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Craft Cluster

Kosa

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What is Silk?

Man is always inquisitive for silk products. SILK - The Queen of Textiles, spells luxury, elegance, class and comfort. Mankind has always loved this shimmering fibre of unparalleled grandeur from the moment Chinese Empress Shiling Ti discovered it in her tea cup. It withstood many a daunting challenges from other natural and artificial fibres and yet, remained the undisputed Queen of Textiles since centuries. Exquisite qualities like the natural sheen, inherent affinity for dyes and vibrant colours, high absorbance, light weight, resilience and excellent drape etc. have made silk, the irresistible and inevitable companion of the eve, all over the world.

Chemically speaking, silk is made of proteins secreted in the fluid state by a caterpillar, popularly known as 'silkworm'. These silkworms feed on the selected food plants and spin cocoons as a 'protective shell' to perpetuate the life. Silkworm has four stages in its life cycle viz., egg, caterpillar, pupa and moth. Man interferes this life cycle at the cocoon stage to obtain the silk, a continuous filament of commercial importance, used in weaving of the dream fabric.

Why Silk?

Silk is a high value but low volume product accounting for only 0.2 % of world's total textile production. Silk production is regarded as an important tool for economic development of a country as it is a labour intensive and high income generating industry that churns out value added products of economic importance. The developing countries rely on it for employment generation, especially in rural sector and also as a means to earn the foreign exchange

Silk fibre is a continuous strand unwound from the cocoon of a moth caterpillar known as silkworm. Silk is high in luster and has good strength. Cultivation of silkworms is called sericulture.

PROPERTIES OF SILK

- Brown or tan in color.
- Triangular cross section.
- High luster.
- Moderate resiliency.
- Low conductivity of heat.
- Poor chemical resistance to acid, base and oxidizing agents.
- High wet strength.
- Good moisture regain.
- Sensitive to sun and heat.
- Poor wrinkle and abrasion resistance.

TYPES OF SILK

There are four types of natural silk which are commercially known and produced in the world. Among them mulberry silk is the most important and contributes as much as 90 per cent of world production, therefore, the term "silk" in general refers to the silk of the mulberry silkworm. Three other commercially important types fall into the category of non-mulberry silks namely: Eri silk, Tussar silk, and Muga silk. Tassa, Muga and Eri are considered as wild or vanya silk as they can only be reared in forests unlike mulberry which is cultivated. Out of the four major types of silk Eri is also known as Ahimsa silk as the silk can be extracted without killing the cocoon, but in effect it is expensive as the production is low.

KOSA (TUSSAR)

Tussar Silk farming is done in Gadchirol, Chandrapur, Bhandara and Gondia Districts of Maharashtra from around 200-250 Years. Around 3000 Tribal Families are involved doing Tasar Silk farming in this region and producing Tasar silk cocoons. The required plants for Tasar are Aen, Arjun, Kinjal, Jambhul are available i large scale in the other districts of Maharashtra like Dhulia, Nasik, Nandurbar, Amravati, Yavatmal, Nanded, Thane, Ratnagiri and Sindhudurg etc.

One can cultivate Tussar silk worm on the trees like Aen and Arjun in the Forest and produce Silk Cocoons.
Tussar is copperish colour, coarse silk mainly used for furnishings and interiors. It is less lustrous than mulberry silk, but has its own feel and appeal. Tussar silk is generated by the silkworm, Antheraea Mylitta which mainly thrive on the food plants Aen and Arjun. The rearings are conducted in nature on the trees in the open. In India, Tussar silk is mainly produced in the states of Jharkhand, Chhattisgarh and Orissa, besides Maharashtra, West Bengal and Andhra Pradesh. Tussar culture is the main stay for many a tribal community in India.

FACES BEHIND THE FABRIC

India is the main producer of Tussar silk with Jharkhand being the main state of its production. Producing Tussar is a rural art. Traditionally, the women of the tribal and rural areas were trained in weaving Silk out of cocoons and weaving fabrics out of the threads hence obtained. Like most of the other textile arts, Tussar too became a fabric of mechanization.
The Tussar silk industry makes extensive use of rural and tribal labour. The women who are absorbed by the industry are trained in the production of Silk. It takes them 3 days to finish a single 10 meter Tussar silk cloth. For each employed labour, the task is to weave at least 10 Silk sarees in a month. Each Tussar silk saree is sold for Rs. 3000 to Rs 3500. While the rural women who are involved in making the saree earn between Rs1500 to Rs2500 for a single saree, the town women get a higher wage for the same job.

HISTORY OF KOSA

Kosa Silk is the Sanskrit name of Desi Tussar. Produced mainly in India, Tussar is highly valued for its natural Gold colors, which it inherits from the Antheria Paphia, Antheria Milita, and Antheria Proylei. As far as the history of the origin of Tussar Silk is concerned, there is very little data regarding the time of its origin.
However, borrowing from the history of raw silk, it can be said that Tussar silk was a discovery of the medieval times. Prior to that there wasn't any trace of Silk being made out of any other natural or artificial object in place of mulberry fed Silk works.

The cost difference between Tussar silk and other forms of silk arises from the fact that the former is not fed on mulberry. In fact it is the rearing of the Tusser silk worms that makes them a cheaper variety. That said, Tussah silk is as illustrious a variety as any other.

HISTORY OF KOSA IN BHANDARA

In ancient times, pauni was famous for the handloom textile industry. King pawan ruled ths town years ago. According to the folklore, the weavers are basically from Betul (now in Mp). The king of Betul had sent some of the Weavers to teach the art of weaving to Pauni weavers. The weavers weaved clothes for the royal family members of the Pawan kingdom, in the ancient times.

During 1871- 1881 there was 150O silk population, in the town of Pauni who also worked on Tussar. The art spread to places namely Bharrdara, Andhalgaon, Mohadi and by the year 1901, there 40O0 persons (in 950 Houses) associated with the industry.

The kosa from this region was called Mulkhi. The history Kosa silk and its making in this area can be dated back to 100-150 years. Vidharbha Developing corporation (VCVL) formed under the government of Maharashtra formed the Tussar project, an initiative to promote and sustain the craft started during the years f 1976-1980. Madhya Pradesh, Maharashtra, west Bengal, Odisha and Andhra Pradesh are the 5 states that were grated 50 lakhs per year for the Tussar project. The government tried to increase the production of the craft by giving grant to develop the silk during the years of 1982-1983. The width of the cloth produced before the Tussar project was of 28 inches. That cloth used to be made by double hand twisted yarn for warp and single for weft. It was after the implementation of the Tussar project under the Vidharbha Developing Corporation that cloth of width of 50 inches started its production in this market.
Before this was formed (before the 80's), the districts Chandrapur and Gharchirolli was known for Mulkhi silkworm rearers and were one of the major contributors for the production of Mulkhi kosa silk. The Bhandara kosa Mulkhi is no longer available.

During olden times the sheets were developed naturally unlike now were it is developed by man in granaries. And this practice continues in Bastar, Chhattisgarh and they are known as real kosa. The maximum amount of yarn can be extracted from this. The cocoons are much bigger and the fertilization, etc. happens naturally.

DEMOGRAPHICS

According to the 2011 census Bhandara district has a population of 1,200,334,roughly equal to the nation of Timor-Leste or the US state of Rhode Island.This gives it a ranking of 397th in India (out of a total of 640).The district has a population density of 294 inhabitants per square kilometre (760/sq mi) .Its population growth rate over the decade 2001–2011 was 5.65%.Bhandara has a sex ratio of 982 females for every 1000 males,and a literacy rate of 83.76%.

