

**Application for GI  
Registration of  
Bhagalpur Tassar Silk  
Fabrics & Sarees**



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**THE GEOGRAPHICAL INDICATIONS OF GOODS  
(REGISTRATION AND PROTECTION) ACT, 2002**

**FORM G1-1C**

1. Application is hereby made for the registration in Part A of the Register of the accompanying geographical indication furnishing the following particulars:

1A	Name & Address of the Applicants	1.	Bhagalpur Regional Handloom Weavers Co-operative Union Ltd. Represented by Shri Pankaj Kumar Jha, Chief Executive Officer  <i>Resident address:</i> Red Cross Road, Bhagalpur, Pin Code- 812 002, Bihar  <i>Registered Office:</i> Bhagalpur Regional Handloom Weavers Co-operative Union Ltd./District Co-op. Office, Mohuiddinpur (Habibpur), Bhagalpur 812 003
		2.	District Industry Centre, Bhagalpur Represented by Shri Upendra Prasad Singh General Manager  <i>Resident address:</i> Adarsh Nagar, Behind State transport Bus Depot, Near Tiluk Manjhi Chawk, Bhagalpur, Bihar- 812 003  <i>Registered Office:</i> District Industry Centre, Mayaganj, Bhagalpur - 812 003
		3.	Weavers Service Centre(WSC) Represented by Shri Hemant Kumar Gupta, Assistant Director,  <i>Resident address:</i> MIG- 39, Sector 1, Housing Board Colony, Barari, Bhagalpur, Bihar, Pin Code - 812 003  <i>Registered Office:</i> Weavers Service Centre(WSC) Kanchangarh, Barari, Bhagalpur - 812 003

1A & 1B	Name & Address of the 4. Applicants	<p>Asian Society for Entrepreneurship Education &amp; Development (ASEED) represented by Shri Dhananjay Kumar, CDE (ASEED)</p> <p><i>Resident address:</i> Pink Building (1<sup>st</sup> Floor), District Registration Office Campus, Red Cross Road, Adampur, Bhagalpur, Bihar 812 002</p> <p><i>Registered Office:</i> Bhagapur Handloom Cluster C-8/8007, Vasant Kunj, New Delhi- 110 070</p>
	5.	<p>Minority Resham Weavers Khadi Gram Udyog Seva Sangh Represented by Dr. Shamim Akhtar, Secretary</p> <p><i>Resident address:</i> Vill. Khwajanagar East, PO: Puraini, Anchal-Jagdishpur, Vaia Mirjanhat, Dist. Bhagapur, Bihar- 812 005</p> <p><i>Registered Office:</i> Minority Resham Weavers Khadi Gram Udyog Seva Sangh, Vill : Khawajanagar (East), PO: Puraini, Anchal Jagdishpur, Via: Mirjanhat, Bhagalpur - 812 005</p>
	6.	<p>Ansari Silk Weavers' Khadi Gramodyog Sangh Represented by Mohd Aslam Ansari, Mantri</p> <p><i>Resident address:</i> Vill: Ibrahimpur, Fulwaria, P.O. Sajour, Anchal- Sahkund, Vaia- Nathnagar, District: Bhagalpur, Bihar- 812 006</p> <p><i>Registered Office:</i> Ansari Silk Weavers' Khadi Gramodyog Sangh At: Ibrahimpur, Fulwaria, Post: Sajour Block, Anchal Sakhkund, Via. Nathnagar Bhagalpur - 812 006</p>

1A & 1B	Name & Address of the Applicants	7. Bhagalpur Handloom Bunker Sangh(BHBS) Represented by Shri Jahangir Alam President  <i>Resident address:</i> Vill & PO: Puraini Dist: Bhagalpur, Bihar- 812 005  <i>Registered office</i> - Bhagalpur Handloom Bunker Sangh (BHBS) Vill & PO: Puraini, Dist : Bhagalpur-812 005, Bihar
1C	List of association of persons/producers/organisation/authority	Will be Submitted if requested
1D	Type of Goods	Class-24: Textile Goods not classified elsewhere i.e. table cover, etc. Class-25: Clothing
1E	Specification	The detailed specification of the products are also attached in the <b>Annexure- 1</b>
1F	Name of the geographical indication (and particulars)	<b>Bhagalpur Tassar Silk Fabrics &amp; Sarees</b>
1G	Description of the goods	The important products manufactured in Bhagalpur cluster are Traditional Tassar Silk items such as fabrics, dress material, saree, salwar suits, kurta- payajama clothes, scarves, shawls, dupatta etc.
1H	Geographical area of production and map	Bhagalpur is a divisional town of historical importance situated on the southern bank of the Ganga river. Situated 220 km east of state capital Patna and 410 km north west of Kolkata is well connected by rail and road. The present Bhagalpur is bounded in the north by Khagaria, Madhepura, Purnea and Katihar district and Banka district in south. The eastern part is surrounded by Sahebganj and Godda district. The western boundary is surrounded by Munger district. It covers area of 2570 sq.km. and lies between 27°07'-25°30'N latitude and between 86°37' - 87°30'E longitude. From north to south, it is 70 miles long and its width varies 20 to 44

