

A STUDY ON WOOL WEAVING & TRADE OF HARSIL – UTTARAKHAND; *LOOMING INTO PROMOTING LIVLIHOOD*

RENA MEHTA & SHABANA SHARIF

Faculty & Student Swami Vivekanand Subharti University, Meerut, Uttar Pradesh, India

ABSTRACT

India has been home to numerous tribes and tribal cultures, which still carry their old-aged traditional ethos since centuries this tribal culture and life style has been attracting the modern researchers, due to its purity and essence these communities and cultures are marked by brilliant traditional garments, jewelry and a complete range of activities related to their livelihood, food and regions practices. These communities have clanged strongly to their ancestral practices, thus they have been able to save their tradition to a large extent. During this survey it was found that the people of Harshil and Dunda have been to some extend are side lined by the urban community and by the government as well, primarily because they live at far off places and their unorganized behavior in terms of their economic activities and their effort to establish contact with the modern community and technology, although they are highly skilled craftsmen due to these ancestral, inheritance going back to several decades. These communities lack proper technical knowhow to create new products, thus we required suitable educational and skill development's polices, there is an urgent requirements to train these craftsmen about modern techniques of producing the same materials so that they can produce even better quality of the product with less investment of money, time and energy.

KEYWORDS: *Bhotiya, Harshil Weavers, Traditional Craft, Weaving, Knitting & Uttarakhand*

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INTRODUCTION

Uttarakhand is a newly engraved state of North temperate region known for its timeless beauty, ethereal scenes and unique geographical symmetry.

Uttarakhand is made up of 13 districts. Geographically, it can be divided into three regions, namely the high mountain region, the central region and the Thale region.

The state has an advantage of producing the finest grade wool that is ought to be apparel grade (HHDC 2011). It has been noted that in the high mountains and in some parts of central Uttarakhand, the Bhotia community has dominated the Weaving and knitting. However, in most parts of the Harshil and Dunda region and the Thale region, others also make a living through craft trade. Sheep and goat rearing play an important role in the rural economy of Uttarakhand (Lamba, 1986). The wool obtained from these animals is mainly used by local artisans to make a variety of weaving, Knitting only meeting the needs of that particular area. A wide range of products range from woolly soft wool weaving and knitting to the finest warp and weft knit hand-woven rugs, all of which are examples of unique craftsmanship. Despite the popularity of traditional mountain crafts, the economic status of craftsmen and craftsmen has not increased proportionally (Chaudhary, 2005). The hills of Uttarakhand are predominantly affianced with migration, Subsistent

livelihood and lower economy. Reason being agriculture cannot be the leading sector due to the geographical and environmental restrains in this area. Therefore, the research is planned to study the sustainable time honored practices and processes of production and manufacturing of wool. The craft is curated and practiced by the *Bhotia* community of Harsil & Dunda of Uttarakhand, the craft hold immense potential in entrepreneurial possibilities, design and traders. Based on the information collected, modern design techniques based on requirements will be developed and training will be planned accordingly which in turn will result in minimizing the migration of the youth and improve the employability possibilities in Harsil. The study is focused with the primary research of the *Bhotia* tribes of Harsil. Regular field visits formed the basis of understanding the tribal livelihood, material consumption, production of wool crafted products and their trade.

RESULTS AND DISCUSSIONS

Cluster of Dunda, Harsil is an identified cluster by the government of Uttarakhand where the population is engaged in business of woolen products since ages. In Harshil (Bhagori village) and Dunda of Uttarakhand clusters and artisans have been affianced in the business of woolen trading by utilizing their skills in varied combination to articulate their creativity. The population of the village are engrossed in manufacturing knitting, woven & handicraft items.