LANGUAGE AND CULTURE

98% people of the population speak Marathi. Bhandara city has many people from other Indian states as well as people belonging to the world's major faiths. A number of newspapers are published from Bhandara in English, Hindi and Marathi. The Times of India Bhandara Edition has been published for a few years as the Bhandara Times. Many leading Hindi dailies have offices in Bhandara. Bhandara is known for staying calm during communal conflicts in India. Several important religious events are observed in the city throughout the year. There are three Vidhan Sabha constituencies in this district: Tumsar, Bhandara (SC) and Sakoli. All of these are part of the Bhandara-Gondiya Lok Sabha constituency. ECONOMY Bandhara has a mixed economy including agriculture, manufacturing and forest resources. With several ancient temples and historical monuments, along with lakes, parks and sanctuaries, Bhandara attracts many tourists.In 2006 the Ministry of Panchayati Raj named Bhandara one of the country's 250 most backward districts (out of a total of 640).It is one of the twelve districts in Maharashtra currently receiving funds from the Backward Regions Grant Fund Programme (BRGF).

LIFESTYLE

Bhandara is known as the mining district of the state for its rich mineral resources. The economy of the district is mainly depending on agriculture, mining and forest products. There are two villages having population 10,000 and above. In Bhandara district most of the cropped area is under rice cultivation revealing that rice is king crop of the district.

GEOGRAPHICAL CONDITIONS FOR KOSA

Extreme conditions are required for good quality of kosa silk. Hot and humid temperature plays a vital role in silkworm rearing and its role is both direct and indirect. The combined effect of temperature and humidity largely determines the satisfactory growth of the silkworms and production of good quality cocoons.

Role of Temperature on Growth of Silkworm

The temperature has a direct correlation with the growth of silkworms; wide fluctuation of temperature is harmful to the development of silkworm. Rise in temperature increases various physiological functions and with a fall in temperature, the physiological activities are decreases.

Increased temperature during silkworm rearing particularly in late instars accelerates larval growth and shortens the larval period. On the other hand, at low temperature, the growth is slow and larval period is prolonged. The optimum temperature for normal growth of silkworms is between 20°C and 28°C and the desirable temperature for maximum productivity ranges from 23°C to 28°C. Temperature above 30°C directly affects the health of the worm. If the temperature is below 20°C all the physiological activities are retarded, especially in early instars; as a result, worms become too weak and susceptible to various diseases.

Role of Humidity on Growth of Silkworm

Humidity also indirectly influences the rate of withering of the leaves in the silkworms rearing beds. Under dry conditions especially winter and summer the leaves wither very fast and consumption by larvae will be less. This affects growth of the larvae and results in wastage of leaf in the rearing bed. Retarded growth of young larvae makes them weak and susceptible to diseases. At a humidity of 90 percent or higher, if temperature is maintained at 26°C–28°C, they can grow without being greatly affected. Like temperature, humidity also fluctuates widely not only from season to season but also within the day itself. Therefore, it is necessary for the silkworm rearers to regulate it for their successful crop.
Water forms a large proportion of insect tissues and survival depends on the ability to maintain and to balance water in the body. There is no limiting range of humidity and most insects can develop at any humidity provided they are able to control their water balance. The effect of high humidity on weight of larva of silkworm was studied. The water content in insects ranges from less than 50% to more than 90% of the total body weight and there may be much variation within the same species even when reared at identical conditions.

Role of Air and Light on Growth of Silkworm

Like other animals, silkworms also require fresh air. By respiration of silkworms, carbon dioxide gas is released in the rearing bed. The freshness of air can be determined by its CO_2 contents. Although atmospheric CO_2content is generally 0.03-0.04% in the rearing room, carbon monoxide, ammonia, sulphur dioxide, and so forth are also released in the rearing room when farmers burn charcoal to raise temperature. These gases are injurious to silkworms; therefore, care should be taken to allow fresh air through proper ventilation to keep the toxic gases at a low level. If CO_2 exceeds above 2 percent concentration, the growth of silkworm is retarded.

Influence of Temperature on Reproductive Potential of Silkworm Moth

The reproductive performance of silkworm varies with impertinent climatic factors in addition to physiological status of the parent. The commercial viability of silkworm is dependent on correlation between cocoons, moths, and reproductive potential of the strains. The cocoon weight and reproductive characters were greatly influenced by different temperature regimes. The rate of egg production varies with temperature, accelerated up to a point of optimum temperature and humidity conditions.
Male silkworm moths almost became sterile when kept at 32°C for 4 days after spinning even though pupae were preserved at moderate temperature of 23°C throughout the remaining period.

INFRASTRUCTURE

TYPES OF LOOMS

1. Pit loom

Pit loom is set by sinking four posters into the ground and with an overhang slay. In case of pit loom, the yarn work inside the pit so that the warp yarn may absorb moisture and better weaving will result. In this loom, the combination of slay and shuttle boxes. In 1773 A.D john key of bury, England invented the "fly shuttle". This invention was an extremely important event in the history and development of weaving.

Features of Pit Loom in Weaving:
Important characteristics of pit loom have pointed out in the following:

- One can achieve texture fabric by using this type of loom.
- An average weaver can weave a medium width fly shuttle loom at 80-110 pics per minute.
- It is a fly shuttle loom.
- Here, shuttle is transferred from one box to another.
- To control moisture, looms are settled in floor that way yarn can get moisture.
- Production quantity of this loom is double than primitive loom or vertical loom.

Advantages of Pit Loom:
Those are-

- Texture fabric is produced by using this loom.
- Higher production in pit loom.
- It can accommodate a great quality of weft yarn in the pirn winding package.
- An average weaver can weave in case of pit loom.
- Easy control of moisture here.

Disadvantages of Pit Loom:
Those are-

- Too tough to control more number of heald shaft.
- This types of loom set up is difficult.
- Pit loom is one types of hand loom, so it's tough to achieve higher production from her

There are two kinds of Pit looms -

a. FLYING SHUTTLE

Flying shuttle, Machine that represented an important step toward automatic weaving. It was invented by John Kay in 1733. In previous looms, the shuttle was thrown, or passed, through the threads by hand, and wide fabrics required two weavers seated side by side passing the shuttle between them. Kay mounted his shuttle on wheels in a track and used paddles to shoot the shuttle

from side to side when the weaver jerked a cord. Using the flying shuttle, one weaver could weave fabrics of any width more quickly than two could before.

b. THROW SHUTTLE

The throw shuttle is a loom in which the shuttle is thrown across the shed by hand. In a fly shuttle loom, the shuttle is sent across the shed by means of a mechanical picker. This is an improved type of loom, which increased three to four times the production of the weavers. It has all the advantages of the throw shuttle, except for, weaving intricate extra weft patterns.

2. Frame Loom:

Frame looms almost has similar mechanism that ground looms hold. The loom was made of rods and panels fastened at the right angles to construct a form similar to a box to make it more handy and manageable. Frame loom is being utilized even until now because of its portability and economy.
Frame loom machine used in Weaving
Features of Frame Loom in Weaving:
Some key characteristics of frame loom have pointed out in the following:

- Twill, satin fabric can be produced by using this types of loom machine.
- The movement of the slay is given by the left hand of the weaver.

Advantages of Frame Loom:

- It has increased speed as one hand of the weaver operates the picking handle and the other remains free to operate the slay.
- Ensure better selvedge here.
- Larger number of heald can conveniently be operated.
- Let off is done here by pawl lever arrangement.

Disadvantages of Frame Loom:

- Fabric may compact in frame loom.