1H	Geographical area of production and map	<p>miles between west and east. From north to south, it is 70 miles long and its width varies 20 to 44 miles between west and east. The city also has good road connectivity to all the important towns/ cities of the eastern regions and important metros/ big cities. The Gangetic plains are very fertile and the main crops include rice, wheat, maize, barley, and oilseeds. The economy of Bhagalpur is dependent mainly on agriculture and silk. Major production clusters in the district are Nathnagar, Champu Nagar, Aliganj, Puraini, Dariapur, Shekpura, and Mirzafari. The detail of the Geographical area of production and map is enclosed in <b>Annexure-2</b>.</p>
1I	Proof of origin (Historical records)	<p><b>Bhagalpur</b> is an ancient city and the history of Bhagalpur goes back to the days of primitive civilization. References to Bhagalpur can be found in Indian epics like the Ramayana and Mahabharata where Bhagalpur was described as the Kingdom of Anga. It was established by king 'Anga' after whose name it came to be known in the early period. Mandar Hill (situated 52 kms. south from Bhagalpur) is believed to have been used as Churner during Samudra Manthan by God and Danav according to Hindu mythology. Various accounts and anecdotes as to the origin of its name are given. According to a number of historians, the name "Bhagalpur" is associated with the famous king "Bhagdutta" of the Mahabharat period. During that period the place was known as "Bhagduttapur". With the lapse of time this "Bhagduttapur" got converted into Bhagalpur. The ancient history has evidences to show that the attack by the "Bhonslas" was a common feature of this area and the common mass had to find out a safer place to save their lives, and, probably, the present area of Bhagalpur was certainly a very good place for their refuge. The city was established by the king 'Anga' after whose name the place came to be known in the early period. King Anga</p>

had its capital at "Champa" which is now known as "Champanagar". At the time of Lord Buddha this was one of the six great cities and according to B.C. Law, Buddha preached his doctrines to one queen Gaggari at Champanagar. Champa is mentioned in the ancient literature and kind 'Karna' is believed to have ruled over this area. In the Kalpasutra, Champa is mentioned as one of the places where the last Tirthanker Mahavira stayed for three rainy seasons. Vasupriya (12<sup>th</sup> Jain Tirthanker) is said to have been born at Champanagar. Champa was a place of pilgrimage during the Mahabharat period. The ruins at Sultanganj and Karugarha at Champanagar reveal that these were important cities. Hiantsang, the great Chinese traveller to India speaks of the ruins of the several monasteries near Bhagalpur region. Stray inscriptions of the Gupta period have also been found here. Fahien, famous Chinese traveller to India speaks about the kingdom of Champa on the Southern bank of Ganga. Hiantsang visited champa and according to him, the people of Champa were simple and honest and possessed good manners. The soil was fertile and temperature was mild and warm.

The history of Bhagalpur indicates that the Guptas of Magadh, under Adityasena ruled over Bhagalpur for three generations. Ancient cave sculptures of Emperor Ashoka's regime (274 BC - 232 BC) are found in the neighbourhood and at Sultanganj (20 kms. West of Bhagalpur), a temple of Gupta period (320 AD to 520 AD) still exists. The ruins of ancient Vikramshila university are located 44 km. east of Bhagalpur. It was the medieval centre to the conservation and propagation of Buddhist education, established by king Dharampal of Bengal (783 AD - 820 AD) at the end of the 8<sup>th</sup> century.