This art of handlooms making has been least exposed to outer world as a result of which these artist get the least rewards of their master piece (because equal quality of these product that are been to soled in competitive market are priced at a way higher value). The result and conclusion derived for the survey would help the reader's and stake holder to understand the various dimension related to the handloom's industry / art for this area their lifestyle problem and potential. This industry required government support and concentration through financial and technical support. The cluster is rich in craft and living skills, that forms the hidden identity of the craftsmen. By helping these craftsmen to explore a bigger market will boost the moral of the crafts menus to lack of market, resources and marketing channels the indigenous craft and art is at the verge of extinction.

It was also found that the craftsmen chose the product design randomly base on his / her personal preference the main design include are geometrical pattern, Abstract, Floral, Linear, Lines, Alphabetical etc.

Most of the people preferred making *Kangshuk (Socks)*, *Langshuk (Glovs)*, *shia (cap)*, *Shawal*, *Gluband (Muffler)*, *Dumkar (Blanket)*, *Kera (Pakhra)*, *Coat fabri*, *Sweater*, *Pakki* item. These products were prepared by Bhagori people who originated from Himachal Pradesh and later on shifted to Bhagori from Himachal Pradesh. The inherited craft of the region is conceded from one generation to the other. The legacy is a means of sustenance for the communities affianced in production and traditional craft.

The thickness and warmth is the prime feature of this product keeping in consideration the high altitude living of these people. While in *Tari* region / *Dunda* region it was observed that people preferred handlooms that were more colourful then their warmth and thickness. They manufactured many item with its original forms that did not had designs rather were in its natural form and colour. Craftsmen did not play much with the designs and colours. They followed the ones their ancestors would have done. On the contrary some while some the design were made by taking inspiration by natural tress, animal and also by consumer preference. At times government opened help Khadiudh yoga center for weaver who come at their specified center for weaving their product at those place.

Production of Wool

Apart from agriculture as a vocation by the residents of Harshil weaving with the wool is also a main occupation of *Bhotia* & *Jadhs* community to earn their living. Sheep and goats are reared to procure wool. Wool from sheep is medium fine quality wool and is of higher quality as compared to the goats wool and is used to make garment, shawls etc. whereas goats hair were used to make ropes and embellishment to be added to the products made from sheep wool. The adornment was done by created laces and ropes that were added at the edge for finished and improving the aesthetics of the products manufactured.

The skin of animals was also used as *bichawna* (a floor covering). As the animal died or approached towards, the skin was sheared and to overcome the excess cold it was washed and used for floor covering.

The wool manufactured in Harshil weaving were not given any chemical processing to prevent it from decomposing or being attacked by the microorganisms. This is the reason why the garments and other products made cannot be used in the coastal or arid areas. The woolens are attacked by moths and carpet beetles in the arid & hot climate

Processes Involve to Make Wool

Shearing: The process of shearing or shaving of hair from sheep or goat is the first step in wool yarn manufacturing. Sheep and goats are sheared twice in the months of March & December. The sheep hair are removed from the skin with the help of a metal shears.

These sheep's are primarily domesticated for wool purpose. Sheep are reared and are not meant for re sale, as shown in figure 1. The sheep that die are skinned, washed and used as floor covering.

Once the sheep has been sheared the fleece is washed and dried by the tribeswomen as depicted in figure 2. The washing is carried in two stages. First under the tap water and later on the washing ghats near river front.



Figure 1: Domestic Sheep of Harsil



Figure 2: Cleaning of Fleece

The wool is first cleaned with hand (generally by tribeswomen) it is a very tedious process and is done with precision as the fleece is very dirty when brought for the first round of cleanup.

The wool is then taken to the river for further cleaning (those who have adequate water facilities in home) do the second clean up at home. They used only pure water to clean up the fleece without mixing of shampoo, soaps and other chemical based product as it may affect the quality of the wool.

Second Stage of Washing: The fleece cleaned from dry dust and vegetable matter are then washed in the running cold water on the nearby ghats of area. The water soluble impurities are removed are taken for drying. A women wash wool on river as shown in figure 3 & 4.



Figure 3: Washed Fleece under Tap Water



Figure 4: Second Stage of Washing

Drying of the Fleece: The fleece is dried in the open land outside the houses in the sun. Also few dry the washed fleece near the ghats where the fibers were washed.

