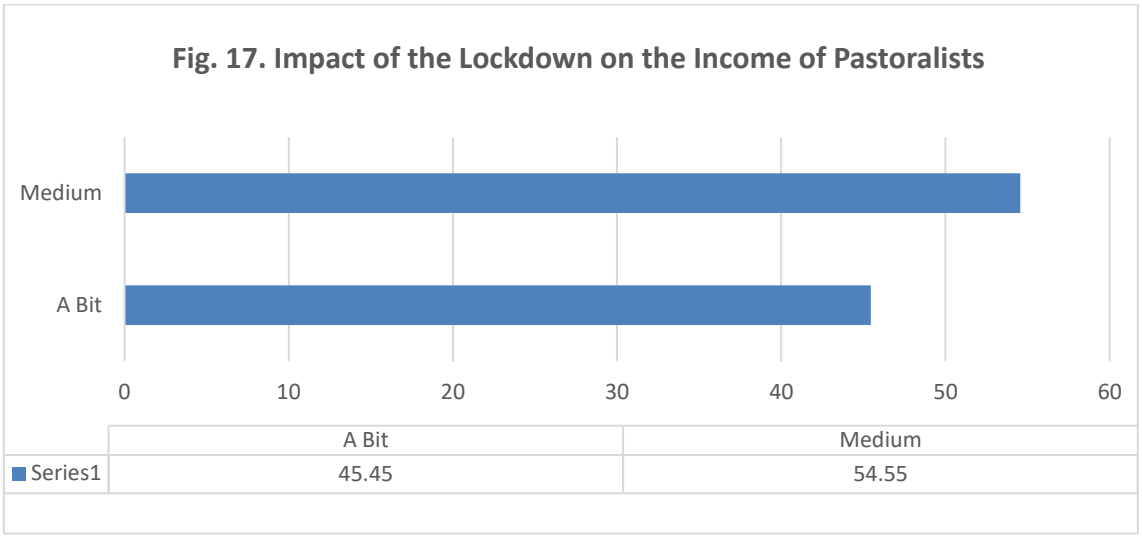
4.2.5. Expenses Incurred by Pastoralists of the Study Area during the Lockdown

The major expenses incurred by pastoralists of the study area are for the purchase of medicines for livestock, transportation of livestock, food and hiring labour for taking care of the livestock. The majority of the pastoralists (59 %) reported to have incurred higher expenses for purchasing medicines for livestock during the lockdown than normal times. Higher expenditure on hiring labour and transportation of livestock was reported by 25 % and 16 % of the pastoralists respectively. However, it was noticed that only sheep pastoralists reported to have incurred higher expenses for transportation of livestock. Cattle pastoralists did not report to have incurred any expenses for transportation of livestock (fig. 16).



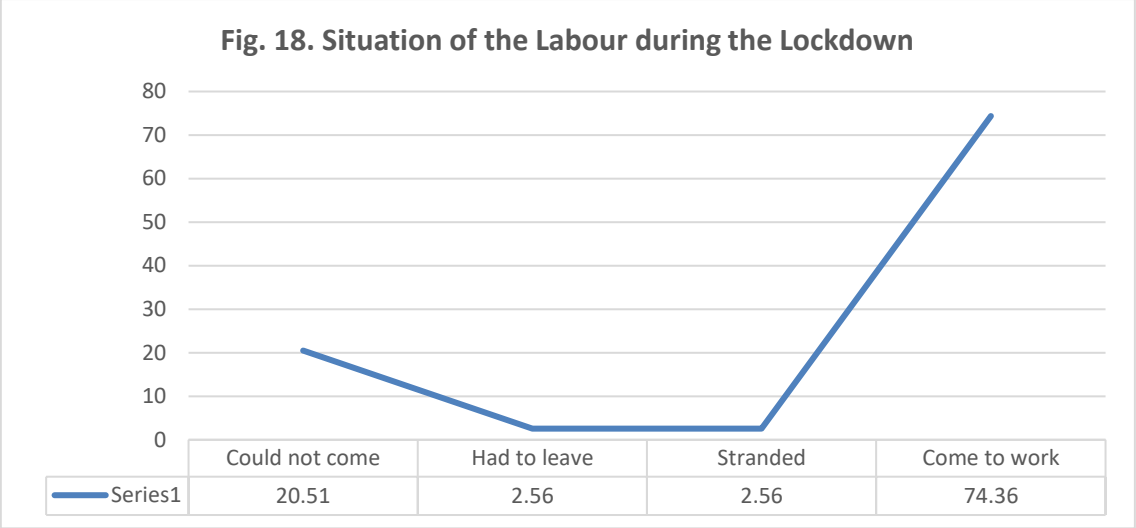
4.2.6. Impact of the Lockdown on the Income of Pastoralists of the Study Area