The 'Palas' ruled over Bhagalpur for about four centuries

11	Proof of origin (Historical records)	<p>from 8<sup>th</sup> to 12<sup>th</sup> century. The Pala dynasty was ruined by the 'Senas' of Bhagalpur. Bhagalpur has established its name and fame in silk weaving.</p> <p>The district of Bhagalpur has been famous for its cottage industry since long. Tassar Silk, dyeing, salt, indigo, glassware, etc. were some of the chief industries of the district. Bhagalpur, which is more famous for Silk, has been a well known product of the place from the time immemorial.</p> <p>The origin of Silk in India goes back to the dim recesses of antiquity. Bhagalpur known as Champa in the days of yore, produced abundantly Tassar and Mulberry out of the 4 categories of silk. The industry enjoyed a royal patronage and silk the best in the world was exported to the countries bordering the Mediterranean Sea under the protection of royal troops. It used to be exchanged for gold. The legend of Bhagalpur describes that Karna, the ruler of Champanagar, used to gift away gold to the people which indicates that through silk business, the people of Bhagalpur had amassed huge wealth in the form of gold.</p> <p>From the period of antiquity to the modern period, the silk industry survived in its indigenous form. In 1810-11, Buchanan Hamilton presented a fine account about the Tassar silk of Bhagalpur. Dr. Hamilton estimated that there were about 3275 looms at work in the district. The processes of manufacture in those days were crude and in course of a century it had improved a little more than bamboo frames. The kinds of cloth most usually made were "Daryas" and a man could weave 8 pieces monthly and a piece varied from 20 to 22 cubits long, by one and half broad. The warp contained about 35 parts of cotton thread and 21 of tassar, disposed in stripes of a different pattern from those of a "Dariya". The woof was all cotton. One loom could produce seven pieces a month.</p>
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11	Proof of origin (Historical records)	<p>“Charkhanas” were about 18 cubits long and 8-7<sup>th</sup> of cubit wide. Each loom were producing 6 pieces in a month. The warp required 10 parts of cotton and 15 parts of tasar so that the pieces could be chequered. “Baftas” were pieces of uniform coloured. Dariyas after being woven. The whole warp was tassar and the woof was cotton. The above kinds were mostly for export. “Bharsaris” which were produced chiefly for home use were like “Dariyas” which were produced chiefly for home use were like “Dariyas” but of inferior size and firmness and afforded occupation to a large number of weaver than any other kind. They were made up in pieces about 8’ long and 3’ wide and were dyed by the weavers who could make 8 pieces a month.</p> <p>The pure tassar silk was called “tul”. “Dhoopchaya” was a Bafta of bright blue. “Mayurekanti” was a white silk figured in blue. “Lahungowal” was a figured silk work only for “Brahmins, Kayasthas and Rajputs. The “Roa” or cocoons of tassar came from ‘Suri’, Bankura, Gaya and the Santhal Parganas. Patwas, Momins, Tanties and Tatawas were the principal weaver castes employed in the trade. The winding of the silk from the cocoons was effected by a very simple instrument called “Tariya”. The process of preparing the cocoons for reeling threads was also very interesting. 8 pounds of cocoons were boiled with twice that amount of water, till all the water evaporated. They were then left to cool and again they were boiled. The silk was then easily wound of strands from 5 cocoons were generally used to form each thread. For cheaper work three strand threads were used and for better work were used seven strand threads. They were twisted with the left hand on the left thigh and wound on the “Tariya”.</p> <p>According to Dr. Buchanan, a fine and enchanting fabric of silk was made out through a crude process.</p>
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11 Proof of origin  
(Historical records)

Even during that period the silk industry of Bhagalpur was a foreign exchange earner, yet the economic condition of the weaver engaged in that occupation was far from satisfactory. J.G. Cumming, L.C.S. has given a brief description about the economic position of these weavers in his book, "Review of the Industrial position and prospects in Bengal in 1908". J.G. Cumming studied the problems of the Tassar Silk weavers and stated about the development of this industry, more particularly he hinted at the improvement in the design of the looms and spinning. Even during 1908 in Champanagar which was a principal seat of silk manufacture at Bhagalpur, Mahajans (money lenders) were sweating the local crafts men.

Bhagalpur is an important centre for producing mulberry, Tassar and Eri silk. Of the three varieties, the production of Tassar silk is coming from earlier period. Eri silk industry in Bhagalpur is also of ancient origin.



In International market, it is specially recognized for the production of silk furnishing, (both heavy & light textures). Tassar spun out of different stages/wastes like Jhuri, Danti, Katiya, Balkat, etc. are all regional names are used for manufacturing silk fabrics. Similarly, the qualities of Mulberry silk yarns are of varied range are also used. Besides, other varieties like dress material, upholstery, scarf, stoles etc. (using from heavy coarse Jhari Tassar, Hand Spun Jattam to finest filament yarn) are being produced. The skilled Handloom weavers in this region are fully familiar with handling these wide varieties of silk yarns. The yarn may be very coarse like Jute sacking or may be the most fine and delicate, does not restrict local weavers for reeling spinning and weaving.

Besides above, Bhagalpur weavers are also skilled to blend cotton (fine to coarse), Jute, Linen (Flax), Viscose,


11	Proof of origin (Historical records)	<p>Wool, Cashmilion (Acrylic), Polyester etc. with silk. Perhaps this is the specialty of Bhagalpur weavers, which may not be in other handloom areas of India or even in Asia according to some experienced exporters. Major production localities are Nathnagar, Champa Nagar, Aliganj, Puraini, Dariyapur, Sheikhpura &amp; Mirzafari.</p> <p>The district Gazetteers published by Govt. of Bihar has also elaborated the different aspects associated with the Bhagalpur Silk products from time to time. The relevant parts of the Gazetteers is enclosed and <b>Annexure- 3</b></p>
1.1	Method of Production	<p>The production of tassar silk fabrics at Bhagalpur is done in three identified stages.</p> <p><i>Stage I : Cultivation of Tassar silk, processing of Tassar Silk cocoons, spinning of silk yarn</i></p> <p><i>Stage II : Pre-weaving of Tassar silk yarn</i></p> <p><i>Stage III : weaving &amp; processing of Tassar silk fabrics</i></p> <p><b>Cultivation of Tassar silk, processing Tassar silk cocoons, spinning of Tassar silk yarn:</b> Cocoon harvesting &amp; preliminary sorting is done 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. Cocoons are spread floor in hot sun light for several days till the pupae are killed and cocoons are completely dried.</p> 

