

# **Pastoralist and Aadhaar Survey**

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Presented By

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## 1. BACKGROUND

Amongst those most likely to both benefit from, and be excluded by, Aadhaar are the many migratory populations present across the country. The most commonly spoken about populations in this context are the seasonal movement of labour from eastern India (Bihar, Jharkhand, Chhattisgarh, Orissa) to sink states such as Punjab, Uttar Pradesh, Maharashtra (primarily Mumbai), Gujarat, Andhra Pradesh, Telangana, Tamil Nadu and Delhi. There is, however, an entirely different kind of migratory community that has simply not featured in these discussions, viz, the nomadic pastoralist communities present in many parts of the country.

Pastoralists depend on the seasonality of forage that is available in certain landscapes in order to feed their large herds of animals. Arid and semi-arid grasslands of Rajasthan, Gujarat and the Deccan Plateau are unfit for agriculture, but have a seasonal flush of high-nutrition forage during and after the monsoon. Similarly, high altitude pastures across the Himalayan ranges, snow-bound during the winters, offer remarkably high-quality forage during the summer and monsoon. Pastoralists move seasonally into and out of these areas for four to five months, and the remainder of the year through forests and amongst cultivating communities that welcome them for the high-quality fertilizer made possible by their large herds of animals.

The pastoralist migration might take place within a single state, or across two, three or in some cases four states. Raika pastoralists move with their camels from Pali district in southern Rajasthan to Jaisalmer District in western Rajasthan for the monsoon and then return to Pali via an extended traverse of northern Rajasthan (Kohler-Rollefson 2014). Rabari sheep pastoralists spend the monsoons in south-western Gujarat, the winters and spring moving through the forests of western Madhya Pradesh and the summer foraging on agricultural residue in Madhya Pradesh and Gujarat before returning home for the monsoon (Agrawal 1999). The Gujjars spend the winters with their buffaloes in homesteads in the low-lying forests close to Dehra Dun before moving to high altitude pastures in Himachal Pradesh and Uttarakhand for the summer and monsoon (Gooch 1998). The Gaddis of Himachal annually undertake a 250 km trek between the forests of Hoshiarpur and the pastures of Kangra, Bharmour and Spiti (Saberwal 1999; Chhatre and Saberwal 2004).

A section of the migratory route is invariably seen as home base to which these communities return to for 4-5 months of the year. While there are areas the pastoralists are welcomed in, there are also areas where they experience difficulties, particularly so within government managed forests.

There are critical questions on whether Aadhaar has played or holds the potential of playing a role in either legitimizing their presence while on the move (within government forests, for example) or enabling pastoralists to access citizen services formerly denied them. At its core, this project will attempt to understand the technological, social and economic dimensions to Aadhaar use by such highly mobile communities as well as ways by which Aadhaar has ended up excluding these communities from services they may formerly have had relatively easy access to.

There are two additional dimensions of this study. First, we have attempted to generate data on district level numbers on pastoralist communities (to the extent possible) owing to an absence of reliable data on how many pastoralists exist in the country and the numbers of animals they manage. There is an oft-quoted figure of 34 million pastoralists (Sharma et al 2003) but this is a dated figure. Owing to the sense of a younger generation moving away from pastoralism, there is

good reason to believe there has been a decline in these numbers since this study was undertaken. Alongside the attempt to generate district level data on pastoralist numbers, this study has also attempted to understand how a variety of indicators, such as education, access to forage, the availability of labour and so on, might influence pastoralist decisions to stay on or move out of herding. Our key objectives, then, are the following:

1. To understand the pastoralist/Aadhaar card interface
2. To understand the factors that influence decision making among pastoralists regarding whether they should stay on in herding or not
3. To map the pastoralist presence and estimate number of pastoralists and their livestock in six states.

## 2. METHODS

The project focussed on the three geographic areas known to hold the heaviest concentrations of pastoralists in the country – Western Rajasthan and Gujarat; the Deccan Plateau (including northern Karnataka and Maharashtra) and the Himalayan states of Uttaranchal and Himachal Pradesh. Owing to limited resources (both time and finance), we were forced to leave out significant pastoralist populations in Jammu and Kashmir, the North-East, large parts of Telangana, Southern Karnataka and Tamil Nadu.

The study was conducted in partnership with NGOs Sahjeevan and MARAG in Gujarat, URMUL in Rajasthan, Anthra in Karnataka and Maharashtra, and two fellows Akshay Jasrotia and Pawna Kanet in Himachal Pradesh. In Uttarakhand data was collected by CfP staff.

For the purpose of objectives one and two above, data was collected through structured interviews with the help of an interview schedule (**Annexure 1**). A minimum of 30 interview schedules in each identified geographical location or for a pastoralist community were set as the sample for the survey. The respondent of the survey could be any member of the migratory pastoralist household; he or she need not be actively involved in herding.

A draft questionnaire was first shared with our project partners in Himachal Pradesh, the state we started the study in, and with pastoralist representatives from the state. Similar workshops were subsequently held with NGO partners and pastoralist community representatives in each of the states that we undertook this study in. These workshops served to orient the NGO towards what we were hoping to accomplish. It was also an opportunity to familiarize the NGO staff with the survey design, and the questionnaire we wanted them to administer.

The attempt to map pastoralist populations, objective 3, was based on census reports, reports in the grey literature, telephonic conversations with researchers and data sourced from civil society organizations working with pastoralist communities. There was also an attempt to use researchers administering questionnaires to generate regionally relevant numbers, using key informants and community leaders.

Data collection took place over the course of almost a full year, between February and December 2018, and was strongly influenced by periods of pastoralist availability. Within the Himalayas, pastoralists are generally more available during the winter when they are grazing their animals in the Himalayan foothills; the high-altitude summer pastures are largely inaccessible to researchers. In western India and the Deccan, pastoralists tend to be more easily contacted during the monsoons, when they are in the vicinity of their home bases. Many of these communities are on extended, long-distance migrations during the remaining 8 months of the year, and hence harder to interact with close to home during the monsoons.

The ISB team used the Ona software to create an online form for data entry and provided technical support.

### 3. SURVEY RESULTS

Perhaps the most important result from this effort to undertake a survey amongst pastoralist populations was the realization of just how difficult it is to undertake systematic work with these populations. While individual studies have been undertaken over the years, with researchers undertaking ethnographic research amongst a variety of communities, broad-based survey work aimed at sampling large numbers of these communities has not happened in India. Nor are these populations reflected in general census reports, a simple outcome of their non-availability during extended periods of absence from their home villages.

As indicated in the methods section above, we experienced the same problem of herders being dispersed, and hard to contact, over long periods of time. This has meant that we have had relatively small windows of opportunity to interact with these communities. Our data is accordingly somewhat sparse. Any attempt to undertake a second, follow-up phase of this study will need to factor this from the start.

A secondary factor that has influenced the survey has been the fact that the study was dependent on NGO partners to both undertake the survey as well as attempt to map pastoralist populations. The obvious benefit of this approach was that we generally ended up working with organizations that had an intimate knowledge and understanding of the communities we were interested in. Indeed, many of them have long standing associations with these communities, and we banked on these relationships to help nuance our work. During our preliminary workshops with each partner, a number of modifications were made to the study methodology, particularly with regard to the mapping of pastoralist populations, but also on the details sought for in the questionnaire. These interactions helped in greatly improving the quality of the approach we adopted. On the other hand, while the NGOs we worked were willing partners in our work, not all partners had worked on pastoralism in recent times (but were the only potential partner in a given region). More importantly, partners were almost always adding our study to their existing work-loads and were not always able to prioritize the study. Our understanding is that should a second phase of this study be undertaken, it should broadly follow the same approach with regard to working with partners (no single organization will be able to undertake a national level study), but to do so with far greater participation by partners in the actual development of the study.

We present our results by first providing a summary of the data structured around a variety of benchmarks, age, gender, caste, educational levels, use of labour, costs of grazing and so on. We then present results pertaining to each of our three objectives, listed in the background section, above.

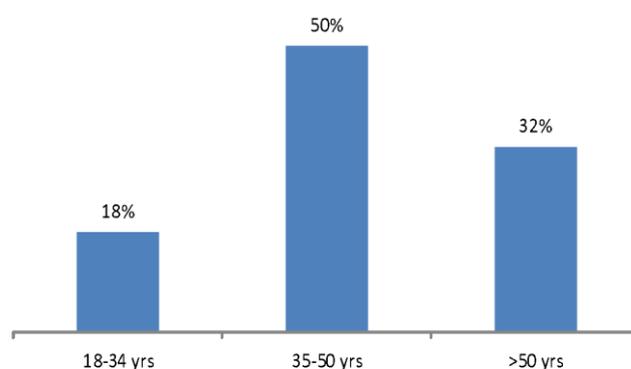
#### 3.1 Respondent Profile

The questionnaire (**Annexure 1**) was administered to a sample of 1271 households from 45 districts and across six states. Refer **Annexure 2** for districts covered. The survey captured more than 28 communities including Rabbari, Bharwad, Jat, Sodha, Dhangar, Kuruba, Kuruma, Mathura Banjara, Nanda Gawli, Gaddi, Gujjar, Van Gujjar, Kanet, Raika, Bhotia, Meghwal, Korangya, and Sindhi Muslim among others (**Table 1**).