Pastoralists of the study area reported a mild (45.4 %) and medium (55.5 %) impact of the lockdown on their income. Similar to AP, almost all the cattle pastoralists of the study area in Telangana have reported a mild impact on their income and majority of the sheep pastoralists reported a medium impact on their income due to lockdown (fig. 17). Presumably, the impact on income of the sheep pastoralists could be from the suspension of village markets, low-key celebration of the major festivals and very high freight charges for transportation of livestock in the study area (fig. 16).



4.2.7. Situation of Labour during the Lockdown

Pastoralists owning large numbers of livestock employs labour for taking care of the herd/flock during migration. The average number of labour hired by both the cattle and sheep pastoralists in the study area is 2. About 74.3 % of the owners have reported that hired labour accompanied the flock/herd and moved without any restriction. About 2.5 % of the owners reported that labour could not join their work due to restrictions on the movement. Only 2.5 % owners reported that both their livestock and labour were stranded at far off places due to the lockdown. And 2.5 % owners reported that labour left the job due to restrictions on the movement (fig. 18).

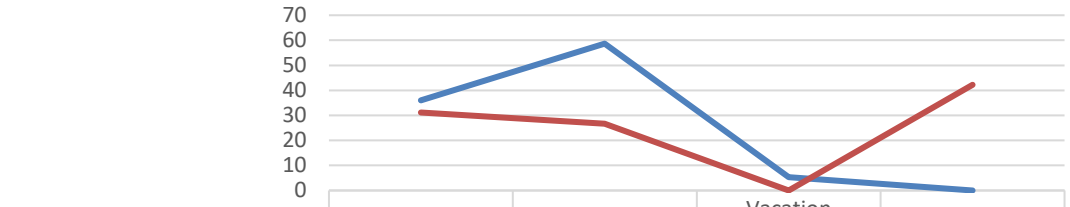


4.2.8. Access to Veterinary Services during the Lockdown

Normally pastoralists of the study area mainly depend on the services of the public veterinary clinics for animal health care. During normal days, 36 % of the pastoralists participated in the study consult veterinary surgeons at the public veterinary clinics for animal health care. About 59 % of them avail free medicines for livestock and 5 % gets their livestock vaccinated at the public veterinary clinics in the study area.

During the lockdown however, only 31 % were able to consult the veterinary surgeons due to limited hours of availability. A limited supply (27 %) of free medicines and total absence of vaccines at the public veterinary clinics during the lockdown was reported in the study area (fig. 19). About 42 % of the pastoralists participated in the study have reported a total suspension of veterinary clinics and services during the lockdown in the study area. The limited availability of veterinary surgeons, limited supply of free medicines and non-availability of vaccines at the public veterinary clinics have forced the pastoralists to consult private veterinary surgeons, procure medicines and vaccines for livestock from private drugstores at higher prices. Perhaps paying out of the pocket for veterinary services, and buying medicines and vaccines from private drugstores is the main reason for the escalation of expenditure on livestock health care during the lockdown.

Fig. 19. Access to Veterinary Services during the Lockdwon in the Study Area



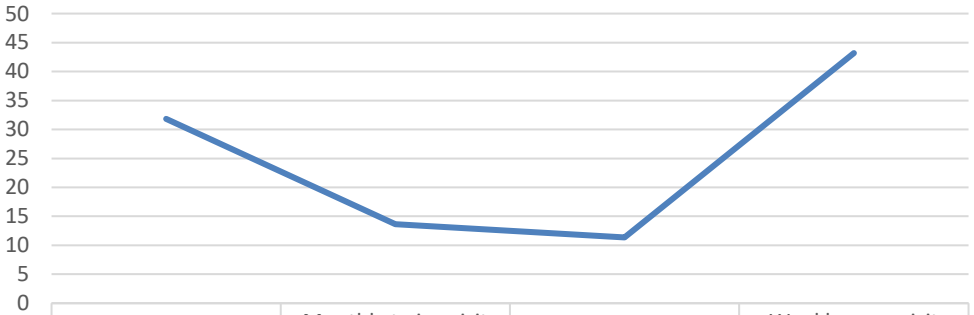
	Doctor	Medicine	Vacation ation	None
Normal veterinary service access	36	59	5	0
Service avaliable during lockdown	31	27	0	42