1J	Method of Production	<p><b>Stifling</b> : 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.</p> <p><b>Sun drying :</b></p> <div data-bbox="598 548 1316 974">  <ul style="list-style-type: none"> <li>• Cocoons are dried briefly under sun</li> <li>• Samples of the lot tested for disease</li> <li>• Seed cocoons are sorted based on bulk</li> <li>• Sorted seed cocoons are tied to threads</li> <li>• Bunches of cocoons hung in grainage</li> <li>• Ambiance facilitates moth emergence</li> <li>• Male and female moths couple</li> </ul> </div> <p>Cocoons are spread floor in heated sun light for several days till the pupae are killed and cocoons are completely dried. It is simple, economical &amp; requires no initial investment. It requires labour, space and prolonged exposure to sunlight. Sun drying is necessary after stifling for proper preservation of cocoons. Storage of semi wet cocoons causes fungus attack and vitiates reeling efficiency, requires additional labour and time.</p> <p><b>Selection of Cocoons for Spinning:</b></p> <div data-bbox="582 1355 1029 1568">  </div> <p>The uniform softening cooking is obtained by adopting appropriate softening or cooking method. Prior to softening, cocoons are sorted separately.</p>
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### Tassar Silkworm Rearing

- Separate set of plants for Young worms
- Applying of higher dose of manures
- Regular pruning to maintain height



Use of DFLs

**Cooking (Boiling) : Traditional Method:** Traditionally tassar cocoons are cooked in an earthen pot at or near boiling sodium carbonate (washer man's soda) solution for 4-6 hours. Cocoons are then reeled in semi moist condition on Natwa/Thigh, where the productivity per day per reeler comes to about 60-80 g of 60 D silk yarn.

**Boiled Cocoons**



**Tassar 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. Short stapled from waste from

1J	Method of Production	<p>the comber noil is used for spinning noil or blended yarns. These yarns are coarse and lack the characteristic brilliance. The tassar silk wastes used for spinning come mainly in the following forms:</p> <p><b>Cocoons waste:</b> Pierced cocoons are the best quality waste. Defective cocoons, e.g. showing black stain, rust, nutes, spots, thin ends, loose knitting, mould, doubles etc. are not suitable for ordinary reeling and form an inferior type of waste. They are used for producing tassar spun yarn.</p> <p><b>Peduncle waste:</b> The hard-shelled tassar cocoon is provided with a black well formed peduncle and ring. Normally the peduncle length is about 4cm in male tassar cocoons and 5.7cm in female. The average specific gravity is 1.362. Prior to cooking the operation of peduncle cutting is necessary. The peduncles are utilized to form a special variety of tassar waste yarn.</p> <p><b>Deflossing waste:</b> In order to find out the true end of the filament, the outer surface floss layer of tassar cocoons is removed. This is entangled and coarse and does not yield silk for reeling. It has high gum content and regarded as good quality waste.</p> <p><b>Reeling waste:</b> 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 tassar cocoon is not reelable. This also forms a part of poor type of reeling waste which can be converted to spun yarn.</p> <p><b>Thread waste:</b> During the process of re-reeling winding, doubling, twisting, warping and weaving, the thread wastes are obtained. These are mechanically processed in the spinning operation. The following hand spun yarns are produced from tassar silk waste:</p> <p><b>Ghicha yarn:</b> This is obtained mostly from pierced, cut,</p>
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1J	Method of Production	<p>flimsy, insect damaged and double cocoons. The cooking process for the production of ghicha yarn is the same as for the reeled yarn produced from good cocoons. Cooked tassar 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 4s to 6s. Finer Ghicha as high as 30s 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.</p> <p><b>Katia yarn:</b> Katia yarn is obtained from the tassar silk waste left after reeling, including floss. It is normally spun on charkhas or spinning wheels with a count of 15s to 30s. 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.</p> <p><b>Balkal Yarn:</b> Balkal is a thick coarse yarn spun from tassar 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 10s by either a spinning wheel or Ambar charkha. The degumming loss of the peduncles of different races of tassar cocoons is shown in Balkal yarn is normally used as weft in combination with reeled silk for the production of union fabrics.</p> <p><b>Jhari yarn:</b> This yarn is spun from unclean and unopened tassar waste.</p> <p><b>Mill spun yarn:</b> Tassar waste material contains a considerable amount of gummy materials which hinder</p>
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1.J	Method of Production	<p>the subsequent mechanical processing in a spun silk mill. Tassar silk waste is degummed by boiling in a pressurised 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 fresh water, hydro extracted and subsequently dried in hot air chambers. The degummed tassar waste is then processed through a series of operations which includes opening, filling, dressing or combing, spreading, drawing, gill roving, spinning and gassing. Mill spun tassar yarn in the range of 60-210s (metric count) can be produced. The yarn is then doubled and twisted according to the required specifications.</p> <p><b>Weaving preparatory process: reeling, twisting, sizing, warping, drafting</b> : The process of unwinding of filament from the cocoons and their combination in a composite reeled yarn is termed as tassar silk reeling. An elaborate series of processes is involved in obtaining tassar silk reeled yarn from the thick hard tassar cocoons. Tassar reeling is not carried out in filature like mulberry cocoons. Mostly it is done in small quantities by the womenfolk of weaver's family. Prior to reeling, cooking (the term is most commonly used instead of "degumming" in sericulture industry) is necessary to make cocoon shell fairly soft, thereby facilitating the smooth unwinding of the filaments.</p> <p>Traditionally Tassar silk reeling is generally conducted by the women folk of weavers' family on thigh. It is not only a slow and crude process but also unhygienic. There is also the process of spinning the tassar yarn.</p>
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**Dry Reeling Process: Thigh Reeling:**