**Table 1: No of Households covered in the survey - by State and Community**

State	N	Pastoral Communities
Gujarat	335	Rabbari (187), Bharwad (78), Fakirani Jat (35), Sindhi Muslim (30), Sama Muslim (5)
Rajasthan	226	Raika (59), Meghwal (38), Jaat (31), Bheel (17), Sindhi Muslim (10), Sodha (4), Charan (1), Others (63)
Maharashtra	392	Nanda Gawli (112), Dhangar (90), Golkar (55) Mathura Banjara (53), Kurumar (37), Bharwad (45)
Karnataka	67	Kuruba (47), Krishna Golla (20)
Himachal Pradesh	181	Muslim Gujjar (69), Kanet (48), Gaddi (40), Hindu Gujjar (4), other (20)
Uttarakhand	70	Van Gujjar (36), Bhotia (17), Koranga (4), Other (13)

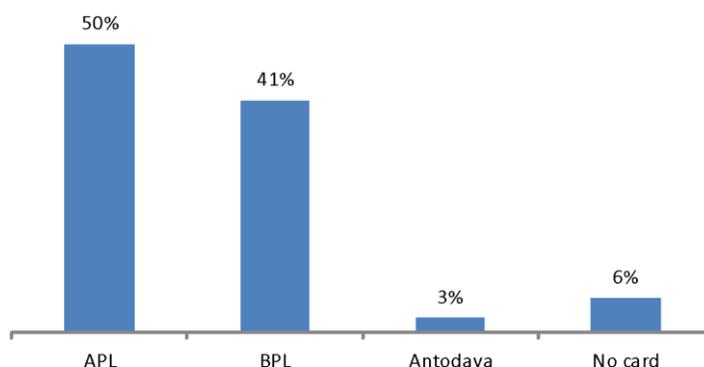
**Figure 1: Age group - per cent respondents**



Nearly 90 per cent of the respondents were men, 10 per cent women. Half of the sample was in the age group 35-50 years, one-third were over 50 years old, and the remaining respondents in 18-34 year age group (**Figure 1**).

88 per cent respondents claimed to be heads of households; 52 per cent respondents were from nuclear families while 48 per cent respondents were from joint families. Half of the sample claimed to have APL cards, 41 per cent had BPL cards, 3 per cent had Antodaya cards and 6 per cent respondents reported not having a ration card (**Figure 2**).

**Figure 2: Ration card ownership - per cent respondents**



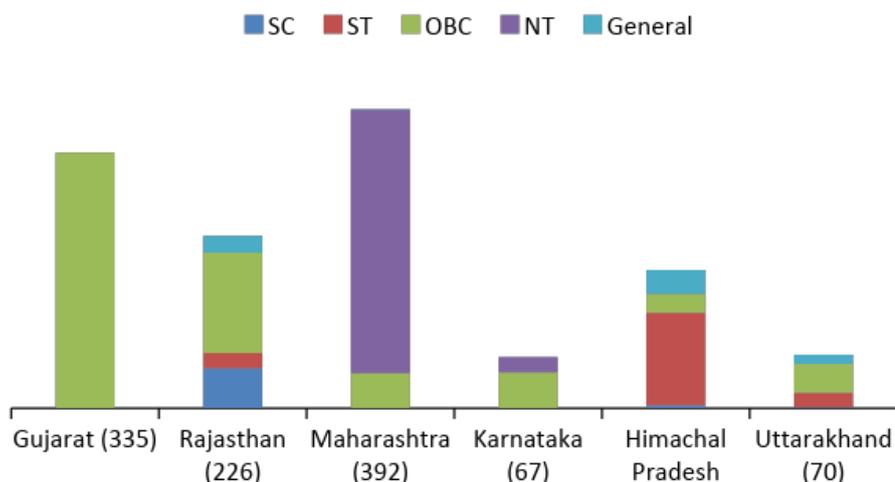
Sources of Income: In addition to incomes from mobile animal husbandry, respondents reported incomes from agriculture (51.7%), Trading 1.9%, Casual labour (25.6%), and Salaried employment (1.9%). For 90 per cent of the sample, more than fifty per cent of household income is from livestock; over forty per cent households claim to derive 100% of their income from pastoralism.

Caste: Half of the respondents classified themselves as Other Backward Caste (50.2%). Other major social categories included Nomadic Tribes (28.7%), Schedule Tribes (11.0%), Schedule Caste (4.6%) and General category (5.4%).

There are stark differences between states. In Gujarat, all communities covered in the sample are other backward castes (OBC). In Maharashtra, a minority of respondent households are Bharwad families (OBC) and the remaining are Nomadic Tribes. In Karnataka, amongst those surveyed, the majority are OBCs (Krishna Gollas) and a small minority are Nomadic Tribes (Kurubas). In Rajasthan there is a mix of OBC (58.4%) including Raikas (also known as Rabbari and Dewasis), Gujjar, Jaat, Sindhi Muslim and Sodhas; Schedule Caste (SC) Meghwals (23.0%); Schedule Tribe (ST) Bheels (8.8%), and households belonging to the General category (9.7%). The 'others' include households from Banjara, Nai, Lohar, Bishnoi, Brahmin and Rajputs. One of the staff members from Sahaj Sansthan in Jodhpur involved in data collection remarked that "barring Brahmins pretty much all communities keep *rehad* including Banjara, Raika, Rajput, Jaat, Nai, and so on". This is not a recent development, historically, a broad spectrum of caste groups in Rajasthan have been part of migratory animal husbandry.

In Himachal Pradesh the majority, Gaddis and Gujjars, are Schedule Tribes (67%); the remaining include OBC (14%), SC (2%) and General category (17%) households. Not all Himachal Gujjars in the sample have ST status, with variations linked to both religion and the histories of different districts. All Hindu Gujjars in the sample (4) have ST status, whereas only 49 out of 69 Muslim Gujjar households in the sample have ST status and the remaining are OBCs. Van Gujjars in Uttarakhand and Bhotias are ST; and Rajputs and Korangya (17% of the respondents) belong to the General Category.

**Figure 3: Caste profile – by state**

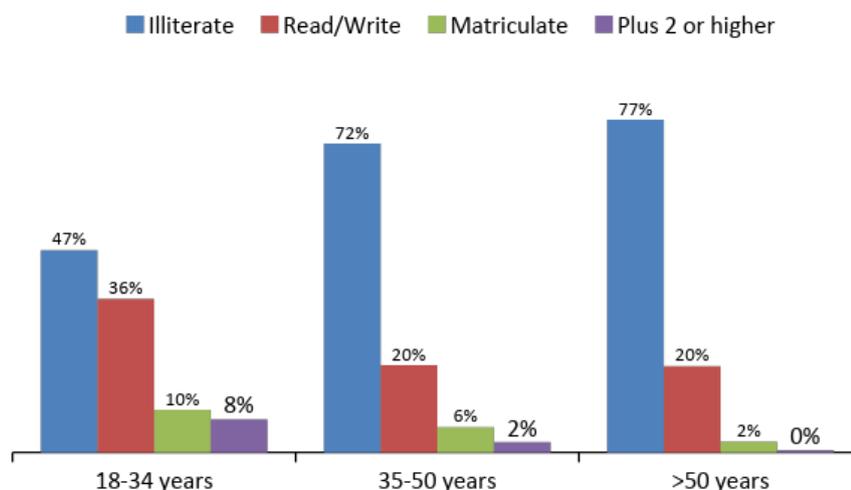


### 3.2 Education

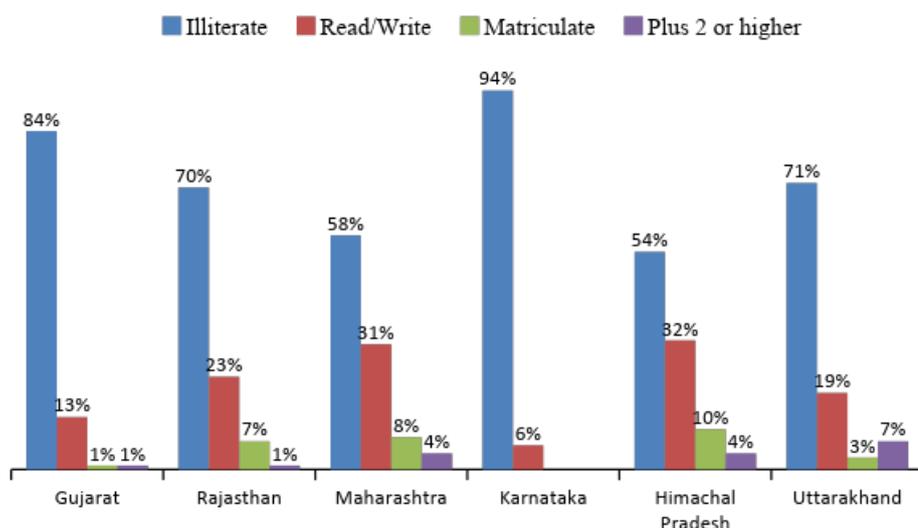
Over 69% of respondents are illiterate, 23% can read and write, and only 8% have passed their class-X exams or above. Not surprisingly, the younger generation of pastoralists has a better education level than the older generation (**Figure 4a**). This certainly points to the fact that herding communities are giving greater importance to formal schooling, a trend widely noticed across rural India.

