International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Gender, Indigenous Knowledge and Livelihood Transformation: An Empirical Study of Traditional Craft Practices among Indigenous Women in Assam

Bappa Sutradhar[1], Harun Al Rashid SK[2]

[1]Assistant Professor, Krishna Bora B.Ed College, Lanka
[2]Post Graduated Student

Abstract

Indigenous Knowledge Systems (IKS) in Northeast India represent generations of accumulated empirical wisdom, ecological stewardship, and sustainable resource management embedded within local cultural identities. In Assam, traditional craft practices—specifically handloom sericulture, comprising endemic Muga and Eri silk ecosystems, alongside cane and bamboo craftsmanship—constitute the socio-economic backbone of rural subsistence. Women act as the primary custodians, transmitters, and innovators of these gendered epistemologies. However, rapid market commercialization, technological obsolescence, raw material scarcity, and exploitative supply chains threaten both the intergenerational continuity of these practices and the economic security of rural women artisans.

Drawing upon an empirical study of 150 women artisans across rural clusters in Assam, this paper investigates the intersection of gender, indigenous technical knowledge, and livelihood transformation. Utilizing a mixed-methods approach grounded in Feminist Political Ecology (FPE) and the DFID Sustainable Livelihoods Framework, the study evaluates the socio-economic impacts of craft-based production on household financial autonomy and female agency[1]. Empirical findings reveal that 78% of surveyed women artisans have achieved formal financial inclusion through independent bank account ownership and Self-Help Group (SHG) craft clusters, directly translating into enhanced intra-household decision-making autonomy regarding financial allocations, education, and healthcare.

Despite these gains, structural bottlenecks—such as yarn price volatility, lack of institutional credit, digital illiteracy, and middleman margin extraction—continue to constrain sustainable scaling. The paper critically evaluates state policy interventions, notably the *Swanirbhar Naari* direct procurement scheme, Geographical Indication (GI) protections, and the *Muga Mission*[3]. Finally, it outlines strategic framework recommendations for establishing community-led producer cooperatives, design innovation hubs, and digitized fair-trade value chains to preserve Assamese biocultural heritage while fostering equitable regional development.

Keywords: Indigenous Knowledge Systems (IKS), Muga and Eri Silk Sericulture, Feminist Political Ecology (FPE),Sustainable Livelihoods Framework, Self-Help Groups (SHGs), Swanirbhar Naari Scheme,Geographical Indication (GI) Protections

1. Introduction and Contextual Foundations

1.1 Biocultural Diversity and Indigenous Knowledge Systems in Northeast India

Northeast India, particularly the Brahmaputra Valley of Assam, represents a global hotspot of biocultural diversity where natural ecosystems and indigenous cultural heritage are fundamentally intertwined. Over centuries, indigenous communities—including the Bodo, Mishing, Rabha, Karbi, and Koch-Rajbongshi—have evolved sophisticated Indigenous Knowledge Systems (IKS) anchored in sustainable resource management, ethno-botanical expertise, and artisanal production[1]. Far from static historical artifacts, these knowledge systems constitute dynamic, living epistemologies that sustain rural livelihoods, fortify community resilience, and preserve socio-cultural identity.

Within the rural economy of Assam, traditional craft practices operate as the primary non-agrarian pillar of household survival. Sericulture, textile weaving, and cane and bamboo fabrication form an integrated rural ecosystem. Assam holds a global monopoly over Muga silk (*Antheraea assama*), the golden yellow textile deeply tied to Assamese cultural ethos and historical royal patronage dating back to the Ahom era (1228–1828 A.D.). Concurrently, the region extensively cultivates Eri silk (*Samia ricini*), an eco-friendly silk spun primarily by tribal women during non-agricultural seasons. Complementing silk weaving is the extensive material culture of cane and bamboo craftsmanship, which harnesses the region's rich forest biodiversity to produce agricultural implements, fishing apparatuses, and household utilitarian items.

Craft Sector	**Primary Raw Materials**	**Indigenous Key Species / Tools**	**Key Indigenous Ethnic Communities**	**Primary Utilitarian & Cultural Products**
Muga Sericulture & Weaving	Golden Muga Silk Cocoons, Silk Yarn	Host plants: *Som* (*Persea bombycina*), *Soalu* (*Litsea monopetala*); Throw-shuttle / Fly-shuttle looms	Assamese, Bodo, Mishing, Koch-Rajbongshi	*Mekhela Chador*, *Riha*, *Sualkuchi* designer textiles, ceremonial attire[2]
Eri Sericulture & Spinning	Eri Cocoons (*Samia ricini*), Cotton	Castor host plants (*Ricinus communis*); *Takli* or *Takuri* (drop spindle)	Bodo, Rabha, Karbi, Mishing	*Endi/Eri* shawls, winter wraps, blended ethnic garments
Cane & Bamboo Crafting	Natural Bamboo Culms, Rattan / Cane	Hand splitting knives (*Dau*); Eco-friendly herbal seasoning methods	Bodo, Mishing, Karbi, Rabha, Rajbongshi	*Japi*(headgea), *Jakoi*& *Chepa* (fishing traps), *Chalani* (sieve), *Jarang* bags.