Types of frames loom

a. DOBBBY LOOM

A dobby loom is a type of floor loom that controls all the warp threads using a device called a dobby. (The word dobby is a corruption of "draw boy" which refers to the weaver's helpers who used to control the warp thread by pulling on draw threads.) A dobby loom is an alternative to a treadle loom. Both are floor looms in which every warp thread on the loom is attached to a single shaft using a device called a heddle. A shaft is sometimes known as a harness. Each shaft

controls a set of threads. Raising or lowering several shafts at the same time gives a huge variety of possible sheds (gaps) through which the shuttle containing the weft thread can be thrown.

b. Jacquard loom

The Jacquard loom is a device fitted to a power loom that simplifies the process of manufacturing textiles with such complex patterns as brocade, damask and matelassé.[3] It was invented by Joseph Marie Jacquard in 1804.[4] The loom was controlled by a "chain of cards"; a number of punched cards laced together into a continuous sequence.[5] Multiple rows of holes were punched on each card, with one complete card corresponding to one row of the design. Several such paper cards, generally white in color, can be seen in the images below. Chains, like Bouchon's earlier use of paper tape, allowed sequences of any length to be constructed, not limited by the size of a card.

c. JALA LOOM

In Varanasi, before the advent of jacquard looms, weaving was done on jala looms. A 'jala' is a kind of frame on which the design is first created using threads by nakshabands (pattern-makers). This is attached to the loom as a master harness. Some master weavers still use the jala loom in Varanasi.

Raw material

Kosa silk is obtained from an Indian silkworm – Antheraeamylitta and is a variety of Tussar silk. It is drawn out of cocoons which are especially grown on specific trees known as Arjun, Saja and Sal. The scientific name of these moths is AntheraeaPaphia and they are a part of the group known as Emperor Moths or Saturnids. These moths are embellished by circular markings that look like a mirror. Unlike other silk worms, they live in the wild forests and do not breed on mulberry, which is the common food source for most silk worms. Hence, the silk formed out of their oval, single-shelled cocoons secured the name, 'wild silk'. When boiled, these extract thin, naturally gold threads. Kosa silk is known for its sturdiness and is preferred to pure silk in the state of Chhattisgarh. Known the world over for its soft texture and purity, this version of Tussar silk is produced exclusively in India. Known for its dull golden brownish look, it is available naturally in shades of pale golden, dark honey, orange, fawn, cream and many more; all similar to the description of dull golden brown. From the original color of Kosa silk which is dull gold, the finished product is dyed using natural dyes from the palaas flower (Fire flower), the red pollen of the Rora Flower and the deep rose red from lac and some more natural contributors.

SOME BASIC TOOLS USED IN THE PROCESS

Various tools used in the process are listed below:

1. Patta (course plate) -This machine is used to comb slivers of balkal
2. Ambar charkha - To transfer the reeled silk skeins onto bobbins
3. Tape machine - Used for spinning the silk thread quickly.
4. Scissors - To finish the woven fabric.
5. Spray machine -To sprinkle water on the fabric before calendaring.

UNIQUENESS OF THE CRAFT

The uniqueness of the product is by virtue of
- The Raw Material, i.e. Bhandara Tussar Silk
- The Saw Edge Motifs adjacent to Borders
- The process of weaving
- The Designs

Raw Material Uniqueness: For weaving the Karvat Kati Tussar saree, Korean Tussar is used in the warp and in the weft, the local variety, i.e. Bhandara Tussar silk is used. The local variety of Tussar, is very popular for the following:
a. High Silk %
b. Low Breakages
c. Less Wastage
d. Light Weight
e. Superior Look
f. Durability
g. Original Golden colour
h. Shine & Brightness: More the washes. more is the Shining & Brightness
i. The original Bhandara Tussar Silk is Multi- Voltaire, whereas the others are multi Tri-voltaire.
The above characteristics are due to the local geographic factor, namely the climatic conditions and also the high nutritious value of the leaves of the Ain trees on which the reeling of the cocoons takes place.

Saw Edge Motlfs: The Vidharbha region of Maharashtra is the originating place of Karvat Kati (saw-edged) saree so named after the border design which resembles saw teeth. The design resembling saw teeth is weaved on body part of the saree at both the sides adjacent to the border. Every karvath kati design saree will have this pattern of design on both the sides.

Designs: Most of the designs in the saree border are by virtue of the Dobby mechanism and the root origin of most of the designs are the sculptures seen at the famous Ramtek temple, which is near to this place. The uniqueness in designs are, firstly their nomenclature / description to each and every part of the design, the colour combinations, the size & shape of the designs. The design description of panckha Design in the local vocabulary is as under:
Doon(Border Black Line), Korna(Adjacent yellow Line to Border Black line), Belkannath (Desigrr), Korna (Adjacent Yellow Line), pankha kinar (main design), 25 Korna (Adjacent Yellow Line), Bellannath (Design), Ornamentation in Black line, Korna (Adjacent Yellow Line, Half Bugudi (Design), Korna (Adjacent Yellow Line), Gul with one yellow & Black lines adjacent to each other. The local names of the different designs that are used in the dobby border are:- - Rui Phool - Karan Phool - Dholak kinar - Jali kinar - Jai Phool - Weet Phool - Bel Kannat - Devri - Katari - Lahari - Mor – Ambapatti.

Process of Weaving: Saw teeth design adjacent to the dobby border comes out of the excellent artistic weaving skills of weaver, in interlacing the border weft yarns with the body weft yarns,

by penetrating the shuttles through a bunch of warp yarns in a decreasing trends. This is done on by using three throw shuttles, two for the borders, and one for the body, on pit looms.

SERICULTURE

Sericulture is the production of silk and the rearing of silkworms for this purpose. In the present paper the rearing performance of Daba Bivoltine (DBV) and Daba Trivoltine (DTV) pertaining to the elite seed supplied by Central Tussar Silkworm Seed Station to various BSMTC's located in different states is compiled, analyzed and discussed. Figure. Entrance board to BSMTC. Figure. Cocoons chain. FIELD SURVEY BSMTC has a grainage unit. The silkworm seed production centres are referred to as grainages. The DFL's are prepared in the grainages and supplied to the farmers for rearing. Both government and private sector grainages are involved in this activity. Grainages play a vital role not only in production of seed but also in the entire seed organization. During the Grainage operation, one must know the seed suitability for a particular area before releasing commercially. A particular race is suitable to a particular area. The workers make a collection of local cocoons which includes both male and female. The male insect is identified by its thick antenna, smaller and thinner abdomen along with their color – Brown whereas the female insect is identified by its thin antenna, bigger abdomen and it's yellow color. The shape of wings also differs considerably.

Silkworm Seed Production Ÿ Ÿ Ÿ Ÿ The cocoons are then disinfected to destruct the disease casual organisms like yellow flies which eats pupa and breaks the cocoon with it saliva. During the preparation of quality DFLs, all the technical precautions were ensured including methodological mother moth examination to detect any pebrine disease. This leads to 60% loss of cocoons due to the damage caused by the environmental effects. The dead cocoons are checked by the rattling sound of the cocoons. Ÿ Ÿ Figure. Collection of local cocoons which includes both male and female. The weight of cocoons at Bhandara is 28gms, Daba Trivoltine (DTV) is 1.2 gm and Daba bivoltine (DBV) is 1.8 gm. DBV and DTV are characterized by large size shell with short peduncle, weights 10 – 14g, shell weight 1.2 – 2.0 g and medium denier filament.
The cycle for silkworm rearing is as follows

(i) On the day of hatching Tussar silkworms are brushed on well maintained Terminalia arjuna (Arjun) and Terminalia tomentosa (Asan) plants and rearing is conducted following the standard rearing practices. With regard to the hatching %, maximum was recorded at Bastar (91 %) and minimum of 80% was at Bhandara.

(ii) The process is followed by Incubation where the eggs should be kept in cooler places at 250C temperature and 80% humidity, lesser the humidity poorer the hatching percentage or more the temperature, weaker the larva and poorer the hatch +percentage. For uniform hatching, all the egg cards or loose eggs should be kept in dark and cooler atmosphere. After the development of the silkworm into various stages it leads to cocoon formation and then into butterflies.

(iii) The male and female butterflies are put on strings for mating (coupling) for around 7-8 hours usually in darkness. Later they are separated from each other. The wings are

then cut and kept in earthen pots with holes in them for continuous air circulation. The time period of keeping the wings in the pots is of about 8 days.

(iv) In about three days each butterfly produces around 150 eggs. After they produce their eggs, the butterflies are checked for diseases and infections. After the check, if any out of the lot are found to have any kind of disease or infection, they are buried or burned along with their eggs so that they don't spread it to the healthy ones.

