UNIT 6: Extended Live Project

Loom to Legacy: How Assam's Muga Silk Can Guide the Future of Regenerative, Indigenous Culture and Nature-Aligned Craft Systems

A Framework, Toolkit, and Narrative Strategy for Building Decentralised Craft Enterprises Rooted in Ecology, Equity, and Storytelling

Author: Gariyashi Bhuyan
Student ID: 20042361
Date: 28th of February 2025
Course: CSM Birkbeck MBA
Supervisor: Denderah Rickmers

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Abstract

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Author: Gariyashi Bhuyan

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Purpose: The live project explores the intricate, place-based ecosystem of Assam's Muga silk practice by examining its traditional savoir-faire, ecological rhythms, and socio-cultural context. It aims to reposition Muga silk not only as a noble fibre, but as a living system that bridges heritage and fashion futures. This study generates critical textual and strategic evidence to support its continued survival, while offering tools to reframe Assamese silk within the global sustainable fashion discourse. The outcome demonstrates how Muga silk can achieve visibility, equity, and commercial viability without compromising its material integrity or cultural depth.

Relevance: The Muga silk sector in Assam is under threat. It is economically marginalised, environmentally fragile, and structurally fragmented. Climate vulnerabilities, duplication, diluted branding, lack of traceability, and limited global presence pose risks not just to livelihoods but to the continuity of cultural memory embedded in the practice. While tradition must be preserved, this research argues that adaptive, regenerative strategies can contribute to its evolution by repositioning Muga silk as a model of decentralised, artisan-led sustainable craft practice. The live project starts as research meant to inform a social business proposition, but pivots towards a speculative direction where natural cycles and human intention overlap to co-create. By introducing a regenerative social enterprise framework and communication toolkit, it seeks a shift from extractive to relational models of value.

Methodology: This research is grounded in an interpretivist approach and combines qualitative, participatory, and systems-based approaches. Secondary research was carried out through a literature review, followed up with primary research that included 15 semi-structured interviews, a 30-day participatory field observation period, and a case study with Way of Living Studio based in Dhemaji, Assam.

Part 1: Proposition

“Value is produced and reproduced within the networks that connect materials, makers, users, and meanings.”

— Arjun Appadurai, *The Social Life of Things* (1986)

1.1 Introduction

The value of craft lies not just in the object but in the continuity of the social relations that produce it (Risatti, 2007). India’s rich textile and craft traditions are woven into our social fabric, stretching back over 5,000 years, with archaeological evidence of handloom weaving found in the Indus Valley Civilisation (c. 3300-1300 BCE). This legacy, widely revered both nationally and internationally, has navigated a layered history of appropriation, admiration, and exploitation. The country is home to over 3,000 indigenous craft practices, sustained by approximately 7 million artisans, many of whom toil in anonymity despite their extraordinary skills (Bowles, 2023).

Weaving in Assam dates back several centuries, flourishing particularly under the patronage of the Ahom kingdom (1228-1826 CE). The state is renowned for its handloom techniques, primarily practised by women in rural communities. Artisans create intricate textiles on traditional wooden looms using natural fibres like luxurious silks and diaphanous cottons. Our most iconic textiles, the *mekhela chador* (consists of two elegantly draped pieces: the *mekhela*, a lower wrap, and the chador, an upper shawl) and *gamusa* (a handwoven rectangular stoll for ceremonial exchange) hold deep cultural significance (Development Commissioner Handlooms, Ministry of Textiles, 2023). These are adorned with intricate motifs borrowed from nature, folklore, and geometry and serve as cultural artefacts, bearing witness to artistic heritage, resilience, and an unbroken lineage of craftsmanship.

Our textile history anchors the diverse Assamese communities in traditions, values, and collective identity, providing continuity across generations. It serves as a reflection of material culture and evolving socio-political narratives. At a time when the world grapples with climate crises and the perils of fast fashion, indigenous communities hold invaluable ecological wisdom, knowledge that, if meaningfully integrated into value chains and policymaking, could reshape conservation efforts and drive sustainable solutions. Assam’s weaving traditions, rooted in circularity, stand as a beacon for a more conscious and responsible future in textiles. As craft scholar Glenn Adamson notes, “Craft has always offered a form of resistance—rooted in care, place, and slowness—that industrial systems often cannot replicate” (Adamson, 2013, p. 19).

Muga and Eri silkworms, two most popular silks, are found almost entirely in the Brahmaputra valley of Assam (Borthakur, 2003), parts of Nagaland (Meyer-Rochow and Changkija, 1997) and at the foothills of Meghalaya (Chakravorty *et al.*, 2010). Muga silk is indigenous to the northeastern Indian states of Assam and Arunachal Pradesh. Renowned for its natural golden hue, lustrous texture, and remarkable tensile strength, it possesses qualities that distinguish it from other varieties of silk. Its name is derived from the Assamese word *muga*, meaning "yellow," a reference to its characteristic golden sheen, which notably intensifies with every wash. Its threads are also used in surgical sutures, and yarns are incorporated into aircraft tires, bulletproof jackets and parachute ropes (Nath, 2013).

Unlike many luxury textiles reserved solely for ceremonial or elite use, Muga silk

historically served as everyday attire for both men and women in rural Assam, prized as much for its durability and breathability as for its aesthetic appeal. The fibre is produced by the semi-domesticated silkworm species *Antheraea assamensis* (syn. *Antheraea assama* Helfer, 1837), which thrives exclusively in this region's unique agro-climatic conditions, making Muga not only a textile but a living expression of place-based ecological and cultural heritage. Another type of silk native to Assam is Eri, derived from the *Samia cynthia ricini* silkworm, known for its warmth and softness. Unlike other silks, Eri production allows the silkworm to mature into a moth, partially aligning with non-violent sericulture practices often referred to as *ahimsa* silk. These silks are intricately linked to Assam's ecology, relying on local flora such as Som (*Persea bombycina*), Soalu (*Litsaea polyantha*), Dighalati (*Litsaea salicifolia*), and, in special cases, Mejankari (*Litsea cubeba*) for Muga silkworms, and castor plants for Eri silkworms (Sericulture Department, Assam, 2020).

1.2 Research purpose and project rationale

Purpose

The live project begins as an in-depth study of the existing Muga silk industry in Assam, identifying the key systemic challenges that threaten its continuity. The analysis is then used to propose a speculative, systems-oriented reimagining of Muga, a heritage textile with the potential to be a thriving regenerative craft economy. This paves the way to explore a decentralised, place-based model of enterprise grounded in ecology and craftsmanship. It invites a shift away from extractive paradigms of production and brand toward frameworks rooted in circularity and sustainability. In this reimagined model, consumers and beneficiaries are placed on equal ground, where social foundations are held in balance with ecological ceilings.

Objectives

The objectives of the project are (1)to investigate the Muga silk ecosystem in Assam by mapping its value chain, stakeholder dynamics, and socio-cultural significance with a focus on how the historically gendered, rural, and indigenous knowledge systems have been undervalued in dominant economic narratives and (2) to explore how regenerative and decolonial design principles can inform the creation a craft enterprise and communication model that uplifts artisan dignity, resists extraction, and repositions Muga silk as a living system.

Questions:

RQ1: What does the Muga silk ecosystem in Assam reveal about the relationship between cultural knowledge, ecology, and artisan economies?

- What are the key stages and stakeholders in the Muga value chain?
- Where is value created, lost, or diluted in current systems?

RQ2: How can regenerative principles inform the design of a craft-based social enterprise and communication model that resists extraction while enabling visibility and equity?

- How can we codify artisan empowerment, material ethics, and cultural integrity into a viable social enterprise system?
- What elements must a brand communication toolkit include to preserve authentic storytelling without commodifying Muga?
- How can seasonal rhythms and slow production be repositioned as storytelling strengths, not limitations?

1.3 Limitations and learnings

This live project, like any other research, has encountered its fair share of bottlenecks and dead ends, but it is important to note that it is both an inquiry and an intervention. It does not claim resolution and instead, it offers a dynamic, values-aligned system with the potential to be adapted, challenged, and grown outside of the scope of Muga. The greatest learning was perhaps taking a speculative approach that took into account that incompleteness is not a flaw, but a condition of futures thinking.

One key limitation lies in the economic feasibility of sustaining traditional crafts in a globalised and fast-paced fashion economy. While this project proposes a regenerative enterprise model, it also acknowledges the reality that unless these systems yield liveable, consistent incomes for artisans, the discourse around preservation risks becoming symbolic. Factors like market volatility, bureaucratic hurdles, and lack of consumer consciousness may limit the immediate applicability of the proposed interventions, especially in communities already overburdened by precarity and climate vulnerability.

The second limitation would be the challenge of navigating the balance between heritage and evolution. Craft, as a form of embodied knowledge, grows and evolves with time. However, the general perception of preserving authenticity can clash with the need for modern interventions (whether through design or otherwise), demanding that artisanal practices remain static. This project challenges that paradigm, advocating for a dynamic, living definition of craft, holding space for both continuity and innovation.

The third limitation emerges in the form of access and proximity. As a diasporic researcher returning home to Assam, I had both the advantage of cultural insight and the challenge of positional distance. While the project is rooted in deep respect for local knowledge and was co-developed with artisans and collaborators, I recognise my privileged perspective and do my best to steer clear of bias.

The fourth limitation questions the sustainability of advocacy itself. In advocating for ecological repair, artisan equity, and cultural preservation, the burden is often placed on researchers, designers, and community liaisons, tasked with "saving" or representing these systems. This work revealed the need for collective models where responsibility is shared. Lastly, this project has prompted deeper inquiry

into how I, as a designer and strategist, fit into this ecosystem long-term. While community development is at the heart of this work, the question of personal sustainability (financial, emotional, and professional) remains. Finding viable, social-impact models for ethical profitability is essential if activism is to remain enduring and impactful.

1.4 Nature of Study

The live project is an interdisciplinary, design-led inquiry that is placed at the intersection of cultural preservation, sustainability strategy, and speculative business modelling. It combines qualitative research with systems thinking and strategic foresight to interrogate the current state of Assam's Muga silk ecosystem and imagine an alternative future for place-based regenerative craft enterprise.

The first two chapters establish the rationale for the project, outlining wider cultural and ecological imperatives that frame Muga silk as a noble fibre. This is achieved through a critical literature review that gathers historical, socio-cultural, ecological, and economic insights from academic and oral sources. It also outlines the theoretical underpinnings that shaped the project.

The third chapter focuses on stakeholder engagement, mapping the craft ecosystem through the lens of power, participation, and value. This chapter outlines the relationships and frictions across the value chain and documents challenges. The research then turns to methodology and market research in the next two chapters, bringing in tools such as value chain mapping, PESTLE analysis, persona-building, and a business model canvas, among others, to reveal insights.

Chapter six onwards, it progresses to present the design outcomes: a regenerative enterprise framework, a brand communication toolkit, and a prototyped campaign output, forming a comprehensive intervention strategy. The final chapters reflect on future phasing, lessons learned, and my evolving role as a researcher in shaping ethical futures for craft economies.

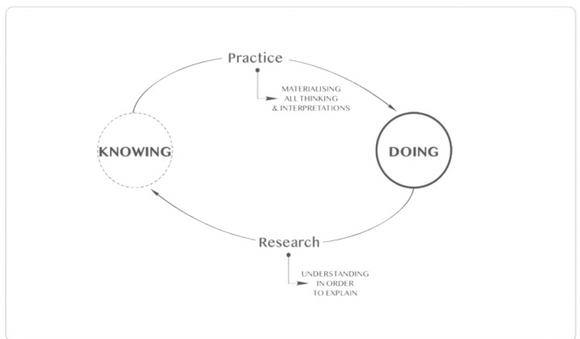

Figure 1: *The relationship between knowing and doing in practice-based research.* Adapted from: Smith (2017).

Part 2: Evidence of scoping

"Scoping is a systematic process to determine the breadth and depth of inquiry necessary to address complex, often ill-defined problems."

— Valerie A. Brown, *Tackling Wicked Problems: Through the Transdisciplinary Imagination* (2010)

Literature review

2.1. The history and evolution of Muga in Assam: A timeline

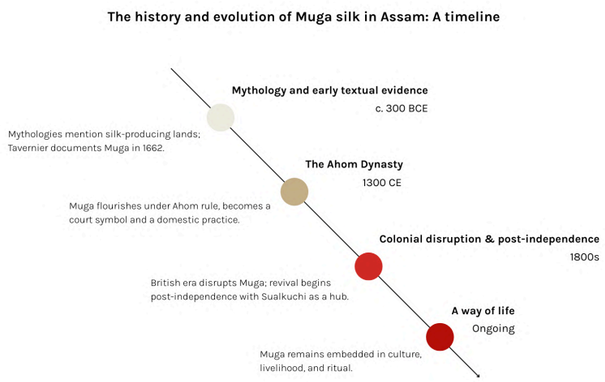

Figure 2: *The history and evolution of Muga silk in Assam: a timeline.* Source: Author's own.