1.2 Gendered Epistemologies: Women as Custodians of Artisanal Heritage

The structural organization of traditional craft production in Assam is deeply gendered. Women act as the central custodians, primary transmitters, and daily innovators of indigenous artisanal technical knowledge. India's handloom sector supports approximately 3.5 million weavers, of whom 2.5 million are women; crucially, the Northeast region accounts for 60% (1.835 million) of all handloom workers in the country, with women comprising more than two-thirds of this workforce. In Assam alone, there are 1,179,507 female weavers—the highest concentration in India—and over 58,114 registered female artisans.

Women's mastery spans the entire production value chain. In sericulture, rural women manage silkworm rearing, host plant maintenance, cocoon collection, yarn spinning using traditional drop spindles (*Takli* or *Takuri*), and natural dye formulation using plant-based alkaline solutions (*Khar*). In textile production, women operate household throw-shuttle and back-strap looms (*Kontong* among the Rabha; loin-looms among the Karbi), weaving complex cultural motifs (*Saneki* in mainstream Assamese culture; *Aagor* among Bodos; *Mirizim* among Mishings) without formal technical manuals. Despite holding this core technical expertise, women's artisanal contributions have historically been relegated to unpaid household labor or informal micro-subsistence, leaving their economic value under-recognized within formal economic statistics and development policy frameworks.

1.3 Problem Statement and Institutional Context

Despite its socio-cultural prominence and economic utility, the indigenous craft economy of Assam faces acute systemic crises stemming from three interconnected vectors. Rapid globalization, urban migration of rural youth, and market commercialization threaten the informal, intergenerational transmission of indigenous techniques. Age-old oral traditions, natural dyeing processes, and traditional motif symbolisms are increasingly lost as younger cohorts shift toward modern wage labor, leading to an acute shortage of skilled weavers and artisans.

While finished indigenous textiles command premium prices in national and international markets, primary women producers remain economically vulnerable. Artisans face severe raw material price inflation, inadequate access to formal credit, and structural dependence on commercial middlemen (*Mahajans*) and asymmetric traders who capture the vast majority of economic surplus while paying women nominal piece-rate wages. Historically, mainstream economic development frameworks in Northeast India have overlooked the intersection of gender equity, indigenous intellectual property rights, and artisanal economies. Policy interventions have frequently treated handlooms and handicrafts as static cultural hobbies rather than viable engines of sustainable, market-integrated rural growth.

2. Theoretical Framework and Conceptual Context

2.1 Feminist Political Ecology and Gendered Resource Stewardship

Feminist Political Ecology (FPE) posits that gender is a critical variable in shaping access to, control over, and knowledge of natural resource systems. In indigenous agrarian societies, historical divisions of labor relegate women to resource management, wild biomass harvesting, and domestic subsistence production. Through daily interaction with local landscapes, indigenous women develop specialized epistemologies regarding flora, fauna, natural fibers, and ecological cycles.

In Assam, FPE illuminates how women's craft practices are intrinsically tied to ecological stewardship. Women Karbi, Bodo, and Assamese artisans possess intimate ethno-botanical knowledge of host trees—such as *Som* (*Persea bombycina*) and *Soalu* (*Litsea monopetala*) for Muga silkworms, and Castor (*Ricinus communis*) for Eri silkworms—as well as wild plant species used for extract-based dyeing and specific

bamboo varieties harvested for weaving.

However, FPE highlights that while women hold the majority of ecological and technical knowledge, structural patriarchies and customary legal systems often deny them formal ownership of land and natural capital. Consequently, when craft production shifts from domestic subsistence to commercialized commodity chains, men or external commercial traders often capture the political and financial leadership of markets, reinforcing gendered marginalization unless counteracted by collective organization.

2.2 The Sustainable Livelihoods Framework and Capital Asset Transformation

The DFID Sustainable Livelihoods Framework provides an analytical lens to evaluate how rural households combine various livelihood capitals (Human, Natural, Financial, Physical, and Social) to achieve positive livelihood outcomes and navigate vulnerability contexts.

