

Case study on Integrated Value Chain Development of Eri Silk Cluster

RiBhoi District, Meghalaya



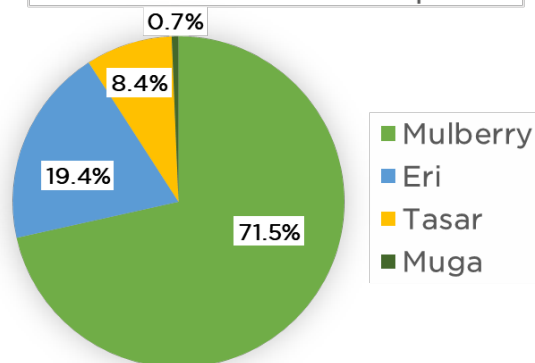
Foundation for Development of
Rural Value Chains (FDRVC)

Sericulture – India & Meghalaya

Production

Indian silk industry is one of the largest generators of employment and foreign exchange for the country as sericulture activities spread across 52,360 villages.

All India Silk Production Composition



India is the second largest producer of silk. Sericulture provided employment to over 9.1 million people in India during FY19.

Karnataka leads the production, account for almost 1/3rd of total production, followed by Andhra (21.2%), Assam (14.3%), West Bengal (6.8%), Jharkhand (6.7%), Tamil Nadu (5.9%), Meghalaya (3.2%), Nagaland (1.8%), Maharashtra (1.5%) & Manipur (1.3%).

Key markets and export destinations

Export of silk & silk products from India reached INR 2100+ Cr in FY19 & INR 1750+ Cr in FY20

The silk products exported include natural silk yarns, fabrics, made-ups, readymade garments, silk carpets and silk waste

Fabrics & made ups formed the largest share in export between FY20 at INR 1000+ Cr, followed by readymade garments at INR 500+ Cr & silk carpet at INR 150+ Cr

Sericulture scenario in Meghalaya

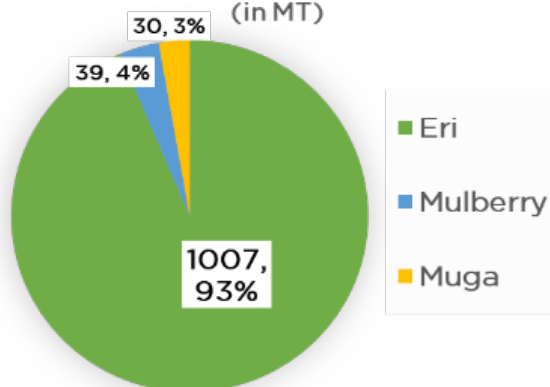
Meghalaya is 2nd highest producer of silk among the NE states

Majorly 3 silk varieties of silks are produced in Meghalaya- Mulberry, Eri & Muga in 10 of the 11 districts are engaged

56,000+ households across 1845 villages are engaged

1076 MT production in the state for 2017-18 among which 93% of produced silk is Eri silk

Silk Production in Meghalaya 2017-18 (in MT)



Eri Silk Production system & Market

Eri silk Production system

Key Processes in Eri Silk Value Chain



Eri Cocoon Production

Home-based rearing of silk worms; feed on tapioca or castor leaves, producing 2-3 kg of cocoon per cycle (3-4 cycles in a year)- practiced majority HHs in Eri VC



Eri Silk Yarn Production

Home based hand spinning of silk yarn out of degummed cocoons using hand-held takli device; avg output is 1 kg yarn (1.4 kg cocoons) in 14-20 days; practiced by majority of rearers; however some rearers sell cocoon to spinners