**Figure 4: Education level of Respondents**

**Fig 4a: By age**



**Fig 4b: By state**

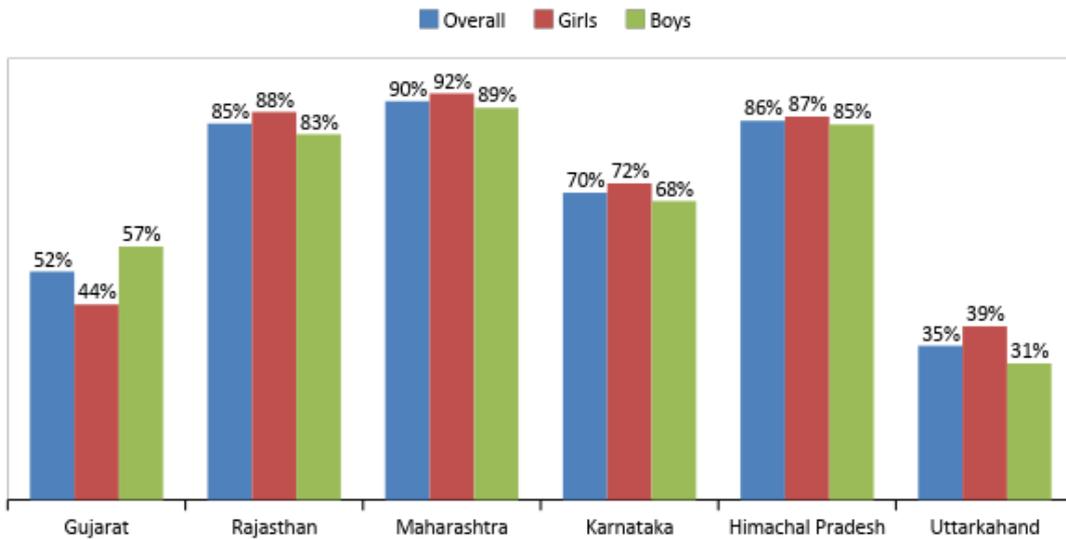


Literacy levels amongst pastoralist respondents in all six states is much lower than literacy rates for each state. As per Census 2011 Himachal has the maximum literacy rate (84%) amongst the six states, followed by Maharashtra (83%), Uttarakhand (80%), Gujarat (79%), Karnataka (76%) and Rajasthan (67%).

Education levels are also uneven amongst sampled pastoral communities. The Fakirani Jats, Van Gujjars, Kurubas and Krishna Gollas are largely illiterate (more than 90%) with none of these respondents reporting a community member passing a class-X or higher exam. The highest education attainment is amongst the Bhotias (29% matriculate or higher) followed by Kanets (25% matriculate or higher), Nanda Gawli (22%), Jaat and Mathura Banjara (19%), and Gaddi (18%). (See **Annexure 3** for details)

With regard to children in pastoral communities going to school, the sample shows varying results across states. However, the data supports the following broad commentary: barring Uttarakhand, and to a lesser extent, Gujarat (The data for the Van Gujjars and the Fakirani Jats may be skewing this data), the bulk of the respondents are sending their children to school. The likely reason for poor numbers in these two states may be that the Van Gujjars (14%) in Uttarakhand and Fakirani Jats (3%) in Gujarat have dramatically lower numbers of children in school in comparison to state averages and other communities. There also seems very little difference between the school attendance of girls and boys. (see **Figure 5**)

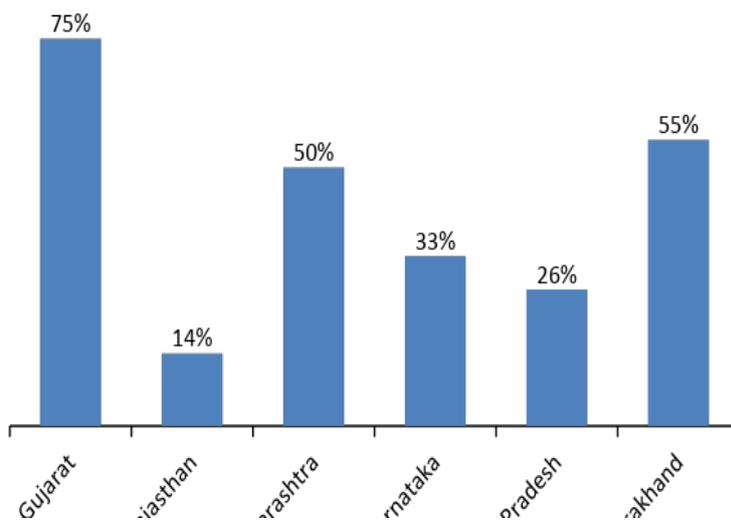
**Figure 5: Per cent children going to school – by State**



### 3.3 Agriculture land ownership

A key finding is that over half of the respondents (53.7%) claimed ownership over agricultural land. The majority of respondents in Rajasthan, Himachal Pradesh and Karnataka reported ownership over some agricultural land, with Gujarat standing out for a general absence of land ownership within pastoral communities. (Figure 6)

**Figure 6: Per cent Households who do not own agriculture land**



Fakirani Jat is the only community in the sample survey with no households claiming ownership of agriculture land (**Table 2**). Agriculture land ownership is also low amongst the Nanabhai Bharwad and Van Gujjars (92% families without land), and amongst Mathura Banjara and Sindhi Muslims (80% per cent without land).

**Table 2: Per cent households without agriculture land – by community**

Community	%	Community	%
Fakirani Jat (35)	100.0	Sama Muslim (5)	40.0
Bharwad Nana	92.2	Kuruba (47)	36.2
Van Gujjar (36)	91.7	Nanda Gawli (107)	26.2
Mathura banjara (27)	81.5	Krishna Golla	25.0
Sindhi Muslim (40)	80.0	Dhangar (90)	24.4
Kurumar (37)	75.7	Meghwal (38)	2.6
Bharwad Mota (71)	71.8	Kanet (38), Gaddi (37), Bhotia (15), Gujjar Hindu (7), Sodha (4), Koranga (4)	0.0
Rabbari (186)	68.8		
Golkar (55)	65.5		
Gujjar Muslim (68)	64.7		
Raika (55)	45.0		
Krishna Golla (7)	42.9		

### 3.4 Joint herding – number of families and people involved

A total of 705 households (over half of the sample) manage their herds jointly, ranging from 2 to 25 herder families choosing to manage combined herds. An aggregate of 2735 families were reportedly part of such arrangements with over 90% comprising combinations of two to seven families. From a state perspective, in Gujarat 69 per cent of the sample report joint herding, with comparative figures of 81% in Rajasthan; 79% in Karnataka; 60% in Himachal Pradesh, 57% in Uttarakhand and 32% in Maharashtra. Agrawal (1999) describes wide spread occurrence of such combining of human resources by the Raika of Rajasthan, a strength-in-numbers strategy for a community forced to move through terrain peopled by communities often hostile to pastoralists and their animals. This hostility appears to be on the rise, as reflected in numerous accounts of animal theft, intimidation, and outright denial of access to grazing resources amongst herders in MP, HP and elsewhere. Unfortunately, we do not have a conclusive study on whether such joint herding is on the rise.

These 2735 families involve 6196 people in herding, of which 33 per cent are women. Out of 6196 people, 1801 (29%) are under eighteen years of age of which 1257 are boys and 544 girls. Hired labour are all men counting to 169.

### 3.5 Hired Labour

Fifty-four hired help were interviewed in the survey. Over a third had been working as hired labour for more than 5 years, 8 per cent for less than a year, and the remaining for 2-5 years. In Gujarat hired help is referred to as *Saathi*, in Rajasthan as *Gwala* and amongst the Himachali Gaddis and Kanets they are known as *Pohals*. In each of these places, hired help can be extended family members also.