Livelihood Capital	Baseline Context for Women Artisans in Assam	Empirical Transformation via Craft Collectives
Human Capital	Inherited Indigenous Technical Knowledge (ITK); low formal technical training; high physical labor.	Skill upgradation in Jacquard weaving, digital literacy, ergonomic loom adaptations.
Natural Capital	Forest access for bamboo/cane; community land for host plant sericulture; vulnerability to deforestation.	Sustainable bio-resource harvesting; community nursery management for *Som* & *Soalu* trees.
Financial Capital	Dependence on informal moneylenders (*Mahajans*); uncompensated domestic labor; low cash reserves.	Direct income generation; establishment of independent bank accounts (78%); SHG micro-credit access.
Physical Capital	Traditional, un-upgraded household throw-shuttle looms; basic bamboo splitting knives.	Modernized handlooms; access to Common Facility Centers (CFCs) and shared processing machinery.
Social Capital	Isolated household production; reliance on kin networks.	Formation of women-led Self-Help Groups (SHGs), producer co-ops (e.g., *Aagor Weaves*), and market networks.

Under the Sustainable Livelihoods Framework, a livelihood is sustainable when it can withstand environmental and market shocks, recover from economic stresses, and enhance its capital asset base without degrading the natural resource foundation. For women weavers in Assam, vulnerability contexts include climate change impacts on silkworm cocoon yields, foliar fungal diseases affecting host trees (causing 13.8% to 41.6% annual leaf loss), yarn price volatility, and economic shocks. Transforming traditional craft from a survivalist, low-return task into an organized enterprise enhances artisans' financial and social capitals, allowing rural households to diversify away from climate-vulnerable monoculture agriculture.

2.3 Intergenerational Transmission and Knowledge Erosion

Indigenous Technical Knowledge (ITK) refers to the cumulative body of knowledge, practice, and representation maintained and developed by peoples with extended histories of interaction with their natural environments. ITK is characterized by being context-specific, orally transmitted, non-formal, and embedded within cultural institutions and daily labor practices.

In Assamese artisanal production, ITK governs every node of the value chain: from identifying optimal bamboo maturity based on lunar cycles to prevent borer infestations, to controlling humidity levels during Muga silkworm egg hatching, to designing intricate geometric motifs that encode tribal mythologies and regional histories. Understanding ITK requires examining how matrilineal and informal household learning structures facilitate skill transfer from grandmothers and mothers to young girls. As formal schooling expands and globalized media penetrates rural spaces, traditional informal learning spaces face disruption, making institutional recognition and economic viability essential prerequisites for ITK preservation.

3. Empirical Research Design and Data Collection

3.1 Study Area and Cluster Selection

This paper utilizes a mixed-methods empirical research design, combining quantitative household surveys with qualitative ethnographic field methods[1]. The study was conducted across targeted rural artisan clusters in the state of Assam, specifically focusing on districts recognized for intensive traditional handloom weaving and cane/bamboo craftsmanship.

The primary fieldwork focused on rural clusters in Nagaon, Hojai, West Karbi Anglong, Dhubri, and Kokrajhar districts. These regions represent diverse socio-cultural micro-environments encompassing mainstream Assamese weaving traditions, Bodo tribal weaving clusters, and Karbi/Rabha artisan hamlets.

3.2 Sampling Framework and Survey Implementation

A purposive sampling strategy was executed to select women artisans, active Self-Help Group (SHG) members, and veteran master craft practitioners. Primary data collection was conducted over an extended field period utilizing three primary instruments:

Structured household survey schedules were administered individually to 150 women artisans to collect quantitative data regarding demographic profiles, craft specialization, daily hours dedicated to production, raw material expenditure, monthly income pre- and post-SHG integration, credit sources, bank account ownership, and intra-household decision-making metrics.

Focus Group Discussions (FGDs) were systematically conducted across rural SHG meeting spaces. A total of 12 FGDs, each comprising 8 to 12 participants, captured qualitative narratives on supply chain exploitation, intergenerational knowledge erosion, socio-cultural perceptions of weaving, and experiences with state welfare initiatives.

In-depth key informant interviews were carried out with local community elders, master weavers, local yarn dealers, SHG cluster coordinators, and officials from the Directorate of Handloom & Textiles, Assam. Participant observation was simultaneously utilized to document technical weaving procedures, bamboo splitting techniques, and natural dye preparations. Secondary data was integrated from national census reports, the 4th All India Handloom Census, Directorate of Handloom & Textiles policy documents, and peer-reviewed academic literature.

3.3 Data Integration and Analytical Approach

Quantitative survey data was coded, cleaned, and analyzed using descriptive statistical metrics, including

percentages, frequency distributions, and mean income differentials. Qualitative narratives from FGDs and key informant interviews were transcribed, translated, and analyzed using thematic coding analysis aligned with the theoretical constructs of Feminist Political Ecology and the Sustainable Livelihoods Framework.

