



# Desi Oon - Hamara Apna

## देसी ऊन - हमारा अपना

Assessment of the State of Value Chains  
for Indigenous Raw Wool in India

CfP REPORT 2022



Centre for  
Pastoralism







Published by Centre for Pastoralism, 2022

© Centre for Pastoralism, 2022

**Field Research & Coordination:**

Shouryamoy Das, Meera Goradia

**Contributors:**

Arun Mani Dixit, Durga Venkataswamy,  
Emmanuel Theophilus, Kanna K. Siripurapu,  
Iravatee Majgaonkar, Jen Hoover, Manoj Mishra,  
Vasant Saberwal

**Study Design and Guidance:**

Sushma Iyengar

**Designed by:**


Shruti Jain  
Suyash Srivastava


**Compiled by:**

Radhika Chatterjee

**Centre for Pastoralism**

F-301, 3rd Floor,  
Chaudhari Prem Singh House,  
Himmat Singh Marg,  
Lado Sarai,  
New Delhi 110030

 [centreforpastoralism.org](http://centreforpastoralism.org)  
[desioonhub.org](http://desioonhub.org)

 [centreforpastoralism](https://www.instagram.com/centreforpastoralism)  
[desi\\_oon\\_hub](https://www.instagram.com/desi_oon_hub)



All rights reserved

Permission to reproduce material from this  
book is not mandatory

# Desi Oon - Hamara Apna

## Assessment of the State of Value Chains for Indigenous Raw Wool in India

CfP REPORT 2022



Centre for  
Pastoralism





## Contents

|  |    |
|--|----|
| • Executive Summary  | 8  |
| • Introduction   | 13 |
| • Map of sheep breeds in India   | 14 |
| • Diversity of sheep wool and its traditional uses   | 16 |
| • Study methodology  | 18 |
| • Findings from the 2018-2020 study  | 20 |
| • Interpreting findings in the context of India's woollen industry and wool production changes | 28 |
| • Discussion   | 36 |
| • Conclusion   | 38 |
| • Key recommendations for improving the procurement and processing of indigenous wool          | 40 |
| • References   | 49 |
| • About Sahjeevan & Centre for Pastoralism   | 50 |
| • Acknowledgements   | 52 |





# Executive Summary

In 2018-20, the Centre for Pastoralism (CfP) carried out an assessment of the sheep wool value chains in India. The assessment was inspired by the Living Lightly Exhibition (2016), where discussions highlighted the deteriorating conditions of shepherds and wool artisans across the country. The conversations indicated that there was a sharp fall in prices and demand for indigenous sheep wool and that a focused intervention was needed for reviving sheep wool use in the Indian market. CfP felt such an intervention should be preceded by a study that deepens our understanding of the current state of the sheep wool value chains. The following section provides an overview of the study design and the key findings from the report.

- This study is based on a survey of seven states spread across three regions and administered in two phases. The first phase covered Gujarat, Rajasthan (Western), Telangana (Deccan), and Uttarakhand (Himalayan). The second phase focused on Himachal Pradesh (Himalayan), Karnataka and Maharashtra (Deccan). We interviewed multiple actors including individuals working with local NGOs in the area of sheep wool economy, wool traders, members of pastoral communities, artisans, and government officials working in state wool procurement agencies. The choice of interviewees was a function of the experience and expertise individuals had about the workings of the sheep wool market.
- Pastoralists have traditionally relied on the sale of wool as one of their multiple sources of income. Community members are known to both sell wool and weave woollen products. The long history of their relationship with wool weaving is visible in the various types of woollen garments used by pastoral communities across India. Additionally, pastoralists have also had deep

interrelationships with artisans and craftspeople who can make well-designed woollen garments from indigenous sheep wool. Together, both groups have for long formed key components of the Indian sheep wool economy.

- This survey's findings are organised along three themes that lie at the crux of the sheep wool economy: changes in herd composition, the state of woollen textiles and artisans, and the state of wool value chains. The main problem that herders are facing today is a declining demand and an associated fall in prices of indigenous sheep wool in the Indian markets. Local wool markets are dominated by imported wool which is cleaner, finer, and better suited to industry requirements. In addition to that, products made of cheaper acrylic fibres have proliferated in the market. This combined with the rise in shearing costs is making wool harvesting a

difficult economic enterprise for pastoralists by the day. There are, however, variations in the degree of decline in wool prices and the extent of changes in the wool value chains in the three regions we focused on.

- The decline of wool prices is perhaps most visible in the Deccan region where wool prices go up to a mere Rs. 30/kg. But in the western region, there exists a mixed trend with Gujarat displaying falling wool prices, while in Rajasthan the wool of indigenous Magra sheep continues to command a decent rate of Rs. 225/kg. In the Himalayan region, wool prices lie in the range of Rs. 60-110/kg, with the autumn shear fetching the highest rates.
- Another trend we noticed is that the wool of crossbred sheep receives much better prices in the market than the wool from indigenous breeds. This price differential plays



a natural role in shaping herder preferences towards rearing crossbred sheep over indigenous wool producing breeds, especially in the Himalayan region.

- In terms of herd composition, the prominent change is that herders are increasingly moving towards rearing sheep for the sale of animals/ meat, as opposed to the earlier preference of relying on multiple sources for their livelihood. This change is occurring because even as wool prices have fallen, the prices of meat have increased in the country. This shift towards rearing meaty breeds is more pronounced in the Deccan region, especially in Telangana. While in the western region, we again found a mixed trend. In Gujarat, the indigenous sheep

population is decreasing. While in Rajasthan, though herders continue to sell wool and rear indigenous wool producing breeds, we noticed that some are beginning to rely only on animal sales for their income. The only region where herds still display a balance between wool and meaty breeds is the Himalayan. In both Himachal Pradesh and Uttarakhand, herders can derive a sustainable income through wool sales, though they have benefitted from the increasing meat prices. Nonetheless, herd composition in the Himalayan area has witnessed a change in herd composition: exotic crossbred sheep numbers have increased considerably as compared to earlier.

- The decreasing demand and prices of sheep wool have also affected the use and

production of traditional woollen textiles. We found that the trade of woollen textiles has reduced with markets being flooded with cheaper, bright coloured products made of imported fine wool (Merino), Bhadohi and Panipat yarns (which are a combination of different wool fibres), acrylics and other man-made fibres. Though imported fibres are better suited to machines used in the woollen industry, they cannot compete with indigenous sheep wool in terms of hardiness and durability. Special programmes implemented in the 1980s and early 1990s by the Government of India and Punjab for promoting the export of woollen products also pushed the adoption of specific types of machinery that were more suitable for imported wool. Weaving textiles made of indigenous sheep wool, on the other hand, is a labour and time-intensive process, which means they are priced higher than the ones made of acrylics. This combined with a shift in consumer preferences in favour of 'modern' and soft garments has contributed to a decline in the sale of traditional woollen textiles.

- This decline in turn is forcing artisans to find employment in other industries as they are no longer able to support themselves through the sale of woollen products. For

instance, in Rajasthan, artisans are shifting to the felting industry in Tonk district where they make felted toys. Others are engaged in the papad making industry or working as labour in jeera (cumin) farms. These changes in livelihood strategies are occurring at the cost of their traditional weaving skills.

- Both point to the need for actions aimed at conserving India's indigenous sheep breeds and cultural heritage of textile weaving. This in turn would be contingent upon a successful revival of indigenous sheep wool use and investments made in strengthening wool value chains (especially shearing and transport).

Sheep at a night camp in Dhawalpuri Grasslands, Maharashtra  
Credit: Kalyan Varma



Falling wool prices are causing two serious consequences which require urgent attention from the government and civil society organisations. These include the falling numbers of indigenous sheep wool breeds and the decreasing use of traditional woollen products which is forcing artisans to move to other sectors for employment.







## Introduction

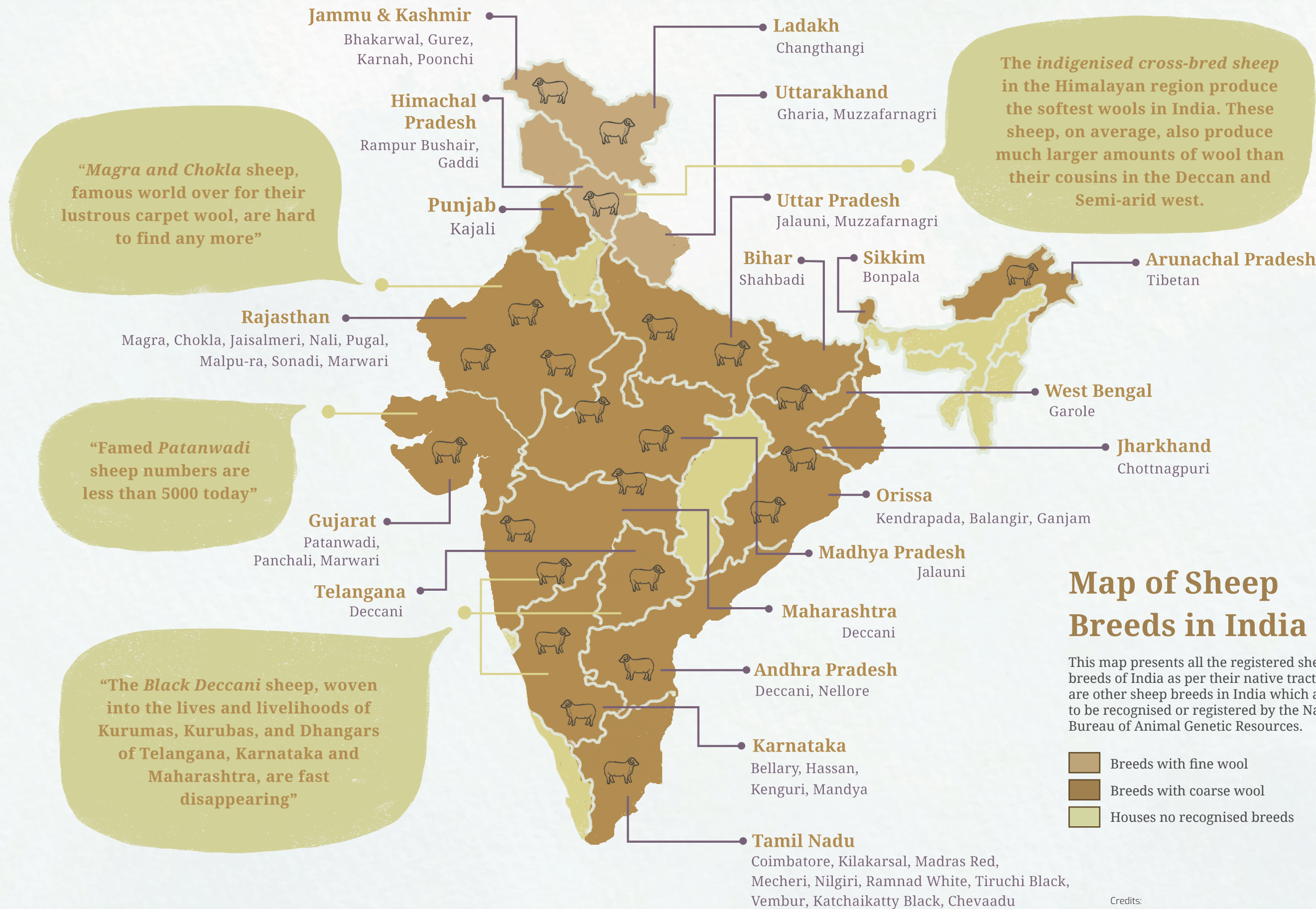
This report presents an assessment of the value chains of the Indian sheep wool economy, undertaken in 2018-20. The need for conducting this study emerged from the 2016 Living Lightly exhibition. Discussions held during the exhibition brought forth the decline in the procurement of wool produced by indigenous sheep, and the near-exclusive dependency of Indian woollen craftsmen and industry on imported Merino and other finer wool. Two particular concerns were highlighted by herders and craftsmen: i) **they had experienced a drop in revenues from wool over the past decade** and ii) **traditional socio-economic networks between pastoralists and artisans had weakened considerably**. We held further discussions among CfP staff to explore the possibility of making an effective intervention in this sector. We felt that the first step towards this would be to survey sheep wool value chains in the country.