2.1.a. Mythology and early textual evidence

Textual evidence from before the 3rd century BCE suggests that the region now known as Assam was historically associated with silk cultivation. The *Kishkindha Kanda*, the fourth book of the *Ramayana*, contains a reference to the "country of cocoon rearers", widely interpreted as an early allusion to this area (Ahmed, 2002). Similarly, the *Mahabharata* mentions a silk-producing province named Suvarnakanakanan, further indicating the region's ancient engagement with sericulture (Jain and Ratan, 2017).

The renowned philosopher and royal advisor Chanakya (also known as Kautilya or Vishnugupta) is believed to have referenced a silk textile called 'dukula', described as being made from wild cocoons native to Assam. However, the earliest formal account specifically referencing the Muga silkworm (*Antheraea assamensis*) appears in 1662 CE, in the travel writings of the French jeweller and explorer Jean-Baptiste Tavernier, who documented his encounters with silk production during his journeys through the Indian subcontinent.

2.1.b. The Ahom Dynasty

Assam silk's golden era was during the Ahom Dynasty (13th–19th century CE). Under royal patronage, Muga silk evolved into a potent symbol of the Ahom imperial order, worn by the nobility within the court and increasingly valued as an item of export. One of the most prominent historical figures of this era, Momai Tamuli Barbarua, a senior minister under King Pratap Sinha (1603–1641 CE),

institutionalised spinning and weaving by making them compulsory occupations, thereby elevating what had previously been regarded as a "lowly" craft into a central and respected vocation (Mahan, 2012).

The *rajagharia* or royal looms, supervised directly by the Ahom royal households, commissioned large quantities of silk and were often state-regulated. Muga became synonymous with the ruling class, and skill development was prioritised. These looms employed specially appointed experts who wove luxurious textiles derived from silkworms reared on *Mejenkari* leaves (Litsaea cubeba) that produced a silver yarn (Bora, 2023). The resulting fabrics were exclusively reserved for royalty, further entrenching Muga's association with power and prestige. Beyond the palace walls, the rearing of silkworms and the weaving of Muga silk became a widespread domestic practice. This era also saw the formalisation of looms as part of dowries and women's vocational training, embedding craft within social, economic, and ritual life (Goswami, 2016).

2.1.c. The Silk Road, colonial disruption, and post-independence

Assam's textile landscape changed dramatically during and after the Silk Road era. While Muga's direct participation in the broader Silk Route, originating in the 2nd century BCE, remains speculative, it saw parallel innovations shaped by trade, migration, and cultural exchange (Mahan, 2012).

British colonial expansion and the decline of the Ahom Empire disrupted Muga production. The introduction of power looms, shifting focus towards mass-produced mulberry silk, cotton, and chintz, and increased import of foreign textiles undercut the indigenous handloom sectors. The introduction of tea plantations and other commercial farming ventures led to the displacement of forested lands crucial for the growth of host plants essential to the Muga silkworm's life cycle (Das and Goswami, 2018). Post-independence, efforts were made to revive the sector, yet state and institutional support remained inconsistent. Despite this, regions like Sualkuchi continued to serve as hubs of silk production, adapting to shifting socio-economic landscapes and witnessing community-led expansion into commerce and tourism in the late 20th century.

2.1.d. A way of life

The cottage textile industry is a deeply rooted practice sustained by the diligence of local communities. Muga silkworms are polyphagous and multivoltine, having up to five generations in a year. Per the Assamese calendar, the different seasons are (i) *Jarua* or winter, (ii) *Chatua* or early spring, (iii) *Jethua* or spring, (iv) *Aherua* or early summer, and (v) *Kotia* or late summer/early winter (Borthakur, 2003). *Jethua* (April–May) and *Kotia* (October–November) seasons produce the finest, commercially viable quality. They are primarily concentrated along the Brahmaputra river valley, with populations extending into the Lohit and Dibang valleys of Arunachal Pradesh, and more sparsely into the Garo Hills of Meghalaya, parts of Nagaland, Myanmar, and the western Himalayan foothills. Despite this wider distribution, Assam accounts for over 95% of global Muga silk production (Borthakur, 2003).

Muga silk production makes a great example for eco-feminist labour, sustained through intergenerational knowledge transfer primarily by women. The craft is embedded within familial structures, where women dedicate a few hours each day to the rearing, spinning, or weaving activities. It is this home-based, decentralised model that situates Muga within the broader cottage industry landscape (Jain and Ratan, 2017). Today, an estimated 2.5 lakh (250,000) families in Assam are engaged in various stages of Muga silk production. In many of these households, the annual yield (typically 1 to 1.5 kilograms of raw Muga silk per season) is primarily reserved for personal use. Surplus may be sold locally within the village or to regional retailers, contributing to the rural economy and also empowering women with financial agency (Economic Survey, Assam, 2014). During periods when silk production slows, households shift their focus to seasonal agriculture or alternate livelihoods, reflecting the adaptive, multi-skilled nature of Assam's rural economy. There is no way to force or scale production artificially, and in that limitation lies its strength—the ecological rhythm is maintained, grounded in seasonality and circularity.

Figure 3: *A woman weaving on a traditional loom.* Source: Author's own.

Another dimension to this zero-waste approach is that once the cocoon has been harvested, the ripened silkworm pupae (locally known as *polu*) are consumed as a seasonal delicacy. Rich in protein and nutrients, this practice adds a layer of nutritional and economic value to the production cycle, enhancing its sustainability and reinforcing local food traditions.

Men are commonly involved in the rearing and reeling stages, and in some cases, families sell Muga silk seeds or reeled yarn by weight. Raw Muga cocoons fetch around ₹4,500–₹6,000 per kilogram (approx. £35–£65), while reeled yarn and finished woven products can reach premium prices, particularly when sold to urban boutiques or luxury markets. Although some aspects of the indigenous practices have been recorded (Borthakur, 2003; Phukan and Chowdhury, 2006; Unni et al., 2009; Chakravorty et al., 2010; Sarmah et al., 2010; Nath, 2013) the available information is fragmentary and incomplete (Chakravorty, Gogoi and Meyer-Rochow, 2015). This is although Assam has the highest number of handlooms in India at 11,11,577 and has 16,43,453 weavers. It is the third-largest silk-producing state in India, providing around 85% of global muga silk (Central Silk Board, 2021).

2.2. Why Muga: Indigenous wisdom and inherent circularity

This section outlines the distinctive value propositions of Muga silk:

2.2.a. Material Culture

- The silk's rarity and natural golden hue, a characteristic tied to the genetics of the silkworm (*Antheraea assamensis*) (Chakravorty et al., 2015). Unlike other silks, Muga's lustre uniquely intensifies with each wash, enhancing its longevity and intrinsic value (Narzary et al., 2023). Its indigenous method of cultivation and production, colour stability, tensile strength (4.53g/D), strongest amongst all silks, UV absorption capacity (>80%), durability (over 50 years), acid resistance and thermal properties (Akhtar, 2022) are the biggest strengths. The Muga silk has received the Geographical Indication Tag (GI Tag) in the year 2007 and the Trademark logo in the year 2014 (Hnamte, 2022).

- Its exceptional tensile strength and durability have historically rendered it not merely ceremonial but highly functional, traditionally used as everyday workwear by rural communities in Assam during farming, hunting, and other labour-intensive activities (Borthakur, 2003; Chakravorty et al., 2015).

- Muga production strictly aligns with specific ecological conditions and seasons, ensuring sustainable cultivation and reinforcing its premium, artisanal status (Borthakur, 2003; Narzary et al., 2023).

- The craft is sustained by deeply rooted artisanal knowledge transmitted intergenerationally within families, preserving traditional skills and weaving practices across centuries (Chakravorty et al., 2015).

2.2.b. Ecology

- The whole production cycle of Muga silk, from silkworm rearing to weaving, is embedded in Assam's distinct agroecology, utilising biodiversity-specific plant hosts, integral to ecological sustainability (Chakravorty et al., 2015; Borthakur, 2003).

- Traditional Muga weaving exclusively employs natural dyes derived from local flora, reinforcing biodiversity conservation, sustainability, and local ecological stewardship (Narzary et al., 2023).

- The manual, slow-paced methods of sericulture and weaving ensure minimal environmental impact, demonstrating an ecologically sustainable model distinct from industrial textiles (Chakravorty et al., 2015).

2.2.c. Community

- Muga silk production is fundamentally embedded in rural, agrarian contexts, deeply entwined with community cohesion, identity, and resilience, forming its socio-economic backbone (Chakravorty et al., 2015; Narzary et al., 2023).
- Women predominantly lead the production processes, positioning Muga silk within an ecofeminist framework. This emphasises the centrality of female craftsmanship (Chakravorty et al., 2015).
- Beyond mere production, Muga silk permeates Assamese cultural practices, prominently featured in folklore, ritual, cuisine, music, literature, and festivals, making it foundational to cultural identity and communal heritage (Narzary et al., 2023).

2.2.d. Indigenous wisdom and inherent circularity

- Muga silk embodies a rich tapestry of place-based wisdom and traditional ecological insight that ensures adaptability, resilience, and environmental balance, essential for navigating shifting climatic and ecological conditions (Narzary et al., 2023). Its non-extractive production processes mutually empower nature and humanity.
- Central to its circularity is the zero-waste ethos, localised sourcing and closed-loop production methods, holistically connecting ecology, culture, and artisan livelihoods (Chakravorty et al., 2015).

2.2.e. Market demand

- Muga silk holds significant cultural and ritualistic importance, traditionally worn at wedding ceremonies, religious rituals, community celebrations, and formal gifting within Assamese society. Beyond apparel, its use extends into homeware and decorative textiles, reinforcing its multifaceted value (Narzary et al., 2023).
- In recent years, market demand within Assam has witnessed a steady increase, driven by a growing appreciation for heritage textiles and heightened consumer interest in sustainable luxury products. Contemporary designers and creative entrepreneurs have begun recognising Muga's distinct market potential, integrating it into modern collections and promoting it within wider fashion circles, both domestically and internationally (Jain and Ratan, 2017; Central Silk Board, 2022). This expanding demand presents new economic opportunities while also posing challenges to ensure production remains ecologically balanced and culturally respectful (Central Silk Board, 2022).

2.3. Conceptual foundations

2.3. a. Regenerative Design

An integrative framework emphasising systems that restore ecological balance, community vitality, and economic resilience, beyond sustainability towards regenerative growth (Wahl, 2016).

2.3.b. Doughnut Economics

A systemic approach proposed by Raworth (2017) focuses on meeting humanity's essential needs without breaching planetary boundaries and aligning economic goals with ecological and social thresholds.

2.3.c. Indigenous Knowledge Systems

Recognition and integration of traditional ecological and cultural wisdom, highlighting place-based adaptability, resilience, and sustainable resource management (Berkes, 2012).

2.3.d. Eco-Feminism

Critical exploration of gender, ecology, and socio-economic power structures is particularly relevant given women's significant role in Muga silk's production, ecological stewardship, and community sustainability (Shiva & Mies, 2014).

2.3.e. Slow Fashion and Circular Economy

Frameworks advocating mindful, ethical consumption and closed-loop production cycles are essential to sustainably preserving heritage textiles like Muga silk (Fletcher, 2010; Ellen MacArthur Foundation, 2017).

2.3.f. UN Sustainable Development Goals (SDGs):

- **SDG 5: Gender Equality**

Emphasising empowerment and economic inclusion of women, central to the predominantly female-led Muga silk industry.

- **SDG 8: Decent Work and Economic Growth**

Supporting fair wages, improved market access, and sustainable livelihoods for artisans and rural communities.

- **SDG 11: Sustainable Cities and Communities**

Reinforcing the importance of place-based knowledge systems, traditional architecture, and cultural continuity in building resilient rural-urban ecosystems, especially through crafts that are embedded in local identity.

- **SDG 12: Responsible Consumption and Production**

Promoting sustainable practices, circular economy principles, and waste reduction within textile production.

- **SDG 13: Climate Action**

Encouraging climate-adaptive strategies inherent in indigenous ecological knowledge and sustainable agricultural practices.

Figure 4: *Collage of processes and artisans involved in Muga silk production.* Source: Author's own.

- **SDG 15: Life on Land (Biodiversity)**

Protecting terrestrial ecosystems and maintaining biodiversity through the careful ecological stewardship integral to Muga silk cultivation.

- **SDG 17: Partnerships for the Goals**

Encouraging cross-sector collaboration between government bodies, NGOs, designers, academic institutions, and artisan communities to support the long-term resilience of craft-based economies.