Once the second round of cleanup has been done it is brought is the sun light and left to dry down for two or three evenly on the bed sheet and mattress on the floor under sunlight (figure 5).



Figure 5: Drying of Fleece



Figure 6: Cleaning of Fibers after Washing

After drying of fibers, Harshil weavers again remove all the dust practical from the wool, before for carding as shown as figure 6.

Carding: The fibers obtained are all cluttered together and needs sorting. After drying the fibers are sorted. Sorting is done after the fibers are parallel aligned to each other. Carding is a process that aligns the fiber parallel by the help of machine. Unfortunately the people of Harshil lacks resourcefulness, There is no carding machine available to the occupants. Although in the year 2018, a Carding machine was made available at Dunda 20kms away from the town and it cost 35 Rs / kg for carding the yarn. But was closed by Government of India. Now a days the woolen dried yarns are taken to Uttarkashi for carding (figure 7). The machine is available at Khadi Udyog Kendra Uttarkashi. The cost of

carding is Rupees 15 per kg for woolen yarns. The process is done to disentangle the fibers by passing the wool fibers between rollers covered with thousands of fine wire teeth. Incidentally this process also removes some dirt and foreign matter from the fibers. As the wool fibers are brushed and disentangled by these wires, they tend to lie parallel, which makes the woolen yarns smooth. Since the fibers need to be rough and fuzzy, it is not desirable to have the fibers too parallel. By the use of oscillating device the fibers are placed to give a crisscross effect to the fibers. This results in disentanglement of fibers and lies them parallel and at the same time provides a fuzzy surface to the yarn. After this woolen slivers go directly to spinning.

The wool is then taken from Dunda for Carding to Uttarakashi (around 16 kilometers). These are all government set up facilities which charge fifteen rupees per kilogram for further process of wool (Carding)

There are two different machines and processes involved in Carding. In the first process the wool is placed on the first machine where by the machine separates the fibers of the wool to make it smooth for the next step of Carding. To make it smooth and fluffy.

In the second process of Carding the smoothed wool is up on another machine. The machine takes the wool on the roller, which starts moving and spins the wool around itself.

Once the wool has been spun around the roller the machine is stopped and the technician makes the small ball out of the wool as depicted in figure 7(c).

The wool is then brought back to the Dunda for the next process of making yarns. The wool is taken back to the *Dunda* for the next process. There are two processes of making the yarns. This machine is a fabricated tool and is available in each house of this area and they get it assembled by local technicians.



Figure 7(a): Carding of Wool



(b): Carding at Dunda Village



(c): Making of Woolen Balls

Gilling & Combing: The gilling process is carried out to straighten the fiber and remove the short staple ones. The process is continued by combing process in which the fiber from length 1 inch to 4 inch are removed and long fibers remain intact.

Here is a short description of how this non electrical foot operated machine works. The basic structure of this machine is similar to a sewing machine operated with foot. The machine is held with a long iron rod attached with the paddle for rotation which is further milled in such a way that it is easy to attach wool with it is a special spindle attached

manually with an iron rod (figure 8). This manually joined instrument known as spindles is used in to make the weaving process easier.



Figure 8: Machine for Spindle

In the second step the iron rod device is attached with the spindles. These three structures have to have in synchronization with each other for the proper and smooth collection of Carded yarn.

In the third step of weaving the fluffy wool which is brought from Uttarkashi is done made into a small thread like formation and inserted into spindles end taken out from other end of the spindles (spindles is a metallic and hallow device).

Now the machine operator starts the machine with gentle movement through paddles with her feet and the spindles start rotating and the wool start to spin around the spindles in the same thread like structure but now it's very smooth compared to its prevision form (figure 9).



Figure 9: Yarn Making using Spindles on Machine

The entire wool has been collected into the spindles which is removed from spindles after the process and kept in a nicely in an arranged manner.