Normal veterinary service access Service avaliable during lockdown

4.2.9. Access to Groceries and Provisions during Migration in the Study Area

Pastoralists of the study area depend on farmers, local grocery stores, or bring groceries and supplies directly from home. However, the source and frequency of buying supplies vary as per the migration pattern. Usually, the main source of groceries and supplies during the months of December to June are farmers who host/hire flocks/herds for penning on their farms and local grocery stores. Pastoralists usually fetch ration from home or nearby villages either once in a fortnight or weekly during the months of July to October/November, when flocks/herds will be moving in and around the forested areas, away from villages and habitations (fig. 20).

Fig. 20. Access to Groceries During Migration in the Study Area

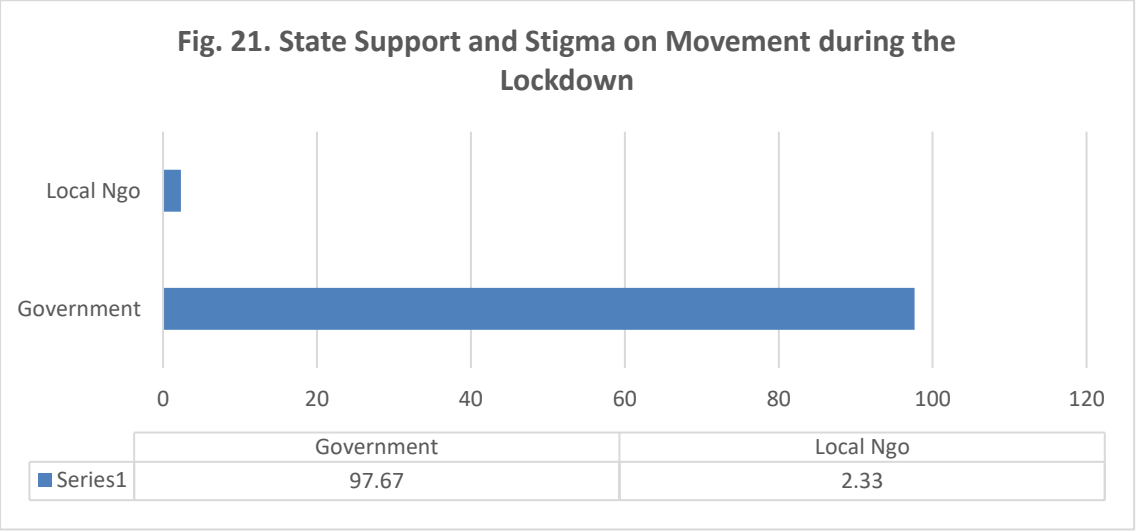


	Purchase local shops	Monthly twice visit home town bring ration	Near by village	Weekly once visit home town bring ration
Series1	31.82	13.64	11.36	43.18

4.2.10. State Support and Stigma on Movement

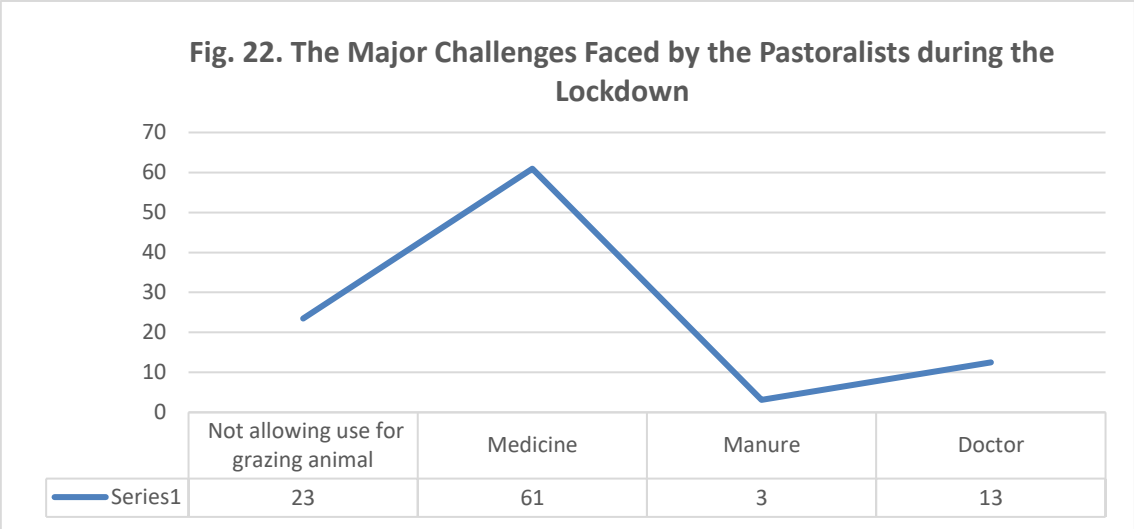
Almost all the pastoralists participated in the study have received a nominal support from the state during the lockdown. Almost all the participants of the study area received INR 1000 and ration for a month from the state government during the lockdown. In addition, a few (2.3 %) have received nominal support from the local non-for-profit organizations (fig. 21).