This report presents the findings of that survey, conducted in seven

Indian states. It is divided into four sections. The first section presents an overview of the range of sheep wool produced in different agro-climatic regions of the country. It also presents a description of the traditional ways in which pastoralists have used indigenous sheep wool. The second section presents the methodology used for this study and its findings. The findings have been discussed along three themes: changes in herd composition and characteristics, the state of woollen textiles and craftsmen, and the state of the wool market. These themes constitute the core aspects of the context within which sheep wool is harvested and traded. The third section contextualises the findings within the broad contours of the Indian woollen industry and the changes that have occurred in India's wool production landscape. Finally, based on the findings of the study, a concluding section provides recommendations for improving the procurement and processing of indigenous wool.

Credit:  
Hashmat Singh





## Map of Sheep Breeds in India

This map presents all the registered sheep breeds of India as per their native tract. There are other sheep breeds in India which are yet to be recognised or registered by the National Bureau of Animal Genetic Resources.

Credits:  
Shruti Jain  
Suyash Srivastava  
Chhani Bungsut  
Shouryamoy Das





Credit:  
Nipun Prabhakar

## Diversity of sheep wool and its traditional uses

Sheep rearing is a traditional pastoralist occupation that has been practised in India for many centuries. The bulk of sheep in the country is managed and owned by pastoralists, who rear them under extensive systems of animal management. According to the ICAR-National Bureau of Animal Genetic Resources' list, India now has 44 registered sheep breeds. Each of these has emerged from careful selective breeding carried out by pastoralists over many years with a focus on adaptation to local agro-climatic conditions. Mobile herders move with their sheep in search of pastures across regions, with movements varying along seasonal cycles.

Wool is the natural fibre that grows on sheep bodies. The type of wool a sheep produces depends on factors like genetic composition, diet, and the agro-climatic conditions that prevail in a region. In the cooler climate of the northern temperate region (Himalayas), one can find relatively fine grade wool. The lush alpine pastures in the higher altitudes provide nutritious food

and shape the quality of fleece of animals like the native Gaddi sheep.

In areas with a hot and dry climate, like in the western semi-arid regions and plains of northern India, the fleece is largely coarse. The Chokla breed of Rajasthan and Patanwadi of Kachchh are known to produce the best wool in these climatic conditions. In the Deccan region, indigenous breeds like the Deccani and Nilgiri sheep produce carpet grade wool. The quality of fibre determines the purpose for which wool is used. For instance, the Himalayan wool is better suited for apparel while the coarser wool of the western and Deccan regions is better suited for rugs and home furnishing items.

Besides using the wool to make garments for themselves, herders also sell wool and woollen textiles as an additional source of income. Pastoralists are, in fact, known for the diverse textiles they weave.

A glimpse of their rich history of weaving can still be seen in the diversity that exists in textiles they

Each community is associated with certain garments. For instance, the Gaddis of Himachal Pradesh are known for the traditional doras or black ropes which men of the community tie around their waists over white coats made of coarse wool to create a make-shift pocket for carrying possessions.

and other craftspeople make. These textiles range from blankets and shawls like *Pattus*, *Bardi*, *Dhabda*, *Gardus*, and *Gongadi*; rugs like *Kharads*, *felts* and *Jaans*; apparel like *Chola Dora*, *Lahua*, *Tangaliya*, and *Ludis*.

The sight of a Gaddi herder carrying a lamb in a traditional dora while migrating with his animals was a common one when these clothes were worn daily. Women of the community tie the doras around their full length traditional dresses called *luanchari*. Now, these clothes are worn mostly on religious and other special occasions. Further up north in Ladakh, Changpa women make a thick fabric called *Snambu*, a cloth woven out of yak and sheep wool and used to stitch pants and traditional dresses called the *Goncha*. They also weave the *Tsuktul*, a thick blanket made of sheep and yak wool. Changpa families to this day continue to weave their tents, called *Rebos*, from yak's hair, which protects them from cold weather and heavy rain.

Blankets like the *Gongadi* are an integral part of the Kuruma shepherd community's cultural identity. Made of black wool from indigenous Deccani sheep, *Gongadis* not only have an everyday utility but are also used for adorning Kuruma deities and in all religious rituals of the community (Anthra 2009).

Shepherds carry *Gongadis* with them at all times – whether it be to meet friends and relatives, while

taking their animals for grazing, or during migration. This all-purpose blanket derives its qualities from the Deccani wool and protects from hot, rainy and cold weather. The intense puddling that this wool's yarn is subjected to makes it impervious to rain. Adding to its utility is the fact that it can be cleaned easily by vigorous dusting (ibid.).

The *Dhabda* plays a similar role in Kachchh. Made of indigenous Marwari or Desan sheep wool, *Dhabdas* have a deep connection with the identities of Rabari pastoralists. These garments' designs vary across regions, with some being inspired by local sources, while others are from fairly distant places. For instance, the motifs and bordered patterns in the *Kulluvi* shawls of Himachal Pradesh were introduced to the area by the weavers of Kinnaur, who in turn were inspired by the products brought to them from Uzbekistan through the ancient 'wool road' (Patterson 2002).

Over the years, the wool harvesting and sales scenario have changed. On one hand, prices received by herders for their wool have either remained stagnant or worse, fallen, but on the other the cost of wool shearing has risen. The cost of shearing was borne by wool traders till about two decades ago. In Telangana, the cost charged by shearers has risen from Rs. 5/sheep to Rs. 10-20/sheep over the last couple of decades. Wool harvesting is therefore difficult for pastoralists due to declining economic returns.





A Gongadi weaver at a pit loom in Karnataka  
Credit:  
Shouryamoy Das

## Study methodology

We focused on the following aspects while conducting this survey:

1. The economic and ecological realities of indigenous sheep herding communities and their livelihoods from wool.
2. The existing sheep wool value chains – their characteristics, traditional product ranges, participants, markets, and consumer profiles.
3. The state of traditional woollen textiles trade and craftspeople.
4. Possible areas of intervention, pilot projects, and identification of potential partners.

We decided to study at least one pastoral region each from the main climatic zones of India.

The climatic zones and the pastoral regions they house are:

- a. Arid** – Rajasthan and Gujarat.
- b. Semi-Arid** – Maharashtra, Karnataka, Telangana, and Andhra Pradesh.
- c. Temperate** – Himachal Pradesh, and Uttarakhand.

- d. Cold** – Ladakh, Kashmir, and Spiti.

This study was conducted in two phases and covered seven states. The first phase focused on Gujarat (Durga Venkataswamy, Arun Dixit, and Shouryamoy Das), Rajasthan (Meera Goradia, Arun Dixit and Shouryamoy Das), Telangana (Durga Venkataswamy and Kanna K. Siripurapu) and Uttarakhand (Kumaon region by Meera Goradia and Emmanuel Theophilus.). The second phase covered Karnataka, Himachal Pradesh, Uttarakhand (Garhwal region) and Maharashtra (Shouryamoy Das).

The teams were helped by the following local partners:

- Gujarat: Sahjeevan and Khamir
- Rajasthan: Urmul and SURE (Rangsutra)
- Uttarakhand: Avani and Maati Sangathan
- Telangana: RRAN, WASSAN, and Digambar

We collected data using field interviews, observations, and

secondary research. Given the limited availability of public data on local economies of sheep wool, our choice of interviewees was guided by the logic of finding informed actors who we felt would have the knowledge and experience of this field. We interviewed individuals working in local NGOs that work with herders and/or artisans, government organisations, scientists, research institutes, wool markets, traders, exporters, processors, herders, and artisans.

taking place in the market for sheep wool, challenges faced by herders and the modus-operandi of the wool industry. A shortlist of some pockets where CfP, along with other partners, could develop interventions to augment the livelihoods of herders and conserve local ecosystems has been drawn in the state reports.

This study became a dipstick survey of the situation of herders and the sheep wool industry. It helped us gain insights on changes

Credit:  
Khamir



### Wool Report Study Area



Study Area





Credit:  
Nipun Prabhakar

# Findings from the 2018-2020 study

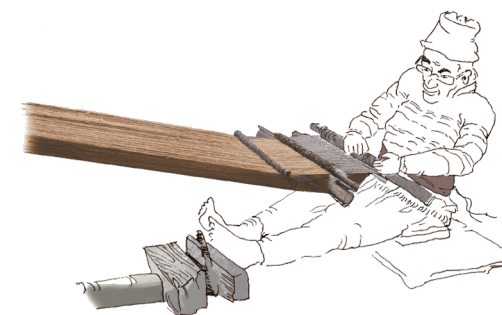
## 1. Herd composition & characteristics

We noticed that there is now an increasing compulsion amongst herders for rearing sheep solely for meat production. Barring the Himalayan region, the number of wool producing breeds have decreased in the western and Deccan regions, while the number of meaty breeds has increased.

In the Deccan region, meaty breeds like Nellore, Yelega, Bijapuri and Madgyal have risen in numbers in Telangana, Karnataka, and Maharashtra respectively. Of these, Yelega happens to be a non-indigenous breed while Bijapuri and Madgyal (found in Maharashtra) are crossbred sheep. On the other

hand, the number of indigenous dual-purpose sheep like the Deccani breed has declined in the area. Similarly, in the western region (Rajasthan and Gujarat), there is a preference amongst herders for the meaty Marwari breed. In Gujarat, we observed that many herders have started introducing Jalauni, Jaisalmeri, and Nellore rams in their herds for producing larger animals to derive higher incomes from animal sales.