Roving: This is the last and final stage before spinning. The fiber is slightly twisted to hold the thin slubber intact. A Baghori tribe woman roving at her home as shown in figure 10.



Figure 10: Roving done by the Women of Harshil at the Floor Lies the Black Goat Hair Bichawna

Spinning

The spinning is done manually by the use of traditional wooden spinning wheel called Charkha or using machine that is customized by the local technicians. Ring spinning is done for the yarns to be used in knitting whereas the spinning of yarns on charkha are directly fed in the shuttles for weaving process.

In this process carded wool is bought by the weavers bring from Uttarkashi. It is wrapped around their hand (generally on the left and now they start to twisting and stretching the wool with their right hand and start to rape it around a especially made wooden stick (charka) on which the wool starch to accumulate in the form of yarn. This is the earliest process of making the yarn which was inverted much before the semi mechanical process. It is a comparatively easy process as compare to the mechanical one, as its need no machine and technical know-how of operating the semi mechanical machine.



Figure 11: Bhaghori People Making Yarns by Hand

This is again a semi mechanical charka (spinning wheel) which is used to spin the yarn. This spinning wheel is made from cycle wheel and comes with a handle to operate it is a moveable machine and is manually operated. While operating this spinning wheel (charka) the yarn is attached to the charka manually rotated. Once the charka start rotting the wool yarn start taking a better shape into the spindles. These spindles make through charka are further used in latter process. The yarn made through spindling are further used in weaving.



Figure 12: Charka for Spinning

The process of knitting (figure 13) is done through making various loops of yarn in a continuous line, and pattern of knitting loops may vary according to the kind of product (garments). These loops of yarn lies in a continuous line. The knitted fabric have a number of interlooped loops as a new row of interlooping of the fabric is created new loops are created which is pulled through one and more already made loops figure 14 depicts a tribeswoman finishing the blanket by stitching the ends of blanket through a combination of two different colour of yarn which helps in edge binding and making it aesthetically pleasant. Products manufactured by hand knitting process are caps, gloves and socks. The product made through knitting are *Gloves (Lang shuk) Socks (kangshuk) Cap (shai) Sweater (sweater) Shawls (shawal)* - figure 15.



Figure 13: Hand Knitting Done by the Resident



Figure 14: Goat Hair Cord used for Edge Finishing of Blanket



Figure 15: Some Knitted Products

Weaving & Knitting: Most of the families in Harshil have two home one in Dunda and one in Harshil, the home that in Harshil is made as per the climatic requirement like it is comparatively smaller in size with lesser facilities and is generally kachcha in nature or is wooden that is due to constant snow fallow and rain and cold climate where as home in Dunda are well construed with good enough facilities. The process of weaving is done by Bhagori tribes who migrated from Himachal Pradesh to Bhagori. The weaving is done by both female & males of the community. The process is carried out in houses on loom, every household possess a handloom or a pitloom withing their residential premises. The government has also set up Khadi Gram Udyogcentre at Dunda where the same facilities available at very nominal prices. These are also manual machine which produce *Blanket, Pakie, Coat fabric, Shawals, Pagarh*.

The main part of the loom are:

- Head shaft
- Shuttle
- Shuttle box
- Picker
- Breast beam
- Wrap beam
- Reed
- Slaey
- Back beam
- Cloth beam



Figure 16: Weaving Process at Dunda Khadi Gramudyog



Figure 17: Pit Loom for Weaving



Figure 18: Weaving of the Woolen Skeins

Table 1: Type of Products for Different Cost and Profit

Product Mad	Raw Material Use	Method of Preparation	Cost of Manufacture (Rs)	Maximum Sale (Rs)	Profit Percentage Earn
Gloves (langshuk)	Wool	Knitted	60	120	100 %
Cap (Shai)	Wool	Knitted	60	120	100 %
Sweater	Wool	Knitted	700	1400	100 %
Socks (longsocks)	Wool	Knitted	80	150	46.6 %
Small socks (kangshuk)	Wool	Knitted	60	100	40 %
Pakki	Wool	Weaved	800	1200	33.3 %
Coat Fabric	Wool	Weaved	1200	2200	40 %
Shawal	Wool	Weaved	650	1000	35 %
MufflerGulband	Wool	Weaved	300	600	45.5 %
Blanket (Dumkar)	Wool	Weaved	1400	2800	100 %
Pagarh (Kera)	Wool	Weaved	500	950	44.4 %