The contracts with hired labour depend on whether or not they own livestock in the herd. In several cases where a herder owns relatively few livestock, he joins a bigger herd and gets paid for helping with herding. The financial and in-kind benefits are expectedly lower as compared to the hired labour who does not own livestock in the herd. Hired labour (with livestock ownership) gets paid in the range of Rs. 500-3000 per month as compared to Rs. 10,000-12,000 for those who don't own livestock. Actual payment could be a six monthly or annual arrangement, but payment might also be made simply as a function of need. Additionally, the hired labour is also provided with food, shoes, clothes, tobacco and any other necessities during migration. The overall expense on a hired labour can be upwards of Rs 2 lakhs per year. In each of these places hired help can be extended family members also. Additionally, the hired labour is also provided with food, shoes, clothes, tobacco and any other necessities during migration. The overall expense on a hired labour can be upwards of Rs 2 lakhs per year.

Other arrangements include the payment of livestock in lieu of labour. In Himachal Pradesh, herd owners speak of paying a *Pohal* upto 13 animals per year, for a four-year contract, in addition to food, shoes, medicines, etc. In several villages in Himachal and Uttarakhand, a few herders (from pastoralist communities) take village livestock on a fixed rate for both summer and winter grazing. In Chamoli, part of the Garhwal region of Uttarakhand, herders charge Rs. 300 per goat/sheep for summer grazing and Rs. 400 per goat and sheep for winter grazing. Similarly, in Rajasthan a *gwala* can charge Rs. 400 per cow per month, and Rs. 12-15 per goat or sheep per month.

The Rabbaris of Vagadh in Kutch have a distinct marriage practice called *sata padhdati* – in case there is no daughter in the extended family for exchange, the boy has to work as *saathi* with the girl's family for twelve years till *gauna* (*ceremony associated with consummation of marriage*). This practice is associated with the custom of child marriage which is still prevalent amongst the maldharis of Gujarat. During field work we met with one such *saathi* and also heard stories of a few middle age Rabbaris who have not been able to consummate their marriage because of the non-availability of a girl in exchange for *sata*.

Of fifty-four hired labour in the sample, forty-six own livestock as part of the herd they help manage. Amongst hired labour, other sources of household income include - casual labour (50%), agriculture (36%) and trading (20%). All of them were engaged as hired labour for the full year.

**Table 3: No. of cows owned by hired labour**

No. of cows	No. of herders
1-10	8
11-20	7
21-30	10
31-40	3
>40	3
<b>Total</b>	<b>31</b>

**Table 4: No. of sheep owned by hired labour**

No. of sheep	No. of herders
1-20	4
21-40	5
41-60	5
<b>Total</b>	<b>14</b>

**Table 5: No. of goats owned by hired labour**

No. of goats	No. of herders
1-20	9
21-40	3
41-60	-
61-80	2
<b>Total</b>	<b>14</b>

**Table 6: No. of buffaloes owned by hired labour**

No. of buffalo	No. of herders
1	2
3	1
<b>Total</b>	<b>3</b>

### 3.6 Expenses on grazing rights and fodder

Permit: 63 per cent respondents in Himachal and 58 per cent in Uttarakhand have permits for grazing.

Over 76 per cent of the respondents in this study have either bought fodder or access to grazing or both. More specifically, 39 per cent of the respondents bought fodder, 18 per cent acquired grazing rights, and 19 per cent did both- bought fodder and acquired access to grazing. The estimated expense ranged from Rs. 2000 – Rs. 600,000. The sum total of expense incurred by pastoralists in the sample on fodder and grazing rights in previous year is Rs. 36,348,040.

**Table 7: Amount spent on grazing rights and fodder**

Amount spent (in Rs.)	No. of Herders
Upto 10,000	107
10,001-50,000	396
50,001-100,000	197
100,001-150,000	33
>150,000	12
Total	745

*An enterprising shepherd in Jakol, Uttarkashi, keeps written records of all expense and income from his herd. He owns 332 ewes and 1 ram. Last year he spent Rs. 29 per sheep in the summer and Rs. 250 per sheep in winters – totalling one lakh rupees for the herd. As compared to summer grazing in alpine pastures, the winter grazing in the forests on the foothills of Himalaya costs much more. After adding additional food, transport and other expenses he estimates a viable unit of herd will comprise at least a hundred sheep and goats.*

Pastoralists sometimes pay fees not only for grazing in forests, but also for grazing on agriculture waste. Many pastoralists lease farm fields in Gujarat, Rajasthan, and Punjab after the harvest season. In Gujarat, the grazing cost (which could range from few thousands to a few lakhs) is usually shared by the group of families herding together. In few cases, an entire village is leased or booked by a group of herders on a fixed payment for that year. The herders then camp in different farm plots of the same village and later moving from one plot to another whenever needed. These are verbal contracts.

Payment is not always a cash pay-out. In some arrangements they get compensated for the animal dung/manure which is calculated per night. At the end of the season any remaining payment is paid

in cash. Earlier this was a purely reciprocal relationship where farmers invited pastoralists to pen their fields and get milk from the herders, and in return pay with food grain.

Individual right holders need not pay for access to summer grazing in the alpine pastures during summer months. On the other hand, non-right holders will either pay a right holder to use his designated pasture or will help manage the right-holders flock. Summer grazing in Spiti tends to cost more than in other parts of Himachal Pradesh. In 2017, five families from Kullu who herd jointly paid Rs. 1,20,000 for access to the nutritious pastures in Spiti. Every year two out of the five families take turns and stay with animals for the summer. These two families pay for the seasonal grazing rights, while the remaining families pay a fixed amount per goat and sheep.

Financial transactions also take place with the Forest Department. Nominal amounts are changed by the Forest Department for the issuance of grazing permits in both summer and winter pastures. In addition, there are various contexts that require herders to pay bribes to forest department officials, particularly so in the winter grazing grounds.

### **3.7 Livestock populations – herd composition and trends**

A majority of pastoralists keep mixed herds, with a preponderance of either large or small ruminants. This of course depends on the region and geo cultural preferences. **Table 8** shows the types of livestock owned, their range and average herd size for various communities. The average herd size of a Rabbari herder is 217 animals, with one of the respondents holding a maximum herd of 820 sheep and goats. The maximum herd size amongst the Dhangars of Maharashtra is 500 sheep, with an average of 90. Average herd size amongst the Kurumars is 264 sheep.

The other pastoralists from Maharashtra – Nanda Gawli, Nanabhai Bharwad and Mathura Banjara are cattle herders. In Himachal Pradesh, Gaddi, Kanet, and other Rajput communities are sheep and goat herders while Muslim Gujjars are buffalo herders. Similarly, the Bhotias and other Rajput communities in Uttarakhand are sheep and goat herders, while Van Gujjars are buffalo herders. In Rajasthan, all the communities herd a mix of sheep, goat, cow and camel.

Historically the pastoralists from Gujarat have been migrating down to Maharashtra. Dhebariya Rabbari from Kutch and Nanabhai Bharwad from Saurashtra are settled in Maharashtra for several decades. These communities were also interviewed in the sample. They own land and houses in their ancestral village and visit their home village during festivals, marriages and other special occasions.

**Table 8: Range, Average herd size and livestock type - by community**

Community	Sheep		Goat		Buffalo		Cow		Camel		Combined population of Sheep and Goat	
	Range	Avg	Range	Avg	Range	Avg	Range	Avg	Range	Avg	Range	Avg
Rabbari	5-800	173	2-160	42	√	√	1-80	14	√	√	8-820	217
Bharwad Nana					√	√	7-70	24	√	√		
Bharwad Mota	7-200	105	10-160	45	√	√	2-130	24	√	√		
Fakirani jat	√	√	√	√	√	√			5-140	40		
Sindhi Muslim	50-250	139	√	√	2-40	13	1-150	34	1-50	11		
Dhangar	10-500	90	√	√	√	√	√	√				
Kuruma	30-550	264										
Kuruba	50-300	120	√	√	√	√	√	√				
Nanda Gawli			√	√	1-35	13	1-40	8				
Mathura Banjara			√	√	√	√	1-60	18				
Gaddi	1-250	100	2-230	75	√	√	√	√			4-480	178
Gujjar Muslim	√	√	√	√	1-85	11	1-9	2				
Kanet	8-400	87	2-350	82			√	√			10-650	170
Golkar			√	√	1-30	7	1-25	4				
Raika	10-100	96	2-100	24	√	√	1-100	20	1-180	19	22-400	127
Bhotia	22-375	103	10-100	38			√	√			60-250	127
Van Gujjar			√	√	2-100	19	√	√				
Meghwal	2-250	76	2-80	32	√	√	1-114	10	√	√	8-320	107
Jaat	15-300	91	√	√	√	√	1-255	36	1-20	3	23-330	115
Bheel	2-400	77	6-288	87	√	√	1-20	9	1-15	5	18-600	164

According to the 19<sup>th</sup> Livestock Census, the population of sheep in 2012 was 65.06 million, which declined by about 9.07% from 2007. Over 94% of the sheep are indigenous breeds. The population of indigenous breed declined by 9.64% while the population of exotic sheep increased by 1.37%. The Goat population in 2012 was 135.17 million, down by 3.82% from 2007. Camel population has been steadily decreasing since 1992. In 2012 camel population was estimated at 0.4 million, down by 22.63% as compared to the 2007 Census. Amongst the big ruminants the population of buffalo increased by 3.19% whereas population of cattle declined by -4.10 per cent. This decline is a result of decreasing population of indigenous cattle. 2012 Census estimated the indigenous cattle to be around 1,51,172, down by -8.94 per cent as compared to the 2007 numbers. On the other hand, the population of exotic/crossbred increased by 20.18 per cent to 39,732.