4. Indigenous Technical Knowledge embedded in Craft Practices

4.1 Ethno-Sericulture and Weaving: Eri and Muga Silk Ecosystems

Sericulture in Assam is an ancient, ethno-biologically complex practice fundamentally integrated into the socio-cultural fabric of rural households. Indigenous women possess detailed empirical knowledge regarding the lifecycle, feeding behavior, and disease management of silkworm species.

Muga sericulture (*Antheraea assama*), endemic to the Brahmaputra Valley, requires outdoor rearing on primary host trees—principally *Som* (*Persea bombycina*) and *Soalu* (*Litsea monopetala*). Women artisans manage pre-rearing preparations, cocoon collection, and reeling. Muga silk is renowned for its natural golden sheen, tensile strength, and durability, historically utilized not only for royal garments but modern industrial applications including surgical sutures and specialized parachutes.

Eri sericulture (*Samia ricini*), conversely, is a domesticated indoor rearing practice centered in tribal households. Unlike Mulberry or Muga silk, where the pupa is traditionally killed during cocoon boiling, Eri cocoons are spun after the moth emerges naturally, earning it the designation of eco-friendly silk. Tribal Bodo, Rabha, and Karbi women demonstrate technical mastery in spinning Eri cocoons using the *Takli* or *Takuri* (a traditional drop-spindle), converting raw fiber into durable yarn during domestic leisure hours.

4.2 Botanical Knowledge: Ethno-Dyeing and Bio-Processing Technologies

A major domain of indigenous technical knowledge among Assamese women artisans is ethno-botanical dye extraction and yarn processing[1]. Prior to the introduction of synthetic chemical dyes, women processed fibers using natural botanicals harvested from local forest ecosystems.

A foundational element of this process is *Khar*—an indigenous, homemade alkaline solution derived from the ashes of burned banana peels, dried banana trunks (*Bhimkol*), or specific wild trees. *Khar* serves as a natural degumming agent for Eri and Muga cocoons, stripping away natural sericin proteins to soften the raw fiber without damaging structural integrity.

For coloration, women utilize diverse botanical plant sources. Indigo (*Kuntir*) is extracted for deep blue hues, while turmeric (*Halodhi*) and *Mejankori* leaves are processed for vibrant yellow and golden shades. Madder roots and *Bhoj-patra* bark are harvested and boiled to produce rich reddish-brown tones. This botanical knowledge extends to natural mordanting, utilizing iron-rich wetland mud and organic plant acids to fix dyes permanently into silk and cotton threads.

4.3 Material Culture: Cane and Bamboo Craftsmanship

Cane and bamboo craft production represents another key dimension of indigenous material culture in rural Assam, operating alongside handloom weaving. The region's flora provides high-quality bamboo species (*Bambusa , Dendrocalamus strictus*) which indigenous artisans harvest and process using eco-friendly traditional methods.

Women artisans demonstrate acute botanical understanding regarding raw material selection. Bamboo culms are selected based on age, node spacing, and moisture content[4]. To protect raw materials from fungal decay and wood-boring insects without chemical pesticides, artisans employ traditional bio-preservation techniques, such as submerging harvested bamboo in local water bodies for several weeks to leach out

starch content.

Category	Local Name	Structural & Cultural Function
Cultural Headgear	*Japi* / *Fulam Japi*	Traditional conical hat constructed from bamboo splits and palm leaves, used for sun protection and ceremonial honor.
Fishing Gear	*Jakoi*	Triangular bamboo scoop basket operated primarily by women in shallow wetland ecosystems.
	Khaloi	Woven woven bamboo basket tied to the waist for carrying captured fish.
	Chepa / *Bhana*	Tubular valved fish trap set in flowing wetland streams.
Agricultural & Domestic Utensils	*Chalani*	Woven bamboo sieve utilized for grain cleaning and food processing.
	Dola	Flat woven bamboo tray for winnowing agricultural harvests.
	Jarang	Traditional Karbi woven bag crafted from durable indigenous fibers.

Women specialize in weaving utility items essential to the rural agrarian economy[1]. The fabrication of the *Japi* (a traditional conical bamboo hat), *Jakoi* (a triangular bamboo trap used by women to catch fish in shallow wetlands), *Khaloi* (a waist-bound fish container), and *Chalani* (sieves for grain processing) reflects an eco-friendly material culture designed for maximum functional durability.

4.4 Matrilineal and Informal Transmission Mechanisms

The transmission of indigenous craft knowledge in Assam occurs through informal, matrifocal, and observational learning mechanisms embedded in daily domestic routines. Unlike formal technical vocational education, skill transfer occurs within the household compound (*Bari*).