In the Himalayan region, the number of fine wool producing crossbred sheep is considerably high in the herds. This is most likely a result of the crossbreeding policies and programmes implemented by governments in the area over the years for improving wool quality by crossing indigenous breeds with exotic fine wool producing ones.<sup>1</sup> However, herds in the Himalayan region continue to display a better balance between wool and meaty breeds



Weaving on a backstrap loom, the most flexible of looms and still widely used in many parts of India  
Credit: Sandeep Virmani

During winter in Himachal Pradesh, it is common to see elderly men spinning yarn, while on the other hand, the younger generation is moving away from traditional woollen garments.

as compared to the western and Deccan regions. A major factor driving the above changes is the declining economic returns from wool sales, even as incomes from animal sales have risen.

Over the last two decades, meat prices have risen much more than wool prices in a few states. This combined with the fact that wool harvesting is a labour and time intensive process, herders are reluctant to engage in wool harvesting for their livelihood.

Further pushing the trend towards meaty breeds are a few state governments like that of Telangana, which has implemented a scheme encouraging herders to rear sheep for meat production.

## 2. Traditional woollen textiles & artisans

Besides pastoralists, traditional artisanal communities are the other key group that form a core part of India's sheep wool economy. Both groups are known to have derived sustainable livelihoods through the sale of sheep wool and its products. Wool artisans have made skillful use of Indian sheep wool to produce beautifully designed textiles. Likewise, pastoralist communities too have a long history of using their wool for weaving different kinds of garments. Our survey

showed that with the falling demand of sheep wool, the use and production of these textiles is decreasing as well.

One can find limited centres of woollen products across the Himalayan region, like the markets of Dharchula and Pithoragarh in the Munsiyari region in Uttarakhand. There are five main traders in the Dharchula markets who sell Bhadohi and Panipat yarns, which are a mix of Merino and other wools. The indigenous Khunnu wool only becomes available in Dharchula after November as herders return from their migration by then. Products in these markets are mostly made of Merino and Angora wool and cater primarily to tourists.

Only about 2% of the product range in these markets is made of Khunnu and Garhwal wool and sold mostly to local customers for making homemade floor coverings. One can find weaving clusters in places like Darkot where around 30 full time weavers engage in weaving fine wool like pashm. In Bageshwar district, around 15 villages inhabited primarily by members of the Shauka community continue to weave woollen textiles like *Kaleen*, *Chutka*, and *Thulma*. However, artisans in Uttarakhand seldom make traditional products for selling and largely use them for personal consumption.

In the Deccan region, the trading of traditional woollen textiles has declined considerably. Take for example the wool market in

1. For instance, in Uttarakhand, the state government has had a policy since 2005 for ensuring that one third of the state's total sheep population would be crossbred with exotic Merino and Rambouillet breeds. Refer to gazette notification number 249/XV-1. Available at <https://www.uswdbdehradun.in/about/breeding-policies/>.





A Gongadi being woven in a traditional pit loom  
Credit: Nipun Prabhakar



The wool market in Challakere town has an average inventory of about 15,000 Gongadis on market days. Not more than 4000 Gongadis are sold in a week during the peak season.

Challakere town, in Chitradurga district, Karnataka. While it continues to be one of the more impressive markets for indigenous wool in India, anecdotal data collected in this survey shows the transformation this weekly market has undergone.

A wholesale buyer from Telangana who resells Gongadis in other mandis shared, "I used to come to Challakere twice a month to buy 600 pieces, but now I visit only once and buy half that amount." Currently there are around 10 other traders like him who visit Challakere, while earlier this number used to be 50. On the whole, this market has witnessed a reduction in its sales.

The use of Gongadi has decreased due to both supply and demand side factors. On the supply side, there is a fall in the number of spinners and weavers who make this blanket. Consider the wool weaver's society in Ranebennur town of Karnataka. The number of weavers of this society has reduced from 400 to a mere 50 now. On the demand side, the long standing buyers of Gongadis are beginning to find cheaper alternatives. For instance, in Maharashtra, the largest buyers of the Gongadi blankets used to be farmers of the Konkan region who used these for protecting themselves from rains. But they have now shifted to cheaper alternatives like plastic sheets for this purpose.

Further fuelling this change is the fact that making handmade woollen

textiles requires intensive labour and time, which makes them more expensive than machine made products prepared with acrylic yarns. This tilts the balance towards the latter. Moreover, clothes made of acrylic yarns are cheaper, easier to maintain, colourful, and considered more "modern".

With traditional woollen products becoming harder to sell, artisans are forced to find employment in other sectors. In states like Rajasthan, artisans are finding employment in the thriving felting industry in Tonk district. This centre has seven factories producing felted products for the automobile industry and around fifteen units producing handmade felted toys for export. These transitions are accompanied with a waning of the traditional Namdah making skills in the region.

Among pastoral communities, we found a mixed trend in their preference for woollen products. In the western and Deccan regions, individuals have started moving away from their traditional textiles. For instance, Bharwad women in Gujarat have begun using cotton and synthetic fibres for their clothes, while the Bhotiyas of Uttarakhand are using acrylic yarns.

In Karnataka, weavers rely on a combination of synthetic fibres and indigenous sheep wool to make cheaper Gongadis.

But in the high Himalayan region, herders still wear their traditional jackets and carry Gardus with



Women working in a wool mandi in Bikaner, Rajasthan  
Credit: Arun Mani Dixit

them, whereas none of the acrylic products stand a chance against the torrential rains.

In Rajasthan, wool prices vary between Rs. 250/kg to Rs. 64/kg. The white fleece of the indigenous Magra sheep fetches up to Rs. 225/kg in March. But the herders have to bear additional transportation charges of Rs. 100 per trip delivering wool to the markets.

### 3. State of wool value chains

Since Rajasthan is home to the Bikaner wool mandi, a vibrant wool trading centre, the indigenous sheep wool there faces stiff competition from imported wool. This wool has a finer, cleaner, longer staple and is better suited to industry requirements than the unclean, short staple, and coarse indigenous sheep wool.

Wool prices are a function of quality with long, finer, clean, staple wool commanding higher prices as compared to short-staple coarse wool. In the Himalayan region, indigenous sheep wool prices range from Rs. 60-120/kg while prices of Merino wool or that of crossbred sheep are comparatively higher. For instance, in Uttarakhand, the indigenous Khunnu and Garhwal wool sell at Rs. 120/kg and Rs. 100/kg respectively while Bharat Merino wool sells at Rs. 150/kg. Such differential pricing pushes herders towards rearing crossbred sheep.

Anecdotal data suggests the volume of indigenous sheep wool traded has decreased in the Bikaner wool mandi in the last two decades. These differences in wool quality play an important role in tilting trader choices in favour of imported wool. Though the market itself continues to thrive, the demand for indigenous sheep wool seems to have fallen even while trade of imported wool continues.

The Deccan region on the other hand has witnessed a steep decline in wool trade and prices. In Maharashtra and Karnataka, indigenous sheep wool prices are a mere Rs. 30/kg. The use of this wool in the region has declined considerably. For instance, the



Thigh spinning wool in Telangana  
Credit: Sandeep Virmani



wool cooperative of Amistapur district in Telangana is currently being supplied with yarn from Panipat (which is a mix of imported wool) by the state government for producing blankets for the government. The weekly pastoral markets in Solarpur and Satara districts of Maharashtra on the other hand are now used mainly for the sale of animals.

In contrast, the situation of sheep wool value chains is slightly better in the Himalayan region as compared to the western and Deccan regions. This is only to the extent that at least in certain parts of the Himalayan region, herders do manage to draw an income from wool sales. The HP State cooperative (also known as Woolfed) is responsible for facilitating the procurement of sheep wool from herders by private local enterprises like Shikhar and Mojo Panda. It is usually the autumn shear that fetches higher prices (Rs. 60-80/kg), while the winter wool is poorer in quality and fetches close to Rs. 20/kg. In Uttarakhand, the state's wool board issues a minimum support price (MSP) for state wool procurement which ranges between Rs. 50-110/kg. But our survey showed that these MSPs do not necessarily translate into benefits for herders, as they are unable to sell their wool at those prices.

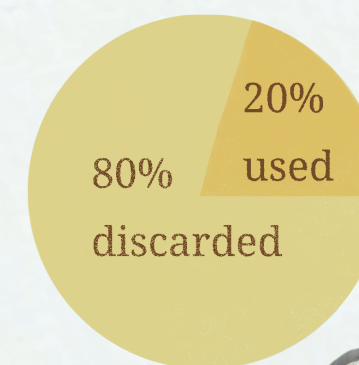
Another factor that has contributed to the fall in demand for indigenous sheep wool is a change in the preferences of the Indian Army and Railways in their choice of woollens.

Earlier, both these institutions used to procure blankets made of indigenous wool. This procurement has seen a fall in the last decade or so and the number of blankets purchased by them presently are negligible. The carpet industry too, which at one point used to be a key consumer of indigenous sheep wool, has reduced its consumption. Carpet manufacturers are showing a preference for finer wools with their easy availability and a shift in consumer tastes towards finer and cheaper carpets across the world.