(v) Later the good eggs of the healthy butterflies are cleaned and dried. They are usually cleaned with formylene to remove impurities. After that they are put into cloth bags and after a time period of 8 days new-borns are produces. There is a colour change of all the eggs giving an indication that the eggs are about to crack.

(vi) Later the new-borns are put into a tray and later are fed the leaves of the Anjan tree. The worms climb onto the leaves to eat them and continue to have a natural growth. So when the leaves from one tree are almost over they are cut and placed on the next tree so that the silkworms don't run out of food. Also these days they cut the trees because the labour has become old and it is hard for them to climb trees to collect materials. After a week the worms grow bigger in size till thy reach the second stage and continue to grow even bigger until they reach the third stage and then the final stage.

(vii) After that it takes the worms around 30-45 days for the entire cocoon(shell) formation around themselves. The roofs of the rooms in which the cocoons are kept should have net all around it so that the butterflies don't fly off when they come out of the cocoons. Also a particular temperature has to be maintained for their survival. The cocoons are hung on strings and the male and female butterflies are then separated by hand. The male has a comparatively smaller body than that of the female as she carries the eggs. The life cycle of the female ends right after she produces the eggs. The male can be used over and over again for further coupling. Around 200 eggs are produced by each female butterfly.

Method of production

The kosa silk tradition including both- tassar culture and tassar weaving stretches in Chhattisgarh from immemorial times. The Kosa silk industry has two sectors i.e. the sericulture or the cultivation of cocoons and reeling of yarn; with silk weaving. In the tassar home based industry, specially in, Janjgir - Champa and Riagdxl roiling goes along with weaving, thus leaving the first sector confined to the production of cocoons only. The Cultivation Process of Cocoons: The production of cocoons can again be divided in to two parts – (a) Silk worm rearing (b) Collection of nature grown cocoons.

Tassar rearing is practiced in the tribal areas of Raigarh, Sarguja and Bilaspur districts and the Bhopal-Patnam area of Bastar district. In addition to the four districts of Chhattisgarh tassar rearing is practiced in Mandla district also which belongs to Mahakoshal region of Madhya

Pradesh. The collection of nature grown cocoons by the tribal is confined to Bastar district only and leaving the Bhopal-Patnam are the entire district has a large tassar fauna where cocoons are grown by nature in the thick forests.

The production of Tussar silk fabrics at Bhandara is done in three identified stages.
Stage I: Collection of Cocoons, processing of Cocoons, Spinning of SiIk garn
Stage II: Pre-Weaving Activities
Stage III: Weaving & processing of silk fabrics.

After the cocoons are collected they go through the following processes

(i) **Stifling** : Stifling is the process of choking fresh cocoons and to prevent the emergence of moth in the form of butterfly by killing the pupae inside and also to ensure proper preservation of cocoons by eliminating the cocoon moisture and making the cocoons suitable for unwinding. Cocoons are preserved and stored by traditional methods i.e. Sun-drying.

(ii) **Sun-drying**: The cocoons are dried under moderate sunlight. The samples of the lot are tested for diseases and other impurities. Cocoons for boiling process are sorted on the basis of built, colour, size, compactness, weight etc. This restricts the causes of fungus attack and enhances the reeling efficiency. Cocoons are spread on floor in heated sun light for about a week till the pupae are killeed and cocoons are completely dried. It is simple, economical & requires no initial investment. It requires labour, space and prolonged exposure to sunlight. Sun drying is necessary after stifling for proper preservation of cocoons.

(iii) **Tussar Reeling**: The process of extraction of Tussar silk yarn from the cocoon is termed as Reeling. For reeling the cocoons undergo the following processes:

After the cocoons are plucked they remove the peduncle by cutting it with a scissors. They are boiled to untangle the silk fibre.

(a) BOILING PROCESS
200-300 grams of cocoons are boiled in 4 litres of water mixed with 1% of soap for 15 minutes.

(b) STEAMING PROCESS
After it is boiled, the cocoons are put in a pressure cooker for 30 minutes for steaming.

(c) The cocoons are steamed and boiled as they comprise of the fibre and a gum like substance which holds the cocoon together. When it is boiled and steamed the fibre separates from the gum and the worker is able to take out threads of fibre from the cocoon. Also it kills the worm inside which is further used for farming purposes.

(d) After the steaming process, they allow them to cool down and then a layer is removed from the cocoon by hand. The cocoons are then attached to the reeling machine where 7 or 8 Kosa cocoons are reeled together onto one bobbin. Which is again re-reeled on a

charkha to make the yarn stronger depending on how much TPI(Twist per inch) is applied.

Firstly the cocoons are sorted and selected, thereafter are sprinkled with water and then these cocoons are tied in a cloth bundle of 100-200 and the lot is placed on a highly raised platform in a manual boiler. Sodium Hydroxide is added to the water in the boiler and the same is boiled through firewood. The cocoons which are placed on raised platform partitioned with grass material are exposed to the water vapor for a period of two hours. This softens the cocoons and the pupae inside if alive dies and gets hard. The cocoons are taken out and reeling of the Tussar Yarn begins, by coupling/ multiplying the five filaments coming out form the five different cocoons. The process is done on reeling machines and the yarn is rolled onto the bobbin. At the end of the reeling waste of cocoons, cut yarn and residues remain and these are also spun in different yarns. The reeling is normally done with a fixed number of cocoons. As soon as a cocoon is exhausted, the second one is immediately substituted to reel a continuous and uniformly thick yarn. A realer can reel about 80 cocoons a day (8 hours). During early periods reeling process was adopted. Now a day the reeling of Kosa silk cocoons are carried out mechanically.

(iv) **Tussar waste spinning**: The waste silk is thoroughly cleaned and spun into yarns. Spun silk is produced from waste with long staples, which gives yarn its characteristics brilliance. These yarns are coarse and lack the characteristic brilliance. The Tussar silk wastes used for spinning come mainly in the following forms:

(v) **Reeling waste**: In the course of reeling the reelable filaments are converted into waste in finding out true ends from cocoons after breakage. It can be spun by hand or on a Charkha. The innermost layer of cooked Tussar cocoon is not reel able. This also forms a part of poor type of reeling waste which can be converted to spun yarn.

Katia yarn: Katia yarn is obtained from the Tussar silk waste left after reeling, including floss. It is normally spun on charkhas or spinning wheels with a count of 15seconds to 30seconds. The yarn is given sufficient twist and is strong enough to be suitably used for warp. Katia yarn is mainly used for the production of wrappers and other thicker varieties of dress material.

Ghicha yarn: This is obtained mostly from pierced, cut, flimsy, insect damaged and double cocoons. The cooking process for the production of ghicha yarn is equivalent to the reeled yarn produced from good 10 cocoons. Cooked Tussar cocoons which are unreelable owing to opening of the peduncle end or a hard shell are also used to produce the hand-drawn coarse yarn called 'Ghicha'. Here a bunch of thread is pulled out by hand from one or two cocoons at a time and reeled on an earthen pot. This gives a coarse variety of untwisted thread of 4m to 6m. Finer Ghicha as high as 30m can also be spun. Ghicha yarn is used as weft for the production of various union fabrics in combination with reeled silk or Katia or even with cotton.

Balkal Or Pedunkal yarn: Balkal or pedunkal is a thick coarse yarn spun from Tussar peduncles. The peduncles prior to spinning are subjected to cooking and opening operations. Peduncles are boiled in soap and soda solution followed by steaming. After washing and drying, they are beaten-up for opening and subsequently carded and finally spun into thick yarn upto about 10m by either a spinning wheel or an Ambar charkha. The degumming loss of the peduncles of different races of Tussar cocoons is shown in Balkal yarn is normally used as weft in combination with reeled silk for the production of union fabrics.

Jhari garn: This yarn is spun from unclean and unopened Tussar waste.