Young girls observe mothers, aunts, and grandmothers setting up warps, operating looms, and splitting bamboo. Girls begin with simple auxiliary tasks—such as winding bobbins (*Leta*), sorting silkworm cocoons, or preparing warp threads—before progressing to complex loom operation and motif execution. Motif designs (*Saneki*) and weaving techniques are communicated alongside folk songs (*Bihu Naam*), oral proverbs, and seasonal agricultural rituals. In tribal societies like the Karbi and Bodo, weaving proficiency was historically considered a primary prerequisite for adulthood and social standing.

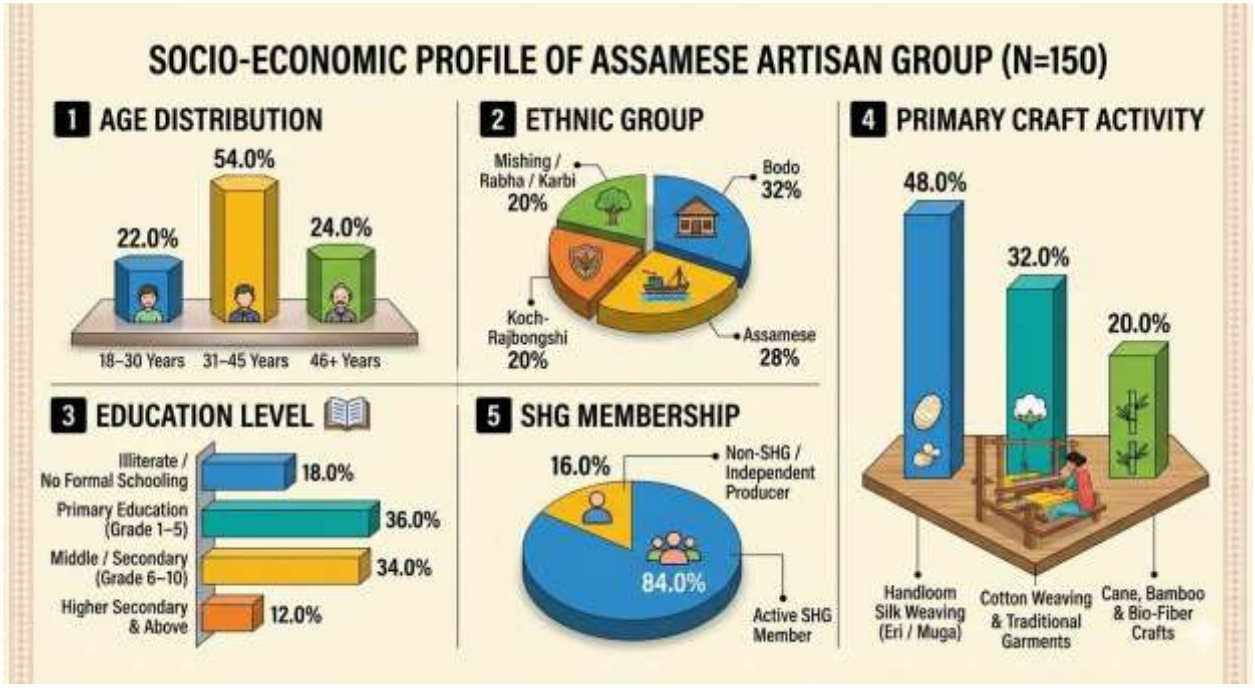
5. Empirical Analysis of Livelihood Transformation and Female Empowerment

5.1 Demographic and Socio-Economic Profile of Women Artisans

To evaluate how participation in craft practices transforms rural women's lives, primary empirical data gathered from women artisans across rural Assam were analyzed. The demographic baseline of the

surveyed sample reflects a broad representation of rural women engaged in traditional craft production across age brackets, ethnic communities, and educational backgrounds.

Socio-Economic Variable	Indicator Category	Sample Percentage (%) [N=150]
Age Distribution	18–30 Years	22.0%
	31–45 Years	54.0%
	46 Years and Above	24.0%
Ethnic / Community Group	Bodo	32.0%
	General/ Mainstream Assamese	28.0%
	Koch-Rajbongshi	20.0%
	Mishing / Rabha / Karbi	20.0%
Education Level	Illiterate / No Formal Schooling	18.0%
	Primary Education (Grade 1–5)	36.0%
	Middle / Secondary (Grade 6–10)	34.0%
	Higher Secondary & Above	12.0%
Primary Craft Activity	Handloom Silk Weaving (Eri / Muga)	48.0%
	Cotton Weaving & Traditional Garments	32.0%
	Cane, Bamboo & Bio-Fiber Crafts	20.0%
SHG Membership	Active SHG Member	84.0%
	Non-SHG / Independent Producer	16.0%



5.2 Financial Inclusion, Income Escalation, and Savings Dynamics

The empirical survey reveals a substantial transformation in women's direct financial status following their integration into organized craft clusters and Self-Help Groups (SHGs). Prior to organized cluster intervention, craft activity was predominantly unmonetized or dependent on exploitative local traders (*Mahajans*) who provided raw materials in exchange for low piece-rate payments.