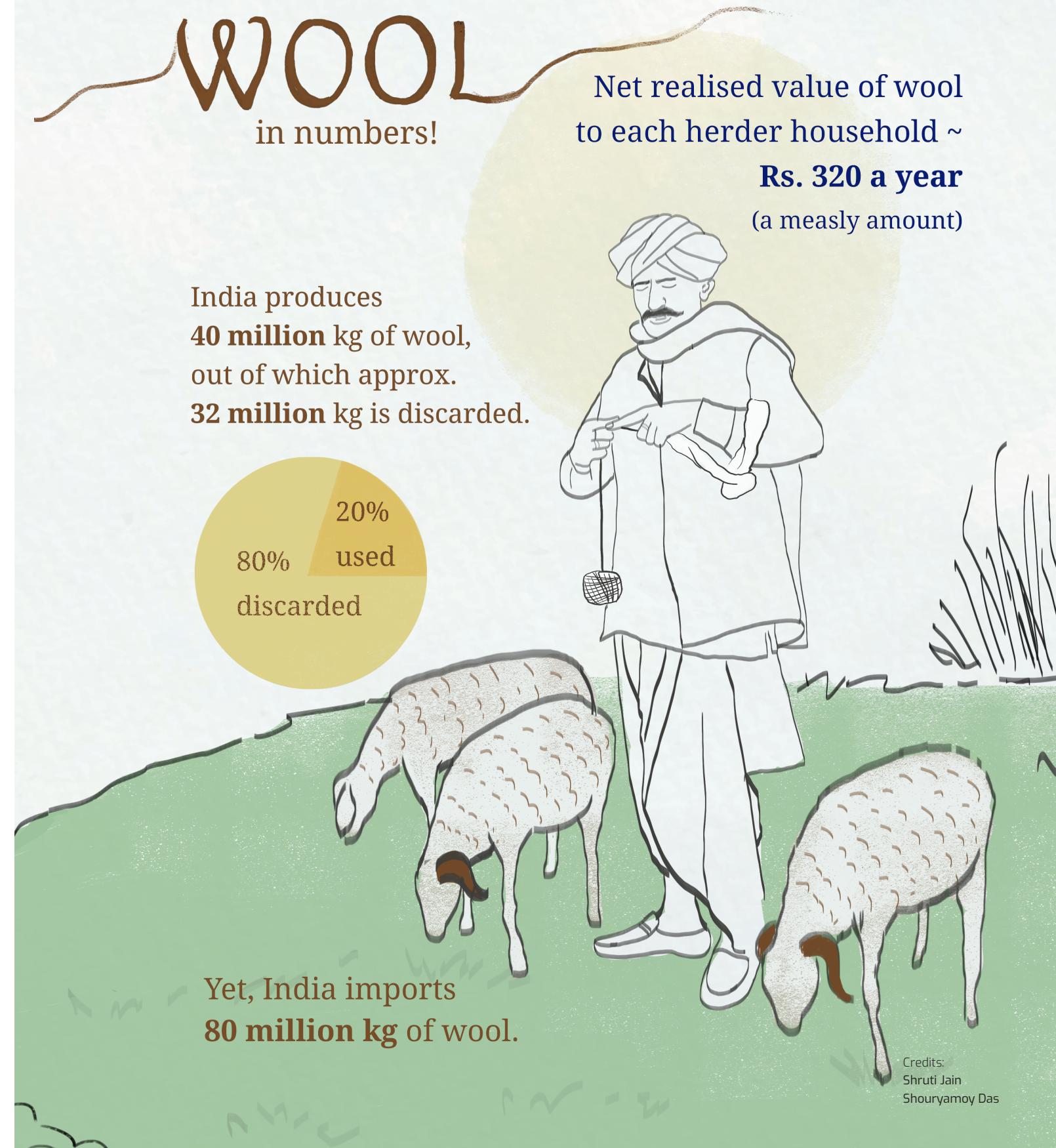
## The life of WOOL in numbers!

Net realised value of wool  
to each herder household ~  
**Rs. 320 a year**  
(a measly amount)

India produces  
**40 million kg** of wool,  
out of which approx.  
**32 million kg** is discarded.



Yet, India imports  
**80 million kg** of wool.



Credits:  
Shruti Jain  
Shouryamoy Das





A shot from the wool mandi in Bikaner, Rajasthan

## Interpretation of findings in the context of changes in Indian woollen production

### 1. India's woollen industry

The Indian woollen industry is broadly divided into two sectors: organised and unorganised. The organised sector consists of composite mills, combing units, worsted and non-worsted spinning units, knitwear and woven garment units, and machine-made carpet manufacturing units.

The unorganised sector comprises small to medium manufacturers which focus on hosiery and knitting units, woollen handloom fabrics, power loom units, hand-made carpet units, druggets and Namadah units, and independent dyeing and processing houses (Government of India 2008). This sector also consists of home-based production of felts, blankets, shawls, and durries for local markets. The industry employs

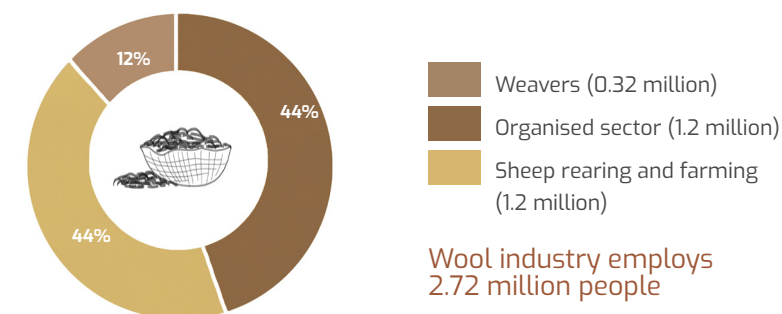
2.72 million people, out of which 1.2 million are in the organised sector, 1.2 million in sheep rearing and farming, and 0.32 million weavers in the carpet sector (ibid. 117).

Wool production of the country was pegged at 40.4 million kg in 2018-19 and globally, India happens to be the seventh-largest producer of raw wool (Government of India 2008). Of the total wool produced in India, about 85% is carpet grade wool, 5% apparel grade and the remaining 10% coarse-grade wool (ibid.). India's organised mills and the hosiery sector in the unorganised segment rely mostly on imported fine/apparel grade wool.

Since a major part of the wool produced in India is of carpet grade, the country has always been deficient in meeting its fine wool requirements. Consider, for instance, the following figures from 2004-05: the total wool consumption of the industry amounted to 135 million kg, out of which only 55 million kg was domestic wool, while the remaining

## Employment pattern in India's woollen industry

Today, though India has the second-highest sheep population in the world at 74.26 million and produces a fairly large amount of wool, the country's woollen industry continues to rely on imported raw wool to meet a large share of its requirements.



80 million kg was imported. Out of the imported quantity, 47 million kg was apparel grade and 33 million kg was carpet grade (ibid. 118).

The distinction between wool 'production' and 'procurement' must be kept in mind while considering India's wool production figures. Wool production figures are calculated based on the integrated sample survey conducted by the Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture through State Animal Husbandry departments.

This survey is aimed at estimating the production of major livestock products, including wool through an enumeration exercise conducted in rural areas of the country in three seasons (summer, rainy, and winter).

A total of 5% of villages are targeted in each survey, and the entire exercise covers 15% of India's villages. The survey adopts a stratified sampling method focusing on villages, households, and animals as first, second and

third stage units (Government of India 2019, 3). In this method, wool production figures are extrapolated from figures on sheep population in the country.

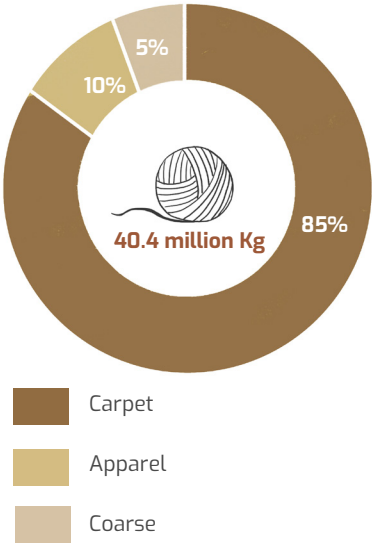
'Wool procurement' on the other hand refers to the wool that is bought by the central and state wool boards/corporations from herders. Neither the central government nor the state governments publish consolidated data on the amount of wool they procure from herders. There is therefore a lack of clarity about whether or not wool production figures published in the Basic Animal Husbandry Statistics correspond in any way to the incomes generated for herders by the sale of indigenous wool. This implies that even if wool production has increased consistently in the country, it may not necessarily have translated into economic benefits for herders.



Shearing sheep using traditional shears  
Credit: Sandeep Virmani



Share of different grades of wool produced in India



2. Changes in Indian wool production

This section details the factors that have led to a decline in the demand and prices of indigenous sheep wool in the country. There are three main factors that have contributed to this:

- The first factor relates to the sheep and wool development policies that India has implemented over time. The thrust of these policies has been to further cross-breeding programmes with exotic breeds (like Merino and Rambouillet sheep) to improve the quality and quantity of wool produced in the country. This resulted in a dilution of the indigenous wool producing breeds and the proliferation of wool from crossbred sheep in the Indian wool markets. This in turn had implications for indigenous sheep wool breed numbers and for their wool prices.
- The second set of factors relates to India's liberalisation of textile trade policies in the early 1990s which greatly eased the way for raw wool imports. Once Indian markets began to be flooded with imported wool, the demand for indigenous wool suffered a further setback.

- Finally, the third factor is the collapse of the Soviet Union in 1990 which forced the domestic woollen textile manufacturing clusters of Ludhiana to reorient themselves towards other markets, leading them to adopt imported fine grade wool at a much larger scale than what they were doing earlier. This translated into Indian markets being flooded with products made of imported wool and cheaper acrylics. This accelerated the shift in consumer preferences and led to a decline in demand for woollen products made of indigenous sheep wool.

(i) Sheep and wool development policy

Since independence, India's sheep and wool development policies have emphasised improving the quality and quantity of wool produced in the country through crossbreeding programmes. These programmes emphasised on enhancing the production of fine grade wool. Farmers and herders were incentivised to adopt certain breeds over indigenous breeds maintained by different communities. With the setting up of the Central Sheep and Wool Research Institute at Avikanagar in Rajasthan in 1962, and its sub-stations in Kullu in Himachal Pradesh and Kodai hills in Tamil Nadu, multiple crossbreeding programmes were implemented across India. In Uttarakhand alone, three sheep breeding farms came up between 1950 to 1965 in Chamoli district.



A Raika herder with a flock of Marwari sheep. Barmer, Rajasthan  
Credit: Shouryamoy Das

| Breeds crossed to make wool finer                      |  |
|--|--|
| Native Sheep Breed                                     | Exotic Sheep Breed                     |
| •Chokla<br>•Magra<br>•Gaddi<br>•Nilgiri<br>•Coimbatore | •Rambouillet<br>•Merino<br>•Corriedale |

| Breeds crossed to improve mutton production |                     |
|---|---------------------|
| Native Sheep Breed                          | Exotic Sheep Breed  |
| •Mandya<br>•Nellore                         | •Dorset<br>•Suffolk |

The central sheep breeding farm (then known as Indo-Australian farm) was set up during the fourth five-year plan (1969-74) at Hissar. This centre began distributing exotic Corriedale breed rams to different states for cross-breeding programmes aimed at improving wool and mutton production (Mishra et al 2017). A key characteristic of these programmes was their reliance on exotic breeds as a sole means of improving wool production.