From the above table 1, it is clear that all products have different rates, It was observed that respondents sold their product directly to final customers (tourist who visit Harshil and Dunda), this is direct sale which get them good prices for their products. It was seen that the gloves that they make with rupees 50 is sold at 100 rupees, cap make rupees at 60, and sold at 120 rupees, that it was seen that from the product these craft men sold to the direct customer earned them approx. 100 % margin for the knitting of the half sweater it required around half kilogram of wool, which is made at rupees 350 approximately and sold at rupees 750 approximately and the full Sweater is made with roughly one kilogram of wool which cost around rupees at 700 and sold around rupees 1400. Mostly Bhagori ladies knitted the Socks (*kangshuk*) long, which is made at rupees 80 and sold at rupees 150 rupees, which earn them around 46.6 % of profit margin of socks per pair. Short socks Weaved product take some time to get completed but is yarn is ready it get completed quickly, for example the coat fabric take five to six days to get completed through weaving, the coat fabric cost around rupees 1200 to them and it sold at rupees 2000 or rupees 2200 which earned them around 40 to 45.5 % in profit on this particular item. If yarns is ready it take around 3 to 4 days otherwise it take 6 to 7 days to get complete. The muffler take around time 2 to 3 days to get completed through weaving, muffler (*Gulband*) cost around at rupees 250 to 300 to them and it sold at rupees 450 to 550, they sold this item in different rate as per condition, if they sold direct to the customer. *Dumkar* (blanket) take around time 7 to 8 days to get completed through weaving, after completed weaving they finished their raw edges with different colour of border (different colour yarns and twist and made like a rope and tack with the help of hand needle, it look beautiful and attractive also after that) the blanket around rupees 1400 to them and sold it at rupees 2800.

Table 2: Products Manufactured in a Week

No. of Respondent	Average No. of Product Made	Average No. of Knitted Product	Average No. of Weaved Product
0–80	109	86	23
80–160	218	174	44
160–240	327	260	67
240–320	654	520	134
320–400	1308	1040	268
400–480	2616	2080	536

The above table 2 show the number of product made by the specified number of respondent During a particular week with the average number of product made which is further specified under weaved or knitted product. As it show in the table a group of respondent ranging from 0–80 (individual produce on a average nearly 109 product in a week of which is round 86 hours knitted ones and around 23 weaved whereas a respondent number of 80–160 would produce on average 218 product per week which are further classified as 174 items for knitted ones and 44 items of weaved ones.

Table 3: Sourcing of Raw Materials

Nature of Raw Material	Obtain From	Seasonal Buying	Price of Purchase Per (Kg).Approximate Rate
Wool	Reared Sheep	Throughout the year	Rs.700
Wool	Market	Throughout the year	Rs.100

From the above table 3, it is observed that natural raw material is provided to local weavers at rupees 700 per kilogram (yarns). They buy this raw material from their local area to who domesticate the sheep. craft men buy raw wool (raw wool not actually yarns at rupees 80 per kg). If any outsider wishes to buy this wool they charge at rupees 800 per kilogram. This wool is available in throughout the year, but is mostly available from March to September which is its production period in Harshil and Dunda, it was observed that the weavers used, mostly focal wool which is pure and natural in nature. The wool is mainly in three colour black, Cream, Gray. Generally this wool bought from their neighbor but some time they used artificial wool as well as, but only for designing purposes, this artificial wool is bought from local nearby market. This has different rate ranging from rupees 100 to 110. Only knitting weavers used artificial wool for designing their craft the main usage of artificial wool is in Gloves, Socks, Caps and sweater. They used artificial wool only for designing purpose.