Prior to SHG integration, artisans recorded average monthly earnings ranging from ₹1,800 to ₹2,500, with income characterized as irregular and supplementary. Following organized SHG cluster integration, average monthly earnings escalated significantly to between ₹4,500 and ₹7,800, representing a direct cash contribution to the household economy.

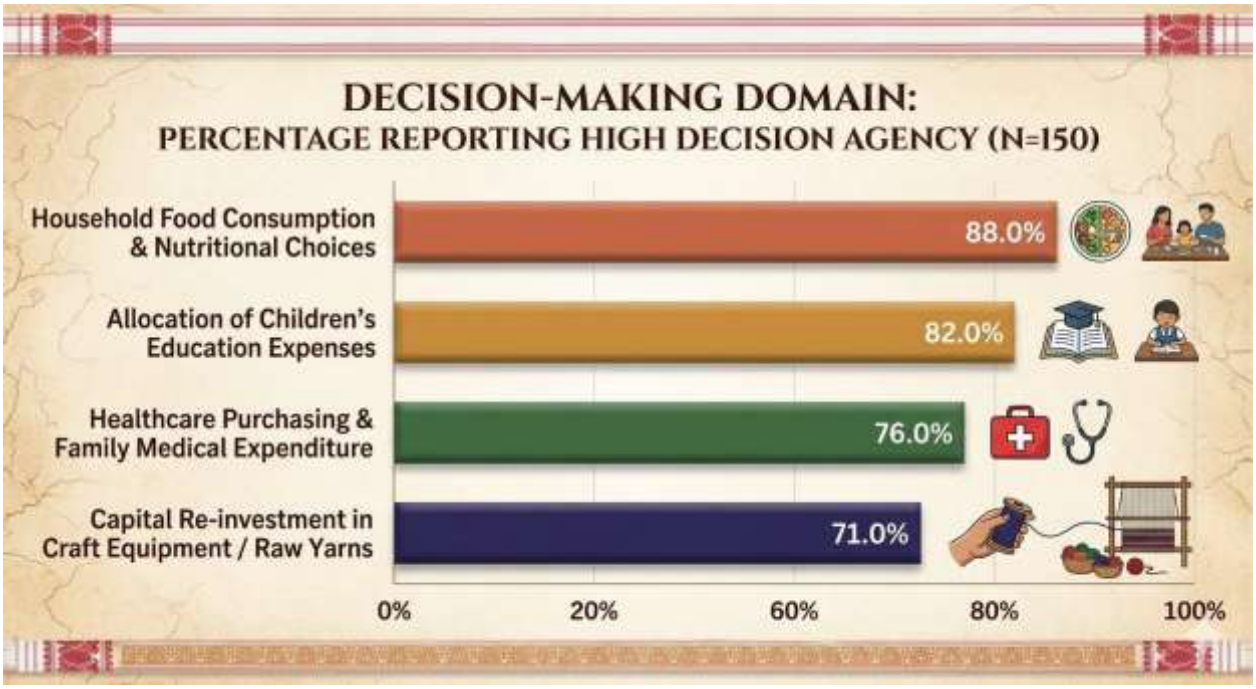
Quantifiable financial indicators demonstrate significant progress across the surveyed sample: The transition to commercialized SHG production led to an average monthly income increase of 42% to 65% for participating women, elevating average monthly artisan earnings depending on silk type and design complexity. A key empirical finding is that 78% of surveyed women artisans now possess independent bank accounts in their own names, accessed directly via Core Banking Solutions (CBS) and mobile banking platforms. Furthermore, 68% of respondents report maintaining regular personal monthly savings through SHG thrift mechanisms or bank deposits, providing a financial buffer against agricultural shocks and family medical emergencies.

5.3 Intra-Household Decision-Making Agency and Social Capital

Financial autonomy directly alters intra-household power dynamics.The survey measured changes in female decision-making agency across four key domestic domains, demonstrating high levels of autonomy among active artisans.

Decision-Making Domain	**Percentage Reporting High Decision Agency (%) [N=150]**
Allocation of Children's Education Expenses	82.0%

Healthcare Purchasing & Family Medical Expenditure	76.0%
Household Food Consumption & Nutritional Choices	88.0%
Capital Re-investment in Craft Equipment / Raw Yarns	71.0%



Beyond household economics, commercial craft participation fosters substantial social capital. Women participating in SHG weaving collectives report increased self-confidence, heightened mobility outside the domestic domain, and active participation in local public governance. Over 42% of surveyed artisans reported attending Gram Sabha village council meetings regularly, with 15% holding formal leadership positions within local producer committees, SHG federations, or community organizations.