In the western region, indigenous breeds like Chokla and Magra were crossbred with the exotic Rambouillet sheep to make the quality of wool finer. So were the indigenous Gaddi sheep of the northern temperate region. In the Deccan region, the indigenous Nilgiri and Coimbatore breeds were crossed with exotic Merino and Corriedale rams respectively (Patnayak 1989, 110). For bettering mutton production, indigenous mutton breeds like Mandya and Nellore were crossed with the

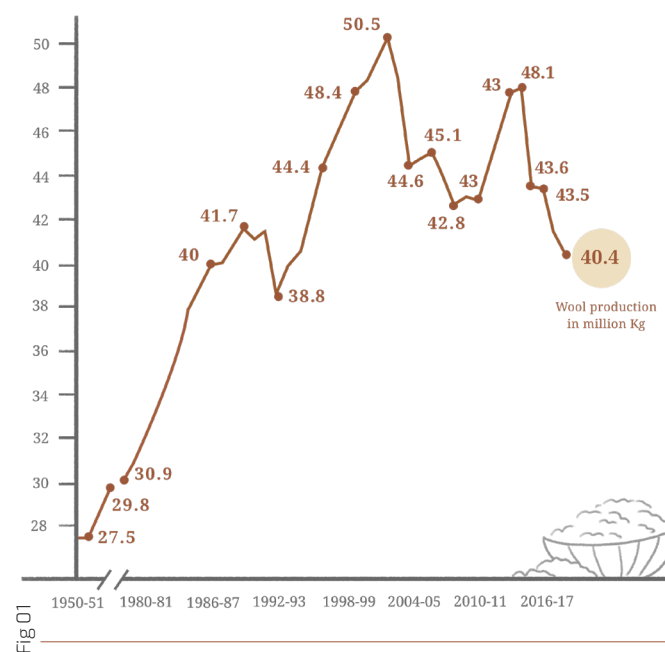
exotic Dorset and Suffolk breeds (ibid. 1989, 111). So intensive were these programmes that they ended up producing new breeds like 'Mutton synthetic' and 'Nellore synthetic' at the crossbreeding centres of Avikanagar and Palamar in Andhra Pradesh respectively (ibid. 111).

The main deficiency of this approach is that it focused solely on implementing cross-breeding strategies, without paying heed to other important questions.

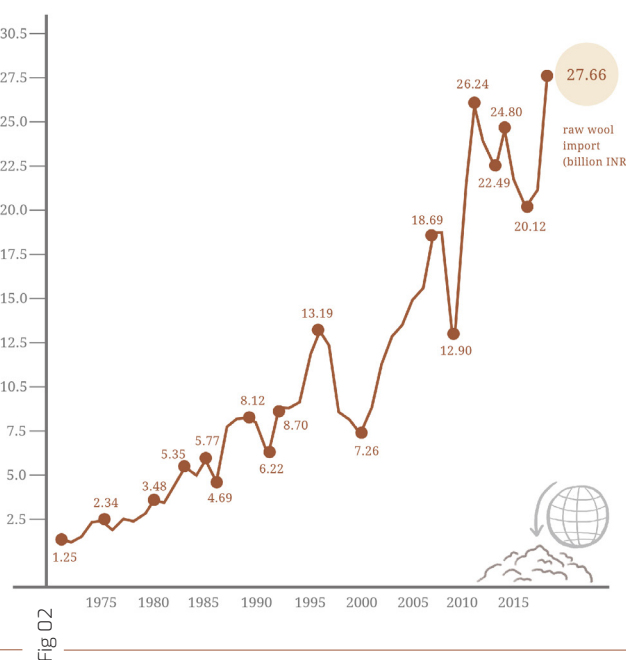
For instance, the dilution of genetic diversity of indigenous breeds was not a point of concern in these policies. Little heed was paid to facts about crossbred sheep being typically less tolerant of environmental stress, more susceptible to diseases, and less capable of being careful of predators. These are factors that do not show up in carefully controlled environments within which crossbreds are developed. However, these qualities make crossbreeds



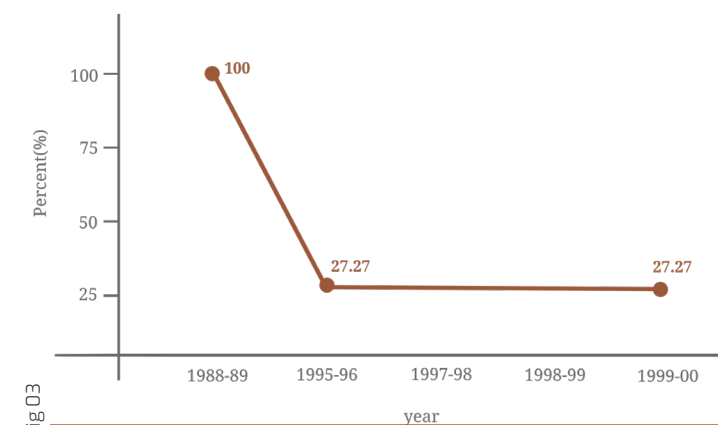
## India's Wool Production (In million Kg)



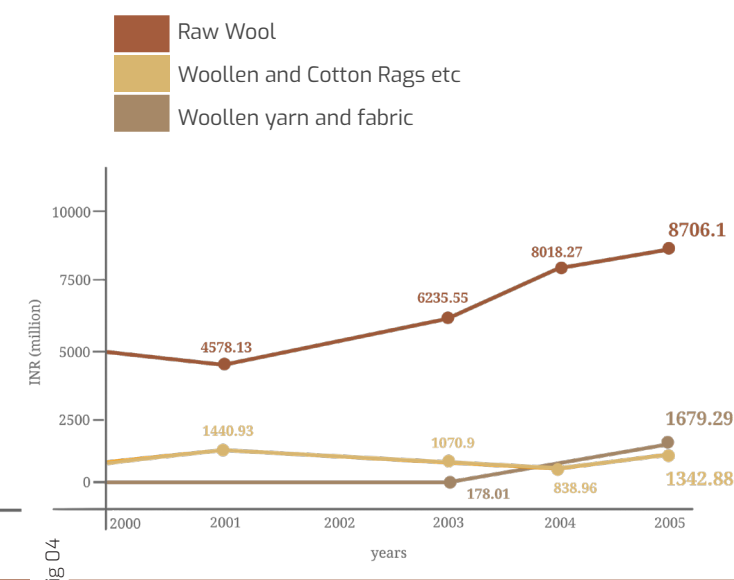
## India's Raw Wool Imports (in billion INR) (1970 - 2018)



## Extent of QR (%) on Woollen Textiles Imports (1988-89 to 1990-00)



## Wool Textile Imports by Category (in million INR)



less suitable to extensive animal husbandry practised by pastoralists.

In fact, pastoralists have for long been reporting higher morbidity and mortality in crossbred animals. They have been making the shift to crossbred animals because of the incentives provided in government programmes and reducing incomes from the sale of indigenous wool. Therefore, a major unintended effect of these policies has been a dilution of the valued genetic diversity of indigenous breeds in India. On the other hand, the inadequate measures aimed at improving the economics of sheep rearing have contributed to a situation in which herders are becoming reluctant to rear sheep for wool sales. This latter trend accelerated once the liberalisation era was ushered in, as will become clear in the next section.

### (ii) Changes in tariffs, rising raw wool imports and the impact on indigenous wool prices

India's basket of international trade in wool has consisted largely of raw wool imports, and the export of carpets and woollen garments. The value of raw wool imports has always been higher than its exports, while the value of carpet exports and woollen products has been higher than their imports. Up till the early 1990s, India used to impose a custom duty of 45% on raw wool imports. Despite high custom rates, India's import of raw wool increased consistently in the 1980s (figures 2 and 3).

The situation however changed at a faster pace from 1995 onwards with the liberalisation of India's textile trade policy taking effect. Between 1995 and 2002, as part of

WTO negotiations, India committed to progressively removing trade barriers including tariffs and quantitative restrictions (QRs) from the textile sector.

The tariffs on wool imports were brought down to a range of 20%-40% between 1995 till 2002, and to 5% by 2006. QRs were removed completely by 2000 (Goldar 2005). Following these changes, the amount of raw wool imported by India increased considerably (figure 3).

Liberalisation of textile trade also facilitated a rise in India's carpet exports, a sector for which India's indigenous sheep wool is well suited. However, the Indian carpet industry too increased its consumption of imported raw wool, instead of expanding its use of the wool produced by its indigenous sheep (USDA 2016). This in turn

contributed to a decline in the demand for that wool.

### (iii) Collapse of Soviet Union and changes in woollen textile clusters of Punjab

The collapse of the Soviet Union had implications for the Indian domestic woollen textile manufacturing sector as it was a key buyer of Indian woollen products. This collapse forced the manufacturing units of the centre to reorient, which involved an increase in their consumption of imported fine grade raw wool. This in turn affected the demand for products made of indigenous sheep wool in the country.

The former Soviet Union and the Eastern Bloc constituted the main destination of approximately US\$100 million of these exports per



The woollen knitwear cluster of the Ludhiana district, Punjab, has been a key production centre of India's woollen garments and the main centre for woollen exports since the 1960s.

year, most of which was supplied by the Ludhiana cluster (ibid.).

This cluster also simultaneously catered to the domestic market, though nearly 50% of its products were exported to the Soviet Union (ibid.). The products they supplied to the Soviet Union were standardised with limited design variations and demand for maintaining high-quality yarns was limited in that market. This meant that the machinery used for these products was fairly basic. On the other hand, the machinery that was used for the domestic market was more complicated, especially since the 1980s, due to the demands imposed by two segments of the cluster's domestic market – the middle mass and the premium upper-end market. By this time, India was recording high economic growth and consumers of the middle mass market were beginning to prefer better quality products with higher design variation, which was, till then, a characteristic of the premium market's consumer. These changing preferences forced the firms to upgrade their product quality and machinery.

With the increase in raw wool imports and the proliferation of small and medium-scale enterprises in the cluster, Indian markets were flooded with cheap and gaudy acrylic textiles, accelerating the shift in consumer preferences. Consequently, demand for indigenous sheep wool products decreased.

The Soviet Union's collapse resulted in the Ludhiana cluster losing a sizeable chunk of its market (ibid.). Looking to make a quick recovery, Ludhiana's firms moved in two directions. First, they expanded their reach within the domestic market. Second, they shifted their exports to markets in North America and Europe, where consumers demanded high quality and well-

designed products (ibid.).

These firms were aided in their efforts by multiple export promotion programs run by the then Union and Punjab governments. Following the trade liberalisation in the early 1990s, governments provided tax incentives and duty drawbacks to facilitate the growth of exports by the Ludhiana cluster. In 1999, the Union government implemented the Textile Up-gradation Fund Scheme (TUFS) for facilitating the modernisation and up-gradation of the textile industry in both the organised and unorganised sectors by providing credit at cheaper interest rates. This made imported machines and technology affordable for a growing number of entrepreneurs in the woollen industry. The success of these programs and changes undertaken by the manufacturers is reflected in the increase in exports recorded by India following the liberalisation of the textile trade. This also meant that the number of manufacturers who were engaged in exports increased at a fast rate.

These changes facilitated the rise in consumption of imported raw wool in the country. This combined with the government's emphasis on encouraging the manufacture of man-made fibres in the National Textile Policy 2000, altered the types of woollen products sold in the country, in that manufacturers began using a combination of man-made fibres and imported wool for their products.