About 33 % of the participants reported to have faced difficulty in finding a camping site during the initial days of the lockdown as many villagers have blocked the way into villages. In addition, 32 % reported to have faced some level of stigma when few residents of the host villages raised concerns about outsiders arriving at their villages. However, there was hardly any restriction on movement of the pastoralists in the study area. None of the pastoralists participated in the study have to carry a certificate to migrate or enter a new village.



4.2.11. The Major Challenges Faced by the Pastoralists during Lockdown in the Study Area

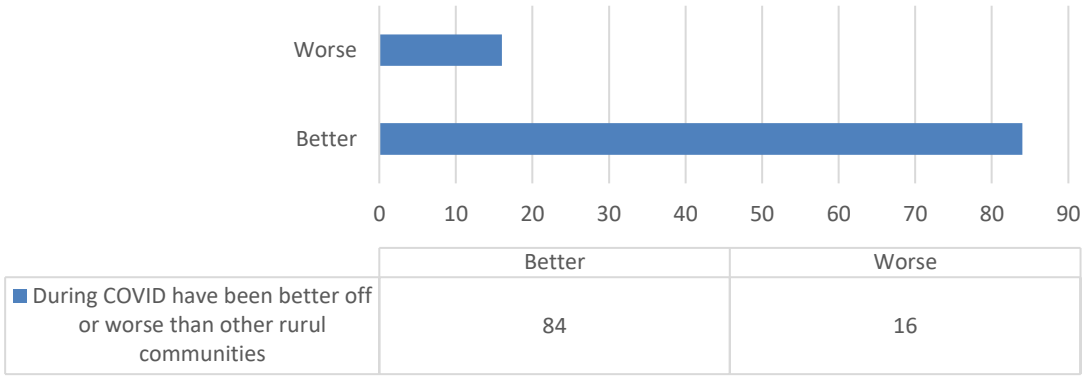
The major challenges faced by pastoralists of the study are unavailability of medicines for livestock (61 %), restrictions (during the initial days) on grazing by villages along the seasonal migration route, unavailability of the veterinary surgeons (13 %) and difficulty in the sale of manure (3 %) due to lack of transportation facilities (fig. 22).



4.2.12. Perception of the Pastoralists about Life in Relation to Other Similar Communities

The perception of pastoralists about life during the lockdown in relation to the other similar communities was found to be positive. The majority (84 %) say that they think that their life is better-off when compared to the other similar communities. About 16 % of the pastoralists participated in the study complained that they feel their life is worse-off when compared to the other similar communities (fig. 23).

Fig. 23. Perception of the Pastoralists about Life in Relation to Other Similar Communities during the Lockdown



5. DISCUSSION

5.1. Mobile Pastoralism in Andhra Pradesh and Telangana

The pastoralist communities identified in Andhra Pradesh state are the Golla, Kuruma, Kuruva and Sugali and all the four communities are traditional pastoralists. The traditional pastoralist communities identified in Telangana state are the Golla, Kuruma, and Lambadi and the non-traditional pastoralist community is Chenchu, a particularly vulnerable tribal group (PVTG), belonging to the hunter and gatherer tribal group (Siripurapu, *et al* 2020).