**Table 9: Livestock Population - per cent change from 2007 to 2012**

Livestock	All India	Gujarat	Rajasthan	Maharashtra	Karnataka	Himachal	Uttarakhand
Cattle Exotic/cross	20.18	68.69	112.72	16.93	32.81	24.08	46.60
Cattle Indigenous	-8.94	17.91	2.53	-9.40	-20.52	-21.06	-20.43
Buffalo	3.19	18.37	16.99	-7.88	-19.79	-5.98	-19.00
Sheep Exotic/cross	1.37	85.01	67.09	568.37	119.69	52.77	45.65
Sheep Indigenous	-9.64	-15.39	-19.28	-13.45	0.04	-28.77	18.92
Total Sheep	-9.07	-14.68	-18.86	-11.31	0.26	-10.70	26.98
Goat	-3.82	6.87	0.76	-18.82	-22.05	-9.78	2.40
Camel	-22.63	-20.91	-22.79	42.19			

(Source: 19th Livestock census, Government of India)

So overall, numbers of indigenous sheep and goat were down in 2012 from 2007. Camel and indigenous cattle population also declined while exotic/crossbred cattle and buffalo population increased.

The all India trends more or less reflect the state wise trends. The total population of sheep has declined in Gujarat (-14.7%), Rajasthan (-18.9%), Maharashtra (-11.3%), and Himachal Pradesh (-10.7%). While Karnataka shows a marginal increase of 0.26 per cent, Uttarakhand records an increase of around 27 per cent. Goat population shows a downward trend in Maharashtra (-18.9%), Karnataka (-22.0%), Himachal (-9.8%) and upward growth in Gujarat (6.9%), Rajasthan (0.8%) and Uttarakhand (2.4%).

There is some anecdotal evidence about the changes in herd composition collected during field work.

*Rajasthan's Gopalpura Dhani witnessed a dramatic decline of sheep population in the last few decades. In a total of seventy families that keep livestock, there are just 3 tolas (families who herd jointly make tola; a tola comprise 4-5 families). Earlier there used to be several tolas with more sheep than cows in the village. Historically, wool was the main source of income from sheep. About 25-30 years ago they could fetch Rs. 35-40/kg for sheep wool. Today they have to pay for shearing and are forced to discard the wool. With declining demand for wool and increasing demand for meat, many prefer to keep cows. Now, there are a total of 2000 cows and only 1000 sheeps in the village.*

*A shepherd from Peepalkothi, Garwal said that earlier Botiyas would buy wool for Rs. 50 per kilogram and there were more sheep in the herd. Now sheep and goat are equal in number in herd. Summer wool is sold at Rs. 30-35/kg, winter wool at Rs. 20-22 per kg. This account is in line with the observations made by Vasant Saberwal (1997), where in shepherds expressed a preference for sheep owing to the supplemental income derived from sheep wool (Rs. 60/kg at the time). A lifting of tariff barriers in the mid-nineties are widely linked to industry switching from indigenous to imported wool, and the consequent crash in the sheep wool market.*

Infrastructure appears to have a bearing on whether herders are staying on or moving out of herding.

The widespread penetration of roads along with the increased demand for apples has had an impact on herding. In Uttarkashi, respondents who remained in herding only did so because without roads, there was no advantage in growing apples. Once a road is constructed, they turn to apple growing ensuring a sharp reduction in families managing herds. Datmeer taluka village in Mori tehsil of Uttarkashi has one of the maximum numbers of migratory shepherds in the region because there is no road to the village. Overall, there has been a significant decline in herding in the Uttarkashi region for just this reason. On the other hand, anecdotal evidence from Kinnaur District in Himachal Pradesh suggests that while the household make the shift to apple growing, they often hire labour from states like Bihar to manage the families herds. There are also instances of residents of Bihar settling in Kinnaur and building large herds of their own.

Similarly, Gedi and Salari villages in Vagadh region of Kutch (villages with substantial Rabbari population) received water from the Narmada Yojana three years ago. Irrigation has made agricultural expansion possible, and now there are no migratory herders in the two villages.

While we did not come across other examples of such influence by infrastructure in shaping occupational decision-making by shepherds, it is likely to be a key factor worthy of further investigation going forward.

### **3.8 Losses, Risk and Vulnerabilities**

Almost half of the sample, 49.4 per cent, reported livestock losses, the great majority due to various diseases (**Table 10**). Other reasons include theft, excessive rains, wild animal attacks, and accidents on road, hits by vehicles, eating poisonous grass, falling down from hills/mountains, and so on.

**Table 10: Livestock losses – per cent respondents**

	Over all	Gujarat	Rajasthan	Maharashtra	Karnataka	Himachal Pradesh	Uttarakhand
Overall	49.5	10.1	73.9	67.6	86.6	31.1	68.6
Disease	90.5	54.5	95.8	95.1	100.0	76.1	75.0
Theft	7.2	18.5	12.6	1.4		24.4	2.1
Other	11.3	37.0	2.4	6.6		30.6	47.9

Last year four Van Gujjar families lost 23 cows and buffaloes due to lack of fodder. Director of Rajaji National Park denied the entry of fodder in the park from outside resulting in starvation deaths. Forest officials harass the community; they often take bribes to allow the entry of fodder in the forest. The ostensible reason for restricting the entry of fodder is that elephants and other animals get attracted to fodder resulting in conflict between the Van Gujjar and wild animals. Starvation deaths of three cows were also reported from Maharashtra.

The camel herders in Rajasthan reported that the declaration of camel as state animal and the passage of the Rajasthan Camel (Prohibition of Slaughter and Regulation of Temporary Migration or Export) Bill is creating problems. The Bill bans the slaughtering, trading and unauthorised transportation of camels.

Theft by armed groups of men, who might accost a herder while he is walking with his animals on the road, has been widely reported in Himachal Pradesh and from Madhya Pradesh (not part of this study). It is, however, a major issue that pastoral communities across the country are having to deal with – a consequence of being the perennial outsiders while on migration. Pastoralist vulnerability has risen dramatically in the past few years, particularly in situations where these communities are muslim.

*“We are in same situation as farmers who commit suicide. Only herders with bigger herd will survive. I took 10 camels to pushkar mela this year. Spent money on transport. Couldn’t sell even one. The rate was as low as Rs. 2000. I couldn’t even meet the cost of transportation.”*, rued Rakesh Dewasi from village Rani, District Pali, Rajasthan.

### **3.9 Pastoralist and Aadhaar**

#### ***Objective 1: To understand pastoralist use of Aadhaar***

Somewhat to our surprise, over 98.5 per cent respondents reported having an Aadhaar card (**Table 11**). While all states showed in excess of 95% coverage by Aadhaar, certain communities within these states had a relatively larger number of families that did not have the card. The Fakirani Jats

(a Muslim community) in Gujarat (14%) and the Nana Bharwads in Maharashtra (11.8%) had the largest numbers of respondents without Aadhaar cards (**Table 12**). Given that the Fakirani Jats are part of a large constellation of Muslim herding communities in Gujarat, none of whom reported similar levels of low aadhaar card penetration, it is unlikely that religion has any role to play here. It is possible, that Fakirani Jats, camel herders, are more isolated than other herding communities in Kutch.

**Table 11: Percent respondents with Aadhaar card – by state**

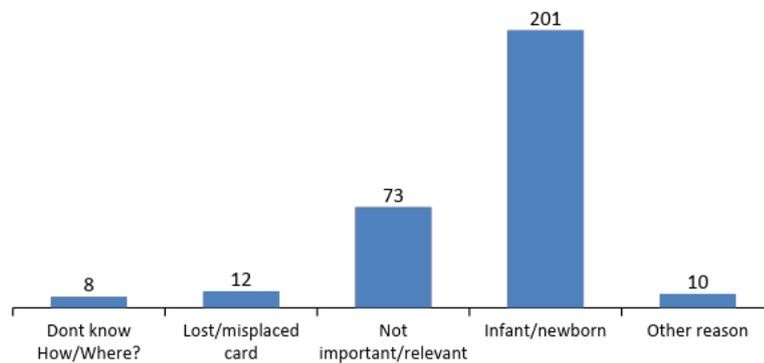
Overall	Gujarat	Rajasthan	Maharashtra	Karnataka	Himachal Pradesh	Uttarakhand
98.3	98.2	100.0	98.5	95.5	97.2	97.1

**Table 12: Per cent respondents without Aadhaar card – by community**

	Fakirani Jat	Bharwad Nana	Gujjar Muslim	Van Gujjar	Kanet	Rabbari
N	35	51	69	36	48	186
Percent	14.3	11.8	5.8	5.6	2.0	0.54

Within respondent families that do have Aadhaar cards, a total of 833 family members indicated that one or more members in the family lack the card. The single largest reason for a family member not having an Aadhaar card is age, with over 200 respondents indicating that a child or children in the family was too young to be enrolled for the Aadhaar card. 73 respondents considered it unimportant for all members in the family to have an Aadhaar card, 12 indicated they had misplaced their cards.