The thigh reeling system is an old system of reeling in which rural woman, sitting on the floor cross-legged, draw 5 to 6 filaments on their thigh from cocoons cooked by alkaline method, twist is imparted by the left hand with a little additional of ash powder, oil and starch. Composite reeled yarn is wound on a bamboo-made hand appliance called the traditional Natwa in the villages. Cocoons are also reeled on charkhas.

**Tassar silk reeling on traditional charkha:** The cocoons cooked with Hydrogen peroxide ( $H_2O_2$ ) cooking method. It yields yarn with better cohesion & makes it possible to reel on simple hand operated tassar charkha in dry basin. In this charkha reeling the composite filaments from 6-7 cocoons are passed into one to form the yarn.

**Modified reeling approach**

During the cooking process of thigh and machine ling



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(dry), the gummy materials are removed to a large extent. Exhibiting its merits fully thereby harming the quality of the yarn. Thus, it is necessary to eliminate them beforehand prior to chemical processing.

**Pre-weaving activities:** preparatory to weaving have the following sequence



Winding involves transferring raw silk from natwa to the warpers natwa (Ughra) of 4-5 inches diameter after combining 8 number of ends together, warping is made by running the threads by walking from one point to other after proper leasing. In many places



other warping methods like peg warping (single or 8 ends), cage warping, horizontal or vertical drum warping method are also practiced. The reeled bobbins are converted into hank form. These hanks are soaked in a size solution containing the following ingredients.

**Twisting:** Traditionally, twisting in the conventional method is done by spreading the 6-8 single yarn parallel to each other. Each free end is hung by spindle and takli rotated by hand and twist is allowed to flow upto the rear end of the yarn. After insertion of twist, the twisted segment is wound on to the bobbin and again the process is repeated for following segments from the supplying form. In carrying out this process 3-4 persons are engaged and thus the

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Method of Production

tassar yarn is twisted. As the process is intermittent the twist is not uniform. Moreover, it also requires a large floor space. Due to use of such long space the twisting is usually carried out on village path lanes which create inconvenience to passersby. In Bhagalpur, the tassar yarn is doubled or plied for use in fabrics to render the strength.

**Warping of yarns /preparation of beams, drafting:** *Sectional warping*



The sized yarn of predetermined length is wound on warpers bobbin and mounted on warpers creel. The number of warping bobbins



depends on the number of ends per section. Later the threads are collected 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.

**Weaving of Tassar silk fabrics:** Tassar silk weaving

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is totally traditional. It is carried out mostly on pit loom to a large extent and fly shuttle frame loom, for making woven designs on the fabric dobby or Jacquards are attached on these looms. The looms in common use of the weavers are of traditional types with fly shuttle.



There are few developments over these looms wherein some of the loom motions are operated by weaver while other are mechanically operated. Some of the improved handlooms commonly used for tassar weaving are Banarasi fly shuttle loom, Nepali handloom, Chittaranjan semi automatic handloom etc.

**Wet processing of tassar silk:**The removal of gum or sericin is an important treatment during the processing of silk as the presence of gum makes silk harsh and of stiff feel. *Degumming* is the removal of the further gum/sericin. It also hides the whiteness and luster of the silk. The presence of gum also hinders dye absorption during the dyeing/printing process.

**Bleaching:** Although degumming of silk removes the major portion of the colouring matter the silk especially tassar needs further bleaching in order to improve the whiteness and appearance.



This is carried out by the usage of H<sub>2</sub>O<sub>2</sub> along with soda ash or sodium silicate or ammonia solution as

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buffer. The bleaching reaction is carried out for about 2 hours.