Although a strong pastoral identity exists among the pastoralist communities of the study area but like many pastoralist communities of India they are a bit fluid and transits between livestock rearing and cultivation (Siripurapu, *et al* 2020 and Sharma, *et al* 2003). The induction of Chenchu, a non-traditional pastoralist community into pastoralism is not an isolated phenomenon but an instance of an emerging pan-Indian diversity with regards to social composition of pastoralism (Siripurapu, *et al* 2020; Shameer, 2014). The symbiotic relationship between the Lamabdi pastoralists and Chenchus has been mentioned in the perspective plan for the development of Chenchus by the Government of Andhra Pradesh (AP – TCRTI, 1976).

Siripurapu, *et al* (2020) observe that about sixteen communities, which includes both traditional and non-traditional pastoralist communities (belonging to Other Backward Caste, Scheduled Caste and Scheduled Tribes) are actively involved in mobile pastoralism in the Indian states of Andhra Pradesh and Telangana. It was notice also that many families belonging to the traditional pastoralist communities have been switching to full-time settled agriculture, finding jobs in the government/private sectors, and migrating to urban centres or abroad in search of better prospects (Rangnekar, *et al* 2016). Further, a minuscule number of young people are viewing and taking-up pastoralism as the primary occupation in the study area.

The major pastoralist livestock species reported from the study area of the present study are cattle, sheep and goat. Traditionally, pastoralist communities are often closely associated with a particular livestock species/breed (Sharma, et al 2003). For instance, the Lambadi community of Telangana and Sugali community of Kurnool district of AP show very high affinity to cattle due to cultural reasons. The Sugali of AP rears a particular indigenous cattle population called locally as Nallamala-Pasa (Siripurapu, *et al* 2019a). The Lambadi community of Nagarkurnool district are the patrons of the famous Poda Thurpu cattle breed (Siripurapu, *et al* 2019b). Poda Thurpu *(Accession Number: INDIA_CATTLE_3600_PODATHURPU_03044)* is the first registered cattle breed of the Telangana State. Similarly, the Lambadi community of Kamareddy and Rajanna Sircilla districts of Telangana rear another indigenous cattle population, locally known as Vandhara (Siripurapu, *et al* 2020).

The sheep breeds observed at the study sites in both AP and Telangana are predominantly hairy and non-wool, mainly raised for meat purpose. The Deccani sheep breed, an extremely hardy, dual purpose, wool-meat breed, was once the dominant sheep breed in its native tract in AP and Telangana. It has been replaced by the hairy meat purpose breeds in almost the entire native tract (Mithun, 2018; The World Bank *et al*, n.d.; Sudhakar, 2017; Amareswari, *et al* 2017; Janyala, 2017; and Ramdas, 2015). The myriad reasons for the replacement of Deccani sheep with other breeds in its native tract includes collapse of wool-based economy across India and lack of demand for the traditional coarse wool blankets (known locally as Gongadi), labour shortages, unavailability of shearers, shift from wool-based to predominantly meat-based economy, as well as the National Centre for Disease Control's (NCDC) initiative, a part of the Telangana state welfare programme which was aimed at increasing the meat production through participation of the indigenous Golla and Kuruma communities in the state. In addition, the sheep development, livestock policy of the former undivided AP state recommends to "Replace the Deccani sheep breed with the Red Nellore sheep breed" and "Enhance sheep production through promotion of semi-intensive management system" (Mishra, *et al* 2007).

It was found that rearing of sheep and goat together is more popular in AP than Telangana, where sheep rearing was found to be dominant. Similar to sheep, goats are predominantly reared for meat purpose and most of the goat populations found in the study area are non-descript populations.

5.2. Mobility of Pastoralists during the Lockdown

Pastoralists of the study area practice seasonal migration which comprises of two approximately six month cycles: migration over commons-forest lands (July – November/December) and migration over farms-cultivable fallows (October/November – June). Over 62 percent of respondents from AP and 92 percent of the respondents from Telangana state were on migration during the lockdown. The study conducted by Actionaid (2020) finds that about 32% of pastoralists did not migrate, 30 % delayed their seasonal migration and the remaining 38 % stick to the usual seasonal migration pattern. However, there was no significant impact reported on the seasonal migration pattern of the pastoralists of the study area.

The time of declaration of the COVID-19 induced lockdown was reported to have coincided with the onset of the seasonal migration of pastoralists in the Western India and Himalayan region (Actionaid, 2020). For instance, the spring transhumant migration of Bakarwals and Gujjars of the Himalayan region and the seasonal migration of Rabbaris and Raikas of Rajastan and Gujarat was delayed due to the lockdown (Actionaid, 2020). The delayed migration of pastoralists in Uttarakhand led to difficulties in getting the grazing and entry permits from the state forest department to enter into the protected areas for grazing the livestock (Actionaid, 2020).