Table 4: Tabular Presentation of Sale Related Data

Item of Sale	Types of Product		Average No. of Product Made	Mode of Sale		Profit Percentage	
	Knitted	Weaved		Direct	Indirect (Through Middle Men)	Direct	Indirect
Gloves	Knitted		600	100	500	100 %	40 %
Cap	knitted		500	80	420	100 %	25 %
Sweater	Knitted		180	10	170	100 %	36 %
Socks	Knitted		800	150	650	46.6 %	40 %
Pakki		Weaved	90	15	75	33.3 %	20 %
Coat Fabric		Weaved	80	10	70	40 %	40 %
Shawl		Weaved	180	20	160	35 %	23.5 %
Muffler		Weaved	60	10	50	45.5 %	37.5 %
Blanket		Weaved	80	08	72	100 %	44 %
Pagarh		Weaved	40	30	10	44.4 %	33.3 %

The present table explain various expect related to a must of the winter product sold and there marketing which are sold by the craft men of the Harshil. It was seen that craft men sold their product direct and indirect like they sold cap direct at rupees 60 they sold at For example the Gloves (langshuk) that knitted by these people are approximate 600 in pair made by them in a week. Out of those 600 pieces around 100 pieces are sold directly by these people to the final customer (Tourist and visitors who come directly to their village Harshil and Dunda) and around 500 pieces are sold indirectly to the final customer (through middle men). The profit percentage earn while by selling the product directly to the customer is around 100 % (the approximate cost of the one pair of gloves is rupees 50 and sell it at rupees 100). Thus, they earn roughly 100 % profit while selling gloves. Whereas the profit margin is minimized to 44 % if the product is being sold through middle men as the 50 rupees product is sold at 90 roughly to the middle men (gloves only). The cost of production of a pair of socks at rupees 60 which is sold as rupees 100 to the middle men. Production cost of sweater is rupees 350 half sweater which is sold as rupees 600 to the middle men and cost of full sweater at rupees 700 and sold to the middle men at rupees 1100. The cost of production of pakkie at rupees 800 sold to the middle men at rupees 1000. The cost of production of coat fabric at rupees 1200 which is sold to the middle men at rupees 2000. The cost of production of blanket at rupees 1400 which is sold to the middle men at rupees 2500. The cost of production of muffler at rupees 300 which is sold at rupees 550. The cost of production of kera at rupees 500 which is sold to the middle at rupees 750. Bhagori people who want weaved shawl and blanket they give their yarns to people (who called KOLI people) they weaved these items, and give them back after that they finish these article, and sold these to the middle men and direct to final customer.

CONCLUSIONS

The main finding of study in that the craftsmen of Harshil or Dunda do not deserve the reward for their craft. Products made by the craftsmen are of high quality and with durability but are sold at a very minimal price reason being the mediators in between the distribution channel. The cluster owes a great potential of the skill for manufacturing but lacks technological advancements reason being the geographical constraints. One needs to help in preserving the culture, heritage & craft of the weavers of Harsil.

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AUTHORS PROFILE



Dr. Rena Mehta is working as Associate Professor at Manipal Institute of Architecture & Planning, Department of Design, Manipal. She is a doctorate of Philosophy in the field of apparel & Textiles. She has 18 research papers published in journals of repute & 2 copyrights to her credit. She has also participated in 25 conferences & workshops. Her area of interest includes documentation of textile craft, Dyeing & Printing of Textiles, Textile Chemistry, Textile & Apparel design to name a few. She owes a great interest in Research & Development in the fiels of Apparel & Textiles.



SHABANA SHARIF is a student at Swami Vivekanand Subharti University, Meerut in the course of M.F.D. (Masters in Fashion Design) . She also posses a Diploma in Fashion Design from National Institute of Fashion Design 2011-13. She has attended and presented research papers in a number of conferences. She also has a copyright to her credit.