**Figure 7: Reasons for not having Aadhaar card – no of respondents**



The majority of respondents did not appear to face any particular issues linked to Aadhaar cards. However, twenty-nine respondents reported that information on their Aadhaar card was wrong including wrong age (18), wrong name (4) and wrong photo (1). Fifty-Six respondents reported problems while using Aadhaar card, the majority related to a machine difficulties in matching fingerprints, overwhelmingly resulting in the individual having to return without securing ration. Overall, respondents reported that Aadhaar served the principal purpose of an ID card. Many reported has become a mandatory document for obtaining SIM cards, opening bank accounts, for currency exchange during demonetization, and availing government schemes. Most spoke of carrying the card at all times.

***Objective 2: To understand the factors that influence decision-making among pastoralists regarding whether or not they should continue herding.***

We may not be able to address this objective. The researcher who was spearheading the survey appears to have not recognized the need to interview herders and non-herders. As a result, we are unable to characterize non-herders, and lack the opportunity to cross tabulate factors that might influence decisions to stay on in herding or move out of herding. This reflects poorly on CfP for its oversight of the study. We plan to rectify this mistake by undertaking a similar survey amongst individuals who are no longer herding to attempt to understand the factors that might be shaping decision making with these communities.

***Objective 3. To map the pastoralist presence and estimate number of pastoralists and their livestock in six states***

This section is based on a combination of survey data and data shared by NGOs working with pastoralist communities. Section 3.1 looks at data generated by the survey; Section 3.2 attempts to provide the larger picture with relation to animal numbers collected by NGOs or, in one instance, academics, as part of their past or ongoing work.

### **3.10 Pastoralist Population Estimates**

The following section is based entirely on data provided by partner organizations. Unfortunately, there is dramatic variation in the quality of this data. Organizations working in a particular district

have high quality data for that district. Also, organizations with well-developed livelihoods programmes in a particular district are likely to have higher quality data than organizations that are more activist in orientation, for the simple reason that livelihoods oriented organizations tend to track the impacts of their work and hence often have decent baseline data capturing household and animal numbers. This is starkly evident in the quality of data that Sahjeevan has provided in contrast with data that has emerged from Himachal Pradesh, Karnataka and Maharashtra. One of the big learnings of this study has been the need to develop a methodology that partners see merit in, as well as have the human resources to undertake extensive research using such a methodology.

Despite a series of workshops with partners before embarking on state level work, we appear to have failed in conveying our core interest in using the survey as an opportunity to seek out estimates of pastoralist and animal numbers in villages, blocks and districts. For the most part, partners simply saw this as too ambitious an exercise, and we have ended up with very sparse data sets.

Sahjeevan provided the most reliable population estimates amongst all partners. They shared data of selected breeds and regions from Gujarat (Kutch and Saurashtra) collected as baseline surveys for a number of their projects.

- 5,490 households (HH) of Dhebariya Rabbari, Kutch
- 430 HHs of camel herders in Kutch; total 13,067 camels (this may include Dhebariya Rabbari)
- 3341 HH in Banni in Kutch, (Survey ongoing for those that are migratory)
- 255 HHs of Halari donkey herders in Saurashtra; 1,112 donkeys
- 135 HH – Kahmi goat in Saurashtra; 6534 goats

Tables 13, 14, 15, 16 provide the details of data summarised above.

**Table 13: Camel Population, Gujarat**

District	No of HHs	No of Camels
Kutch	341	11,314
Jamnagar	19	403
Devbhoomi Dwarka	70	1,350
<b>Total</b>	<b>430</b>	<b>13,067</b>

(Source: Primary Survey, Sahjeevan)

**Table 14: Halari Donkey population, Gujarat**

District	No of HHs	No of Donkeys
Jamnagar	123	518
Devbhoomi Dwarka	129	588
Rajkot	3	6
<b>Total</b>	<b>255</b>	<b>1,112</b>

(Source: Primary Survey, Sahjeevan)

**Table 15: Kahmi Goat Population, Gujarat**

District	No of HHs	No of Goats
----------	-----------	-------------

Jamnagar	17	1,066
Devbhoomi Dwarka	29	969
Junagadh	36	1,959
Rajkot	53	2,540
<b>Total</b>	<b>135</b>	<b>6,534</b>

(Source: Primary Survey, Sahjeevan)

**Table 16: Banni Survey, Gujarat**

District	Region	No of HHs	Sheep	Goat	Cow	Buffalo	Camel	Donkey	Horse
Kutch	Banni	3,341	2,762	3,252	5,996	45,299	2	16	647

(Source: Primary Survey, Sahjeevan).

MARAG collected data from 5 districts of Gujarat through Maldhari Vikas Sangthan volunteers. However, the number of households as well as animals seem to be grossly under-represented. MARAG team is reviewing the data.

The following data was provided by Anthra for Karnataka:

- Pangaru Dodde village, Vijayapura: 1000 shepherds (not households)
- Gulbarga District: 200 households of Golla, sheep herders
- Nippani taluka: 200 households, sheep herders

But these are somewhat random numbers, with missing communities, talukas, districts and animals herded. Anthra was unable to provide population estimates for Maharashtra and Karnataka.

Although the Himachal team was very enthusiastic and interested about generating population data to support their work on the FRA, it is a small team and could not manage data collection in time. Similarly, the Anthra team has a very limited outreach in Karnataka but even for Maharashtra they found it difficult to generate estimates on population numbers.

The Urmul team provided data from 99 villages, where the survey was conducted. There are total of 4,012 households of migratory herders (details in **Table 17 below**).

**Table 17: Survey of 100 villages across six districts, Rajasthan**

District	No of HHs	Sheep	Goat	Cow	Buffalo	Camel	Donkey	Total Animals
Jaisalmer	300	22,510	13,755	148	-	1,575	107	38,095
Nagaur	525	41,700	30,600	104	74	139	132	72,749

Bikaner	792	71,100	53,900	300	49	1,726	270	127,345
Jodhpur	225	21,400	13,500	115	-	1,370	107	36,492
Udaipur	600	3,585	27,600	229	172	150	159	31,895
Barmer	1,570	29,100	34,200	81	41	2,035	153	65,610
Total	4,012	189,395	173,555	977	336	6,995	928	372,186

(Source: Primary Survey, URMUL. The population data was collected for a hundred villages where Aadhaar survey was conducted.)

CfP also conducted camel survey in Rajasthan in 2018, but it did not cover entire district or a block.

**Table 18: Camel data collected by CfP in Rajasthan**

District	No of HHs	No of camels
Bhilwara	240	4020
Sirohi	68	1008
Sirohi	54	965
Pali	172	681
Bikaner	857	14480
Jaisalmer	259	4400

For Uttarakhand, CfP staff estimates suggest 7,942 Van Gujjar households spread across various regions including Dehra Dun and Saharanpur. (see **Table 19** for details)

**Table 19: CfP's Survey of Van Gujjar, Uttarakhand**

District	No of HHs
Dehradun	645
Haridwar	3837
Pauri Garhwal	900
Tehri Garhwal	400
Uttarkashi	60
Nainital	900
Udhamsingh Nagar	1200
<b>Total</b>	<b>7942</b>

Uttarakhand survey was done by a team of two CfP staff. A broad mapping of the state is done with identification of pockets of pastoralist population within Kumaon and Garhwal regions of Uttarakhand.