Mill Spun yarn: Tussar waste material contains considerable amount of gummy materials which hinder the subsequent mechanical processing in a spun silk mill. Tussar silk waste is degummed by boiling in a pressurized tank with soap and soda for 30 min and treated with sodium sulphite for partial bleaching. However, to remove gummy matter completely, the material is subsequently kept in a soap and soda solution in a large wooden tank for 3-4 days. After degumming the material is put in fresh water, hydro extracted and subsequently dried in hot air chambers. The degummed Tussar waste is then processed through a series of operations which includes opening, filling, dressing or combing, spreading, drawing, gill roving, spinning and gassing. The yarn is then doubled and twisted according to the required specifications.

(II) Pre Weaving Process:

The main activities in the pre weaving stage are Preparation of Warp beam & Weft pirns.

(i) Weft Pirns: The reeled yarn on Bobbins is taken on to the Charka and from Charkha the same yarn is again rolled onto the Pirn which is used as the weft yarn for weaving the products. This process is done to ensure the evenness of the yarn. Three Separate pirns are prepared, two for the side borders and one for the body. The body pirn is of the Tussar Silk, while the border pirn is of Dyed Cotton yarns.

(ii) Sectional Warping: The sized yarn of predetermined length is wound on warpers bobbin and mounted on warpers creel. Later the threads are collected 12 and passed through leasing dent and condensing dent making a section to be wound on weavers beam. After a required length of the section is wound, a number of such sections are wound on the beam depending on the total number of ends required in the width of fabric to be produced.

Thereafter drawing and drafting through healds and reed is done. The drafted beam is then taken on the handloom for weaving. The entire process in weaving such as shading, picking, beating, taking up etc. are done manually by the weavers. The warp length varies from product to product, but generally, a 4O meter warp is prepared by rotating the drum. Generally at Bhandhara, the sectional warping is practiced by very few weavers. Most of the weavers are purchasing the readymade Warps of 4O meters from Champa & Bhandara.

(iii) Loom Setting: The warp beam is set on to the loom and the warp beam yarns, are joined one by one with the help of the balance yarns left out of the last weave, from the reed, with the help of local gum followed by twisting

The Procurement of raw material:
The following raw material is required:

(i) Silk Yarn: The Tussar Silk yarn is used for this product. The warp Yarns are sourced from Bhagalpur / Champa, whereas for the weft yarns the local variety of Tussar is used. The local Tussar variety is short stapled and low twist yarn, hence is amicable to use in weft only, after twisting & doubling. The Tussar yarn, Ghicha, Katia and the pendekal yarn used in the weft is reeled locally. The warp yarns are basically single ply yarn of 35-38 Deniers, whereas the weft yarns are either 2ply or 3ply of 66-72 Deniers. Most of the weavers, traders, master weavers, primary co-operative societies, and also the weavers source the ready-made warp from Champa/Bhandara, which is readily set on to the looms by joining the warp yarns with the left out yarns on the loom. The other material used in the border is the dyed mercerized Cotton yarn. These are directJy sourced by everyone from the traders of Negpur.

(ii) Colours: The modem chemical dyes are purchased from Mumbai by the dyers directly. There is only one commercial dye house at Andhalgaon performing the fabric dying activities for dress material and for shirting, apart from calendaring the sarees. The acid dyes are in use for dying often Tussar Silk fabrics.

(III) WEAVING

The process of weaving may be divided into few separate but interdependent stages such as
(l) Sorting of silk
(2) Winding of weft on cones and joining warp
(3) Actual weaving and designing.

(i) **Sorting of Silk**: Silk used for weft is sourced locally and that of warp is procured from Bhandara / Champa. For the purpose of weaving two types of silk is required the Warp (taana) and Weft (baana). In local language warp is known as taana and weft is known as baana and the process of weaving is a combination of taana and baana. Warp acts as foundation for further processes of weaving and designing.

On sorting of silk thread, taana thread is given for winding. Winding is done on small instrument which in local language called as RAITA which is prepared from bamboo splits just like a conical reel. Now new machine is developed for winding of silk thread which is called as reeling machine. With the help of this machine silk winding is done on small cones. Then these reels/cones are used for warping of silk. Manually warping is done on a warping frame which is known as RAITI in local language. This frame has 25 pegs having small cross sticks. The pegs are fixed one below another. This frame is of g feet length and 6 feet in height. Now this frame is generally used for making only warps for border. Now warp machine is used for this purpose. This machine comprises an octagonal metal cylindrical frame that revolves vertically on the

machine axis and a metallic rack on which the thread rolls are kept. The threads from these rolls pass through hooks fixed on the rack on to a double metallic frame that moves up and down with the motion of the machine and are wound on the cylinder in a crisscross manner that facilitates the detection of breach in the thread/ If one exists anywhere this process starts from one end of the cylinder and goes on till the whole of the cylinder is covered with the thread. Using this machine the weaver converts the raw silk into single [(known as Ektari) or double fold (known as dountari) as per requirement. Once this process is over it is converted in bundles. Weft has no process. It is only sorted from warp thread.

(ii) Winding: The yarn is normally received by the weavers in the form of bundles. Both in the case of warp and weft. Weft is freed and taken directly on warp beam. Its lese is freed. Lese of previous warp is also tightened with help of lese rods. Then new warp is joined to previous warp with gum. Weft of body, border, and selvage are all separate. Though they are separate they are joined in one stage and there is a combination of body, border, and selvage. Then warp of all these are spread through rest beam to cloth beam. Now warp is ready for weaving. Weft thread is winded on cones called RAITA with help of three wooden rods fixed in stones. Now in new era a machine is prepared for winding of weft. In this machine motor is used in place of wooden rods, stones and asaari. And weft is winded on cones. Then this silk thread is again taken/ winded on bobbins with help of charka. This work is generally done by ladies.

Dyeing, Finishing & Printing:

Generally yarn dyeing is the most popular activity in Handloom clusters. At this cluster, dyeing activities are carried out at fabric stage. This process is carried out only for few fabrics, as most of the sarees, fabrics are sold in the natural Tussar color. However, some of the fabrics, namely Dress Material, Shirting are sent to Dyeing unit for colouring. Similarly the value addition exercise for some of the Turssar sarees is carried out by dyeing and printing. Value addition at the fabric stage is one of the unique aspects of this cluster. Most of the high end products are sent to Bagru in Rajasthan and Mallikhpara in West Bengal for the Dyeing & Printing. For carrying out dyeing activities, one dyeing unit exist at Vill, Andhalgaon, Tahsil, Mohadi. Two small scale printing units have established their domestic set up to carry out the printing activities mainly on the sarees and dress materials.

(i) **Dyeing**: The Tussar Dress material, shirting are basically dyed at the Andhalgaon Dyeing unit. Fabric from the loom is initially bleached with Hydrogen Peroxide, Caustic soda & Dichloromethane. Later it is washed in clean water. The dye solution is prepared in hot water and basicaly Acid dyes are used for colouring. The fabric is shifted into hand operated Jigger consisting of the dye solution, where it is thoroughly rotated followed by the acetic acid treatment. This is followed by washing with cold water to ensure the proper fixation of dye. After washing gum is added to the fabric and then the same is dried. After drying the same is slightly wetted with water, for softening and then the fabric is processed for finishing.

(ii) **Finishing**: Finishing is a process carried out to the Dyed and as well as un-dyed natural Tussar fabrics. lt is generally conducted by two techniques to improve the cover, feel, luster and look of the fabric. These are basically:

1. Kundi finish i.e, Beating with wooden hammer.
2. Calender finish
3. Machine finish

(iii) **Ironing**: Finally the finished product goes for ironing and packaging. The similar method is also followed for producing other silk varieties.
In the industries for export the fabric is rolled onto coils which heat up when the machine is switched on and worker pulls out the fabric from the machine as it gets ironed so that it does not burn. The fabric is again ironed using a regular iron to get rid of the final creases. It is ironed at a temperature of 12000otis. Each coil in the machine was of 2000 watt and the machine had a total of 6 coils.