2.4. Processes, tools, and biodiversity

Engrained deeply into religious beliefs and ritualistic practices, the locals believe that the Muga silkworms as sacred beings whose cultivation requires divine blessings. A commonly used proverb says, "*Ahu kheti ahu kal, muga kheti kopal val*". In English, this translates to 'cultivation of rice depends on the season, but the rearing of Muga depends on fate' (Narzary et al., 2023). The production process is broadly divided into three key stages:

2.4.a. Pre-rearing

The lifecycle begins with the laying of silkworm "seeds" (eggs) by adult moths. These are preserved until hatching. Once hatched, larvae are placed on the host plants, integral to their growth. Young larvae consume tender leaves, while later instars prefer mature foliage. As leaf availability declines, worms are carefully

transferred to new trees using a bamboo sieve called *chaloni*, minimising handling stress. This stage ensures larval health and sets the foundation for cocoon quality.

2.4.b. Rearing

When larvae mature, they are moved to mounting devices termed *jali*, crafted from dry leaves of Azar (*Litsea monopetala*) or Singari (*Litsaea salicifolia*). Singari is preferred for producing more compact, lustrous cocoons. Larvae undergo three moults before cocooning, culminating in metamorphosis. Two cocoon types emerge:

- **Seed cocoons:** These are selected on the peak harvest day from the *bharpok* stock and kept in bamboo cages to enable moth emergence, mating, and egg-laying.
- **Commercial cocoons:** These are used for silk, including pierced cocoons repurposed into spun yarn.

2.4.c. Post rearing

Cocoons undergo degumming in alkaline plant-based solutions like *Kolakhar* (banana pseudostem ash), *Dhankher* (rice straw ash), and lubricants such as *Owtenga* (*Dillenia indica*) and *Joba pat* (*Hibiscus rosa-sinensis)* to ease reeling. Reeling takes place using traditional tools like *Bhir* or *Bhowri*, operated by hand, producing lustrous yarn with minimal twist.

The weaving process uses both loin and fly-shuttle looms. Patterns are manually drawn on graph paper and translated into Jacquard punch cards, often needing 300+ cards per design. Cards are reused up to five times, preserving both material and labour resources.

The rich biodiversity and deep ecological integration of the Muga craft, from pre-rearing to post-weaving, is evident in the diverse natural and plant-derived tools and ingredients it employs. Here's a concise list:

Ecological tools & materials

- Bamboo species (*Bambusa tulda*, *Dendrocalamus hamiltonii*): Used for making rearing implements like *Chaloni*, baskets, *Jali*, and shuttles.
- Banana stems (*Musa spp.*): Used to create guard rails around trees to confine larvae.
- *Dhekia* (*Diplazium esculentum*): Antibacterial fern leaves added to seed storage for infection control.
- Orchid (*Orchidaceae*): Hung in rearing areas to ward off evil energies, reflecting sacred ecological beliefs.
- Fiddlehead fern and jute bark: Used to build cocooning trays and support structures.

Host plants for larvae

- Primary hosts: Som (*Persea bombycina*), Soalu (*Litsea polyantha*)
- Secondary/seasonal hosts: *Litsea salicifolia*, *Litsea cubeba*

Pre- and post-rearing additives

- *Dhan kher* (alkaline rice-straw ash), *Mati mah* (*Vigna mungo* ash): Boiling agents in cocoon degumming.
- Hibiscus *rosa-sinensis*, Billygoat weed (*Vitex negundo*): Added to boiling solutions to enhance lustre, strength, and microbial resistance.
- Pomelo (*Citrus maxima*): Fermented juice used for polishing finished fabric.

Yarn and weaving aids

- *Sitol pati* (*Cyperus pangorei*): Cooling mat to prevent yarn tangling.
- *Sekeri* (*Sida spp.*): Fibres used for bundling yarn.
- *Maar* (rice starch): Natural stiffener for preparing warp.
- Betel nut palm brush (*Areca catechu*) and wild grass broom (*Thysanolaena maxima*): Used to align and clean yarn before weaving.
- *Maku* shuttle (*Bambusa spp.*): Traditional tool for inserting weft.

Part 3: Methodology

"Design inquiry is not about discovering a singular truth, but opening up plural futures through making."

— Anne-Marie Willis, *Ontological Designing* (2006)

3.1. Methods and project timeline

An Interpretivist approach

This live project adopts an interpretivist approach, grounded in the belief that knowledge is socially constructed, context-specific, and rooted in lived experience. Rather than seeking universal truths, it aims to understand the meanings and values embedded in traditional craft ecosystems, particularly Muga silk, through empathy, dialogue, and co-creation. I prioritised reflexivity and relationality, acknowledging my position as the researcher as both an insider to the cultural context and an outsider to the artisanal ecosystem.

The following qualitative and mixed-methods were utilised:

- **Secondary research:**

An extensive literature review was conducted across academic journals, books, websites, cultural history archives, government reports, and more to map the historical, ecological, and socio-economic dimensions of the Muga ecosystem.

- **Primary research:**

Semi-structured interviews were conducted with 10 stakeholders (1 rearer, 1 weaver, 1 reeler, 1 state policy actor, 3 designers/entrepreneurs, 2 scholars, and 1 craft practitioner). These interviews aimed to capture a plurality of voices, map challenges across the value chain, and surface recurring pain points and strengths that would help shape how the project evolved with time.

- **Participatory field observations:**

On-ground research in Assam involved direct engagement with artisans and local communities. This included observing rearing and weaving processes, informal ethnographic dialogue, and visual documentation. The emphasis was on understanding embodied knowledge and place-based practices that may not be visible in conventional market or policy discourse.

- **Case study:**

Way of Living Studio was a live case study to understand how regenerative craft principles could be embedded in a real-world social enterprise. The case also gave insight into scale and systems-building challenges in contemporary design practice.

- **Validation and iteration:**

Insights from the literature and fieldwork were synthesised into three interlinked outputs: a regenerative framework, a brand communication toolkit, and a speculative campaign. These were shared with select stakeholders for feedback, enabling iteration through follow-up interviews and informal testing of a microsite as the primary repository of this project's research and outcome.

Project Gantt Chart breaking down the timeline:

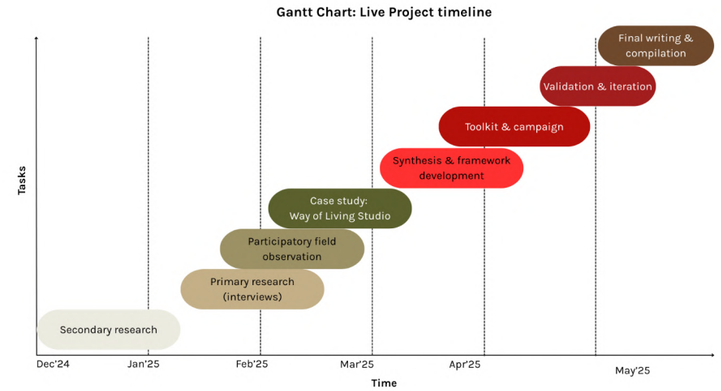

Figure 5: *Gantt chart showing the live project timeline.* Source: Author's own.

3.2. Research tools

In this project, research tools were not used merely for data organisation, but as tools for pattern recognition to encourage speculative inquiry. Their application enabled the study to navigate the systemic complexity of Assam's Muga silk ecosystem and proved to be pivotal to this research:

3.2. a. Value Chain Mapping

Designed to uncover where value is created, lost, or transferred across a system (Porter, 1985), it helped trace Assam's Muga ecosystem from silkworm rearing to final garment production. This model allowed for a granular yet systemic reading of the craft meant for macro-level understanding.

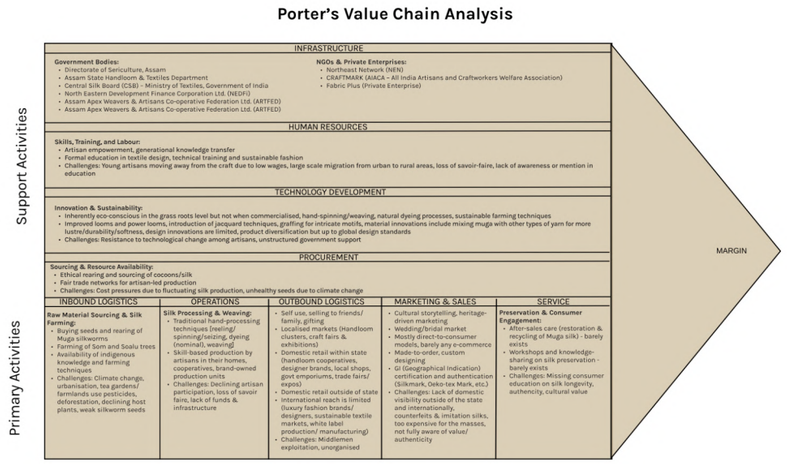

Figure 6: *Porter's value chain analysis applied to the Muga silk sector.* Source: Author's own.

Segment	Value Potential	Category
Raw Material Sourcing	High: Rare, indigenous, golden silk	Where value lies
Silk Processing & Weaving	High: Artisanal skill, luxury potential	Where value lies
Sustainability & Tech Innovation	High: Eco-aligned, natural processes	Where value lies
Marketing & Branding	Lost: No strategic branding	Where value is lost
Consumer Engagement & Preservation	Lost: Untapped narrative & durability	Where value is lost
Market Dilution & Duplication	Lost: Duplicates, cost-cutting	Problem to Highlight
Design & Appeal	Lost: Low design innovation	Problem to Highlight
Authenticity & Trust	Lost: No verification/care system	Problem to Highlight

Figure 7: *Table outlining value definition across the Muga silk value chain.* Source: Author's own.

3.2.b. PESTLE Analysis

Used to examine the Political, Economic, Social, Technological, Legal, and Environmental forces affecting the Muga ecosystem:

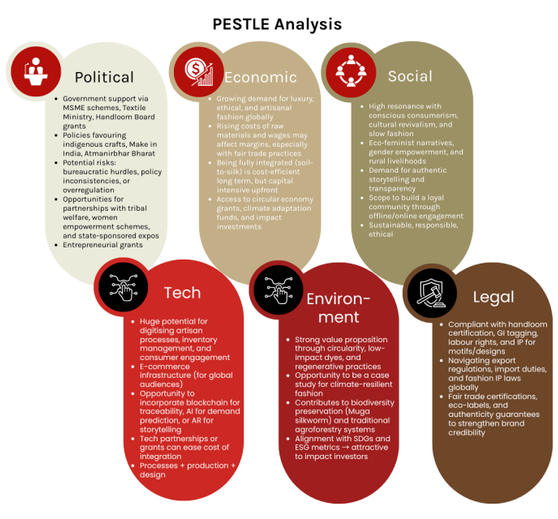

Figure 8: *PESTLE analysis of the Muga silk industry in Assam.* Source: Author's own.

3.2.c. Social Business Model Canvas

This tool helped bridge design values with operational structure, supporting the creation of a values-aligned social enterprise prototype.

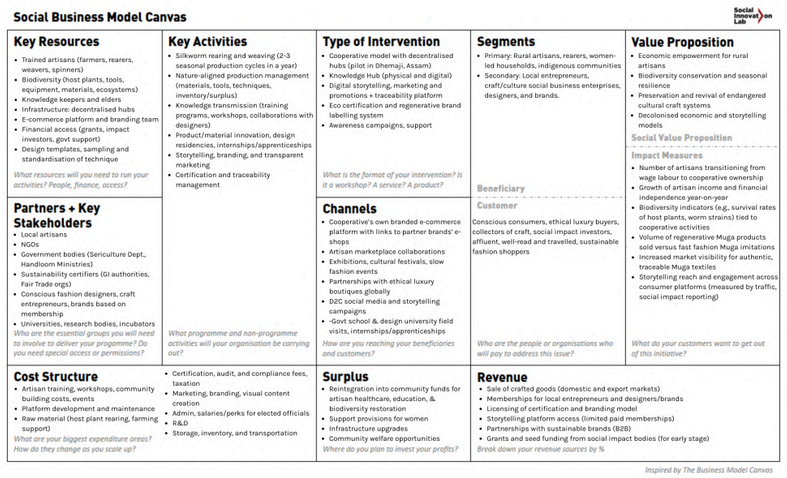

Figure 9: *Social Business Model Canvas for the Muga silk ecosystem.* Source: Author's own.

3.2.d. GigaMapping

This systems design method, developed by Birger Sevaldson, was used to visualise the broader cultural and ecological web of Muga silk. GigaMapping allows for “the mapping of complexity beyond linear cause-effect” (Sevaldson, 2011), making it especially suited to regenerative design approaches where multiple domains overlap. It helped identify the known domains, desired outcomes, and gaps for interventions to develop future-proof interventions.