Kanuben Vankar and Bala Vankar, a weaver couple, starch their wool warp in Kachchh, Gujarat  
Credit: Khamir







Bhopa Rabari with Panchali Sheep  
Credit: Sahjeevan Archives

## Discussion

### 1. Deteriorating conditions

The fall in the demand for indigenous sheep wool accelerated once India's textile trade was liberalised. This fall is reflected in the low prices that wool sales fetch currently. Given the low economic benefits received from wool sales and the increasing rates of meat, herders are now displaying a preference for rearing meaty breeds as opposed to dual-purpose breeds. However, there is a degree of variation in terms of how these changes are playing out in different regions.

According to anecdotal reports, Gujarat's Patanwadi sheep now number close to 5000, which indicates that strict conservation measures need to be taken by the government.

In the Himalayan region, even though herders have gained from the rise in meat prices, they continue to rear sheep for wool sale as they can derive a steady source of income from it. Consider, for instance Himachal Pradesh.

Between 2012 and 2016, the prices at which wool was procured by the state wool federation actually recorded a consistent rise (Himachal Pradesh Wool Federation 2021), making wool sales a viable livelihood option. Woolly breeds are also chosen for the region's cold climate as the animals need the wool coat for protection against the elements of nature.

In the western region, the condition of wool prices can be deemed moderate, with the situation in Rajasthan being better than in Gujarat. In Rajasthan, herders are continuing to rely on both wool and animal sales for their livelihood, though we noticed that some herders are beginning to prefer a narrow, meat-oriented herd management. In Gujarat on the other hand, there is an overall decrease in sheep population, accompanied by a decline in both wool and meat production.

The shift towards rearing meaty breeds is most pronounced in the Deccan region where shepherds rely on the sale of animals and

## India's Sheep Meat Production

(in thousand tons)

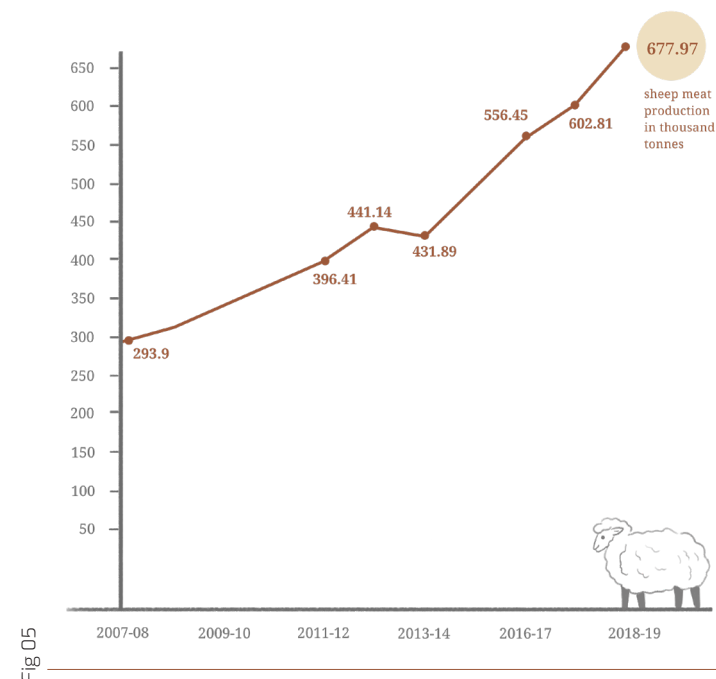


Fig 05

dung as primary and secondary sources of income.

This trend is perhaps strongest in Telangana where the state government has actively encouraged herders to opt for the meaty Nellore breed over the dual-purpose Deccani breed. In recent years, Telangana has accounted for one of the highest sheep populations in the country, which indicates that the meaty breeds are a key component of India's huge sheep population.

Another indicator for gauging the increasing proportion of meaty breeds in the overall sheep population is India's sheep meat production data. This figure has risen consistently from 2007-2019 (figure 5), with meat being used for both domestic consumption and exports.



Credit: Shruti Jain

The rise in sheep meat exports has occurred in a staggered manner, but nonetheless, the total export value has been sizable since 2010. India happened to be the world's largest exporter of sheep and goat meat in 2019-20 (Ministry of Commerce and Industry). Given the unavailability of disaggregated data for sheep exports before 2009, further research is required to understand the extent by which India's sheep meat exports have risen between 1990 to 2009.

### 2. Condition of craftspeople

Shearers, felters, and traders have also suffered owing to the reducing demand for indigenous wool and its products. Anecdotal data suggests the number of Dhangar, Kuruma, and Kuruba weavers in the Deccan region has reduced considerably. Likewise, in Kachchh the number of Mansuri felters has declined while in Rajasthan, traditional woollen artisans are finding employment in alternate industries. In the Himalayan region, though one can still find traditional woollen products being sold in a few centres, more markets are selling acrylic products. Most importantly, all these changes are beginning to break the long term socio-economic ties which have long held pastoral and artisan communities together through exchanges based on sheep wool use.





A herder with a flock of Deccani sheep.  
Maharashtra  
Credit:  
Kalyan Varma

## Conclusion

Our findings indicate that despite increased consumption of wool in Indian processing units, the use of indigenous wool has declined significantly and imported wool now dominates the market. Bikaner mandi in Rajasthan is perhaps one of the few markets where indigenous wool trade continues, though the quantity of wool traded has decreased.

Today, the main problem that indigenous sheep wool faces across the country is that of declining demand and an associated fall in prices. There are a number of factors contributing to this situation, including a rise in raw wool imports, easy access to cheaper acrylic products, and consumer preference changes. A combination of these factors has led to a decline in indigenous wool sales for herders. To understand the extent of the stagnancy and decline, one only needs to compare it to the increase in economic returns from other agricultural commodities. Even the local wool markets which were earlier known for selling textiles made of

indigenous wool by pastoralists and craftspeople are slowly being dominated by products made of imported raw wool, acrylics, and other man-made fibres. And while nearly 85% of India's wool is suitable for carpet/felt/floor coverings, the industry participants (traders, spinning mills, and carpet mills) favour imported wool over indigenous wool.

This is leading to two key consequences. First, herders are now increasingly rearing sheep for animal sales. They are choosing meaty breeds over indigenous multipurpose breeds to maximise their incomes which leads to a decline in the relatively more woolly breeds reared by pastoral communities. While the overall dilution of breed diversity has already been occurring due to the implementation of crossbreeding programmes by consecutive governments since independence, the rapidly growing preferences of herders in favour of meaty breeds do not bode well for indigenous breed diversity.

**It is essential to invest in the wool supply chain (particularly shearing and transportation), technologies, and decentralised services to improve the quality of indigenous wool and find innovative ways to use it in non-textile related areas.**

Second, craftspeople who have traditionally engaged in weaving woollen textiles are losing their livelihoods and entering unskilled labour markets. The declining demand for local woollen textiles is forcing them to look for alternative sources of employment. A continuation of this trend would limit the use of traditional woollen craft and textile weaving skills that India possesses.

Additionally, efforts are needed to revive the use of indigenous sheep wool in multiple ways. This would involve supporting the traditional woollen textile sector and paving the way for increasing the use of indigenous wool in other sectors. One such sector where it can be used is in construction. CfP's ongoing collaborative research with Hunnarshala Foundation on using wool as building material for insulation displays promising results. The use of indigenous sheep wool as construction material, besides increasing its consumption, would also help in the construction of ecologically sustainable buildings.

However, it is important to keep in mind that though income from wool can play a part in creating crucial support for a herder, it needs to be seen in conjunction with incomes from other aspects of herding, namely penning, selling manure, milk, sale of rams, and sale of sheep-heads for meat. All of these in turn are variable and dependent on the breed mixtures and the ecosystems they inhabit. This would, therefore, require multi-pronged strategies that include a focus on all aspects - from breed management, feed quality, pasture and grazing management, sheep health, insurance/entitlements, and marketing of sheep related products such as wool, milk and its by-product like ghee for medicinal purposes. Innovative paths in harmony with well-planned promotional programs have to be charted in order to find straightforward solutions.







# Key Recommendations

for improving the procurement and processing of indigenous wool

## Preamble

In 2018-20 the Centre for Pastoralism<sup>1</sup> undertook a study to better understand value chains associated with indigenous wool across seven Indian states. The study points to the dominance of imported wools in the country and the sharp decline in the procurement, production and prices of India's desi wool. In the past 10 years, while the consumption of wool by processing units has increased by 50%, the usage of indigenous desi wool has fallen. In India's largest wool mandi, the Bikaner mandi,<sup>2</sup> only about 10% of the total current sale transactions

involve indigenous desi wool whereas the remaining 90% involves the sale of imported wool varieties.<sup>3</sup>

India's wool economy is valued at approximately Rs. 115 million. This covers both the organised and decentralised sectors - comprising composite mills, combing and spinning units, knitwear and woven garments units, machine made carpets manufacturing units and smaller hosiery and knitting, power-loom, and independent dyeing, process houses, woollen handlooms and hand knotted carpets, rugs and druggets.<sup>4</sup> An estimated 2.7 million workers are employed by the wool textile industry - 1.2 million in the organised sector, 1.2 million in sheep rearing, and 0.3 million weavers in the carpet sector. There is, however, no estimate of the number of wool craft artisans in the

<sup>1</sup>The recommendations below are based on an extensive study undertaken by the Centre for Pastoralism in seven States. It included field engagement with herders, artisans, wool institutions, experts and also studying the market trend for indigenous wool as a potential fibre. It is expected that a comprehensive policy on desi wool is shaped up and gets developed with necessary consultations with stakeholders so as to focus and direct the future potential that the wool fibre holds.  
<sup>2</sup> Bikaner wool mandi is not just India's, but one of Asia's largest wool markets.  
<sup>3</sup> Based on interviews of traders and mill owners of Bikaner Mandi, conducted as part of CfP's study.  
<sup>4</sup> Ministry of Textiles, Govt. of India



|   |   |
|---|---|
| country.  | materials, with both global and national interest in wool as fibre for the future. Wool is a versatile material that has many uses, especially for insulation in the built environment, in packaging and cryogenic applications such as biofertilisers, and of course, in textiles and apparel. This points to a huge potential for growth in demand for such wool. While countries like Australia have been systematically expanding wool sales and are poised to become the world's largest supplier of fine/ |
| India's 2019 livestock census estimates the sheep population at 74 million, the second largest in the world, distributed over 42 registered breeds. <sup>5</sup> India's domestic wool production in 2018-19 was approximately 40 million kg, a slight decline from the estimated 44 million kg recorded in 2007-08.                | premium wool fibre, India lags in harvesting the full potential of its indigenous wool production. Unfortunately, Indian carpet producers and artisans have also started favouring imported wool, as we have begun to now import coarse wool, alongside the fine wool that has been imported over the past few decades.   |
| Of the total wool produced in India, 85% is carpet grade, 5% is apparel grade and the remaining 10% is coarse grade wool used for making rough Kambals, etc. India depends almost exclusively on imports to meet its demand for fine quality wool, including that by industrial woollen mills and the decentralised hosiery sector. | India is endowed with diverse ecosystems and a rich variety of sheep breeds, wool, and pastoral communities. Sheep pastoralists <sup>7</sup> such as the Kurumas (Telangana, Andhra Pradesh), Kurubas (Karnataka), Rabari (Gujarat), Dhangar (Maharashtra), Raikas (Rajasthan), Gaddis, Kanets, Kinnauras and others (Himachal Pradesh), Bhotias and other Palsi communities (Uttarakhand), Bakarwals (Jammu & Kashmir), Changpas (Ladakh), and many  |
| Raw wool imports have been steadily increasing from Rs 14.35 million in 2010-11 to Rs 18.85 million in 2018-19. <sup>6</sup> This growth has been accompanied by reducing the consumption of domestically produced wool.  |   |
| The gap between India's wool production and wool demand points to a potential opportunity to reimagine a range of industrial and artisanal applications for desi wool.  |   |
| This potential is underscored by the growing consumer interest in natural, renewable and sustainable  |   |

more, have evolved resilient strategies to address climate variability by engaging with extensive pastoral production and conserving a range of sheep breeds. However, the lack of shearing, de-hairing, carding, roving, spinning infrastructure, services, tools, and technologies, has led to vast amounts of wool being discarded by herders. Unfortunately, the lack of domestic demand for indigenous wool has meant that large quantities of wool are annually discarded by herders and left behind in the fields the animals are sheared in.