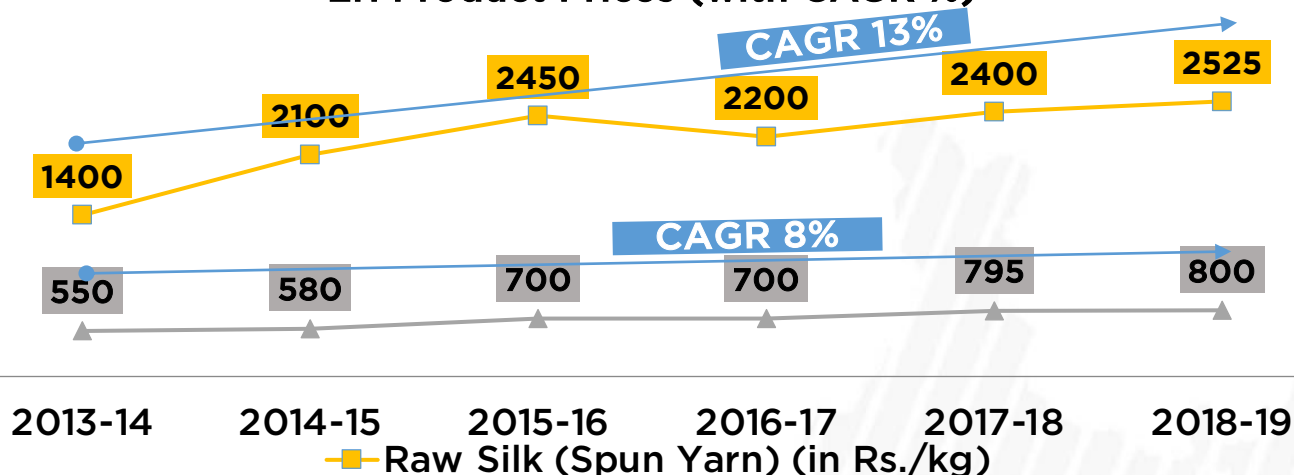


Eri Handloom Weaving

Weaving of Eri textiles (mufflers & scarfs) using traditional loin looms; weaving about 1 to 1.5 mtrs per days (2 days to weave 1 scarf; or 1 muffler per day); practiced by a sub-section of the HHs engaged in Eri VC

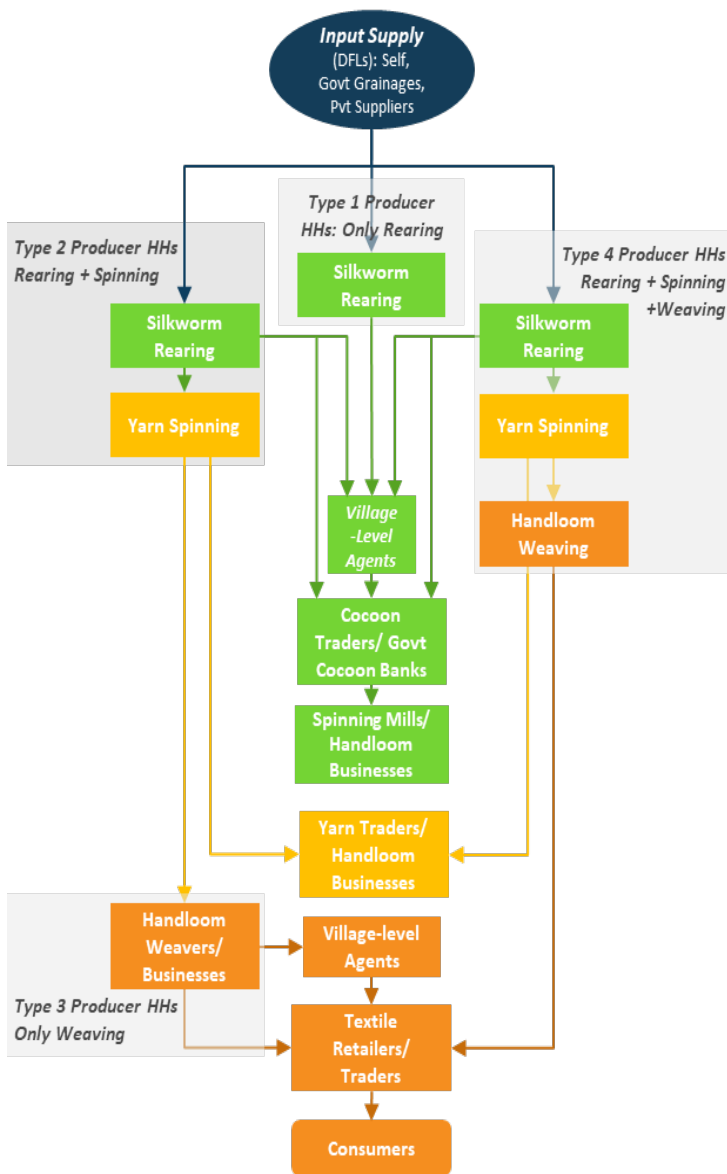
Eri silk Product Price Trend

Eri Product Prices (with CAGR %)



Eri Silk Value Chain

Eri Value Chain: Structural Map



The major 3 components of Eri Silk Value Chain is Rearing of silk worm, Spinning of yarn form cocoon shells and Weaving. But the crucial gaps are - getting the DFL (Disease Free Laying), supplying food leaves in adequate amount according to the life stage of silk worm (i.e. tender leaves during the early stage of silk worm and full grown leaves during the later stage of silk worm).