MOTIFS, BORDERS & COLOURS

The traditional motif is believed to be karvatkati and not karvati which is a temple like design. It was believed to be the motif designed for the King of Powni. But these motifs are no longer seen. Traditional tribal designs, temple motifs and religious and spiritual motifs, scene of the forest in the weaving process, festivals, iurimal and birds motifs and local flora and fauna motifs are very much shown in the weaving and painting in Kosa silk products.

Borders - The designing of border is done with the help of dobby. The general motives used are floral and temple motifs, but of very small size in two to three rows separated with clearly distinguishable partition lines of dominant colour yarns. Actual weaving of saree is of 6.5 metres and pallu is of 0.75 to 1 metre and a blouse piece of 0.80 - O.85m meres.

Karvath Pattern:- The karvath pattern, i.e. the saw of hexagonal blade pattern is seen adjacent to the borders, towards the body on both the sides. The 19 mechanism of obtaining this pattern is based on the movement of the border weft shuttle, from one body warp yarn by interlocking with the body weft yarns. In the next throw, he does the same through the two body warp yarns, and in the same way, increases the number say till 20 and then in the next throws, decreases the number of warp yarns for interlocks. till one. This throwing pattern of the weft shuttle creates one single pattern and the same is repeated again, for attaining the pattern throughout the saree. The pattern size varies from weaver to weaver. Some make small pattem, while the others weave medium to big sizes. A big design can be obtained by interlocking of more number of the body warp yarns with the border weft moving bobbins. Generally a medium size pattem is obtained by interlocking of 20 body warp yarns with the body weft yarns.

Body: The body of the Karvath Kati saree is mostly plain. Some weavers carry out some small buta work with hand needle. Once a sari is completed, it is taken off from the loom and sent for cutting

Authenticity of Fabric

The best way to check the purity of Kosa Silk is by burning a few threads of the fabric. If authentic, the burnt threads leave a residue quite unlike ash which is black in color, and has an unpleasant odor.

CURRENT SCENARIO

The recent years have faced a huge skinning in the number of weavers. This according to Mahesh Joshi was mainly because most of weaver communities lately have taken up the benefit of the Adivasi Reservation (during the past 30 years). By getting the Halbi certificates (many were even believed to even fake these certificates) they received benefit for nearly thirty years by acquiring government posts. This led to a huge decrease in amongst the weavers and under government records there are approximately only 170 weavers in Bhandara district (Mohadi, Andalgav, Mundri, Bhandara, Powni). But nowadays the looms are seen only in Mohadi and Andalgav were only approx. 100-150 looms are left with nearly 50-60 looms in each of these villages.

The new generation have discontinued the tradition of joining the weavers like their parents. The children of the current weaver generation have taken up the life in a city after their graduation. Following various dreams of their own their family only hope that they lead a better life then the parents themselves. A life were one is no longer struggling under horrible conditions and heavy work to create a livelihood.

THE CENTRAL SILK BOARD

The Central Silk Board is a Statutory Body constituted during 1948 for the development of sericulture and silk industry in the country. The Central Silk Board had earlier established a BSMTC (Basic Seed Multiplication & Training Centre) at Khapa in Nagpur for production and supply of basic Tussar DFLs (disease free layings/silkworm eggs) to the State owned PPCs (Pilot Project Centers) for further multiplication and supply of commercial DFLs (silkworm seed) to the Tussar growers/farmers. Tussar silk sector qualifies as one of the most appropriate agro based cottage industry which provides employment to tribal youth. Tussar culture activity is essentially an agro and forest based industry which covers both agricultural and industrial activity. The activities covers production of egg, cultivation of host plants, silkworm rearing and cocoon production. BSMTC owns about 713 hectares land for the production of Silk. The opening and the setup of the land was done in the year 1982 and the production started in the year 1984.

The Central Board of Silk lies in an area of 126 hectares. The staff includes of around 20 people throughout the year. Currently, there are 11 people working off season and around 150- 200

people working throughout the season. The Central Board of Silk employs around 150 people during this season. The eggs are given to the farmers or raw banks materials. The eggs are then taken by the farmers from places like Bhandara, Ghansoli, Ganeshpur etc. Over the years, the labour has also reduced making cutting difficult as it requires a lot of manpower. Most people who were involved as labour have now started retiring. Under the Central Board of Silk, the target is to complete 2 lakh refills per year. The government is very strict about the target and the supply. The government keeps a strict check on the biometrics which is taken in the office itself. The government is able to keep itself updated by conducting inspections, keeping records of the target met and if not met then conducting surveys to detect the problems. The inspections are conducted minimum 2-3 times a year. The government by giving a minimum wage to the workers also helps in giving employment to those in need of it.

CURRENT SCENARIO

With recent development of the villages, there is a high increase in deforestation and thus a large loss of forest area in and around the Central Board of Silk. And thus, CBS in turn helps the government by saving part of the forest area.

BSMTC

The Central Silk Board was established in 1948 by an Act of Parliament. Functions under the administrative control of the Ministry of Textiles, Government of India. The CSB at Bhandara has been in force since the past five years.It is the only training, and the only reeling and re-reeling center of Bhandara.The main centers of production for Kosa Silk are Ganeshpur, Mohadi, Adyat and Addalgaon. Initially Ganeshpur was the main center of production but over the years its production has become way lesser than it was. Mohadi has now taken over in terms of production.

After closing down the Chandrapur Silk Basic Seed Multiplication & Training Centre (BSMTC) unit in Maharashtra, the Central Silk Board 9CSB) established a new BSMTC in Bhandara, also in Maharashtra to ensure continuity of supply of DFLs and silkworm eggs to silk farmers in the state.This was revealed by Santosh Kumar Gangwar, Minister of State (Textiles) in a written reply to the Lok Sabha.

The Central Silk Board (CSB) had earlier established a BSMTC at Chandrapur for production and supply of basic tasar seeds to the state owned Pilot Project Centers (PPCs) for further multiplication and supply of tasar farmers.

The tasar seed production and seed cocoon generation at BSTMTC, Chandrapur was adversely affected continuously due to opening of coal mines and other industrial establishments in and around the tasar farms and surrounding operational areas of the Center.

Current Scenario

Increase in mining and industrial activities resulted in accumulation of huge coal dust, smoke and other polluting particles on leaf surfaces of the plantation which caused poor grainage operations in the areas of the Center.

This pollution affected the production and productivity of the Center. Silkworm egg

production of BSMTC Chandrapur fell drastically and it became unviable to run the Center.
In view of this situation, it was decided to phase-out the activities of the CSB's Chandrapur unit and was finally closed by CSB.
In order to meet the demand of Maharashtra State's tasar seed requirement, another unit of CSB viz. BSMTC, Bhandara was set up which is producing tasar seeds for supply to the State Government PPCs, for further multiplication and supply of required commercial seeds to the tasar farmers of Maharashtra.
BTSSO (Basic Tasar Silkworm Seed Organisation) of CSB located at Bilaspur in Chhattisgarh State too has taken responsibility of organizing seed production and supply of tropical tasar seeds to all the tasar growing states including Maharashtra.

NAGPUR

After getting to know the working of how the product is made we went to nagpur to know more about its retail outlets.

Indrayani handloom MHSC Complex ,
Umrer road.

Maharashtra State Handlooms Corporation Ltd., Nagpur is a Government of Maharashtra Undertaking. It was established in the year 1971 by Government of Maharashtra with a socio economic objective of helping the handloom weavers of the State to make employment available to them. The primary objective of the Corporation is to ensure the overall welfare and growth of the artisans and weavers. They are also known by their Brand name "INDRAYANI HANDLOOMS".Their specialization is in Tussar Hand Woven Sarees and Fabrics.They also produce Mulberry Silk Sarees and Cotton Bedsheet, Towels and Durries.