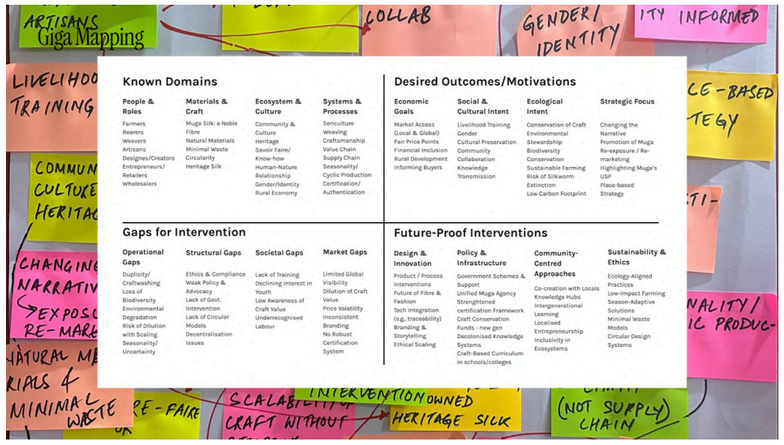

Figure 10: *Gigamap visualising the interconnected systems of Muga silk production and distribution.* Source: Author's own.

3.3. Case study: Way of Living Studio (WOLS)

Founded by multidisciplinary designer/entrepreneur Jagrity Phukan in her hometown of Dhemaji, Upper Assam, Way of Living Studio is a values-led design practice operating at the intersection of heritage, ecology, and slow production. A graduate of the National Institute of Fashion Technology (NIFT), New Delhi, Phukan began her career in the fast fashion industry but deliberately shifted away from extractive, industrial systems toward a more localised and ethical approach. Today, she works closely with heritage crafts and community-led initiatives across Northeast India.

Located in a geographically and ecologically rich region, characterised by alluvial soils, high humidity, and optimal sericulture conditions, the studio benefits from its proximity to traditional Muga silk ecosystems. A multigenerational custodian of this knowledge, Phukan learned the nuances of rearing and weaving from her 90-year-old grandmother. As its name suggests, Way of Living Studio (backronym: SLOW) embodies a philosophy of co-creation with nature and community, seeking to activate underutilised cultural assets while fostering sustainable livelihoods for artisans.

The studio works with a core team of 12 members, extending to over 60 people across the supply chain. Primary materials include Muga and Eri silk, natural dyes,

and other locally sourced fibres. The brand operates across three market segments:

- **WOLS:** The umbrella brand engaging in B2B/B2C, textile collaborations, and funded research. It also houses Phukan’s emerging textile art and sculptural work.
- **AAIDEU:** A domestic retail line focused on traditional Assamese drapes and accessories.
- Global Line: A forthcoming international collection of contemporary apparel and accessories tailored for the luxury eco-conscious market.

Future aspirations include launching an online platform, evolving into a social enterprise model, and establishing a knowledge hub for regenerative craft practices in Assam. This collaboration positions Way of Living Studio as a compelling example of design-led cultural stewardship, where traditional wisdom and strategic branding converge to propose new models of sustainable, place-based enterprise. Phukan hopes the findings of this research will help inform a long-term strategic vision that aligns profitability with wider purpose.

Business Model Canvas and Lean Canvas for Way of Living Studio for a micro-level understanding:

3.3.a. Business Model Canvas (WOLS)

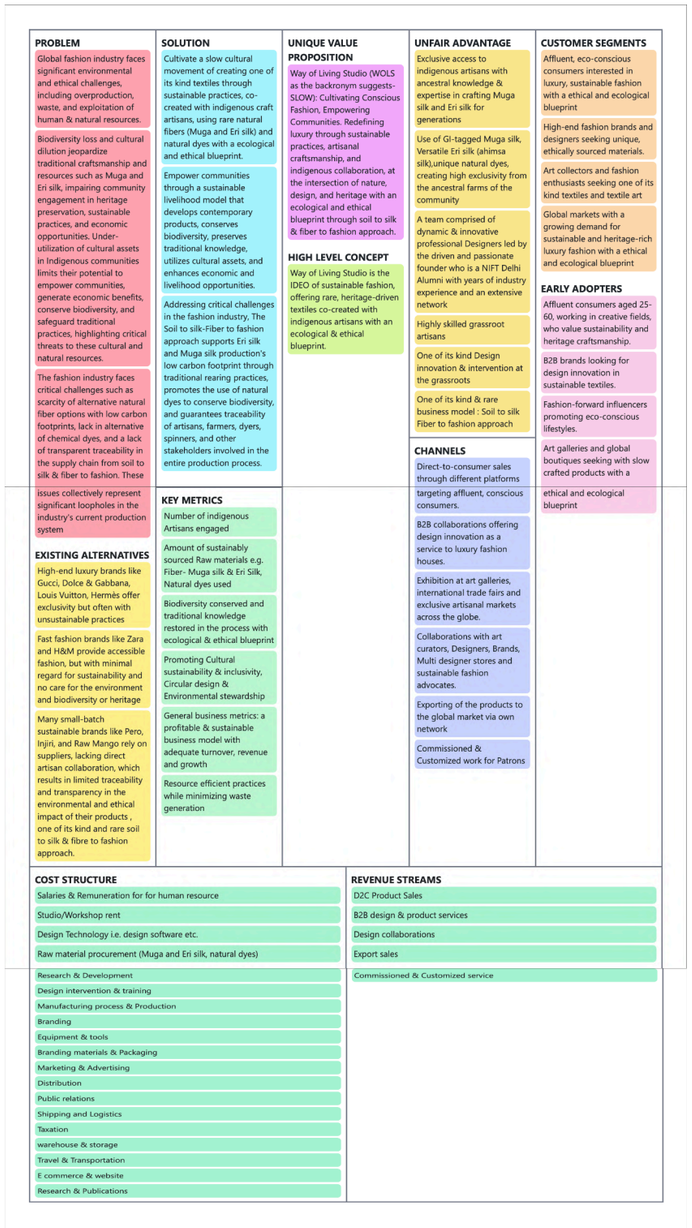

Figure 11: *Business Model Canvas for Way of Living Studio (WOLS).* Source: Author's own.

3.3.b. Lean Canvas (WOLS)

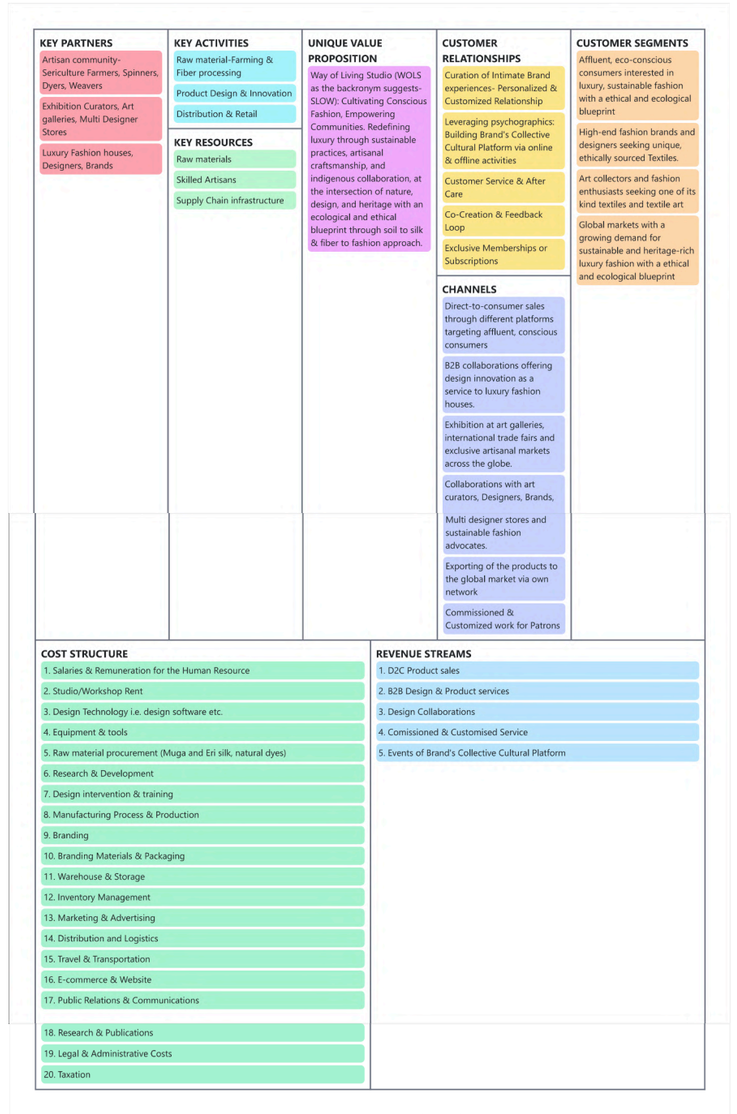

Figure 12: *Lean Canvas for Way of Living Studio (WOLS).* Source: Author's own.

Part 4: Market & ecosystem research

“Markets are embedded in institutions, culture, and ethics. Economic activity is not autonomous, but deeply entangled with the social.”

— Karl Polanyi, *The Great Transformation* (1944)

4.1. Stakeholder mapping & engagement challenges

The table below maps stakeholders in the Muga silk ecosystem:

Primary stakeholders (Directly Engaged in Production & Trade)	
Title	**Role**
Artisans & Weavers	Predominantly women, they engage in spinning, dyeing, and weaving silk fabrics using age-old techniques.
Silk Rearers & Farmers	Responsible for cultivating Muga and Eri silkworms.
Local Cooperatives & Self-Help Groups (SHGs)	These entities organise artisan collectives, offering financial support, raw materials, and avenues for direct market access.
Private Enterprises & Social Entrepreneurs	These stakeholders promote Assam silk through ethical marketing and promotions and direct-to-consumer platforms.
Secondary Stakeholders (Influencers & Enablers)	
Title	**Role**
Government Bodies (Central & State)	Ministry of Textiles, Government of India: Oversees policies, subsidies, and infrastructure development. Central Silk Board: Engages in research and development, production support, and implements schemes like the Silk Samagra. Directorate of Handloom & Textiles, Assam: Manages local funding, GI tagging & market promotion.
NGOs & Advocacy Groups	All India Artisans and Craftworkers Welfare Association (AIACA), Fashion Revolution India, and Ethical Fashion Initiative are a few examples. These organisations advocate for artisan rights and ethical practices.
Certification & Regulatory Bodies	Craftmark, Silk Mark Organization of India, Global Organic Textile Standard (GOTS) are a few examples. They empower the primary stakeholders through their efforts.
Tertiary Stakeholders (Global Markets & End Consumers)	
Title	**Role**
Fashion & Lifestyle Brands	These brands, both international and domestic, incorporate artisanal textiles into their collections, significantly contributing to production and creating livelihood for the artisans.
Retailers, Wholesalers & Exporters	They manage the distribution of Assam silk products both domestically and internationally.
Conscious Consumers & Patrons of Craft	This group supports through mindful purchasing decisions and patronage.

Figure 13: *Stakeholder mapping for the Muga silk ecosystem.* Source: Author’s own.

Despite the richness of this ecosystem, stakeholder engagement is fragmented:

- **Bureaucratic gaps:** Multiple government bodies and departments operate in silos, resulting in fragmented policy execution. Many artisans remain unaware of schemes intended for their benefit, resulting in the underutilisation of government resources (AIACA, 2020). Financial aids and funding applications are tedious and require supporting documents and bureaucratic literacy, which unfortunately, a lot of artisans don’t have.
- **Lack of integration:** Artisans and actual makers of the craft remain disconnected from their consumers due to the lack of physical proximity to the market, low education/awareness, and limited digital and structural infrastructure. Artisans are also often left out of conversations around pricing benchmarks and design feedback, limiting innovation and value addition.
- **Unfair power dynamics:** Most rural producers are dependent on intermediaries, middlemen, or brands, which leads to diluted bargaining power and narrative erasure. This imbalance is a key reason why indigenous knowledge systems are often commodified but not credited (British Council & Fashion Revolution India, 2023).

- **Tokenism in representation:** While advocacy groups aim to uplift artisan visibility, participation often remains extractive or symbolic without meaningful equity in ownership or storytelling. There is a lack of trust among artisans toward government or NGO initiatives due to historic mismanagement or failed promises.

- **Certification barriers:** While marks like GOTS and Craftmark ensure transparency, they can be prohibitively expensive or complex for grassroots groups to access independently. These certifications also don't necessarily change the ground realities for the artisans, as their impact remains uncertain. Interviews with retailers and entrepreneurs of Muga revealed that corrupt practices have also led to wrongful certifications under pretences, which further dilute the significance.

- **Sustainability of advocacy work:** Even as NGOs and independent researchers champion craft sustainability, there is often an unspoken burnout, especially among intermediaries who are expected to bridge knowledge systems, secure funds, and maintain trust. This raises important questions about the labour of advocacy itself and the need for distributed leadership models within artisan communities.

4.2. Craft sector landscape

India is home to one of the world's largest and most diverse artisanal economies. With an estimated 200 million craftspeople (56% of whom are women), the sector significantly contributes to India's thriving creative economy. It spans apparel, home textiles, fashion, jewellery and accessories, and lifestyle products. It contributes approximately 2% to the national GDP and is valued at around ~£3.1 billion, projected to grow to ~£4.9 billion by 2028 (British Council & Fashion Revolution India, 2023).