Eri is a domestic silk worm, it grows across the year, though most favorable weather for growing is the monsoon and late monsoon, when the humidity is good and temperature is warmer. It takes 20-25 days to grow a silk worm form laying to cocoon. During the winter it takes even 45-60 days to grow. The pupa inside the cocoon shell are consumed as a source of protein.

Spinning is majorly practiced by the villagers of Meghalaya as a leisure activity. The handspun yarn are divided in 3 qualities, divisions are done by visual inspection of village level agents, who procures it. Machine spinning is introduced in some places by some agencies, but yet to be proven as a successful intervention.

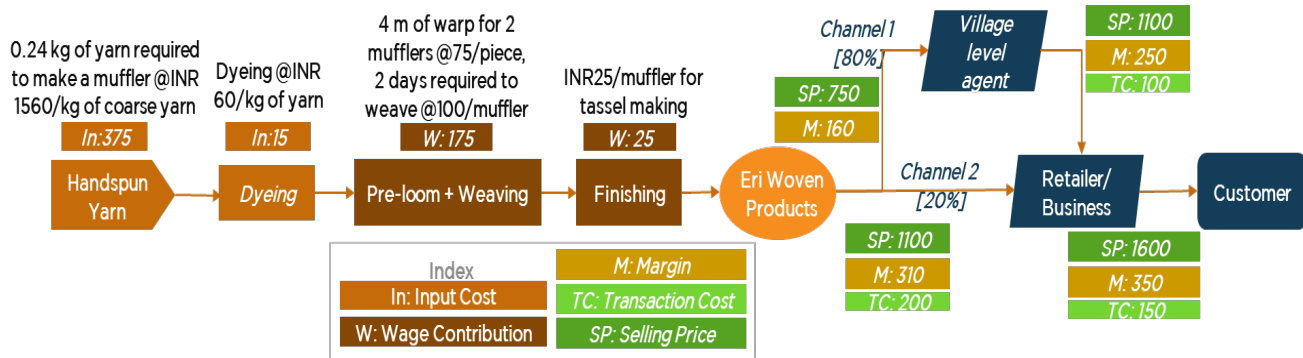
Limited number of dye colors are available, all are natural colors, made form lac, iron ore, banana leaves, turmeric, tea leaves etc.

Almost every household has a floor-loom, or loin-loom at home. Majorly woven products are Jainkup Ryndai (Stole and Shawl) and Jainsem Ryndia (Piece of cloth, like Saree, to wear in the top). The producer HHs sell it to the village level agents, as they do not have access to the wholesales or retailers.

33000+ households are engaged directly or indirectly across the four major activities related to Eri silk - rearing, spinning, weaving and marketing of the produces i.e., cocoon shells, pupa, yarn and woven products. Almost 15 lakh sq.m. of fabric produced in Meghalaya every year. Some unique characteristics of Eri silk is the cocoons are open ended cocoons, hence they have noncontinuous threads, so the yarn is spun yarn only, not reeled yarn. Eri silk is a versatile all weather fabric. It can be used around the year, it has a cooling effect in summer and keeps the body warm in winter. Another unique feature is the yarn is processed without killing the pupa without killing the cocoon, and thus Eri silk is termed as AHIMSA SILK OR PEACE SILK.

Value Chain Development

Value Addition along the Eri Handwoven Textile Value Chain



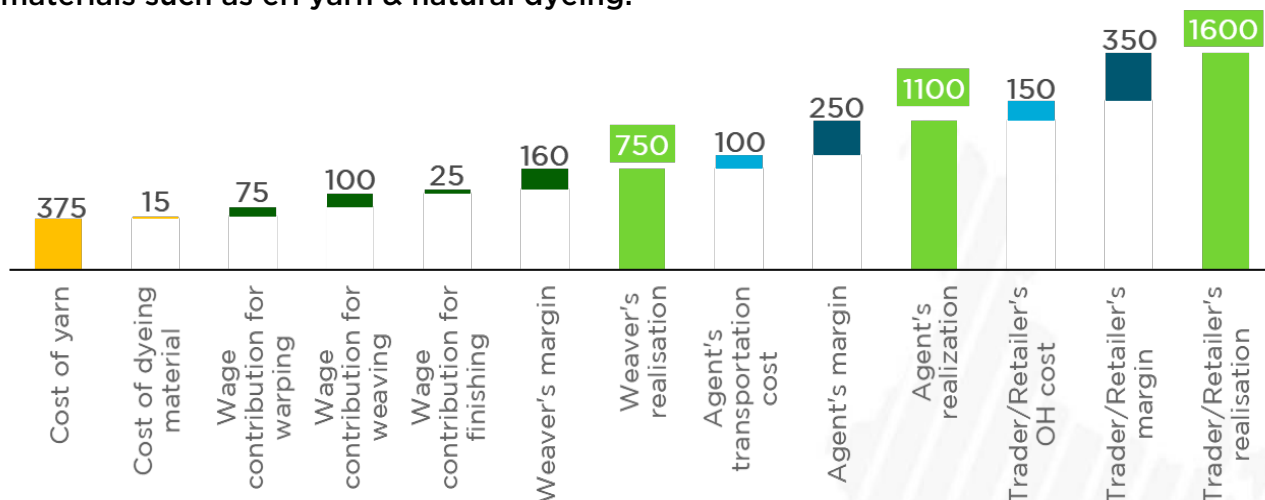
Analysis of Price Build-up along the Eri woven product Value Chain