5.4 The Role of Self-Help Groups and Producer Cooperatives

The primary driver of this livelihood transformation is the institutional framework of Self-Help Groups (SHGs) under the National Rural Livelihoods Mission (NRLM) / Assam State Rural Livelihoods Mission (ASRLM), complemented by independent producer cooperatives.

A prominent example of institutional collective action is *Aagor Weaves*, a producer organization established in Kokrajhar district by tribal Bodo women weavers. By organizing over 1,500 rural women into a structured cooperative enterprise, *Aagor Weaves* eliminated commercial middlemen, provided standardized high-quality yarn directly to weavers' doorsteps, and established direct marketing channels to urban retail outlets across India.

Similarly, local SHG federations enable artisans to pool financial resources, access low-interest micro-credit loans from formal banking institutions, purchase handlooms equipped with modernized Jacquard

mechanisms, and negotiate bulk purchasing rates for Eri and Muga yarn.

6. Systemic Impediments and Structural Vulnerabilities

6.1 Value Chain Exploitation and Market Asymmetries

The dominant structural constraint facing independent rural weavers is asymmetric market power held by commercial traders, local buyers, and urban intermediaries (*Mahajans*)[1]. Because rural women often lack direct transportation, market contacts, and commercial storage infrastructure, they rely on traders to sell finished products.

Middlemen frequently supply yarn to weavers on credit under restrictive agreements that force artisans to sell finished garments back to the trader at suppressed prices[1]. While an authentic handwoven Muga *Mekhela Chador* can retail in urban markets for ₹35,000 to ₹80,000, the primary woman weaver often receives less than 15% to 20% of the final retail price, with the majority of profit margins captured by intermediary traders.

6.2 Raw Material Scarcity, Price Volatility, and Ecological Stress

Women artisans face mounting challenges regarding the availability and affordability of essential natural raw materials. The cost of high-grade raw Muga yarn has escalated dramatically—rising from approximately ₹800 per kilogram in the early 1990s to over ₹21,000 per kilogram in recent years. This extreme cost barrier prevents individual low-income weavers from purchasing raw materials independently.

Environmental degradation, commercial deforestation, land-use changes, and pesticide drift from adjoining tea gardens have damaged natural host plantations of *Som* (*Persea bombycina*) and *Soalu* trees. Furthermore, fungal foliar diseases cause severe annual leaf yield reductions ranging from 13.8% to 41.6%, limiting Muga silkworm cocoon production and driving up raw cocoon prices. Over-exploitation of natural bamboo stands and conversion of forest land have similarly increased raw bamboo prices, making it difficult for cane and bamboo artisans to source mature culms locally.

6.3 Financial Exclusions and Technological Lag

Despite the expansion of rural banking, formal financial institutions often view informal women artisans as high-risk borrowers due to their lack of titled land ownership, collateral assets, and formal business records. Consequently, when weavers require emergency capital to repair looms, purchase raw materials, or cover family medical expenses, they are frequently forced to rely on informal moneylenders who charge exorbitant monthly interest rates. This creates cycles of debt bondage that trap women in low-margin contract weaving.

The majority of rural women weavers in Assam continue to operate traditional, non-ergonomic throw-shuttle handlooms. These primitive looms require intense manual labor, result in slow production turnarounds, and cause physical strain, including chronic lower back fatigue and muscle pain.

Furthermore, while modern textile markets demand standardized sizing, innovative color palettes, and contemporary product variations (such as home furnishings and modern western attire), rural women artisans often lack access to design innovation hubs, modern Jacquard pattern devices, and digital e-commerce platforms. Digital illiteracy deficits further prevent rural women from onboarding their products directly onto national online marketplaces.

7. Policy Landscape, Institutional Interventions, and Future Roadmaps

7.1 Direct Procurement Mechanisms: The Swanirbhar Naari Paradigm

A key state intervention targeting gender equity and handloom sustainability in Assam is the **Swanirbhar Naari** scheme, launched by the Directorate of Handloom & Textiles, Assam.

The scheme operates on a direct procurement framework designed to eliminate intermediary traders. Indigenous women weavers owning at least one active household handloom register on the *Swanirbhar Naari* portal (swanirbharnaari.assam.gov.in), followed by physical field verification by departmental inspectors. The state government procures 31 distinct benchmarked traditional hand-woven items—including the *Gamosa*, *Aronai*, *Dakhona*, and *Mekhela Chador*—directly from registered female weavers at standardized, fair benchmark prices.