**Table 20: Pastoralist population in Uttarakashi, Uttarakhand**

Region	No. of sheep/goats	No of families
Pitari		150
Daatmir	8000	150
Paanvtalla		15
Jakhol	3000	
Gangaad		50
Sidri		5
Bhitri	5000	250
Khanyasini	6000	150
Saundh	60	1
Gwalgaon		18
Khanna	500	
Masri	3000	
Suchwaan		8
Gaichwaan	800	3
Kalaab		90
Nooranu		80
Sarnol/masri	3300	
Basroli/Dhooni	1750	4
Phari/Koti	1000	

**Table 21: Pastoralist population in Chamoli, Uttarakhand**

Region	No. of sheep/goats	No of families
Kanol	400	3
Karchau	6000	10
Karchi	1000	4
Laanjhipokhni	1350	3
Urgam	1500	3
Malari	1500	3
Ringni		3
Lata	1500	4
Supai		7
Jhelum		3
Ghooni		2
Raamani		2
Boora		3
Sutol		3
Aala		5
Laankhi	5000	12
Josimath	5000	12
Kanol	0	20
<b>Total</b>	<b>23250</b>	<b>102</b>

Taknor panchayat		75
<b>Total</b>	<b>32410</b>	<b>1049</b>

**Table 22: Pastoralist population in Kumaon districts- Pitoragarh, Bageshwar, Champawat**

<b>Region</b>	<b>No. of sheep/goats</b>	<b>No of families</b>
Munsiyari		
Paataun	600	
Sankhthoora	500	5
Quiri	440	6
Dhapa	1000	6
Dharchula	2000	10
Darma Valley	1000	15
<b>Total</b>	<b>5540</b>	<b>42</b>

## 4. CONCLUSION

This has been a challenging study and the data that has been generated is a teaser that highlights information that is missing at least as much as the data that we have managed to collate. For a variety of reasons, the survey has not generated the quality of data that we were hoping for, and particularly so on two counts:

- An absence of survey data amongst pastoralists who have stopped herding has meant we cannot use this information to understand the factors most likely to shape decisions regarding whether or not to stay in herding;
- We have extremely limited data on pastoralist numbers (both human and animal). This is partly a consequence of limited resources (partner organizations could not cover entire districts with the limited funds we could make available to them) and partly on account of an insufficiently thought through methodology. Our hope was that we would be able to use key informants or community leaders to generate high quality estimates of pastoralists in a rapid survey of relevant villages we hoped our researchers would undertake. We assumed this was possible, without piloting the methodology and as a result were unsuccessful in convincing our partners to undertake such extensive work.

Be that as it may, we believe we have generated useful insights, and these are highlighted in the results section above.

Perhaps the biggest result from this effort has been the realization of just how difficult it is likely to be to generate reliable numbers on India's pastoralists. This is on account of both the relatively small window in which any survey work can be done, largely limited to the winters amongst Himalayan pastoralists and the monsoons for communities further south.

A second realization is that there is need for far greater methodological rigour, including a more fundamental inclusion of survey partners from the very beginning of the study.

We see this as a first phase of the study, and are now planning on a second phase, with internal resources. We would greatly appreciate the opportunity of working with ISB in this second phase. If some financial resources can be made available that would be greatly appreciated. If not, we look forward to the possibility of working with ISB as an intellectual partner in bringing this survey to a more satisfying conclusion.

### Annexure 1: CFP Schedule for Survey of Pastoralists

**Part 1. About the respondent** (✓ the correct answer, where choice is given)

1.1	Name										
1.2	Place of Residence	_____ (Village)		_____ (Taluka)		_____ (District)					
1.3	Gender	M [ ] F [ ]		1.3b	Age (in years)						
1.4	Head of the household?	Yes [ ] No [ ]									
1.5	Education level	Illiterate [ ]		Read/ write [ ]		Matriculate [ ]		Plus 2 or higher [ ]			
1.6	Family category	Nuclear family [ ]				Joint family [ ]					
1.7	Social Group (Caste)	ST [ ]		SC [ ]		OBC [ ]		General [ ]			
1.7a	Caste as locally known (specify)										
1.8	Type of Ration Card	APL (Above Poverty Line) [ ]		BPL (Below Poverty Line) [ ]		Antyodaya [ ]		PH (Priority Household) [ ]		No card [ ]	
1.9	Number of members in household	Adults (>16 years)		Children (4-16 years) & how many are school-going?				Infants/Toddlers (<4 years)		Total	
		M	F	M		F		M	F	M	F
				Total	In school	Total	In school				
1.10	Owner of herd or hired help (pohal)?	Owner of herd [ ]		Hired help [ ]							
<b>For owners of herds, go to Part 2; for hired help, go to Part 3</b>											

**Part 2. Respondent's Dependence on Pastoralism (if Owner of Herd)** (✓ the correct answer)

2.1	What are various sources of household income and contribution of each to household income?	Source		✓ all correct options				Contribution					
		1. Pastoralism (specify separately for milk, wool, meat, etc)											
		2. Agriculture/Horticulture											
		3. Trading											
		4. Casual labour											
		5. Salaried											
		6. Any Other (Specify)											
2.2	Do you herd your livestock with other families jointly?	Yes [ ] ☐ go to 2.2a No [ ] ☐ go to 2.3											
2.2a	How many families are joined together in herding their livestock, and what is the herd size (of all families combined)?	Number of families		Number of livestock									
				Sheep	Goat	Buffalo	Cow	Camel	Yak	Mule	Other (specify)		
2.3		Family members				Other families' members				Hired help			
		M		F		M		F		M		F	
		< 18 years	> 18 years	< 18 years	> 18 years	< 18 years	> 18 years	< 18 years	> 18 years	< 18 years	> 18 years	< 18 years	> 18 years
2.4	Do you own agriculture land?	Yes [ ] No [ ]											

2.4a	What is the total area cultivated? (Note and re-check the unit before recording response)	Biswa							
		Bigha							
		Kanal							
		Decimal							
		Acre							
		Hectare							
2.5	Did you obtain any fodder from the land cultivated, in the previous year?	Yes <input type="checkbox"/> If the answer is 'Yes', go to 2.5a No <input type="checkbox"/> If the answer is 'No', go to 2.6							
2.5a	For how long did the fodder last? (number of months)	Green fodder		Dry fodder					
2.6	Did you purchase fodder and/or grazing rights, in the previous year?	<b>Select the appropriate response</b>		<b>Estimated Expense (in Rs)</b>					
		Fodder only	<input type="checkbox"/>						
		Grazing rights only	<input type="checkbox"/>						
		Both fodder & grazing	<input type="checkbox"/>						
		Neither	<input type="checkbox"/>						
2.7	Are you and/or a family member a permit-holder? (for grazing in forest areas)	Yes <input type="checkbox"/> No <input type="checkbox"/>							
2.7a	Number of animals allowed on the permit (specify numbers for each livestock type)	Sheep	Goat	Buffalo	Cow	Horse	Mule/donkey	Yak	Other (specify)
2.7b	Since when do you have permit?								
2.8	Hired labour is from which place?	State _____		District _____					
2.8a	Do you pay in cash or kind?	Cash only		<input type="checkbox"/> go to 2.8b					
		Kind only		<input type="checkbox"/> go to 2.8c					
		Cash & kind both		<input type="checkbox"/> go to 2.8d					
2.8b	What are the terms of payment for hired labour?	Per month (Rs)		Annually (Rs)			Lump Sum (Rs)		Any other (specify)
2.8c	What are the payment terms in kind? (✓ the correct answer, and describe in detail)	Daily food/ ration		<input type="checkbox"/>					
		Ownership of livestock		<input type="checkbox"/>					
		Share in sale of livestock		<input type="checkbox"/>					
		Other (specify)		<input type="checkbox"/>					
2.8d	How much cash is paid, and what is received in kind?	Cash (Rs)		In kind (describe):					
2.8e	Has there been a change in the terms on which you hire labor, compared with 10, 20 years ago?	Yes <input type="checkbox"/>		If yes, describe:					
		No <input type="checkbox"/>							

**Part 3. Respondent's Dependence on Pastoralism (if Hired Help) (✓ the correct answer, where choice is given)**

3.1	How long have you been involved in managing this or any other herd as hired labour?	Less than 6 months <input type="checkbox"/>		Less than 1 year <input type="checkbox"/>									
		Less than 2 years <input type="checkbox"/>		2-5 years <input type="checkbox"/>									
		More than 5 years <input type="checkbox"/>											
3.2	How many livestock from the herd are owned by you? (specify numbers for each livestock type)	Sheep	Goat	Buffalo	Cow	Camel	Horse	Mule/donkey	Yak	Other (specify)			
3.3	Your other occupation/s (whether they are sources of income, or not), if any (Choose from the codes below)	Other Sources							Remarks, if any				
		1. Agriculture/Horticulture											
		2. Trading											
		3. Casual labour											
		4. Salaried											
5. Any Other (Specify)													
3.4	During which months are you hired as help for managing livestock herds?	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

3.5	Are you paid in cash or kind?	Cash only [ ] ☐ go to 3.5a Kind only [ ] ☐ go to 3.5b Cash & kind both [ ] ☐ go to 3.5c
3.5a	What are your terms of payment?	Per month (Rs)
		Lump-sum (Rs)
		Annual payment (Rs)
		Any other (specify)
3.5b	What are the payment terms in kind? (☑ the correct answer, and describe in detail)	Daily food/ ration [ ] Describe Ownership of livestock [ ] Share in sale of livestock [ ] Other (specify) [ ]
3.5c	How much cash is paid, and what is received in kind?	Cash (Rs) In kind (describe):