Low demand is a function of at least two factors: first, tariff barriers have been declining since the mid 1990s, making it easier and cheaper for the Indian industry to import high quality wool. Equally important, India has failed to invest in research, technology, design and development (such as plasma research) to make India's coarse wool more appealing to the domestic industry. A direct outcome is that indigenous wool has been disproportionately displaced by the imported raw wool from Australia, New Zealand, China and other countries.

The domestic textile and apparel industry contributes 2.3% to India's GDP; it accounts for 13% of industrial production and 12% of

the country's export earnings. It is the second-largest employer in the country employing close to 45 million people with the potential to create an additional 35 million jobs by 2024-25.<sup>8</sup>

The development of our indigenous wool industry also has implications for UN Sustainable Development Goals (SDGs) 12 and 15, which commit to ensuring sustainable consumption and production, and sustainable use of ecosystems to halt biodiversity loss.

## Recommendations

The following recommendations seek to improve the procurement and processing of sheep wool by promoting research, development, product design, and markets for India's indigenous wool fibre. This can have far reaching consequences for the revival of traditional artisan skills related to weaving and felting of wool, and reducing the carbon footprint of insulation in buildings while strengthening local livelihoods. It can impact local ecosystems positively while providing desi

<sup>5</sup> 14.1 percent increase from the previous census in 2012

<sup>6</sup> Source: Ministry of Textiles, DGCI&S. However, high imports have been recorded in 2014-15, valued at Rs 21257.4 million.

<sup>7</sup> SDG: By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment. [https://www.niti.gov.in/sites/default/files/2020-07/SDX\\_Index\\_India\\_Baseline\\_Report\\_21-12-2018.pdf](https://www.niti.gov.in/sites/default/files/2020-07/SDX_Index_India_Baseline_Report_21-12-2018.pdf) accessed on 27th Feb 2022

<sup>8</sup> Nurturing Textiles: Policy Ecosystems for the textiles sector <http://www.makeinindia.com/article/-/v/nurturing-textiles-policy-ecosystem-for-the-textile-sector> accessed 20th feb 2022



wool a competitive edge globally. It is therefore recommended that the Government of India develops a special focus on desi wool with incentives and schemes within the overall Integrated Wool Development Programme through the following specific actions:

- **Revisiting Policy Incentives:** The Integrated Wool Development Programme, approved by the Ministry of Textiles for implementation during 2021-22 to 2025-26 (period of the 15th finance commission) provides for various schemes with an outlay of Rs. 1260 million. Central Wool Development Board is the nodal agency for the implementation of these schemes, which call for greater focus and outreach for providing impetus to "desi wool". *Various instruments have been referred to by the programme, including revolving funds, an e-portal for marketing/ auction of wool, infrastructure support, a market interface, and the creation of common facility centres.* We applaud this initiative and seek its implementation at the soonest possible.
- **Conservation of India's native sheep breeds:** It is important that native sheep breeds that possess rich and varied textures

of desi wool be conserved and promoted by State Governments. These breeds have been conserved so far by shepherds through breeding practices developed over many years. The government needs to pay close attention to **sheep care**, with increased investment, training, and support to the shepherds. This will contribute substantially to improving the quality of desi wool from native sheep breeds.

- **Duty revision on coarse wool imports<sup>9</sup>** can protect the indigenous coarse wool industry in India. Given the growth opportunity and the potential for employment generation, *indigenous wool of 27 microns and above needs to be adequately protected and the import of old and worn textiles to generate inferior shoddy wool must be severely restricted.*
- **Desi Wool Development under Make in India:** A revival in the use of desi wool in textiles, insulation, packaging and so on would align well with the ongoing "Make in India" campaign. This is so with regard to both the textiles sector as well as Invest India (the national investment promotion and facilitation agency by the

Ministry of Textiles to provide assistance and hand holding support to businesses). The *"One District One Product" (ODOP) programme could be used to develop desi wool products in various sheep districts of the country.*

- **Institute and support the development of decentralised infrastructure** such as collection centres and raw material banks at a variety of locations (especially along pastoral migratory routes). Small scale and decentralised carding, grading, and processing of wool and khadi roving units can serve to supply good quality processed raw material to artisans and spinning mills. These collection centres can be developed under a PPP model with local entrepreneurs and expert organisations. The infrastructure for this could be envisaged as cluster based small scale units, to spur indigenous wool entrepreneurship.
- **Support R&D for appropriate tools and technology:** There is a need to invest in the development of improved and tested tools and technology for *decentralised carding, softening of wool, spinning short staple coarse wools, felting, dyeing and*

*finishing of local wool products.* This can be enabled through structured collaborations with IIT- RuTAG (Rural Technology Action Group), Plasma Research Institute, Central Sheep and Wool Research Institute (CSWRI), Wool Research Association (WRA), Mahatma Gandhi Institute for Rural Industrialisation (MGIRI), and similar technical institutions

- **Delineating regional hubs for traditional/artisan-based industries:** As is well-known, indigenous wool producing states have a very strong base of artisan skills and traditional crafts. *A movement needs to be created for eco branding of indigenous wool-based products as green products with traceability.* Learnings can be drawn from the OTOP (Model of Thailand) or VTOP (Japan) which have shown that these approaches have the potential to revitalise rural artisan-based products and empower artisans to compete globally. There is a vast scope to replicate OTOP/VTOP.<sup>10</sup> It might, of course, need some adaptation to suit the local context. An attempt could also be made to marry OTOP/VTOP and Group

<sup>9</sup> <https://www.ceicdata.com/en/india/textile-imports-harmonized-system-hs51-wool-animal-hair-horsehair-yarn-and-woven-fabric-inr/textile-imports-inr-hs-51-wool-fine-or-coarse-animal-hair-horsehair-yarn-and-woven-fabric>

<sup>10</sup> Under OTOP Model in Thailand or VTOP Model in Japan, all the facilities like technology, design, packaging, market intelligence, skill training, credit, market linkages, provision of product specific and specialised infrastructure, etc., are provided locally, besides international branding and providing marketing support by offering outlets at strategic locations like airports, tourist hubs, etc.

<sup>11</sup> The Group Entrepreneurship Development Strategy is based on the lead sector approach under which about 50 to 100 persons manufacture the same product as individual entrepreneurs but act like a group for input purchase and output disposal to reap economies of scale and scope. A strict quality control regime and strong group governance is a part of the strategy.



Entrepreneurship Development Strategy.<sup>11</sup>

- **Strengthening of wool institutions/boards/corporations:** Wool Institutions/Boards/Corporations have traditionally played a vital role in advancing wool procurement, storage, and distribution. The sheep wool development corporations of various states, which continue to have experienced human resources, need to be adequately empowered so that they can play a vital role in wool procurement and in setting up decentralised infrastructure. *It is recommended that reputed industries in the wool sector be invited to invest and partner with the various wool corporations for improving the production and processing of desi wool.*
- **Setting up educational institutes for wool technology:** In the absence of an educational thrust on wool technology in the country, research, scholarship, innovations, and entrepreneurship in this sector remain abysmal. While a dedicated education institute for wool technology can shift the status of desi wool and must be set up, *it is recommended that existing institutions of design*
- **Supporting product innovation and incubation:** There is a tremendous need to look beyond conventional products. *An autonomous platform or hub should be created with the engagement of the Department of Science and Technology, technical institutes, grassroot organisations, and design institutes. This hub will be equipped to signify product prospects, technical and financial needs, skills, and targeted actions to understand current technological trends.* Product innovation around the use of desi wool in insulation, packaging, bio-fertilisers and so on would be logical outcomes of such incubation.
- **Initialising a Start-up fund<sup>12</sup>:** There is a need to encourage an entrepreneurial ecosystem by enabling the incubation of innovative ideas for the development, production, promotion and marketing of local wool. *A start-up fund for entrepreneurs who want to develop wool linked product ideas can be handheld with technology and seed funding.* This would trigger innovation

*and technology in the country could be supported to incubate dedicated centres of research in wool technology and design.*

in new technologies and creative applications for indigenous wool. There is a growing trend of designers developing interesting product ideas like athlete wear and shoes, felted products, blended fibres, etc, for an international market. Harnessing support for incubators with linkages to institutions such as the National Innovation Foundation (NIF), Council of Scientific & Industrial Research (CSIR) and the Indian Institutes of Technology (IITs) to help both the identification of grassroots innovators and the mentoring of technology entrepreneurs will be crucial.

- **Counting heads:** *There is a lack of adequate and authentic data on the households engaged with desi wool across the entire value chain including their socio-economic status, livelihood conditions, and details of their families.* The absence of disaggregated household data has become a major bottleneck, adversely affecting planning and policy making for this languishing sub-sector. We recommend that the Government of India carry out a national census for compiling a comprehensive database.
- **Strengthen the "Desi Wool" campaign:** It is recommended that a dedicated policy for the promotion of desi wool should be launched. *Within the first three years of the policy launch, a collaborative campaign for desi wool could*

*be initiated which could include events, seminars, buyer-seller meets, public installations, and exhibitions to promote the qualities, advantages, applications, and sustainability aspects linked to desi wool and its integrated chain with pastoral systems.* Wool mark has successfully promoted Australian wool and it is time for India to develop a policy and quality mark that taps the potential of this vast resource in the country.