The main objects of the company are as under:-

1) To supply improved equipments and accessories required for the Handloom Industry, in the private sector, that is, handloom weavers who do not come within the cooperation fold.
2) To supply raw materials required for the Handloom Industry.
3) To buy finished products produced by the Handloom Industry.
4) To install and run dye house, plants for sizing, bleaching, calendaring, mercerizing, printing, anti shrink processing and other processing plants required for the Handloom Industry.
5) To set up and run designs centers for the handlooms and to impart training to handloom weavers in all aspects of the Handloom Industry.
6) To guarantee loans granted to handloom weavers by scheduled banks or any other financial institutions for the purposes of working capital.
7) To raise finance for the above purposes by issue of share capital, debentures, bonds, or by raising loans or accepting deposits with or without guarantee of the Government of Maharashtra.
8) To carry on all kinds of agency business relating to the above.
9) To undertake the study of and preparation of project reports, feasibility studies and to act as general consultant in handloom trade.

There are 3 outlets in nagpur
-Airport
-Mate Chowk
-Umrer road

Indrayani Handloom, MSHC Complex , Nagpur

Sales incharge-H.K Rajput
Production manager- D.K Khumhare
Managing Director-Sanjay Meena
Joint Managing Director- V.D Neenje

Main Department under MSHC
-Production
-Marketing
-Administrations

They have sales both online and offline.Their online sales are managed by a Bangalore based company called Gocoop.

CUSTOMERS
The most common customers that come to these outlets are ladies of the age 30-50 years old.Craftsmen and designers also visit these showrooms to buy dress material.

PRODUCTS
Their most popular selling product is the Karvat Khatti(temple motif) sari which is sold in a lot of different design variations.They sell products like shirts, Jackets, Kurta, Salwar , Suits, Stole,Dupatta and more.Their products 3k-14k.

NATIONAL HANDLOOM EXPO EXHIBITION
The brand does extensive advertising through mediums like radio, Billboards, Banners but mainly through exhibitions. National Handloom Expo is organized by Indrayani Handloom twice a year. Last year it took place in Pune. Craftsmen from all across the country come together and put up stalls.

INSPECTION AND AUDITS

The supervisor regularly oversees the everyday working and also instructs the technical team who interacts with the artisans and tell them about the design and product requirements. They holds an early audit where all the operations of the company are inspected which takes place in the months of March and April.

India Handloom brand has been launched by the Hon'ble Prime Minister of India on the occasion of the first National Handloom Day on August 7, 2015. The Handloom Mark Scheme was launched by the Government of India on June 28, 2006 to provide assurance to the consumers about authenticity of handloom products. However, it did not cover the aspect of product quality assurance. Therefore, the India Handloom brand is an initiative for branding of high quality handloom products with zero defects and zero effect on the environment. It would differentiate high quality handloom products and help in earning trust of customers by endorsing their quality in terms of raw materials, processing, embellishments, weaving design and other quality parameters and by ensuring social and environmental compliances in their production. The registration for India Handloom will be granted to certain specified eligible entities in respect of identified product categories which meet prescribed quality parameters.

Objectives of the scheme

- The objectives will be to promote a premium brand with stress on quality on the following:
- Ensure quality in designing and weaving and defect free product for safeguarding interest of the buyers.
- Ensure compliance with relevant social and environmental laws Conserve, promote culture and tradition relating to handlooms.
- Promote production of high-end products, and thereby increase wage earning of the weavers' substantially; and,
- Facilitate marketing of handloom products through e-commerce.

Categories of Users

The entities/persons eligible to participate in India Handloom brand initiative would be

- Weavers
- Master Weavers
- Primary Co - operative Societies

- Apex Handloom Societies
- Retailers
- Exporters and Others.
- The Others category is especially included to cover Self Help Groups (SHG), Consortia, Producers Companies, Joint Liability Groups (JLG), Handloom Weavers Groups (HWG) etc., identified under Integrated Handloom Development Scheme (IHDS) or any other legal entity or any other organization involved in handloom related activities and approved to avail benefits under any other scheme of Development Commissioner for Handlooms. Any other organization willing to participate in the scheme shall be permitted with the approval of the office of the Development Commissioner for Handlooms.

Online portal of India Handloom Brand
The website - http://www.indiahandloombrand.gov.in/ is a one stop platform for all services to consumers, bulk buyers and handloom producers. The following services will be offered through the website

- Provide full details of all registered India Handloom producers which will facilitate verification of genuine India Handloom product by customers.
- Customers can verify the genuineness of the Brand logo through the registration no. which is printed on every label on the product.
- Provide information about the retail stores and e-commerce platform from where India Handloom branded products can be purchased.
- Provide brief description of every product category and tips to identify genuine products.
- Provide contact details of India Handloom Brand producers are made available for bulk buyers like retail stores, garment manufacturers who will able to directly access the handloom producers registered under the Brand.
- Handloom producers can apply online for registration under the Brand and can also track status of their application.

MAHESH JOSHI ENTERPRISE

Mahesh Joshi has been in the silk industry for 33 years and his organization was set up in 1984. He started this business after his graduation while his family doesn't have a lineage for the same. Their aim is to create fine mulberry and tussar silk sarees, along with supporting the livelihood of the weavers. The unit has won several National Awards in the past for excellence in tussar silk weaving. They were engaged in processes right from the grainage process, to designing process and end products. But as the production stopped, they have only been dyeing and weaving. The interesting fact about Mahesh Joshi and his unit is that they do not believe in sticking their roots to traditional motifs and designs. Their designs are manually done. Products like sarees, scarves, sherwanis, shirts and kurtas is made here and the embroidery is sourced from workers at an organization called Kalaniketan. They have barely done any exhibitions but does production mainly in accordance to the order they receive. They produce a wide variety within sarees with various textures, colours and even non-traditional and traditional

motifs. Their sarees are known for the usage of 'pakka' colours. Apart from sarees they also have a wide variety of other products such as bags, pouches, jackets, jewellery boxes, etc.

PROBLEMS FACED

- Due to contemporarization, products are coming with low price because of which the authenticity of the traditional craft has lost its value.
- Mahesh Joshi enterprises have faced marketing issues due to financial crisis.
- Their cleintele list included celebrities like Shabana Azmi, Javed Akhtar, Anil Kapoor, Suniel Shetty, Farooq Abdullah, and designers like, Neera Mehta, Ritu Beri, Anju Modi.
- The wages paid are as per the amount of hours they work in a day.
- Mahesh Joshi has been featured in The Times of India, on May 25th, 2008.
- They have won National Awards for Master Craftsperson and Weavers.
- They have held exhibitions for Tantavi.
- This exposure has helped them build a reputation amongst renowned people of the textile industry.

SKILL UPGRADATION TRAINING PROGRAMME IN WEAVING UNDER NHDP

An old factory was turned into a training center where they were conducting a workshop for women to learn the Kosa silk craft. The training workshop was organized by the weaver service center under the Ministry of Textiles. It was aimed at developing the Mohari area in relation to the Kosa silk craft by training more Labour under a Master Weaver and an Assistant weaver.
The weavers were provided with the looms and the raw materials by the Maharashtra state handloom corporation and the material that was dyed was supplied from Bangalore. The training workshop was a part of a government scheme to increase labour where they were training 20 women how to set the loom, drafting, hild setting and weaving and they are required to create 20-25 samples which would be sent to the government office for inspection and these women would be given employment under Indrayani handloom.
They were being taught how to weave the karvati sari which is the most popular motif of the mohari area. The karvati sari represents a temple at its border.
They were being taught how to use 2 hild looms and 3-4 hild looms. When asked the weavers expressed their problems about how the craft is dying because of very less market and less manpower as the future generations are opting for other ways to earn their livelihoods.
They were not satisfied with the remuneration as they were being paid 150 rupees per day.