**Dyeing:** The dyestuff applicable for the mulberry silk is also be applied for tassar silk by following the



same technique. Natural silk requires approximately twice as much dye as wool to get some depth of shade. The flatness of tassar fibre exaggerates this even more. Higher the concentration of dye in the bath the less is the change of uneven dyeing. This rule applies by the large to natural silk but since the high concentration of dye only produces relatively pale shades on tassar, the possibility of getting uneven result is quite high. Dyeing of silk is generally carried out with Reactive (cold and Hot) and Acid dyes stuffs.

**Finishing:** Finishing is an important factor for marketing of the finished commodities. Tassar finish is generally conducted by two techniques to improve the cover, Feel, luster and look of the fabric. These are dependent on the type of finish.

There are two types of finish which are as under:

1. *Kundi finish* i.e. Beating with wooden hammer
2. *Calender finish:* Kundi finish is very common mostly done in all export varieties of tassar fabrics manufactured for domestic market. Calender finish

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Method of Production

no doubt is very good and methodical but it is only applicable if continuous length of a fabric is available and as such calender finishing is very rare in tassar silk industry.

**Kundi finish:** This is an indigenous practice of finishing of silk fabrics.



After bleaching the cloth is washed well in cold water and then it is treated into the finishing bath having the following

recipe for 50 saree pieces. After treating the silk material in the above bath at room temperature it is dried, after which the silk is moistened by sprinkling and then quantity of cloth pieces about 10 numbers of sarees are folded in a packet form and wrapped in a thick cotton cloth. The bundle is then placed on a wooden block and vigorously beaten by two person from two sides with the help of hammer for about 15-20 min. and it is followed by ironing. Later the silk material is folded and sent for packing.

**Calender finish:** This finish consists of above recipe




and passed through the steam heated calenders at a slow speed after which the cloth pieces are folded properly and packed. The calender finish is generally

of material is finished at a time.

The aim pursued in silk finishing is to reveal the properties, i.e. luster, handle drapability etc. The finishing of tassar silk is not a common feature.

However, depending upon the specific requirements, chemical or mechanical. Generally the fabric is soaked in the finishing chemicals and squeezed

1J	Method of Production	<p>manually or the chemical are sprayed onto the fabric.</p> <p><b>Mechanical Finishing:</b> Dried tassar fabric can be moistened and wrapped with cotton/silk fabric and hammered manually by wooden hammers alternately to impart a soft handle and luster. This process is known as Kundi finishing and can be compared with a button or knife breaking machine finish, where fabric is passed several times rapidly back and forth over small rollers studded with brass buttons or slanted knives. Tassar silk fabrics can be calendared on a two bowl calendaring machine for improving handle and appearance.</p> <p><b>Printing:</b> The blocks are produced by local artisans using their own designs. The dyes used for printing are acid, metal complex acid or direct dyes. The printing pastes are stored in special wooden containers. Printing is done on a heavy table. After printing, the fabrics are dried, steamed, and wrapped in unbleached cotton. Shanada prints, Patli prints, Korla prints, Pancha, and other design motifs are discussed.</p> <p>Printed mulberry silk fabrics are popular due to the exclusiveness of designs and coloristic effects that can be achieved. But this is less in the case of tassar silk because of its inherent colour and a lack of available technological knowledge in the trade. However, the success depends to a great extent on proper pretreatment such as desizing and bleaching.</p> <p><b>Direct Printing</b> For printing of tassar by direct style,</p> <div style="display: flex; justify-content: space-around;">   </div> <p>acid metal-complex, direct and reactive dyes are</p>
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ID	Method of Production	<p>normally used.</p> <p>Printing may be carried out by screen or block printing method. In case of block printing the thickener used is gum Arabic. The printed fabric is dried under mild conditions to retain a good printed mark and prevent the goods from marking off during subsequent process. Steaming is carried out in saturated steam for 45-120 min. depending on the steamer used. Washing is carried out under mild alkaline conditions with a standard detergent to prevent the re-adsorption of washed dye onto the fabric. The fabric is neutralized and dried at low temperature.</p> <p><b>Ironing:</b> Finally the finished product goes for ironing and packaging.</p> <p><b>Training to the weavers and quality maintenance:</b> The Govt. Of Bihar has set up four technical institutes for training of the weavers such Weavers training Institutes at Barari, Weavers' Training Centre at Bihpur, Silk Institute at Nathnagar at Bhagalpur and Developed Tassar-reeling Centre at Chamanagar. Besides, the Weaver Service Centre also provides training to the weavers in improving and sharpening their craftsmanship. Over the period, the weavers are attracted from different cast and have undergone training in the training centre to carry out the traditional weaving art of the Bhagalpur Silk Fabrics and Saree. The Central Silk Board, Weavers Service Centre have maintained the quality parameters for silk yarn and fabrics. The testing facilities have been created by Central Silk Board with the assistance of Textiles Committee. The efforts are continued to maintain and improve the quality</p>
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1J	Method of Production	standards followed for procurement of silk yarn and weaving of fabrics, uses of latest designs and colour combinations of trade and industry.
1H	Uniqueness	<p><b>Uniqueness of silk fabrics:</b> The uniqueness of Bhagalpur silk fabrics can be attributed to the following factors :</p> <p><b>Climatic condition:</b> Bhagalpur has a fine climate with a blend of pleasant winter and hot summer. The moisture content in the climate is conducive for cultivation and reeling of tassar silk. The climatic condition is helpful in softening of silk yarn as well. The Geo climate condition plays a crucial role in cultivation of raw silk and also bringing the brightness and luster to the Bhagalpur silk products. This is one of the characteristic features which is unique to the Bhagalpur silk yarn as well.</p> <p><b>Sun drying method:</b> 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.</p> <p><b>Special boiling process:</b> The method of boiling, the tassar cocoons is a time taking process. In an earthen pot at or boiling temperature sodium carbonate (washer man's soda) solution for 4-6 hours. Cocoons are then reeled in semi moist condition on Natwa/ Thigh by the women folk. The softness of yarn by this method and shining of fabrics increases with every wash.</p> <p><b>Thigh reeling:</b> The thigh reeling system is an old system of reeling wherein the rural women sitting on the floor(crossed-legged) draw 5 to 6 filaments on their thigh from cocoons cooked by alkaline method, twist is important by the left hand with a little</p>