- **Incentives for use of Desi Wool:** Incentives to packaging manufacturers, building professionals, carpet industries, and other relevant industries that increase the proportion of desi wool used in their domestic and export products would be in line with the recommendations laid out in the policy ecosystem for textiles sector for Make in India under Amended Technology Upgradation Fund Scheme for textiles industry (ATUFS).
- **A "Desi Wool" Museum** showcasing the varied shepherd cultures in India, the exquisite wool textiles, and the craftsmanship of local wool artisans in the country needs to be set up in different regions of the country to revive general public interest in the rich cultural heritage of India's desi wool.

<sup>12</sup> The Prime Minister of India has announced the setting up of Rs. 150 billion Animal Husbandry Infrastructure Development Fund (AHIDF) under Atma Nirbhar Bharat Abhiyan stimulus package. The Animal Husbandry Infrastructure Development (AHIDF) has been approved for incentivising investments by individual entrepreneurs, private companies, MSME, Producers Organisations (POs) and Section 8 companies to establish (i) the dairy processing and value addition infrastructure, (ii) meat processing and value addition infrastructure and (iii) Animal Feed Plant.





Credit:  
Ishaan Raghunandan

## References

- Agrawal, A. 1998. "Profits on the move: The economics of collective migration of Raika shepherds in India". Human Organization. Vol.57(4):469-479.
- Anthra. 2016. Gongadi: The wool craft of Telangana. Published by DGMPs and Food Sovereignty Alliance, India.
- Bhatia, S. and Arora, R. 2005. "Biodiversity and conservation of Indian sheep genetic resources: An overview". Asian Australian Journal of Animal Science. Vol. 18(10): 1387-1402.
- Das, S. and Iyengar, S. 2021. "Reviving indigenous wool craft in India". Paper submitted to 'Futuring Craft' Conference, Indian Ocean Craft Triennial.
- Goldar, B. 2005. "Impact on India of tariff and quantitative restrictions under WTO". ICRIER Working Paper no. 172: 1-19.
- Hoover, J. 2018. "Shepherds and shawls: Making place in the Western Himalayas." Textile Society of America Symposium Proceedings. 1087.
- Kumar A., Prince L. L., Jose S. 2017. "Sustainable wool production in India". Sustainable fibres and textiles. Elsevier Ltd. Doi: <http://dx.doi.org/10.1016/B978-0-08-102041-8.00004-4>.
- Moulik, T.K. 1987. "Problems and challenges in wool development". Vikalpa. Vol 12(2):3-7.
- Patnayak, B.C. 1989. "Sheep production and development in India". In Philippine Council for Agriculture, Forestry and Natural Resources Research and Development; International Development Research Centre. Sheep production in Asia: proceedings of the workshop on sheep production in Asia, PCARRD, Los Barfos, Laguna, April 18-23, 1988. edited by Devendra, C. and Faylon, P.S., p. 106-125.
- Patterson, R. C. S. 2002. "Weaving traditions along the "Wool Road" in India". Textile Society of America Symposium Proceedings. 417. Available at <https://digitalcommons.unl.edu/tsaconf/417>
- Planning Commission. 1981. Sixth Five Year Plan 1980-85. Government of India.
- Planning Commission. 2008. Eleventh Five Year Plan 2007-12: Inclusive Growth. Government of India.
- Ray, S. 1995. "In the shadow of 'Kotris': An analysis of wool markets of Rajasthan". Economic and Political Weekly. Vol. 30(47): 143-150.
- Roy, T. 2003. "Changes in wool production and usage in colonial India". Modern Asian Studies. Vol. 37(2): 257-286.
- Sharma, M. n.d. "State, pastures, and rice fields: The Gaddi shepherds of Himachal Himalayas (North India)". Man in India 92(1): 13-35.
- Shah. A. 2013. Kutch: A land in transition. Bandhej books: Ahmedabad.
- Tewari, M. 1999. "Successful adjustment in Indian industry: The case of Ludhiana's knitwear cluster". World Development Vol. 27(9): 1651-1671.
- Government of India. N.d. "Wool and woollen textiles sector". Ministry of Textiles. New Delhi.
- Government of India. Annual Report 2008-09. Ministry of Textiles. New Delhi.
- Government of India. 2013. Basic Animal Husbandry and Fisheries Statistics. New Delhi
- Government of India. 2014. Basic Animal Husbandry and Fisheries Statistics. New Delhi
- Government of India. 2015. Basic Animal Husbandry and Fisheries Statistics. New Delhi
- Government of India. 2016. Basic Animal Husbandry and Fisheries Statistics. New Delhi
- Government of India. 2017. Basic Animal Husbandry and Fisheries Statistics. New Delhi
- Government of India. 2018. Basic Animal Husbandry and Fisheries Statistics. New Delhi
- Government of India. 2019. Basic Animal Husbandry and Fisheries Statistics. New Delhi .
- Government of India. 2015. Estimated livestock population breed wise: Based on breed survey 2013.
- Himachal Pradesh Wool Federation. 2021. Annual Report. Shimla.





# About Sahjeevan & Centre for Pastoralism

**Sahjeevan** was started in the late 1990s with a broad mandate of working on environmental issues. Over the past three decades, the organisation has worked on environmental conservation from a variety of perspectives, including drinking water security, decentralised biodiversity conservation, solid waste management and grassland conservation. Sahjeevan has increasingly focused its work at the interface of pastoralism and conservation, with initiatives aimed at building pastoral livelihoods, securing improved pastoralist access to traditional grazing resources, obtaining mainstream recognition for the role played by pastoral communities in developing animal breeds, and in undertaking

scaled pilots aimed at restoring the iconic Banni grassland of Kachchh.

Sahjeevan helped launch the **Centre for Pastoralism** in 2017 with a mandate of building partnerships with government, industry, academia and civil society to expand our collective understanding of and responses to pastoralist concerns.

The Centre for Pastoralism facilitates research aimed at enhancing our understanding of pastoralist ecosystems, develop programs aimed at enhancing livelihood security, and anchor outreach activities to educate the wider society about pastoralist contributions to the mainstream.

Credit:  
Sandeep Virmani



Black Deccani sheep,  
Balumama's flock,  
Dharmapuri, Tamil Nadu  
Credit:  
Nipun Prabhakar





Mahendra Khatal  
moving with his herd in  
Maharashtra  
Credit:  
Nipun Prabhakar

This assessment was possible due to the work and wisdom of multiple individuals. We are very grateful to all the herders, their families and artisans we met who shared their thoughts and life realities so freely. Throughout this survey, we were supported by many regional organisations that have worked intensively with the communities. We would like to thank all of them.

## Acknowledgements

In Rajasthan, we thank Dr. Ashok Pokarna and Dr. Prakash Mani Suman of Central Sheep Wool Research Institute (CSWRI), Bikaner, for sharing their understanding of sheep breeds and quality of wool in Rajasthan; URMUL Sansthan in Bikaner and SURE in Barmer for their insights and time and for providing support during the field survey; Jaipur Rugs for sharing their perspective on global carpet markets; wool traders including Shyamji Mundra (Secretary, Wool Mandi, Bikaner), Babulal ji, Kailash Kotadiya, Rajubhai Chhajer (Barmer), Ashok ji (Wool Yarn Mill, Bikaner), and Indu Bhushan ji (Khadi Sansthan, Bikaner) for valuable insights. We also thank sheep breeders and wool traders in the following villages of Bikaner and Barmer districts: Kesar-Desar, Napasar, Kela, Gadiyala, and Gojiya Der and the weavers of Dhanau for their input on sheep wool in the region.

In Uttarakhand, we thank AVANI and Maati Sangathan for helping with the research in Kumaon. In Garhwal, we thank Mahesh, Mukesh, and others from Shepherds of

Himalayas for guiding us through the trip. We thank CFP's Amit Rathi, without whose help, the Uttarakhand research would have been a lot harder and a lot less fun.

In Gujarat, we thank Dr. Y. D. Solanki, Merambhai, and Mahesh Joshi of GUSHEEL for sharing valuable insights and connecting us with herders across the state. We thank Khamir for deputing Pratap Chavda to help the study team. Hajabhai introduced us to weavers and herders in Surendranagar and Saurashtra. We thank the many herders, artisans, and traders of Umreth, Modasa, Kenpur, Himmatnagar, Sudamda, Parevada, Deesa, Bela, Jatawada, Varnora, Rajkot, Kukma, and Bhujodi for sharing their time and insights.

In Telangana, we thank Sri. Krishnayya Rodda, President, and the weavers of Jogipeta Wool Cooperative, Jogipeta, Medak district, and the District Wool Weavers Processing Complex, Co-operative Society Limited, Mahbubnagar. We thank Sri. Maddi Reddy and other weavers of Salkapuram village, Kalluru mandal, Kurnool district of Andhra Pradesh; Sri. Megavardhan Reddy of WASSAN, Secunderabad; Sri. Digamber Rao Manne for providing connections and coordination during field visits.

In Himachal Pradesh, we thank Sumant Bhushan for helping us meet artisans and herders in Kangra and Purshottam ji and his family for being generous hosts.

In Karnataka, Gopi Krishna of Mitan Handicrafts accompanied us to meet many herders, artisans and wool traders and provided important insights on sheep pastoralism in Karnataka. Grateful thanks also to Nazeer Kamal and Rounak Godhkey for accompanying the study team on field visits, and for their patience and willingness to extend their help over early mornings and over long hours. Balu Athani of Future Greens spent many hours explaining the nuances of the Bagalkot sheep economy.

In Maharashtra, we thank Kaushalika Dharmadhikari, who accompanied us on some of the field visits and helped with the research. Akash Naoghare and Sajal Kulkarni of Centre for People's Collective provided crucial help with the research in Vidharbha. We also thank Sangeeta of Anthra who provided connections with herders and traders in Western Maharashtra.

This study would not have been possible without the efficient and cheerful support of Sahjeevan staff: Dhara Pithadiya, Altaf Sumra and Aditi Thakkar.

We are grateful to Kamal Kishore of Kullu Karishma for his valuable advice and knowledge on the subject, and for helping us make various linkages.

Generous support from Axis Bank Foundation and Rohini Nilekani Philanthropies is gratefully acknowledged.







Despite being home to the third largest sheep population in the world, in excess of 74 million, the bulk of India's wool demand is met via the import of wool. Drastically reduced demand for indigenous wool has led to a sharp fall in wool-derived revenues for sheep herders across the country, and also led to drastically declining diversity of woolly sheep breeds in the country.

In an attempt to better understand the sector, in 2018-20 the Centre for Pastoralism carried out an assessment of the sheep wool value chains in India. This report captures the key findings of this study, articulates why it is important to revive demand for India's indigenous wool and puts forward recommendations to government and the private sector on ways by which this might be accomplished.



Centre for  
Pastoralism

**Centre for Pastoralism**  
F 301, 3rd Floor,  
Chaudhari Prem Singh House,  
Himmat Singh Marg, Lado Sarai,  
New Delhi 110049  
Phones: 98183 69335 / 98182 05681