The last few years have witnessed a resurgence of the "artisanal" with a growing popularity of handcrafted, heritage products, now synonymous with luxury and sustainability. As ethical consumerism rises globally, the narrative shift (whether performative or organic) sees craft traditions finally receive the spotlight. This shift is evident across trend forecasts, highlighting "mindful materiality" and "roots and rituals" as major drivers of consumer behaviour in recent years (Business of Fashion, 2023).

The Assamese Muga silk remains an important symbol of identity and tradition, particularly visible in bridalwear and ceremonial garments in the state's market. The last five years have witnessed a rise in domestic demand, driven by a renewed interest in cultural authenticity. However, this boom has led to significant challenges. A lack of buyer literacy around Muga has enabled the infiltration of counterfeits, such as Tussar silk and synthetic golden threads are often misrepresented as Muga, produced in mills across Southern India and China. This has diluted value and created a confusing, often exploitative retail landscape. On average, a pair of authentic Muga *mekhela sador* is priced between £500 to £1000, the upper limit depending on the intricacy of motifs. While demand is rising, the supply of genuine Muga remains cyclical and constrained by agroecological realities. Unlike scalable industrial materials, Muga production is seasonal. Efforts to force scalability would disrupt its ecological rhythm and compromise its overall value.

Encouragingly, contemporary Indian fashion and textile designers are revitalising the use of heritage silks through accessories, home decor, and hybrid product lines. Labels such as 11.11/eleven eleven, Raw Mango, Akaaro, Rahul Mishra, and others are among the few fostering innovation while honouring traditional savoir-faire. Meanwhile, global luxury brands from the likes of Dior to Hermès continue to source intricate handwork from India for embroidery and embellishment, especially in haute couture collections. While some ethically-driven craft organisations like the Chanakya School of Craft and Atelier 2M are revolutionising global collaborations, equitable industry-wide change is still a long way off. The fashion industry profits from India's low-cost, high-skill labour, but often fails to provide fair wages or recognition in return (Schwartz, 2020).

While powerful global fashion houses benefit from India's textile prowess, many artisans still work without fair credit or adequate wages. Transparency, attribution, and value-sharing remain persistent concerns. "Craft holds the key with its one-of-a-kind products... It's not about making sales, but being more mindful of our choices and how we consume clothes" (Singh, 2023, p. 10).

4.3. Buyer personas & key trends

As Muga silk repositions itself within the wider discourse of the contemporary luxury fashion industry, understanding its consumer base becomes critical. This project identifies two broad persona clusters: the regional/national and the global consumer. While both groups value traditional craftsmanship, their motivations, price sensitivities, and expectations differ significantly. These personas help evaluate demand and the messaging, design language, and systemic adaptations necessary for inclusive growth. Alongside these behavioural insights, the broader fashion ecosystem is undergoing a values-led transformation, where circularity, seasonality, and transparency are becoming key expectations from both consumers and brands (WGSN, 2024).

4.3.a. Empathy map

Persona 1: Regional/domestic buyer

- **Think & feel:** Seeks cultural authenticity; values traditional craftsmanship; desires products that reflect heritage.

- **Hear:** Influenced by family traditions and community endorsements; listens to local artisans' stories, wants to mimic their immediate social circles by making similar purchases.

- **See:** Observes peers wearing traditional attire; notices the prominence of Muga silk in local ceremonies, influenced by social media trends, targeted ads from brands and designers.

- **Say & do:** Expresses pride in cultural heritage; participates in local festivals wearing traditional garments, contributes to the “Vocal for Local” and “Make In India” narratives.
- **Pain points:** Limited access to authentic Muga silk; prevalence of counterfeit products; lack of knowledge about distinguishing genuine from fakes, overwhelmed by a wide array of available options both online and offline, high prices keep the aspiring consumers at bay.
- **Gains:** Desires assurance of authenticity; seeks education on Muga silk's significance and identification, socio-cultural awareness adds to their social persona and aligns with their sustainable purchases, and presents a status symbol.

Persona 2: Global/eco-conscious buyer

- **Think & feel:** Prioritises sustainability, high-quality products; seeks unique, ethically-produced items; values transparency in sourcing.
- **Hear:** Influenced by sustainability advocates; listens to brand narratives emphasising ethical practices, changing media perceptions.
- **See:** Follows eco-friendly fashion trends; notices brands highlighting artisanal collaborations, fine craftsmanship.
- **Say & do:** Advocates for ethical consumption; shares stories of ethical purchases on social media and immediate circles.
- **Pain points:** Lack of awareness, difficulty verifying product authenticity; concerns over greenwashing; limited online presence.
- **Gains:** Seeks products with verified ethical sourcing; desires connection to the artisan's story; values transparent supply chains.

4.3.b. Consumer trends and strategy

Informed and inspired by WGSN’s Sustainability Forecast Report 2027, these strategies were modified to fit the Muga silk consumer:

Strategy	Insight from WGSN 2027 Forecast	Application to Muga Context
Emotional Support for Consumers	Brands must “recognise shifting emotional needs” and offer care-oriented narratives	Emphasise wellness, slowness, and ancestral storytelling (employ ethnographic, sociological, psychological and anthropological research) to counter digital fatigue and eco-anxiety. Focus beyond material and tangible implications of climate change.
Nature as Technology	Leverage biological intelligence for regenerative and circular solutions, align business with planetary wellbeing.	Highlight the ecological intelligence of Muga’s natural properties, biodiverse materials, and silk lifecycle management. Ensure ethical standards are met and create fair exchange with communities to avoid cultural appropriation and exploitation.
Cultivate Global Collaborations	Cross-sector collaborations will scale up equitable and resilient climate solutions	Develop partnerships with international designers and institutions to uplift Assamese artisans on a global platform. Post-globalisation businesses focus on flexibility and diversity through hyperlocalism.
Slow Design & Transparency	Consumers are moving toward “circular business models” and demanding “hyper-transparency”	Prioritise small-batch, seasonally aligned production cycles and provenance-based labelling.
Cultural Stewardship & Care Economy	Regenerative branding and cultural resilience are future indicators of consumer trust.	Position Muga as an intergenerational cultural asset; not just a luxury product, but a system of care, place, and purpose.

Figure 14: *Strategic insights from the WGSN 2027 Forecast and their application to the Muga silk context.* Source: Author’s own.

4.3.c. Hybrid persona: Rooted Independent

A synthesis of Privacy Keepers, Conventionalists, and New Independents from WGSN Future Consumer 2027, the Rooted Independent has the following attributes and characteristics:

Attributes	Persona Characteristic
Name	Rooted Independent
Age/Gender	28–50 years, primarily female
Location	Urban or peri-urban areas; with strong ancestral or diasporic ties to South Asia
Values	Sustainability, privacy, quality over quantity, cultural heritage, transparency, agency, cultural and intellectual stimulation
Behaviours	Researches purchases deeply, supports regenerative/sustainable enterprises, avoids influencer-led consumption, values slowness, well-read and travelled, climate aware, take pride in their conscious lifestyle choices
Pain Points	Greenwashing/craftwashing fatigue, distrust in mainstream fashion brands and media, over-curated content, limited access to verified artisanal goods
Motivations	Empowering artisans, preserving cultural identity, investing in heirloom-quality items, digital detox
Preferred Channels	Private communities, slow-fashion platforms, values-aligned pop-ups, newsletters with insider content, niche media outlets (zines, blogs, curated social media platforms, etc)

Figure 15: *Consumer persona profile: "Rooted Independent".* Source: Author’s own.

Part 5: Design development

“Design is never neutral; it either reinforces existing systems or disrupts them. In a time of ecological and cultural breakdown, regenerative design must become a strategic act.”

— Ezio Manzini, *Design, When Everybody Designs* (2015)

The live project culminates in three outcomes, each developed to respond to the systemic challenges and cultural insights uncovered through prior research. Designed not as isolated deliverables, these interconnected tools aim to form a regenerative design system for Assam’s Muga craft ecosystem.

Value proposition

A regenerative approach to preserving Assam’s Muga silk—supporting artisan livelihoods, honouring indigenous knowledge, and showing how decentralised, ecologically rooted craft systems can thrive today through authentic storytelling and circular design.

5.1. Muga Model (Regenerative Craft Enterprise Framework)

This model is a systems-level map and strategic framework that codifies what a regenerative, craft-based enterprise could look like. It is grounded in Assam’s Muga silk ecosystem but designed to be adaptable across other indigenous crafts and geographical contexts. Inspired by Kate Raworth’s Doughnut Economics (2017), this reinterpretation is seen through a craft, culture, and community lens. It recognises that sustainability is not enough and that regeneration (of ecosystems, livelihoods, and cultural knowledge) should be the ultimate goal (Raworth, 2017; Fletcher & Tham, 2019). It takes a holistic approach to value creation that goes beyond traditional notions of scaling and profit. With a decolonised and deindustrialised approach, success here is measured by resilience, reciprocity, and ecological alignment (Adamson, 2013; Escobar, 2018).

This model functions as a blueprint for entrepreneurs, designers, cooperatives, or social enterprises looking to build regenerative craft systems. Its primary pilot is based on the Muga silk value chain in Assam, but its principles are transferable.

Figure 16: *Muga Model: Regenerative Craft Enterprise Framework integrating ecological, cultural, and social foundations.* Source: Author’s own.

Innermost circle: Social foundations (minimum thresholds)

These are the essential social conditions a regenerative enterprise must uphold:

- **Artisan dignity:** Fair wages, recognition, working conditions, and creative authorship.
- **Gender & inclusivity:** Acknowledging that Muga labour is primarily women-led and championed by tribal communities.
- **Knowledge transmission:** Ensuring that intergenerational, indigenous know-how is passed down and protected.
- **Place-based wisdom:** Decisions and designs are informed by the land, ecology, and local traditions.
- **Cultural visibility:** Valuing not just the product, but the social, cultural, linguistic, and mythological systems that give it meaning.

Middle circle: Design-action zones (interventions)

These represent the intervention domains through which regenerative practices are applied:

- **Craftsmanship:** Savoir-faire and technical mastery across rearing, reeling, spinning, dyeing, and weaving.
- **Design intervention:** Material, product, and technical innovations that honour context, materiality, and circular aesthetics without commodifying tradition.
- **Community resilience:** Decentralised leadership, hyper-localised and flexible supply chains, and multi-skilled households adapting to seasonality.
- **Storytelling:** A shift in brand and narrative strategies, from extractive to transparent, emotionally intelligent marketing.
- **Ethics and compliance:** Ensuring non-exploitative relationships, transparent certification, and environmental integrity.

Outermost circle: Ecological ceiling (planetary boundaries)

This boundary represents planetary limits, environmental conditions that cannot be exceeded if the enterprise is to remain regenerative:

- **Seasonality:** Respecting Muga's natural, non-scalable production rhythm.
- **Biodiversity limits:** Protecting native flora, fauna, and other natural resources used in the ecosystem.

- **Circularity & non-extraction:** Zero-waste practices, no synthetic elements, low carbon processing, among others.
- **Risk of extinction:** Acknowledging threats from climate, over harvesting, and artificial alternatives.
- **Bio-based & small-scale:** Replacing synthetic inputs with natural ones; avoiding industrialisation.

5.2. Brand Communication & Identity Toolkit

The second outcome is a modular communication framework to guide craft entrepreneurs, designers, or co-ops in building enterprises that utilise the power of narrative. Its primary goal is to ensure that branding in the craft space is non-extractive, culturally aware, emotionally intelligent, and still strategically effective. Beyond the 8 key pillars, this toolkit offers cues for tone of voice, storytelling systems, seasonally aligned production language, and reframes that support flexibility and evolution in communication as brands grow. Referred to as the "anti-brand strategy," it positions communications not as peripheral to brand strategy but as its ethical foundation. Branding in the fashion and lifestyle space has long been used to extract, commodify, and flatten cultural specificity for mass consumption and homogeneity. As Banet-Weiser (2012) argues, brand cultures increasingly blur the lines between commercial messaging and identity-making, often co-opting culture as a commodity. This toolkit counters that tendency by moving away from overwhelming content fatigue, aiming instead to connect with our customer persona that values intellectual and emotional stimulation and psychological safety in a capitalistic market.

The key pillars

- **Rooted in place**

Identity is inseparable from land, climate, and community. The brand must speak from the ground it grows in. Here, context becomes content.

- **Material first**

Design and communication must begin with the material; its lifecycle, texture, resilience, and origin, not abstract visual trends. Fibre leads the form; in this case, Muga's natural golden sheen, high functionality, and seasonality become storytelling devices.

- **Transparency is narrative**

Storytelling must include the imperfect and the incomplete. In a hyper-automated world where speed is rewarded, humanise the brand by embracing delays, shifts in production, and visible labour. For instance, Muga's texture and tone tend to shift with sun, soil, and rain, showing nature's contributions in every piece. Transparency builds accountability; traceability becomes a tool for ethical branding.