IH	Uniqueness	<p>addition of ash powder, oil and starch. Composite reeled yarn is wound on a bamboo-made and appliance called the 'natwa'. This system is also practiced for reeling inferior quality cocoons including emerged cocoons which cannot undergo machine reeling. (The process of unwinding of filament yarns from the cocoons and their combination in a composite reeled yarn is termed as tassar silk reeling. Tassar silk reeling is generally conducted by the women folk of weavers' family on thigh locally called Kheba process). The continuous filament yarns are obtained from this process. This process increases the strengths of fabrics by three to four times and keeps the yarn more lustrous.</p> <p><b>Kundi finish:</b> This is an indigenous practice of finishing of silk fabrics where the woven fabric is given pressure by beating with strong wooden hammers on the entire yardage. The tassar silk fabric after the cold wash is treated into the finishing bath at room temperature. It is dried, after which the silk is moistened by sprinkling water. Quantity of cloth pieces are folded in a packet form and wrapped in a thick cotton cloth. The bundle is then placed on a wooden block and vigorously beaten by two persons from two sides with the help of hammers for 15-20 minutes. And this process is followed by ironing and calender finishing. This process helps to improve the feel, luster and look of the fabrics.</p> <p><b>Uses of fine and coarser yarns:</b> Silk weavers in the region are apt in blending the fine and coarser yarns for producing quality silk fabrics. The weavers are seen to be using cotton (fine to coarser), Jute, Linen (flax), viscose, wool, Acrylic and Polyester yarns in blending/mixing with silk yarns in producing silk blends and other varieties.</p>
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**Key actors of the cluster facilitating and promotional Agencies:**

The following organizations are associated directly or indirectly with the basic weavers and their cooperative societies located in Bhagalpur Cluster.

**Weavers service centre (GOI):** The weaver's service centre at Bhagalpur was set up in the year 1974 for the development of Handloom silk industry in the state of Bihar. The main activity of WSC (weaver service centre) at Bhagalpur are imparting training to the weavers in the following areas:

- a. Product Development
- b. Design Development
- c. Printing and dyeing

The weaver's service centre of Bhagalpur have different facilities for analyzing fabric construction, counts and strength of yarns, analysis of blended yarns and fabrics, and fabrics.

**The Bhagalpur Regional Weavers Co-operative Union Limited:**

The apex society of 186 primary weavers co-operative Ltd. in Bhagalpur. This is the newly constituted consortiums of weavers to look into the various welfare measures of weavers and monitors the quality of the products in the region.

These activities are generally done for the promotion, encouragement and support for the export of Handloom silk of Bhagalpur abroad. Many training programmes are organized at Bhagalpur to develop awareness and maintain quality among the Handloom silk weavers of Bhagalpur. It is also provides assistance to solve different textile industry's related problems by interacting with various Govt. and Non Govt. organizations.

**Central silk Board:** The main objective of central silk board is to promote the development and growth

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of sericulture and handloom silk industry. It also provides assistance, support and backing for the testing, research, development, extension and training to the weavers of Handloom Silk. Besides, the CSB organizes production and supply of quality silkworm seed, mulberry and tassar cuttings etc. and also undertakes directly as well as jointly with the state sericulture departments, the implementation of various sericulture projects.

**Directorate of Handlooms DOH (Industry Department Government of Bihar):** Directorate of Handloom help out the co-operative societies in various works monitors the work of co-operative societies. It was suppose to organize various fairs, exhibition of handlooms silk made by the weavers of Bhagalpur.