#### Part 4. Livestock Ownership, Mobility, losses and insurance

Which of the following types of livestock are owned by the respondent and his/her family?					
4.1	Types of Livestock	Numbers of livestock (adults only)	Number/s of young	Main purpose <sup>1</sup>	Remarks (on mobility, etc.)
	Sheep				
	Goat				
	Buffalo				
4.1.2	Cow				
4.1.3	Camel				
4.1.5	Horse				
4.1.6	Mule/donkey				
4.1.7	Yak				
4.1.1 0	Others (specify)				

\* Yes [1] or No [2]

<sup>1</sup> (there could be more than one response) 1 -Household milk/meat/wool; 2 - Sale of milk/wool ; 3 - Sale of animal; 4 - Draught/transportation; 5 - Other (specify)

4.2	Which months in the year are you migrating with livestock herd (☑ appropriate cell)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Location/Place for each month (District and state)												

4.3	Did you lose any livestock to disease, theft, etc. in the previous year?	Yes [ ] ☐ If the answer is 'Yes', go to 4.3a No [ ] ☐ If the answer is 'No', go to part 5
4.3a	What was/were the reason/s for mortality/loss	Disease [ ] Theft [ ] Other [ ] specify -

4.3b	Specify the type and numbers of livestock lost because of the reasons mentioned in 4.3a	Reason	Type of livestock lost (goat, sheep, etc.)	Numbers of livestock lost	
				Adult	Young
		Disease			
		Theft			
		Other (specify)			
4.3c	Did you get any compensation for the animals lost?	Yes <input type="checkbox"/> If the answer is 'Yes', go to <b>4.3d</b> No <input type="checkbox"/>			
4.3d	From whom did you receive the compensation?	Government <input type="checkbox"/> Insurance company <input type="checkbox"/> Other <input type="checkbox"/> specify -			

**Part 5. Aadhaar Information** (✓ the correct answer, where choice is given)

5.1	Do you have an Aadhaar card?	Yes <input type="checkbox"/> If the answer is 'Yes', go to <b>5.2</b> No <input type="checkbox"/> If the answer is 'No', go to <b>5.11</b>			
5.2	Where did you enroll for Aadhaar?	In village camp <input type="checkbox"/>	At enrolment Centre <input type="checkbox"/>	Other <input type="checkbox"/> specify -	
5.3	For how long have you had Aadhaar?	Less than 1 year <input type="checkbox"/>	2-3 years <input type="checkbox"/>	More than 3 years <input type="checkbox"/>	
		Mention month and year of issuance, if known	Month	Year	
5.4	Is your information recorded correctly on the card?	Yes <input type="checkbox"/> If the answer is 'Yes', go to <b>5.5</b> No <input type="checkbox"/> If the answer is 'No', go to <b>5.4a</b> Can't say <input type="checkbox"/> go to <b>5.5</b>			
5.4a	What is/are the inaccuracy/ies on the card?	Incorrect name <input type="checkbox"/> Incorrect age <input type="checkbox"/> Incorrect photo <input type="checkbox"/> Any other <input type="checkbox"/> (specify) -			
5.5	Whether Aadhaar card has been used for any purpose?	Yes <input type="checkbox"/> If the answer is 'Yes', go to <b>5.6</b> No <input type="checkbox"/> If the answer is 'No', go to <b>5.11</b>			
5.6	For what purpose/s has Aadhaar card been used? (more than one response possible)	For opening bank account <input type="checkbox"/>	For obtaining PDS/ration <input type="checkbox"/>	For obtaining pension <input type="checkbox"/>	For NREGA work <input type="checkbox"/>
		For availing mid-day meals <input type="checkbox"/>	For benefit of Aanganwadi <input type="checkbox"/>	For availing LPG subsidy <input type="checkbox"/>	Notes exchange at time of demonetization <input type="checkbox"/>
		For Mobile SIM <input type="checkbox"/>	For availing any other government scheme <input type="checkbox"/> (specify)	Any other purpose <input type="checkbox"/> (specify)	
5.7	Did you face any problem/s in using Aadhaar?	Yes <input type="checkbox"/> If 'Yes', go to <b>5.8</b>		No <input type="checkbox"/> If 'No', go to <b>5.9</b>	
5.8	What is the nature of problem/s that you faced, and why? (post-coding based on responses received)				
5.9	How has having Aadhaar benefited you personally, if at all? (explain)				
5.10	Have there been any instances where having an Aadhaar has been a problem? (explain with example, in detail)				
5.11a	How many members of your family have Aadhaar, other than yourself? (number)	<input type="checkbox"/>	5.11b	How many members of your family do not have Aadhaar, other than yourself? (number)	<input type="checkbox"/>

**Part 6. Lack of Aadhaar** (✓ the correct answer, where choice is given)

6.1	What are your reasons for not having Aadhaar? (more than one response possible)	Missed the Aadhaar enrolment event <input type="checkbox"/>	Do not know how to and/or where <input type="checkbox"/>	Lost/misplaced my card <input type="checkbox"/>
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		Did not think it relevant/ important [ ] Any other reason/s (specify) [ ]
6.2	Have you faced any problems because of not having Aadhaar?	Yes [ ] ☐ If 'Yes', go to <b>6.3</b> No [ ] ☐ If 'No', go to <b>6.4</b>
6.3	What is the nature of problem/s that you have faced, and why? <i>(more than one response possible)</i>	Not able to prove identity when required [ ] <i>(therefore...probe &amp; record details below – 6.3a)</i> Not able to access government entitlements [ ] Harassment by police, or others [ ] Any other (specify) [ ]
6.3a	Describe the problem/s faced (specific examples) because of not being able to prove your identity	
6.4	Why do you think you have not faced any problems so far, despite not having an Aadhaar card?	

**Part 7. Participation in Longer-Term Survey**

7.1	Would you be willing to participate in a longer-term survey requiring you to respond to a few questions through SMS/phone every month?	Yes [ ] ☐ If the answer is 'Yes', go to <b>7.2</b> No [ ] ☐ If the answer is 'No', end the interview by thanking the respondent
7.2	Please share the number on which you may be contacted	

Date: \_\_\_\_\_ Place of Interview: \_\_\_\_\_ Name of surveyor: \_\_\_\_\_

End of interview. Thank the respondent and record time of completing the survey. \_\_\_\_\_Hrs \_\_\_\_\_mins

**Annexure 2: Number and per cent respondents - by District**

<b>District name</b>	<b>N</b>	<b>Percent</b>
Ahmednagar	28	2.2
Amravati	94	7.4
Bageshwar	4	0.3
Banaskantha	29	2.3
Barmer	34	2.7
Belgaum	2	0.2
Bikaner	91	7.2
Botad	2	0.2
Chamba	12	0.9
Chamoli	2	0.2
Chandrapur	1	0.1
Dehradun	31	2.4
Dwarka	17	1.3
Gadchiroli	54	4.2
Hamirpur	11	0.9
Haridwar	2	0.2
Jaisalmer	16	1.3
Jalore	11	0.9
Jamnagar	19	1.5
Jodhpur	5	0.4
Kachchh	117	9.2
Kangra	48	3.8
Kolhapur	3	0.2
Kullu	14	1.1

<b>District name</b>	<b>N</b>	<b>Percent</b>
Mandi	36	2.8
Morbi	3	0.2
Nagaur	25	2.0
Nagpur	46	3.6
Pali	12	0.9
Patan	96	7.6
Pauri Garhwal	4	0.3
Pithoragarh	25	2.0
Pune	36	2.8
Rajkot	14	1.1
sabarkantha	1	0.1
Satara	16	1.3
Shimla	36	2.8
Sirmaur	32	2.5
Sirohi	7	0.6
Solapur	7	0.6
Surendranagar	37	2.9
Udaipur	25	2.0
Uttarkashi	2	0.2
Vijayapura	34	2.7
Wardha	47	3.7
Yadgir	20	1.6
Yavatmal	60	4.7

**Annexure 3: Education level of respondents- by community (in per cent)**

<b>Community</b>	<b>Illiterate</b>	<b>Read/Write</b>	<b>Matriculate</b>	<b>Plus 2 or higher</b>
Sama Muslim	100			
Krishna Golla	95	5		
Fakirani Jat	97	3		
Van Gujjar	94	6		
Kuruba	94	6		
Rabbari	89	8	1	2
Kurumar	86	3	3	8
Raika	85	12	2	2
Bharwad Mota	83	14	1	1
Bharwad Nana	80	20		
Gujjar Muslim	80	17	1	1
Sodha	75	25		
Koranga	75	25		
Dhangar	73	27		
Other	71	22	4	3
Golkar	67	22	11	
Bheel	65	29	6	
Mathura banjara	58	23	8	11
Jaat	58	23	16	3
Meghwal	55	32	13	
Sindhi Muslim	48	50	3	
Gaddi	48	35	10	8
Kanet	25	50	21	4
Bhotia	24	47	12	18
Nanda Gawli	23	54	17	5
Gujjar Hindu	14	57	29	
Charan		100		
<b>Overall</b>	<b>69</b>	<b>23</b>	<b>5</b>	<b>3</b>