- **Decentralise the voice**

Craft narratives are too often mediated and treated top-down. Artisans should not be presented as anonymous subjects but acknowledged as co-authors of the brand's voice. Include local dialects, expressions, and images, without exoticising or fetishising them.

- **Regeneration, not shallow representation**

The brand must give back to the very systems (cultural and ecological) that nourish it. Regenerative communication restores dignity, agency, and ecological reciprocity, rather than simply referencing craft aesthetics and processes.

- **Celebrate cultural nuance**

Weave into brand communication the richness of folklore, mythology, music, food, festivals, and oral histories. These stories expand the definition of what a craft narrative can be—communal and rooted in everyday life.

- **Credibility through quality**

Let quality become the visual language. Highlight Muga's tensile strength, natural lustre, and longevity. Move beyond tokenism, where ethics are proven not through words, but through the material itself.

- **Educate the audience**

Without being didactic or exclusionary, create systems for guiding consumers through fibre care manuals, provenance cues, authenticity markers, and weaver attributions. Empower and inform the consumer to build loyalty.

Toolkit Element	Description	Aligned Strategy (Future-Facing)	Strategy (Cultural Contextualisation)
Tone of Voice	Warm, informative, emotionally intelligent. Prioritises co-authorship over institutional voice.	Supports emotional safety and clarity for privacy-oriented and thoughtful consumers.	As digital trust erodes, users migrate to indie platforms favouring transparency and co-authorship. Ex: Tumblr, Discord, and Substack.
Visual & Storytelling System	Locally grounded visuals: craft processes, nature, and seasonal rhythms. Story arcs and content calendars mirror slow timelines.	Reinforces transparency and sensory appeal. Example: Raw Mango's sari process content.	Consumers value emotional resonance and cultural relevance. Balance rooted identity with aspiration for audiences. Example: Employ worldbuilding that is aspirational
Naming Principles	Avoid appropriation. Use poetic, rooted names drawn from ecology, mythology, or rituals.	Reinforces ethical branding and decolonial identity. Example: Studio Rigu's contextual naming.	Celebrate Indian identity with a modern, future-forward outlook.
Seasonal Content Strategy	Align content with harvests, festivals, or natural dye availability. Example: Replace "drops" with "harvests."	Counters content fatigue. Example: 11.11's lunar dye calendar & plant-dye storytelling.	As the luxury market experiences a slowdown and the polycrisis looms, status symbols are more influenced by socio-cultural factors than pure financial gatekeeping. Gen Z & Millennials gravitate towards slow living.
Language Reframes	Use reframes like "offering" instead of "product," "craft dialogues" instead of "trends."	Language reflects brand values. Example: Loewe's craft dialogues position knowledge as luxury.	Cultural capital trumps materialism in the "vibecession." VML Intelligence: 69% actively want to buy/own less.

Figure 17: *Toolkit elements aligned with future-facing and culturally contextualised strategies for Muga silk branding.* Source: Author's own.

5.3. Campaign prototype ("Anti-brand" narrative approach)

The "anti-brand" campaign prototype is designed in collaboration with Way of Living Studio and meant to counterpoint the current industry's branding and marketing practices that often take precedence over the values it claims to uphold. Today, fashion and lifestyle brands spend over $1.3 trillion globally on marketing and advertising, primarily geared towards growth, conversion, and trend replication (Statista, 2024). In contrast, this prototype reimagines branding not as a vessel for hype or homogenisation, but as an opportunity for place-based narrative repair. It leans on community-authored content, seasonal rhythm, ecological cues, and co-created storytelling and demonstrates how brands working with regenerative craft ecosystems can meaningfully engage audiences without aestheticising poverty or erasing the labour behind the product.

The prototype, presented as a visual microsite, brings together primary field research, photography, artisan voices, and speculative storytelling to create a multi-sensory experience.

Figures 18.a. and 18.b.: *Visuals from the campaign output titled "Time Wears Muga".* Source: Author's own.

Figures 19.a., 19.b & 19.c.: *Visuals from the campaign output titled "Time Wears Muga"*. Source: Author's own.

Minimum Viable Product: Loom to Legacy

[Live microsite link]

Figures 20.a. & 20.b & 19.c.: *Mockups from the microsite "Loom to Legacy"*. Source: Author's own.

Part 6: Rollout & Future Strategy

“Movements that last are those that begin in the soil of lived experience and scale through shared imagination.”

— Adrienne Maree Brown, *Emergent Strategy* (2017)

Building regenerative craft futures requires more than inspiration and speculation. The mammoth task of preservation and revival of heritage handicrafts demands structure, networks, and tangible systems of change. This three-phase rollout plan offers a pathway from pilot to ecosystem. Each phase is guided by the principles embedded in the framework and toolkit, with an emphasis on decentralisation and cultural continuity. The strategy is not about scaling but ensuring that what begins in Assam with Muga can evolve into a distributed, collaborative movement across craft cultures in India.

Phase 1: Groundwork and activation:

- **Dissemination and trust-building:** Share the framework and toolkit with regional stakeholders, including artisans, weavers, rearers, cooperatives, and emerging craft entrepreneurs.
- **Co-creation ecosystem:** Initiate the development of a shared governance structure; figure out participation models and seek funding opportunities.
- **Pilot the knowledge hub:** Test the prototype through workshops, mentorship programs, and production experiments with partners and collaborators. Build shared resources like a seed bank, tool and dye library, and artisan training facility, including but not limited to craft skill development, but also digital literacy and marketing opportunities (inspired by models like Looms of Ladakh and Selco Foundation).
- **Academic partnership:** Collaborate with universities and design schools for documentation, student/artist residencies, and participatory research aligned with SDGs (esp. 4, 11, 12).

Phase 2: Institutionalisation and cultural visibility

- **Funding and policy engagement:** Mobilise government support through grants and the private sector through CSR support; present the regenerative framework to state departments to integrate within larger state development agendas.
- **Public campaign:** Launch a multimedia public-facing campaign to shift the perception of Muga from "heritage relic" to a living asset.
- **Certification from within:** Create a community-led Muga authenticity identifier, resisting GI-tag commodification and authenticity markers that aid consumers.
- **Pride in place:** Elevate Assam’s craft story through exhibitions, local marketplaces, and school-based craft storytelling initiatives, and tourism, embedding it in regional curricula.

Phase 3: Expansion and adaptability

- **Framework replication:** Translate the framework to suit other indigenous crafts, regions, and ecosystems (e.g., Eri, Kala cotton, Ladakhi wool).

- **Toolkit commons:** Convert the toolkit into an open-source platform to enable horizontal access, available in multiple languages and formats for use by cooperatives, NGOs, and design studios.
- **Distributed leadership:** Foster peer-to-peer learning modules, federated governance models, and open residencies that connect craftspeople across geographies and invite newness into the community to help it evolve.
- **From pilot to movement:** Sustain momentum through global partnerships (e.g. Ethical Fashion Initiative, Fashion Revolution, Craft Revival Trust, etc.), and eventually incubate a new category of regenerative craft enterprises.

Part 7: Reflections & conclusion

“We do not learn from experience… we learn from reflecting on experience.”

— John Dewey, *in How We Think* (1910)

7.1. Reflections

Is craft overrated? Or has its value been so distorted and diluted by market forces, digital content cycles, and shallow representation that it now risks feeling irrelevant altogether? When I first began this live research, these questions plagued me. It was impossible not to draw comparisons between highly commercialised Indian textiles like khadi, which has seen countless reinventions and reinterpretations, and Muga, which has remained relatively niche and underrepresented. What does it mean to reimagine a noble fibre, not as a nostalgic artefact, but as a living, adaptive system with economic agency?

In the initial stages, I was focused on mapping the gaps in the value chain, but the turning point came when it shifted toward identifying what its strengths are or what already works. That subtle pivot from diagnosis to celebration was monumental. It made the process lighter, more relational and rooted in strength rather than scarcity. I realised that the goal was not to “save” Muga but to contribute to its evolution. As I conclude this thesis, I firmly believe that craft doesn’t need a saviour; it needs stakeholders who can help reposition it with integrity.

Although I come from a design and communications background, I had to unlearn a few of my assumptions about how value is created. ‘Loom to Legacy’ taught me that heritage craft is not just a vocation, but a form of valuation in itself. Its practices are intrinsically equalising, often operating through horizontal, community-embedded structures where there is no rigid hierarchy. It’s the people’s work—a medium of expression deeply woven into daily life.

I pivoted multiple times throughout this journey, from creating an artisan directory to developing a sustainability index, and finally arriving at a regenerative framework and toolkit. The process helped me understand how to adapt research questions, respond to field insights, and remain open to complexity.

The CSM MBA brought with it a clarity and a set of tools I never expected to feel so intuitive. I no longer view academia as separate from lived or professional work; they go hand in hand. Strategy, brand building, and systems mapping have now become muscle memory. I feared at one point that my outcome wouldn’t live up to the program’s expectations, but now I can confidently say that I am proud of the work I have produced.

This project also gave me a renewed appreciation for my identity. As an Assamese, I now see Muga not just as a fibre, but as a philosophy. I used to design and develop through predominantly Western frameworks and perspectives, but this project allowed me to dismantle that internalised bias and instead see the power and dignity in indigenous ways of knowing. Most of all, it reaffirmed that storytelling is my strongest tool—and now, it’s also my responsibility.

7.2. Conclusion

However, its future is as technological as it is traditional: a fibre that offers real, tangible answers to the climate crisis through its regenerative, non-extractive life cycle. As craft scholar Susan Luckman writes, “The slow, local, and materially sensitive dimensions of craft offer an alternative to the logic of global capitalism” (Luckman, 2015, p. 4). Muga is a living archive of gendered labour, ecological intelligence, and cultural memory. In Assam, it tells the story of a way of life, a story that deserves to be told and retold not only for preservation’s sake, but because it offers us a vision for posterity. One where the human-nature relationship is symbiotic, and its practice always in harmony with the earth.

This is not just about protecting a heritage textile; it is about recognising and re-centring a decentralised, decolonised form of knowledge. It paints a rich, contextual tapestry of survival across centuries, untouched by imperial timelines or industrial pace. In silk, we find science and history, politics and art, mythologies and futures, an entire worldview spun from a single thread. Although a simple protein chain at its core, made by silkworms to protect themselves as they prepare for transformation, in the act of metamorphosis lies not only nature’s brilliance, but a metaphor for what is possible—if we choose to learn from what has already endured.

Yet, all of this will remain abstract unless structural interventions match the urgency. This craft practice, the know-how, or the fibre itself, will cease to exist if bureaucracy, policy, economics, and technology don’t come together to create sustainable livelihoods for the next generation of artisans, whose children are already migrating to urban areas in search of better opportunities. Nearly 50% of artisans under the age of 30 are abandoning craft-related livelihoods due to declining income and lack of infrastructure (Craft Revival Trust, 2020).

The onus does not lie solely on the artisan to protect their knowledge systems. It is our collective responsibility as researchers, academics, designers, entrepreneurs, and policymakers to ensure that these systems are not only preserved but also supported and reimagined for relevance. This live project is only the first step toward building such a future. The real work lies ahead.

Part 8. Bibliography

“References are not just credits, they are conversations—threads that connect your work to a larger discourse.”

— Belcher, W.L., *Writing Your Journal Article in Twelve Weeks* (2009)

References

1. Adamson, G. (2013) The Invention of Craft. London: Bloomsbury.

2. Ahmed, S. (2002) Traditional Textiles of Assam. Guwahati: Publication Board Assam.

3. Banet-Weiser, S. (2012) Authentic™: The Politics of Ambivalence in a Brand Culture. New York: NYU Press.

4. Barooah, R. (2010) Eri Silk: The Peace Silk of India. Indian Silk Journal, 49(3), pp. 24–28.

5. Barpujari, H.K. (1998) The Comprehensive History of Assam, Vol. III. Guwahati: Assam Publication Board.

6. Baruah, J.P. (2020) Muga Silkworm, Antheraea assamensis Helfer (Lepidoptera: Saturniidae): An Overview of Distribution, Life Cycle, Disease and Control Measure. Munis Entomology & Zoology, 16(1), pp. 150–157. Available at: https://www.munisentzool.org/yayin/Vol_16/Issue_1/20201224-G7BVOFCN.pdf (Accessed: 6 May 2025).

7. Bisht, S. and Juneja, R. (2016) Use of Information and Communication Technologies (ICT) among Artisan Organisations in India: Survey Report. New Delhi: All India Artisans and Craftworkers Welfare Association (AIACA) and UNESCO. Available at: https://www.aiacaonline.org/wp-content/uploads/2018/06/UNESCO-ICT-Report-Final_2016.pdf (Accessed: 15 Jan 2025).