However, there are few bright spots during the testing times! For instance, the government of Himachal Pradesh has set up transit, fodder, and veterinary camps along the seasonal migration routes to ensure uninterrupted seasonal migration of pastoralists. Orders have been passed by the state government to ensure unhindered seasonal migration of pastoralists in the state (Cfp, 2020). Maru (2020), found that the Rabari, one of the dominant pastoralist communities of Gujarat, traditionally maintains a favourable relationship with farmers and local state agents, like the police, which helped them to get a free passage and other support during the lockdown.

5.3. Impact of the lockdown on the sale of livestock-based products and penning

The shutdown of shops and markets, hotels and restaurants, prohibition on public gatherings for celebration of festivals, feasts and weddings, during the lockdown had a direct impact on the sale of milk, other dairy products, meat and poultry products (Actionaid, 2020). The three main livestock based products in the study area are draught animals (cattle for agriculture

operations), sheep/goat (for meat purposes) and dung (for manure). Pastoralists of the study area do not indulge in the sale of milk, other dairy-based products and wool.

Although, the demand for livestock based products plummeted in the study area during the lockdown but it did not impact the sale of such products (Actionaid, 2020). Although the sheep/goat pastoralists of the study area could not capitalize on the sales of Ramadan festival celebrated during April but they were very hopeful as the major season of sale, Dusshera (celebrated during the month of October) was on its way. Similarly, the cattle pastoralists did not fear about the sale of draught animals because the season of sale was faraway and happens annually during Dusshera in the study area (Siripurapu, *et al* 2020).

However, it was reported that penning and dung economy was hit by the lockdown in the study area. The cattle pastoralists of AP and both cattle and sheep pastoralists of Telangana participated in the study sell dung directly to farmers in truck loads and farmers usually visit the pastoralists to buy dung, which is used as manure in the agricultural fields. But because of imposition of restrictions on the movement and unavailability of public and private transportation many farmers could not visit the pastoralists to buy dung this year.

5.4. Expenses Incurred by Pastoralists of the Study Area during the Lockdown

The major expenses incurred by pastoralists of the study area are on the purchase of medicines for livestock, transportation of livestock, food and hiring labour for taking care of the livestock. It was found that pastoralists of the study area have spent more money on purchase of medicines and vaccines for livestock during the lockdown than normal times. The limited availability of veterinarians, limited supply of free medicines and non-availability of vaccines at the public veterinary clinics forced the pastoralists to pay out of the pocket for veterinary services, and buying medicines and vaccines from private drugstores. And this could be the main reason for the escalation of expenditure on livestock health care during the lockdown. The study conducted by Actionaid (2020) points out that access to health services was a particular issue, both for the pastoralists themselves and for livestock during the lockdown.

In addition, transportation of livestock, and hiring labour for taking care of the livestock are the two other major expenditures reported by the pastoralists of the study area. However, only sheep pastoralists reported to have incurred higher expenses for transportation of livestock but cattle pastoralists did not report any such expenses.

5.5. Impact of the Lockdown on the Income of Pastoralists of the Study Area

The mainstay of pastoralist income is the sale livestock based products such as milk, other dairy products, wool, leather, meat, dung and crafts. There were reports of a setback on the sale of livestock, especially sheep and goats, as wet markets and consumption of meat was

suspected to be the hotspots of COVID-19 (Actionaid, 2020). The sheep and goat pastoralists of the study area reported to have a medium impact on income due to lockdown. The impact on the income could be attributed to the suspension of village markets, low-key celebration of the major festivals and very high freight charges for transportation of the livestock in the study area. Biswal, *et al* (2020) found that reduced availability of sheep and goat meat in the market led to skyrocketing meat prices, with a 50-80% increase in the price, at several places in the country. On the contrary, the cattle pastoralists of the study area reported to have a mild impact on the income during the lockdown.

