



Indian Wool Industry and Future Prospects

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Wool, which is defined as the fine, soft, curly or wavy hair that forms the coat of a sheep, goat, rabbit and other wool producing animals, is produced in diverse areas of world and is basically a small trade in animal husbandry. Wool production accounts for only 1% of the global supply of textile fibres (Table 1) (Emma Doyle, *et al.* Animal Frontiers, 2021).

Fiber	Million tonnes	Percentage of market
Polyester	55.1	51.5
Cotton	26.1	24.4
Cellulosic	6.7	6.2
Other plant fabrics, including flax, hemp, jute, and coir	6.1	5.7
Polyamide	5.4	5.0
Other manmade	6.1	5.7
Wool sheep	1.1	1.0
Wool other animals	0.05	
Silk	0.16	0.1
Feathers, down	0.32	0.3
Total	107	99.9%

Table 1: World supply of textile fibres.

(Source: Textile exchange, 2019).

In recent past years, there has been significant changes in the wool production with the advancement in technology and innovation along with change in climatic factors.

The sheep population in 2021 increased to 1.266 billion (from 1.263 billion in 2020). India, the third largest countries by sheep population, the increase rate was 2% and in Australia (second largest by sheep population), rate was 2.8% but in China, (the largest country), sheep population declined by rate of 0.7%.

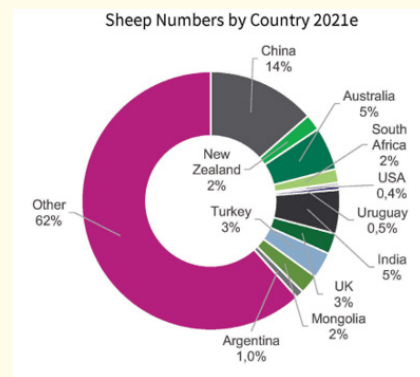


Figure 1

In terms of wool production, total world availability of wool increased by 3% in 2021 and it is further expected to increase in 2022, by 1.3%.

The world wool market is expected to note a CAGR of 4.8% during the period (2021-2026). The factor augmenting demand are consumption of luxury wool apparels in countries such as China, United States and UK.

These global trends indicate the hidden potentials of wool rearing and production sector that needs scientific tapping and research.

Overview of Indian wool industry

In India, woollen industry is relatively small-scaled as compared to the other natural and manmade fibre-based textiles industry like cotton and is represented by small scale and marginal farmers. India is third largest country by sheep population in the world with over 64 million sheep. Wool production in the beginning of 12th

Plan (2012-13) was 46.05 million Kg that rose to 48.14 million Kg in 2014-15 but declined to 36.93 million Kg in 2020-21.

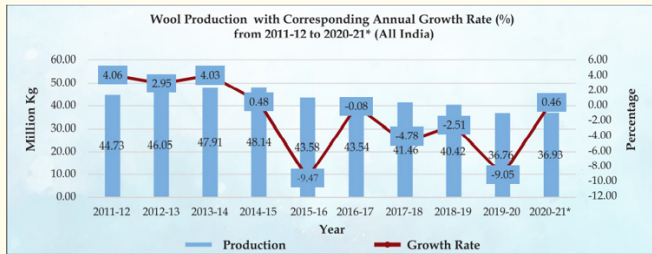


Figure 2

The wool is classified on the basis of fibre length as combing, clothing and carpet wool. According to the class of wool, it is used to make apparels or carpets/rugs. The quality of fibre depends upon an array of factors like breed, age, genetics, sex, environmental and nutritional condition.

Amongst the total wool that is produced in India, 85% is the carpet grade wool, 5% is apparel grade and remaining 10% coarse grade wool for making rough blankets.

The average yield per sheep head (annual) in India is 0.9 Kg which is significantly low as compared to the world average of 2.4 Kg.

The woollen textile industry in India is of the size of Rs. 11484.82 Crores (2017-2018) and broadly divided and scattered between the different organised and decentralised sectors depending on the processing involved

Organized sector

- Composite Mills
- Combing Units
- Worsted and Non-Worsted Spinning Units
- Knitwear and Woven Garments Units
- Machine-made Carpet Manufacturing Units

Decentralized sector

- Hosiery and Knitting Units
- Power loom Units
- Hand-made Carpet, Druggets units
- Independent Dyeing and Process Houses.

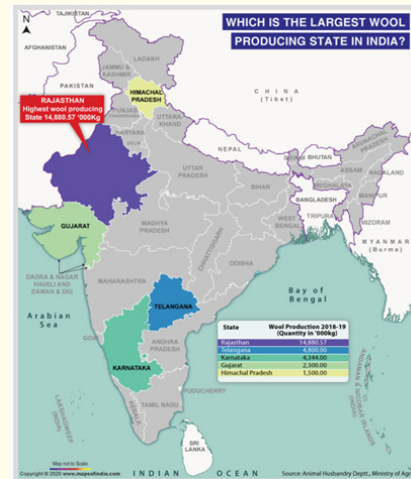


Figure 3

Indigenous production of raw wool

The wool production in India is not sufficient to meet the total requirement for woollen textiles manufacturing industry. The rearing of wool animals in India is largely rural based sector and practises unscientific techniques.