8. Bora, K. (2023) The story of Muga. Available at: https://thesilkchamber.com/blogs/journal/the-story-of-muga?srsltid=AfmBOorR13GzsLws-Ts6Km8co0tLdTAtEfF50jfzS7ZOnjURDpECR0ge (Accessed: 14 Feb 2025).

9. Borthakur, S.K. (2003) ‘Ethnobiological wisdom behind the traditional Muga silk industry in Assam’, Indian Journal of Traditional Knowledge, 2(3), pp. 230–235.

10. Bowles, H. (2022) India in Fashion: The Impact of Indian Dress and Textiles on the Fashionable Imagination. New York: Rizzoli. Available at: https://www.rizzoliusa.com/book/9780847871100/ (Accessed: 19 Jan 2025).

11. British Council and Fashion Revolution India (2023) Craft in the Age of Climate Crisis: Climate Resilience through Craft in India – A Path to Sustainability. [online] British Council and Fashion Revolution India. Available at: https://www.britishcouncil.in/ (Accessed: 16 December 2024).

12. British Council and Fashion Revolution India (2021) Reimagining the Craft Economy Post Covid-19: Recommendations for a Sustainable Roadmap to Recovery. [online] British Council and Fashion Revolution India. Available at: https://www.britishcouncil.in/(Accessed: 16 December 2024).

13. Brown, S. and Vacca, F. (2022) ‘Cultural sustainability in fashion: reflections on craft and sustainable development models’, Sustainability: Science, Practice and Policy, 18(1), pp. 590. Available at: https://doi.org/10.1080/15487733.2022.2100102 (Accessed: 2 March 2025).

14. Central Silk Board (2021) Annual report 2021–22. Bangalore: Central Silk Board. (Accessed: 10 May 2025).

15. Chakravorty, J., Gogoi, M. and Meyer-Rochow, V.B. (2015) ‘Cultural attributes and traditional knowledge in connection with the rearing of Muga (Antheraea assama = assamensis) in the Dhemaji District of Assam, North-East India’, Journal of Insect Biotechnology and Sericology, 84(1), pp. 17–28. Available at: https://doi.org/10.11416/jibs.84.1_017 (Accessed: 10 May 2025).

16. Chatterjee, A. (2021) ‘Life, after life: textile crafts in India and communities of practice’, TEXTILE, 20(3), pp. 245. https://doi.org/10.1080/14759756.2021.1993558 (Accessed: 10 May 2025).

17. Craft Revival Trust (2020) Reviving India’s craft sector post COVID-19 [online]. Available at: https://globalinch.org (Accessed: 17 Mar 2025).

18. Das, R. and Goswami, D. (2018) Practical Book on Muga Silkworm Culture. Lahdoigarh, Assam: Central Muga Eri Research & Training Institute, Central Silk Board, pp. 1–51.

19. De Bernard, M., Comunian, R. and Gross, J. (2021) ‘Cultural and creative ecosystems: a review of theories and methods, towards a new research agenda’, Cultural Trends, 31(4), pp. 332. https://doi.org/10.1080/09548963.2021.2004073 (Accessed: 17 Feb 2025).

20. Development Commissioner Handlooms, Ministry of Textiles (n.d.) Silk spinning and weaving of Assam [online]. Indian Textiles & Crafts Repository. Available at: https://www.vastrashilpakosh.in/search/recordPreview/nift_del-71-cfp?searchTerm=%20&t=Silk%20spinning%20and%20weaving%20of%20Assam (Accessed: 10 May 2025).

21. Development Commissioner (Handlooms), Ministry of Textiles (n.d.) Indian Textiles & Crafts Repository. Available at: https://www.vastrashilpakosh.in (Accessed: 19 Jan 2025).

22. Devi, P. (2011) ‘Ahimsa silk and sustainable sericulture in Northeast India’, NEI Studies, 3(1), pp. 15–22.

23. Directorate of Economics and Statistics, Assam (2014) Economic Survey, Assam 2013–14. Guwahati: Planning and Development Department, Government of Assam.

24. Dorschner, J. (2019) The anarchy: the East India Company, corporate violence, and the pillage of an empire.

25. Dutta, P. (2016) ‘Golden threads: understanding Muga and its cultural geography’, Assam Research Review, 4(2), pp. 33–40.

26. Escobar, A. (2018) Designs for the pluriverse: radical interdependence, autonomy, and the making of worlds. Durham: Duke University Press.

27. Fletcher, K. and Tham, M. (2019) Earth logic: fashion action research plan. The J J Charitable Trust.

28. Gogoi, B. (2015) The Muga silk industry of Assam: a study in sericulture economics. Guwahati: Eastern Book House.

29. Goswami, A. and Mahanta, R. (2012) ‘Silks of Assam: technical documentation and cultural significance’, Textile Forum, 1(3), pp. 17–25.

30. Goswami, M. (2016) ‘Weaving the Nation: Textiles, Gender, and Identity in Colonial Assam’, Journal of South Asian History and Culture, 7(1), pp. 1–20.

31. Goswami, U. (2015) ‘Handloom weaving in Assam: a gendered perspective’, Journal of North East India Studies, 5(1), pp. 35–48.

32. Hawken, P. (2021) Regeneration: ending the climate crisis in one generation. New York: Penguin.

33. Jain, J. and Ratan, A. (2017) ‘Developing a conceptual model to sustain handloom silk industry at Sualkuchi, Assam, India’, European Journal of Sustainable Development, 6(3), pp. 413–422. Available at: http://ecsdev.org (Accessed: 20 Feb 2025).

34. Lovins, A., Lovins, L.H. and Hawken, P. (2007) ‘A road map for natural capitalism’, Harvard Business Review. Available at: https://hbr.org/2007/07/a-road-map-for-natural-capitalism (Accessed: 26 April 2025).

35. Luckman, S. (2015) Craft and the creative economy. London: Palgrave Macmillan.

36. Mahanta, R. (2018) ‘Place-based value in indigenous silks: the case of Assam’s Muga’, Journal of Ecological Textiles, 2(2), pp. 45–56.

37. Ministry of Culture, Government of India (n.d.) Muga Silk. Available at: http://indianculture.gov.in/stories/muga-silk (Accessed: 11 April 2025).

38. Muga Silk (n.d.) Muga silk. Available at: http://indianculture.gov.in/stories/muga-silk (Accessed: 11 April 2025).

39. Napoli, C. and Rees, A. (2025) Future consumer 2027: personas [pdf]. WGSN. Available at: https://www.wgsn.com/insight/article/66db210a56656d48f74695cc (Accessed: 1 May 2025).

40. Narzary, P.R., Manimegalai, S., Shanmugam, R., Vinothkumar, B., Suganthi, A. and Radha, P. (2023) ‘Golden Threads of Tradition: The Endurance and Evolution of Muga Culture and Silk Weaving in Assam’, Journal of Survey in Fisheries

Sciences, 10(3), pp. 63–70.

41. Nath, P. (2013) Muga culture: endemic practice of Assam. Available at: http://www.slideshare.net/PremanandaNath/muga-culture-endemic-practice-of-assam (Accessed: 19 January 2015).

42. Risatti, H. (2007) A theory of craft: function and aesthetic expression. Chapel Hill: University of North Carolina Press.

43. Rocca, M., Rees, A. and Rom-Frank, R. (2025) Sustainability forecast 2027 [pdf]. WGSN. Available at: https://www.wgsn.com/insight/article/66cdbd20c813a00211177889 (Accessed: 19 May 2025).

44. Saikia, Y. (2013) 'Women and weaving in Assam: cultural continuity and identity', Indian Folklife, 48(3), pp. 22–25.

45. Sericulture Department, Assam (2020) Host plants for sericulture: a resource manual. Guwahati: Government of Assam.

46. Singha, R. and Singha, S. (2020) 'Women as enablers of change', Journal of International Women's Studies, 21(5), Article 3.

47. Sturrock, P. and Choi, K. (2024) 'Exploring the hidden fashion niches with an innovative rental model', in A new era of fashion consumption: sustainability meets accessibility.

48. Sustainability for the Handicrafts Sector (2017) Sustainability for the handicrafts sector.

49. Sustainable Textiles Report (2020) Textile circularity and indigenous knowledge [pdf]. Centre for Regenerative Futures.

50. The Story of Muga (2019) The story of Muga. Available at: https://thesilkchamber.com/blogs/journal/the-story-of-muga (Accessed: 11 April 2025).

51. The Silk Chamber (2019) The Story of Muga. Available at: https://thesilkchamber.com/blogs/journal/the-story-of-muga (Accessed: 11 April 2025).

Part 9. Appendix

9.1. Interview highlights

Interview #1 highlights: Malika Verma

Founder, Border&Fall | Brand Strategist and Craft Advocate

1. Lack of a sustainable model in the craft sector

- India still lacks a systemic model to ensure long-term sustainability for both artisans and craft advocates.
- Many industry leaders operate alone, financially and logistically, without structural support.
- “Many efforts gain attention but fail to translate into systemic reform.”

2. Economic value and structural hierarchies

- The sector is deeply hierarchical, with artisans consistently placed at the bottom.
- Export-focused frameworks undervalue craft, reinforcing exploitative economic systems.
- “At the end of the day, if the economic value of a given practice, skill, or technique isn’t re-indexed to provide an actual livable wage, then what are we even talking about?”

3. Scaling requires re-evaluation

- Not all craft can or should be scaled using commercial business models.
- Clarity is needed around what constitutes ‘craft’, handmade vs mechanised vs hybrid.
- Practices like mislabelling (e.g., screen prints as block prints) erode authenticity.

4. The myth of inherent sustainability

- Sustainability is often assumed, not examined, in the craft narrative.
- Realities: Consumers remain price-driven, and artisans are pragmatic in their material choices.
- “The romanticisation of ‘traditional’ materials and techniques ignores craft’s natural evolution.”

5. Transparency & fair wages still elusive

- Unlike global corporations, the sector lacks transparency frameworks, yet faces fewer demands for accountability.
- Even ethical initiatives struggle, as brands opt for cheaper, unethical options.
- “Most people care more about product aesthetics than ethical sourcing.”

6. Evolving, not fossilising craft

- Craft isn’t static—it must evolve with its community.
- The idea that traditions must remain unchanged is outdated and unrealistic.
- “Craft is of the people, of the community. Communities evolve, why shouldn’t their crafts?”

7. Sustainability of the advocate

- Craft advocacy often prioritises artisan welfare, but neglects advocate survival.
- Passion alone is not enough, economic models are essential for the next generation of leaders.
- “We forget to ask—what about ourselves? If you want to create lasting change, you also have to make sure you're not just giving everything away at your own expense.”

Interview #2 highlights: Dr. Sudha Dhingra

Dean, National Institute of Fashion Technology, New Delhi | Director, Centre of Excellence, Khadi

1. Artisan knowledge and market adaptation

- Traditional crafts must adapt to newer markets without losing their authenticity.
- Product diversification enables artisans to cater to urban consumers while maintaining material integrity and technique.
- “The only thing I changed was the product and layout—not the material, not the loom, not the process. It’s about adaptation, not disruption.”

2. Gender dynamics in weaving and trade

- While women have historically driven textile production, commercialisation has seen men dominate trade and leadership.

- In many regions, women handle the labour-intensive aspects, but have minimal decision-making power.
- Notably, in Assam and Manipur, women continue to hold central roles in weaving economies.
- “The moment craft gained commercial value, men took over the trade. Women still do the heavy lifting, but their stories are rarely told.”

3. Sustainability and textile innovation

- Indigenous textiles like Eri and Muga silk offer low-carbon, sustainable alternatives, aligning with global development goals.
- Branding, value chain transparency, and storytelling are essential to elevate their perception as luxury products.
- “Presentation, packaging, communication, these three things can transform even a plain weave fabric into a luxury product.”

4. Policy, documentation and future pathways

- Government schemes and NGO efforts often lack continuity and scalability.
- There is a need for regional networks to scale successful initiatives and share knowledge.
- Young entrepreneurs can bridge policy-practice gaps through digital tools and sustainable models.
- “When I was a student, Textile Design was a postgraduate course, and we travelled to Assam, Arunachal Pradesh, and Manipur for craft documentation. At the time, there were no books available, so we conducted surveys, which led to the publication of Textile Crafts of India: Assam, Manipur, and Arunachal Pradesh by Prakash Books.”

5. Northeast India: A forgotten powerhouse

- Dr. Dhingra highlighted that nearly 50% of India’s handlooms are located in the North-East, predominantly run by women.
- This statistic, drawn from the Ministry of Textiles, underscores the region's central role in sustaining craft legacies.
- “Did you know that 50% of India's handlooms are in the Northeast, primarily operated by women? That’s a figure from the Ministry of Textiles, it’s incredible.”

Interview #3 highlights: Jagrity Phukan

Founder and Creative Director, Way of Living Studio

From fast fashion to purpose-driven craft

Jagrity’s shift from fast fashion to founding Way of Living Studio reflects a personal and professional realignment toward sustainability and community. Disillusioned with unethical production, she embraced mindful, slow fashion grounded in traditional craft and ecological responsibility.