The below figure illustrates the typical value chain map for 1 kg of Eri Hand-woven Muffler (L-78in x W-12in) which retails at about Rs. 1600 per piece in the retail market. The weaver HHs selling their produce through 2 channels- 1) through village-level agents to retailers in Shillong & other major towns in the regions, and 2)

Price build-up of 1 pc of Eri Hand-woven Muffler	
Input/Raw Material Cost	390
Producer Earnings	360
Aggregator Earnings	600
Transaction Cost	250
Per unit Price Realization	1600

directly to retailers in Shillong. Of these two, selling through the village-level agent is the preferred channel.

It may be observed in the graph below that 35.5% of per unit price realization is being retained by the aggregators (village agents & traders). The net earnings of the producer HHs is about Rs 360 per pc. of eri hand-woven muffler sold i.e., 22.5% of the total price realization; after having incurred Rs 390 per pc. of muffler (24.4%) on various input materials such as eri yarn & natural dyeing.








Observations & Interventions

The following key challenges have been identified along the existing value chain that are being faced by the rearers, spinners and weavers engaged in the cluster:

Gap Areas	Rearing	Spinning	Weaving
Input supply	Limited supply of DFLs	-	Inadequate supply of Handspun Eri Yarn
	Lack of organized food plant cultivation		Limited availability of other yarn varieties, trims & accessories
	Ingredients to disinfect rearing space		Restricted supply of natural dyeing ingredients
Production System & Technology	Restricted rearing space	Improper degumming of cocoon shells	Traditional pre-loom process
	Low cocoon yield	Low productivity of hand spinners	Low productivity using floor looms
	Improper pupa extraction		Limited use of frame looms
Product Quality	Absence of cocoon grading	Improper cocoon selection	Improper yarn selection
		Lack of standardized yarn spinning	Lack of quality checks
Design & Product	-	-	Limited number of traditional design
Marketing	High dependence on intermediaries		Lack of recognition to cluster products
			Limited product portfolio
Limited market access			
Absence of institutional Structure			

In order to address the gaps, shown in the table form above, setting up a grainage is required, introduction of spinning machine, repairing loom-looms and introduction of frame-looms are required. Quality maintenance of cocoon, yarn and woven products are needed and proper marketing of the products are extremely important.

To address the existing critical gaps across Eri Value Chain, the following intervention areas have been identified:

Value Chain	Critical Gaps	Intervention Areas
 Input Supply	<ul style="list-style-type: none"> Restricted supply of quality inputs Availability of food plant 	<ul style="list-style-type: none"> Provision for input material store Tech. & input support for raising commercial plantations
 Production Systems	<ul style="list-style-type: none"> Fragmented production base Low productivity No quality control 	<ul style="list-style-type: none"> Centralized operations Skill training & tech support QC & fulfilment support
 Market	<ul style="list-style-type: none"> High dependence on intermediaries Limited marketing capabilities 	<ul style="list-style-type: none"> Direct procurement Marketing & sales function Brand promotion & market access initiative
 Design/Product	<ul style="list-style-type: none"> Low value addition No design innovation Limited product offerings 	<ul style="list-style-type: none"> Engaging designer & product experts Provision for value addition facility
 Value Realization & Engagement Level	<ul style="list-style-type: none"> Low prices offered by traders for eri cocoon & yarn High portion of realization retained by aggregators Low no. of effective engagement days 	<ul style="list-style-type: none"> Fair prices through transparent procurement Higher %age of consumer spend available to producers Increased effective engagement days for producer