The most portion of Indian wool produced is of coarse quality and is used in bulk for the hand- made carpets. Among all the Indian states, Rajasthan is the largest state in terms of wool production and is popular for its high grade Magra and Chokla carpet grade wool.

Sheep breeds

The indigenous sheep breeds that are reared for wool production are Kashmir merino, Nilgiri, Chokla, Gaddi, Magra, Sonadi (Apparel wool).

Pantanwadi, Marwadi, Poonchi, Jaisalmeri (carpet wool).

Goat breeds

Changtangi and Angora are popular breeds used for wool production.

Export and import of wool

The wool production in India is not enough to fulfil the requirement of the wool industry specifically in apparel sector, therefore, most of wool is being imported from Australia and New Zealand.

But as the demand for wool textile continue to increase because of higher domestic need and also need in export, it remains largely dependent on import of wool.

SN	Country	Qty. in tones (2017-18)
1	Australia	14079.488
2	China	10513.462
3	New Zealand	9157.914
4	Saudi Arab	4918.388
5	Pakistan	4690.367

Figure 4

India exports several finished woollen products like garments and carpets where the latter has the maximum share of total export. The total export of woollen items is presently calculated around app. Rs. 11484 Crs.

Constraints in Indian wool industry

The wool production sector in India is largely unorganised and unaggregated due lack of technological interventions from government as well as scientific community. Where livestock farming significantly focuses of milk and meat production, wool production is subsidized and not prioritised by state governments.

Despite having large sheep population, we are unable to translate wool sector into a blooming, ludicrous sector.

The processing techniques and machinery which are available are outdated and the modern equipment are expensive, inaccessible aided with no skill training to local farmers.

There has not been much work on breed improvement to increase production from the indigenous breeds. Sheep rearing is semi-intensive in most parts and farmers raise them migratorily for meat purpose as the market returns on raw wool is not ludicrous.

Lack of awareness and oblivion among the farmers about the potentials of wool production also deter them to skill up and rear sheep in a better and intensive ways.

Scanty testing facilities and lack of control on quality measures, insufficient transfer of technology, lack of

achieved standards or benchmarks, lack of grading standards further aggravate the motivation of wool growers.

Research achievements of CSWRI

Central Sheep and Wool Research Institute, Avikanagar, working with objectives of undertaking basic and applied research on all areas of sheep and rabbit production and transferring improved and recent technologies on sheep and rabbit production to farmers. The institute has developed new sheep strains like Avikalin for carpet wool production, Bharat Merino for fine wool production. Also, the scientific rearing, breeding, feeding, reproductive, health and management practices were developed for improving the performance of indigenous sheep breeds.

The institute has also been working on genetic improvement of Chokla breed of sheep and Marwari breed of sheep for carpet wool production through selection methodology.



Figure 5

Integrated wool development programme

For the holistic growth of the Wool Sector, Ministry of Textiles, had approved systematization and continuance of 'Integrated Wool Development Programme', (IWDP) which has been approved by Standing Finance Committee (SFC) under Central Sector Scheme.

The objectives of the IWDP scheme to position India as a competitive and as a quality manufacturer\supplier of woollen product through technological interventions and optimizing the different segments of wool sector through

- Harmonizing wool supply chain and to enhance backward and forward linkages by increasing raw wool procurement capacity of State Govt.

- Create facilities for linking wool industry with wool producers.
- Provide marketing platform to small woollen product manufacturing through Expos.
- Coverage of more sheep through machine shearing to improve wool quality.
- Improvement in finished woollen products quality through establishing modern wool processing machines.
- Increase wool testing, bale forming facilities and providing tools for manufacturing woollen products.
- Utilization of coarse wool, and use of wool in technical textiles through Research and Development.
- Skill development and capacity building for manufacturing handmade traditional design quality woollen products.
- Branding of Pashmina and carpet grade wool and develop pashmina wool sector in Himalayan region.

Future prospects of wool industry

India has a huge head count of sheep and goat that needs to be transformed into profitable enterprises especially in sector of wool production as it is still overlooked sector that has tremendous potential to generate employment, provide livelihood to marginal farmers and also testify to the national slogan of 'vocal for local' as it will also promote farmers to rear the indigenous breeds and manufacture traditional products.

Research and development in wool production has been sincerely awaited in setting quality standards, quality assurance, developing and transferring pre and post handloom procedures, accessible machinery and technology.

Along with R and D, the dissemination of technology through a proper stratified channel is necessary to sensitize marginal farmers about wool production and its processing.

Promotion of fashion technology and handloom involving wool as textile material will create a 'buzz' and bring wool textile in vogue, increasing the demand for raw material and hence will profit the wool growers. In a times when due to climatic incompatibility, farmers are facing difficulty to raise livelihood through crop production, animal husbandry practices like wool production provide ample and sustainable alternative to earn and further expand the respective enterprise.