Studio philosophy and the ‘Orchid Model’

The name Way of Living signifies a lifestyle, not just a brand. Central to the studio is the Orchid Model, a five-petal framework addressing:

- Participatory design
- Cultural sustainability
- Sustainable livelihoods
- Systemic ecological design
- Intersectional equity

Women empowerment through weaving

Historically confined to domestic spaces, weaving is now a path to economic independence and social agency for Assamese women. The studio offers not just employment but dignity, especially for those overcoming hardship, including survivors of domestic violence.

Preserving cultural identity

Jagrity stresses that preserving craft goes beyond technique, it includes stories, songs, and community rituals. The studio supports not just craft practice, but its cultural context and transmission across generations.

Regenerative thinking

Sustainability, to Jagrity, is not a trend but a mindset. She prefers the term eco-conscious, highlighting traditional Assamese practices like natural dyeing, home weaving, and local resource use. Self-sufficiency and zero-waste values underpin the studio’s ethos.

Eri silk and ethical production

Way of Living embraces non-violent silk production (Ahimsa). Eri silk allows silkworms to emerge naturally, though she acknowledges its complexities, noting that some tribal communities consume the pupae. The commitment remains one

of respect for nature's cycles.

Climate change and silk vulnerability

Jagrity underscores the risks posed by climate change: erratic weather, deforestation, and contamination threaten silk species, especially Muga. Eri remains more resilient but is still affected. Maintaining silk traditions under these pressures is increasingly difficult.

Scaling challenges and nature's timeline

Muga silk's rarity is both its strength and its constraint. Global markets often expect instant availability, but Jagrity positions Muga as "Nature's Premium"—a product shaped by natural cycles, akin to artisan watches or leather goods.

Rethinking production models

Jagrity advocates for small-batch, imperfection-honouring production. She critiques overproduction and urges fashion businesses to adopt rhythms aligned with nature, where uniqueness is valued over uniformity.

Transparency and labour realities

The fashion industry continues to exploit artisans through low pay and opaque supply chains. Jagrity highlights the disconnect between craft's cultural value and the economic marginalisation of its makers, particularly migrant and rural workers.

Interview #4 highlights: Ruhini Chetia

Silkworm rearer

1. Life cycle and rearing process

- Ruhini sources silkworm seeds and begins the rearing cycle by placing them in cages until they mature and mate.
- Once hatched, larvae are fed Som and Sualu leaves.
- When "ripened," they return to the base of the host plant, signalling readiness for harvest.
- Worms can be sold within a week, or cocoons reeled at home.

2. Cocoon to yarn: A hands-on process

- Cocoons are treated with soda and slimy agents, then smoked or boiled before yarn is extracted.
- The yarn is spun into fine, delicate threads.

- Any remaining fibre is re-reeled and sold as Ghisa, a form of upcycled yarn.

3. Pricing, profit and the seed crisis

- Prices start at ₹4,500 per batch, depending on quality and weight.
- The best batches are known as "Jethuwa", produced during warm, breezy weather.
- Notably, selling the silkworms themselves is more profitable than selling the yarn. A seed shortage has driven prices up to ₹13,000, with live worms fetching up to ₹1 lakh.

4. Economic realities and intergenerational knowledge

- Ruhini began working with silkworms at age six, gaining knowledge through intergenerational learning.
- During non-Muga seasons, he supplements his income through farming and handicrafts.
- He makes between ₹30,000–₹50,000 per year selling Muga.
- Ruhini also works part-time with Way of Living Studio, contributing his expertise to a broader ecosystem of craft.
- Despite decades of experience, Ruhini has received no assistance from government schemes or NGOs.

Interview #5 highlights: Minu Bora

Muga Silk Weaver

1. Lifelong weaver and artisan

- At 60, Minu has been weaving since childhood.
- She spins and reels her own yarn, crafting complete ensembles.
- Her creations are sold through close-knit local networks, maintaining both quality and trust.

2. Working with Way of Living Studio (WOLS)

- Minu has worked with Way of Living Studio for two years, contributing her expertise to the studio's values of mindful production and artisan empowerment.
- Her workday runs Monday to Saturday, 9 am to 4 pm, reflecting a

disciplined and consistent practice.

3. Primary breadwinner and caregiver

- With an ailing husband at home, Minu is the sole earner for her household.
- Though her grown children have moved away, they offer emotional and occasional financial support.
- Her story underscores the economic resilience of women artisans, particularly those juggling caregiving responsibilities.

Interview #6 highlights: Reena Hatibarua

Master Reeler

1. From hobbyist to professional artisan

- Reena joined Way of Living Studio a year ago.
- Though she had never worked with Muga silk professionally, she had reeled and woven as a lifelong hobby, learning from her mother and sisters.
- She is particularly skilled in processing and starching yarn, a technical strength valued by the studio.

2. Structured, full-time practice

- Reena now works full-time, 9 am to 4 pm, Monday to Saturday, bringing consistency and discipline to her craft. Her transition into formal work reflects both technical competence and a commitment to craft.

3. A personal act of resilience

- Though from a middle-class family that owns rice fields, a mill, and a cycle repair shop, Reena faced domestic violence.
- Beginning work at WOLS was not driven by economic need but as a means of personal agency and escape.
- The studio became a space of healing, routine, and solidarity, offering her both emotional strength and connection with other women.

Interview #7 highlights: Anonymous

Researcher and Designer

1. Muga silk is a rare, sensitive fibre

- Juhi strongly emphasises that Muga silk must be positioned as a rare, artisanal fibre, not a commodity.
- The Muga silkworm is extremely sensitive to environmental changes, disease, and habitat disruption.
- Production has dramatically declined, with many traditional rearing regions disappearing due to deforestation, industrialisation, and climate factors.
- Muga silk cannot be scaled like cotton or mulberry silk; applying industrial market logic to it is a “fundamentally flawed approach.”
- “Muga is not an industrial fibre. It’s an artisanal one, it must be positioned as such, with honesty around its natural yield and limitations.”

2. Scarcity should be a strength, not a barrier

- Juhi argues that Muga’s exclusivity is its market value. Instead of chasing high volumes, producers should educate buyers on the limited annual yield, reinforcing rarity and value.
- Like Alfonso mangoes, pre-orders and small-batch availability could shape new models of ethical luxury.
- This creates a demand that aligns with the reality of production, rather than pushing farmers and artisans to overextend.
- “If you only get 100 metres in a year, say so, own that. That’s what makes it desirable.”

3. Traceability and authenticity must be strengthened

- Market flooding by fake or adulterated Muga threatens the sector.
- Dupes made from polyester, dyed Tussar, or viscose are indistinguishable to the average consumer.
- GI tags and silk marks are often ineffective, misused, or poorly enforced.
- “We need simple, ground-level verification tools, not just certifications that don’t reach or help artisans.”

4. Artisanal production is rooted in ecology and rhythm

- Juhi situates weaving and silk rearing within a way of life, particularly for women in Assam.
- Weaving was historically done after daily chores, integrated into personal and community wellbeing.
- These practices were therapeutic, balanced, and ecologically sustainable, unlike current production systems driven solely by market logic.
- "This wasn't just work, it was rhythm, ecology, and connection to nature. We're losing that balance."

5. The market must come to the artisan, not the other way around

- Rather than reshaping Muga for the global market, Juhi proposes educating the market to value Muga for what it is.
- This includes mapping regions of production, annual yields, and the number of farmers involved.
- With data-backed narratives, authentic storytelling can build trust and exclusivity.

6. Diversification is essential for sustainable business models

- Juhi advises brands not to base their entire business on Muga silk. Given its unpredictability, it should be part of a wider material strategy, where more common fibres balance out economic risk.
- This ensures ethical growth without burdening farmers or compromising production integrity. "Use Muga like you'd use caviar, rare, seasonal, revered. But don't build your whole restaurant on it."

7. Policy is broken without ground-up integration

- Government schemes and certifications like GI tags often fail because they are top-down and don't serve artisan realities.
- Many artisans aren't consulted or educated, and even sincere efforts are diluted by bureaucracy.
- Instead, bottom-up systems of traceability and value—even digital tools or local cooperatives—could have more lasting impact.

8. Consumer education is critical

- Educating buyers to understand value, process, and authenticity is as important as artisan support.
- Without this, the market will continue rewarding fakes, imitations, and exploitative practices.
- "If a shop claims to have 200 Muga saris, but Assam only produces 3 tonnes of cocoons a year, something's wrong."

Interview #8 highlights: Anonymous

North Eastern Development Finance Corporation Ltd (NEDFi)

- One of the core challenges in supporting small-scale artisan-led businesses is the lack of formal documentation. Entrepreneurs in the craft sector often lack land titles, ownership proof, or collateral documentation, which prevents them from securing loans. Although individuals claim ancestral ownership, without proper records such as the '*patta*' or '*jama*', they cannot establish legal security. As she explains, "They know the land is theirs, but they can't prove it. That's a major barrier to scaling or formalising any business."
- Many artisan entrepreneurs struggle with the bureaucratic application process. Filling out loan forms, understanding eligibility requirements, and submitting appropriate documentation pose significant obstacles. These individuals are deeply focused on their craft but often lack legal and financial literacy.
- NEDFi operates across different tiers: Microfinance (₹10,000 to ₹2 lakh), MSME loans for small enterprises, and industrial-scale loans for larger projects. The Business Facilitation Centres (BFCs) work with field-level partners who assist artisans and entrepreneurs with outreach and paperwork. "Our model is layered—from microloans to larger industrial support, but the application system is often mismatched with the reality of small-scale, informal entrepreneurs."
- From a legal-financial standpoint, Muga silk remains underutilised despite its potential. It is primarily used in the garment and government sector, with limited innovation beyond that. There is room to position Muga in luxury lifestyle sectors (e.g., bags, upholstery), but scaling depends on cost, production consistency, and affordability. "Muga has strength and longevity. It could work beautifully in luxury segments—if the pricing and quality can be managed."

- If younger generations hope to take Muga to national or international markets, the business model must include formal structures and legal clarity, access to finance and financial mentorship, and a positioning strategy that leverages Muga's rarity and durability in high-end sectors. "To scale beyond Assam—Delhi, London, wherever—these businesses need to think structurally. Legal clarity, scalability, and a strong business case are essential."

Interview #9 highlights: Meghali Das

Fashion Designer and Entrepreneur, Meghali's Silk

- Meghali Das has been successfully running her label, Meghali's Silk, for several years, participating in trade fairs and fashion events both nationally and internationally. While she is not formally trained, her knowledge of weaving is intergenerational, passed down through family and early hands-on experience. She operates a physical studio, with manufacturing handled externally.
- The rise of mechanisation has made production faster and more efficient, especially when weavers are well trained. Meghali occasionally hires professional weavers from Bengal due to their speed and skill. A full set of *mekhela sador* can now be completed in just 3–4 days. However, she notes that Sualkuchi, despite being a renowned weaving hub, remains highly fragmented and unregulated, with widespread malpractice.
- Working with Muga silk involves high material costs. A single set of drapes requires at least 800 grams of yarn, with quality fluctuating by season. Meghali prefers fine, unstarched yarn and adds value through design innovations using Eri, Ghisa, or detailed surface embellishments to meet contemporary consumer tastes.
- With *paat* silk, the production costs are tight: weaver charges ₹4,500, yarn costs ₹4,000, and overall expenses reach ₹12,000—yet the finished piece sells for only ₹14,000, leaving a narrow margin. In contrast, Muga is far more profitable. Though the weaver fee rises to ₹5,500 and the yarn is significantly more expensive, pieces can be marked up by 50% or more. Even if they do not sell immediately, Muga's longevity and increasing scarcity make it a strong long-term asset.
- "Muga may cost more to produce, but its timelessness means it will always sell—perhaps even for more tomorrow than today."

Interview #10 highlights: Anonymous

Assam-based Weaver and Artisan

- "I've been weaving since I was a child, my mother and grandmother both used to sit at the loom after finishing household chores. For us, weaving was never just a job; it was part of our daily rhythm, like cooking or cleaning. Now, I still work from home, mostly with Eri and occasionally with Muga, though Muga has become harder to source. The quality depends so much on the weather. It's heartbreaking when we lose cocoons to heat or rain after so much care has gone into rearing them. These days, I don't weave for the market as much—I work with a local designer who respects our process and pays fairly, which is rare."
- "Most of us aren't looking to become entrepreneurs. We just want consistent orders and respect for our work. Government schemes sound good on paper, but no one really explains them to us. A few officers come around once in a while, but we don't know how to fill forms, and we're scared of signing something we don't understand. We're not against change, we know design is changing, the market is changing. But we don't want to be pushed to weave faster or cheaper. Give us time, give us trust, and we'll give you something no machine ever can."

9.2. Ethics forms

Signed forms have been saved in a web folder linked here.