5.6. Situation of Labour during the Lockdown

The majority, about 78.5 % labour in AP and 74.3 % labour in Telangana migrated with the livestock during the lockdown without any problem. However, in AP about 14.2 % of the labour were stranded along with the livestock at far off places and 7 % could not join their duties due to restrictions on the movement. The reported percentage for the respective cases is about 2 % each in Telangana, suggesting a better-off labour situation in the study area. The study conducted by Cfp (2020) suggests that many herders returned home during February to attend to either domestic affairs or cultivation but could not return to the herds due to the lockdown. It resulted in a significant shortage of labour to managing the herds.

5.7. Access to Veterinary Services during the Lockdown

About 64 % and 36 % of the participants of the study in AP and Telangana respectively consults veterinary surgeons at the public veterinary clinics for animal health care. About 33 % and 59 % of the participants in AP and Telangana respectively depend on public veterinary clinics for medicines and vaccines. However, in AP only 44 % of the participants could consult the veterinary surgeon and only 27 % could avail free medicines from the public veterinary clinics during the lockdown. In Telangana, only 31 % were able to consult the veterinary surgeons and only 27 % could avail free medicines during the lockdown. About 42 % participants in Telangana reported that they could not avail any public veterinary services during the lockdown.

The conducted by Actionaid (2020) found that around 89% livestock keepers of the country experienced challenges in accessing the veterinary services during lockdown and only 11% did not face any problems. In Uttarakhand, the animal husbandry department usually organises livestock health camps and arrange routine visits of veterinary surgeons during summer to provide necessary medical services to the livestock. But such camps were shut down during the lockdown leaving the livestock keepers despondent (Actionaid, 2020). Further, restrictions on travel left the pastoralists in many parts of the country rather paralyzed. Pastoralists could neither travel to the nearest facility with their livestock nor could they invite the veterinary service personal to visit them during the lockdown.

5.8. Extension of State Support during the Lockdown

All the pastoralists participated in the study have received a nominal support from the state during the lockdown. The state governments of both AP and Telangana disbursed an amount of INR 1000 and ration for a month for the BPL and migrant families during the lockdown. Although, every state government has extended their support to BPL and migrant families by providing ration and allowances but the study conducted by Actionaid (2020) suggests that over 66 % of the mobile pastoralists have not received any government support, 24 % received partial support and only 10 % have received the needed support in terms of ration and food grains. The Uttarakhand Government provided three months free ration to each ration card holder in the state. However, 94 % people who were on the move could not avail this facility and only 6% of such people reported to have availed it. Many felt that the government should consider the idea of 'one country - one ration card' or a universal ration card system to enable people on the move, such a pastoralists and migrants to collect ration anywhere in the country (Actionaid, 2020).

5.9. Stigma on Movement of the Pastoralists during the Lockdown

The contagious nature of COVID-19 has left the whole world paranoid, social distancing and forbidden communal and mass gatherings have become the norm. The hearsays and rumours about the pandemic further created a stigma about physical contact with strangers and patients diagnosed with the virus. The paranoia in the society has impacted even the traditional relationships between peasants and pastoralists.

However, in AP, except for a few stray incidents of a few villagers raising concerns about pastoralists entering the villages, there was hardly any stigma or restrictions attached to pastoralists in the study area. On the contrary, in Telangana, about 32 % of the participants of the study reported to have faced some level of stigma during the initial days of the lockdown but things have settle-down within a couple of days. It was found that, there was hardly any restriction imposed on movement of the pastoralists in the study area.

The fear of zoonosis (the transmission of a disease from animals to humans) has led to distancing from livestock and prohibition of outside flocks/herds from entering the villages for grazing at many places in the country (Roy, 2020). The study conducted by Actionaid (2020) points that there were incidents of pastoralists being harassed by residents of the villages along the migration routes and isolation of pastoralists within their own villages. Many pastoralists in Gujarat were barred from entering the villages, resulting in facing food and fodder shortages and difficulty in the sale of meat, milk or other dairy products (Maru, 2020).

However, Incidents such as harassment and isolation of pastoralists cannot be said as a universal phenomenon. Pastoralists could easily manage such untoward incidents because of

their long-term interpersonal relationships with farmers and other communities within the village and villages along their seasonal migration (Actionaid, 2020; Maru, 2020).

5.10. The Major Challenges Faced by the Pastoralists during Lockdown in the Study Area

The three major challenges faced by pastoralists of the study are unavailability of medicines for livestock, difficulty in the sale of manure due to lack of transportation facilities and transportation of livestock. The limited availability of public veterinary services has led to increase in expenditure on animal healthcare in the study area. Shutting down of public transportation services and restrictions on movement during the lockdown has impacted the sale of dung as farmers could not travel to buy and ship dung to their farms. Cessation of private transportation and trucks (especially good carriers) has impacted the income of the sheep/goat pastoralists of the study area as they or the traders could not ship the livestock to the markets.