The people of Bhandara uses pit loom for making sarees. They have proper setup of pit loom at their own houses, and they work from their home.
Government, on the other side, are setting up frame loom which are bigger in size and need a big space for its setup. Craftsmen are more comfortable working from home on their pit looms but government want them to work in their respective workplace on their set up frame looms.

SWOT ANALYSIS

Strength

- An age old craft passed down from father to son, this handloom is part of the tradition, culture and heredity of the people of Bhandara.
- The apparel industry is largest foreign exchange earning sector, contributing 13 per cent of the country's total exports.
- There is very minimal reeling waste in the process of silkweaving.
- Further even lower or inferior quality cocoons can be reeled. Thus also producing silk of various costs.
- The presence of the Central Board of Silk and other areas within area help in direct supply of raw material. The proper conditions of the growth of silkworm further helps in direct supply of raw material.
- At the national level, demand clearly exceeds supply, particularly for mulberry and Tussar silk yarn.

Weakness

- Credit flow in to the sericulture sector does not appear to be effective. No visible linkages with formal financial institutions even at the group level and no effective alternative financing options for microfinance initiatives, as an example.
- The new generation has discontinued their family lineage in the weaving industry and prefer a higher paid job in the private sector.
- Beside the declining number of weavers there is no one to draft to design ideas or provide product variety for the same.
-

Opportunity

- Growth rate of Domestic Textile Industry is 6-8% per annum.
- Large, Potential Domestic and International Market.
- Product development and Diversification to cater global needs.
- Elimination of Quota Restriction leads to greater Market Development.
- Better product innovation and designs can provide a larger market.
- The presence of large forests areas with Terminalia Tomentosa and Terminalia Arjuna trees with at least 30 percent population (0.3 density), which readily allows Tasar silkworm rearing.

Threats

INTERVIEWS

(I) MAHESH JOSHI ENTERPRISE

Q. Name
A. Mahesh Joshi

Q. Are from Mohadi?

A. No, I am from Turbhe.

Q. Do you run a family business?
A. No, I don't. I started this business after my graduation.

Q. Does your family plan on continuing this business?
A. My son has taken up part of the business after doing his MBA. My daughter on the other hand lives in Gujarat and runs a business in salt. I have let them lead the life they wanted. I have never forced them to run my business but have given them the freedom of finding their own path just how I did. Money was never a priority for me so I wanted to do something unique, something passionate.

(II) TRAINING CENTRE

Interview: Assistant weaver

Q. What is your name?
A. Weaver: Raju Mahadev Nandanwar

Q. Since when have you been working here?
A. We have been working here since 24th March.

Q. What do you do here?
A. Here we do weaving work,we are training these women.We teach them how to weave and also improve on our own skill.

Q. What did you do before working at this training center?
A. Bun kaam (Bun kaam local term for weaving) but we face a lot of problem because there is not enough labour. A lot of households have stopped doing Bunkaam because of that. Which is why we are giving training here. So these women train here and also work at home.

Q. How do you find people for training?
A. We have to tell everyone through word of mouth about the training being given by the government. That we are teaching bunkari here.

Q. What are the timings of the workshop?
A. It is a one and a half month workshop. We start at 10 in the morning till 1 then we take a break and then again work from 2 to 5.After the workshop these women will work in their own houses. The government will provide them with the loom setup for their house.

Q. Why is training important?
A. Mainly to reinforce the manpower.If there are more people practicing the craft they will come up with more new designs and make the craft stronger and sell more.

Q. How many people are involved in the training?

A. Here in total there are 24 people here, 20 trainees, one master weaver, one assistant weaver and 2 government workers.

Q. Is this the first time you are giving training?
A. No, I have organized a few workshops before and other than that we work at home.
This time we got a new model of the loom it is easier to work with but as it is mechanized it can also go wrong easily.

INTERVIEW: MASTER WEAVER

Q. What is your name?
A. My name is Vosahin Jhingat Shirlekar. I am 63 years old and I have been making sarees since 1995.

Q. Where are you from?
A. I am from Mohari itself.

Q. What types of sarees do you make?
A. I make Kosa karvati, Paithani Shalu and I work in other silks also like Mulberry silk, Tussar silk and here in Bhandara Tussar silk is used the most.

Q. What do these Sarees cost?
A. Approximately, the sarees cost ranging from 5 thousand to 8 thousand rupees. This for Tussar silk sarees. For mulberry the cost ranges from 7-10 thousand rupees. Paithani sarees range from 20 thousand to 1 lakh rupees. It is expensive because of the design on the border.

Q. What kind of designs are popular?
A. Peacock, flower and nature motifs like trees and plants.

Q. What is your market?
A. All the material we make is sent to the corporation Indrayani Handloom who sell it to customers. It is based in Nagpur. We are not allowed to sell our work to anyone else as we have signed an agreement with them. They provide us with all the material and also specify what design are to be made and we do the work and send it to them. They provide us with a catalog of designs which we use as a reference to complete the order. Different designs take different time periods to complete, it could take 6 weeks or 7 months to complete a saree.

Q. How often do you conduct training workshops?
A. Not that often, this is my first time training people.

Q. How is the government helping this craft?

A. They provide us with work as Indrayani handloom is a government undertaking itself and we work under the government as a craft cluster. They organize these training workshops they provide us with the materials and machines. But they don't pay us enough which is why many people are not willing to continue working under this craft and many have already started doing some other work. They pay us 150 rupees where as it should be 300 rupees minimum.

Q. Now that the government has introduced more machine looms but a lot of households use pit looms, which are do you prefer?
A. I prefer pit looms, with machine looms you never know when something might go wrong but when you work with your hand you have a better hold on the weaving of fabric. Also machine looms run on electricity so if there is no light that hinders our work.

APPENDIX

GLOSSARY

DEFINITIONS AND MEANING

(I) The spun yarn made from waste fibre is called Pedangkal and it is reeled on an ambar charkha.
(II) Arjun- Species of plant related with the rearing of the tussar silk cocoon.
(III) Asan- Species of plant related with the rearing of the tussar silk cocoon.
(IV) Drafting-The process of setting up the loom.
(V) 1 Denier- The thickness of silk filament is expressed in terms of denier. The number of grams of weight per 9000 meters of length.
(VI) 1 DFL – The approx. number of eggs from a mother butterfly which is nearly 180-220 eggs which is equivalent to 2gms.
(VII)

TRANSLATION OF LOCAL TERMS

1. Geeja- Hand spun yarn.
2. Katia- Machine spun yarn.
3. Wept- Banna
4. Warp-Tann
5. Bunkar log – Weavers
6. Mangtha- The Handloom

7. Pinda/Kakda - The stick on which the warp yarn is rolled over

8. Wajan- Weight attached over Kakda/pinda for stress.

9. Phirke- Bobbin ensuring the motion of weft yarns.

10. Khilapatti- For division of the Warp yarn

11. Khoot- The root foundation of the Loom

12. Rool- For Shifting of yarn l6

13. Sitadi- Bamboo stick for Lees fonnation

14. Bai- For design formation

15. Baibat- Heald for lifting of yarn

16. Taat- Reed for weaving & Weeting of Cloth.

17. Thoon- The cloth roller

18. Payasara- It is in the pit and is used to lift the heald.

19. Peldanda- It is in the pit and is operated with leg for formation of shade.

20. Pavadi/Payachada- To operate the alternate baibhat(Heald)

21. Pinjara- Dobby, used for design in the borders

22. Chain- To operate the dobby

23. Khoot- For forming the design in the chain.

24. Shuttle- Nari

25. Kansari- For stretching the fabric to maintain the width.

26. Nachni- The hanging ropes, to operate the heald to dobby for forming design as well as shade.

27. Bai -Machhi- As the hooks of the dobby move the yarn are moved up & down to form design in the border.

28. Ambar charkha- Wheel used to transfer the skeins to the bobbins.
29. Balkal- Upper portion of cocoon from which it is suspended; used for making rough spun silk.