**Indian Silk Export Promotion Council:** The main objective of Indian silk export promotion council is the promotion of silk export from India. The main work of Indian silk Export Promotion Council is to promote the right contact in silk business abroad. It organizes buyer and seller meets for the silk products. It helps in the participation in international textile fairs.

**Textiles Committee:** Textiles Committee has provided set of machineries for silk yarn testing in the CSB Laboratory at Bhagalpur. Under the UNCTAD project, the facilities for skill development, protection under GI act and post GI facilitations are extended to the stakeholders of Bhagalpur silk. Textiles Committee has initiated the process of forming consortiums of stakeholders at Bhagalpur.

Along with the Statement of Case in Class-24 and Class-25 in respect of the name(s) of whose addresses are given below who claim to represent the interest of the producers of the said goods to which the geographical indication relates and which is in continuous use in respect of the said goods.

1. The Application shall include such other particulars called for in rule 32(1) in the Statement of Case. The statement of case attached.
2. All communications relating to this application may be sent to the following addresses in India.

Sr. No.	Name of applicants, organisations	Represented by Designation of persons	Registered Office	Resident address
1.	Bhagalpur Regional Handloom Weavers Co-operative Union Ltd	Shri Pankaj Kumar Jha, Chief Executive Officer	Bhagalpur Regional Handloom Weavers Co-operative Union Ltd./District Co-op. Office, Mohiuddinpur (Habibpur), Bhagalpur-812 003	Red Cross Road, Bhagalpur-812 002, Bihar
2.	District Industry Centre, Bhagalpur	Shri Upendra Prasad Singh General Manager	District Industry Centre, Mayaganj, Bhagalpur- 812 00	Adarsh Nagar, Behind State transport Bus Depot, Near Tilak Manjhi Chawk, Bhagalpur, Bihar- 812 003
3.	Weavers Service Centre(WSC)	Shri Hemant Kumar Gupta, Assistant Director	Weavers Service Centre(WSC) Kanchangarh, Barari, Bhagalpur - 812 003	MIG 39, Sector-1, Housing Board Colony, Barari, Bhagalpur, Bihar, Pin - 812 003
4.	Asian Society for Entrepreneurship Education & Development (ASEED)	Shri Dhananjay Kumar, CDE (ASEED)	Bhagalpur Handloom Cluster C-8/8007, Vasani Kunj, New Delhi- 110 070	Pink Building (1 <sup>st</sup> Floor), District Registration Office Campus, Red Cross Road, Adampur, Bhagalpur, Bihar- 812 002

Sr. No.	Name of applicants, organisations	Represented by Designation of persons	Registered Office	Resident address
5.	Minority Resham Weavers' Khadi Gram Udyog Seva Sangh	Dr. Shamim Akhtar, Secretary	Minority Resham Weavers' Khadi Gram Udyog Seva Sangh, Vill: Khawajanagar (East), PO: Puraini, Anchal, Jadishpur, Via: Mirjanhat, Bhagalpur-812005	Vill. Khawajanagar East, PO: Puraini, Anchalagdishpur, Vaia-Mirjanhat, Dist. Bhagalpur, Bihar- 812 005
6.	Ansari Silk Weavers' Khadi Gramodyog Sangh	Mohd Aslam Ansari, Mantri	Ansari Silk Weavers' Khadi Gramodyog Sangh At: Ibrahimpur, Fulwaria, Post: Sajour Block, Anchal Skhkund, Via. Nathnagar Bhagalpur-812006	Vill: Ibrahimpur, Fulwaria, P.O. Sajour, Anchal Sakhkund, Vaia-Nathnagar, Dist. Bhagalpur 812 006 Bihar
7.	Bhagalpur Handloom Bunker Sangh(BHBS)	Shri Jahangir Alam President	Bhagalpur Handloom Bunker Sangh (BHBS) Vill & PO: Puraini, Dist: Bhagalpur - 812005 Bihar	Vill & PO: Puraini Dist: Bhagalpur-812 005 Bihar

3. In the case of an application from a convention country the following additional particulars shall also be furnished.

a. Designation of the country of origin of the Geographical Indication.

- a. Evidence as to the existing protection of the Geographical Indication in its country of origin such as the title and the date of the relevant legislative or Administrative provisions, the judicial decisions or the date and number of the registration, and copies of such documents.

1. Shri Pankaj Kumar Jha  
Chief Executive Officer  
cum  
District Co-operative Officer

Pankaj Kumar Jha

2. Shri U.P. Singh  
General Manager

U.P. Singh

3. Shri H.K.Gupta  
Assistant Director,

H.K. Gupta

4. Shri Dhananjay Kumar  
CDE (ASEED)

Dhananjay Kumar

5. Dr. Shamim Akhtar  
Secretary

Shamim Akhtar

6. Shri Mohd Aslam Ansari  
Secretary

Mohd. Aslam Ansari

7. Shri Mohd Jahangir Alam  
President

Jahangir Alam

Date Signed on the day 03.09.2009

SIGNATURE  
NAME OF THE SIGNATORY