In addition to covering the distance on foot, pastoralists are also known to hire vehicles for moving the livestock and personal belongings when they have to cover long distances during migration. The COVID-19 induced lockdown has resulted in a limited availability of trucks for transportation of livestock and left many pastoralists in despair.

Although, difficulties in shearing and sale of wool was not reported from the study area, nevertheless, it is one of the major problems faced by pastoralists elsewhere in the country. Sheep 'dipping and shearing' was delayed in many parts of the country due to restrictions on movement and unavailability of transportation facilities (Actionaid, 2020).

5.11. Perception of the Pastoralists about Life in Relation to Other Similar Communities

It was found that the majority of pastoralists participated in the study agreed that they feel better-off in comparison with the other similar communities during the lockdown. Few of the reasons behind the sense of feeling better-off than the other similar communities could be a sense of economic security offered by the livestock. The majority of the participants of the study expressed that they have something to hold on to while other similar communities lost their jobs or do not have any work that generates income. Many of them says that income from penning acted as a shock absorber during the lockdown when it was difficult to sell livestock or livestock based products.

However, almost all the pastoralists participated in the study expressed a serious concern over the escalating conflicts with the forest department with regards to access to the customary grazing lands located inside the forests and protected areas. Pastoralists of the study area complain that they constantly face harassment of the forest department personnel and hope that the government will do something about it.

6. CONCLUSION

It is evident from the study that pastoralism in general is very resilient and has all the coping mechanisms to withstand socio-political and natural calamities as well as pandemics like COVID-19. Despite the restrictions imposed on movement, which is fundamental for traditional pastoralism, during the COVID-19 induced lockdown pastoralists of the study area could handle the crisis very efficiently. Further, the majority of the pastoralists of the study area reported to be feeling better-off when compared to the other similar communities during the lockdown. The reasons behind the sense of feeling better-off certainly worth further investigation.

The three major challenges faced by the pastoralists of the study area are access to veterinary services, labour and transportation. It is however, necessary to notice that these challenges are neither induced by COVID-19 induced lockdown nor by the pandemic but perpetually present in the study area for quite some time. The magnitude of these problems have been amplified during the COVID-19 induced lockdown. As the fissures are exposed, more effort should be put into addressing these issues to ensure that history does not repeat during another pandemic like COVID-19.

One of the major issues plaguing the pastoralist communities in the study area is the escalating conflict over access to customary grazing lands located inside forests and protected areas and the ever shrinking commons and village pasture lands. Majority of the pastoralist communities (both settled and transhumant communities) do not know that they have legal rights for grazing and seasonal access to resources under the Forest Rights Act (Sections 2 (a), 3 (1) (d) and 4 (1)). However, the Ministry of Tribal Affairs should proactively engage with state governments to ensure that these rights are not curtailed during pandemics like COVID-19.

Last, Guillen (2020) points out that inequality increases the frequency and scale of an epidemic, and it undermines people's, especially those belonging to the economically backward and marginalized segments of the society to comply with epidemic containment policies such as social distancing and sheltering in place because they cannot afford to stay at home — they must go to work. However, strong government structures could help offset most of the shortcomings of pandemics. Guillen, adds that "State capacity is a bulwark against the occurrence and ill effects of crises and emergencies, while economic inequality exacerbates them."

7. ACKNOWLEDGEMENT

Impact of the COVID - 19 Lockdown on Pastoralists of India study was designed by Dr. Anita Sharma, Dr. Ashwini Kulkarni, Dr. Ovee Thorat and Dr. Vasant Saberwal | and Published by the Centre for Pastoralism, New Delhi, India, October 2021.

The authors would like to thank the pastoralists who participated in the study, gave their valuable time and share their experiences and insights. The authors would like to thank Ms. Riya S. Shetty, Centre for Pastoralism, Jayaprakash Janapareddy, WASSAN and Dr. Sabyasachi Das, RRAN-WASSAN for coordinating the study. Megavardhan Reddy and Manoj K. Kuna, WASSAN and Kalimulla GH, Kurnool for traveling and conducting the interviews under risky conditions, without which this study would not be possible.

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