Procurement is executed in collaboration with state agencies like ARTFED (Assam Apex Weavers and Artisans Co-operative Federation Ltd.) and AGMC (Assam Government Marketing Corporation Ltd.). Direct digital payments are transferred via Core Banking Solutions (CBS) into the artisan's verified bank account within four days of product handover. Over 600,000 women weavers applied for the program, with more than 564,811 applications verified and approved, injecting capital directly into rural female-headed households.

7.2 Geographical Indication Protections and Intellectual Property Governance

Geographical Indication (GI) registration represents a powerful legal mechanism to protect indigenous knowledge, prevent commercial imitation, and secure premium market pricing for authentic local crafts.

Assam has secured GI tags for several iconic craft heritage items. Muga Silk of Assam holds global GI status, protecting authentic golden silk yarn and fabrics produced in the Brahmaputra Valley from synthetic look-alikes and powerloom imitations produced outside the region. The Assamese *Gamosa* has similarly been granted official GI recognition, protecting the traditional white and red hand-woven cultural textile. Emerging legal protections for regional tribal textiles, such as Mizo *Puan* and Bodo traditional attire, establish legal frameworks to prosecute non-authentic industrial counterfeits. Enforcing GI protections ensures that economic benefits flow directly back to registered indigenous women artisans.

7.3 Cluster Modernization, Design Innovation, and Strategic Recommendations

To bridge the gap between traditional craft techniques and modern urban consumer demand, state interventions have established targeted cluster modernization schemes. The *Muga Mission* (2017–2026) focuses on expanding *Som* and *Soalu* tree nurseries, distributing disease-resistant silkworm seeds (*Dfra*), and supporting community-based sericulture plantations. Central sponsored schemes such as *Silk Samagra II* and NERTPS under the Ministry of Textiles provide subsidized frame looms, Jacquard machinery attachments, ergonomic weaving seats, and eco-friendly dye houses to women's weaving clusters.

Existing Policy Initiative	Primary Institutional Agency	Target Beneficiary Base	Core Economic & Operational Mechanism	Primary Identified Operational Gaps
Swanirbhar Naari Scheme	Directorate of Handloom & Textiles, Assam;	Registered indigenous women weavers owning	Direct state procurement of 31 benchmarked traditional	Procurement caps per weaver; limited geographic coverage in remote

	ARTFED; AGMC[6]	household handlooms	woven items without middlemen; direct CBS bank payment within 4 days	non-connected rural pockets.
Muga Mission (2017–2026)	Central Silk Board (CSB); State Sericulture Department[3]	Muga silkworm rearers, seed growers, and silk reeling women[3]	Nursery expansion for host trees (*Som/Soalu*); disease-free layings (DFLs) distribution; raw material banks	Vulnerability of host plantations to climate shocks and pest outbreaks; slow nursery maturation rates[3].
Silk Samagra II & NERTPS	Ministry of Textiles, Govt. of India; Directorate of Handloom	Sericulture farmers, handloom weavers, SHG craft federations	Subsidized supply of modernized looms, Jacquard machinery, solar reeling units, and yarn banks	Capital subsidy access delays; high documentation requirements for illiterate rural women[1].
Geographical Indication (GI) Enforcements	Geographical Indication Registry; ARTFED; Craft Associations[3]	Authentic regional artisans and indigenous craft cooperatives	Legal protection against industrial powerloom imitations; brand authentication for Muga silk & Gamosa[3]	Weak enforcement against fake synthetic Muga/Gamosa imports in local markets; low artisan GI awareness.

To ensure long-term livelihood sustainability, intellectual property protection, and equitable market integration for indigenous women artisans in Assam, five strategic policy recommendations are proposed:

Institutional & Collective Empowerment: Women-led producer cooperatives, modeled on the successful *Aagor Weaves* framework, should be systematically expanded across all rural districts in Assam. Decentralized raw material yarn banks must be established to supply Muga and Eri silk yarn at subsidized rates directly to verified SHG weavers, eliminating speculative trader inflation.

Market Access & Digital Integration: Direct procurement schemes like *Swanirbhar Naari* should be expanded to incorporate non-textile craft categories, including cane and bamboo products. Tailored digital literacy programs must be integrated into SHG training modules to enable direct artisan onboarding onto national e-commerce platforms and international fair-trade portals.

Bio-Resource Stewardship & Ecological Protection: State forestry departments and village councils must implement community-based reforestation programs targeting *Som* and *Soalu* host tree plantations on village common lands. Sustainable bamboo cultivation, nursery management, and eco-friendly bio-seasoning facilities must be supported to reverse raw material depletion.

Technological Upgradation & Design Innovation: District-level Common Facility Centers (CFCs) equipped with modernized Jacquards, solar silk reeling machinery, and natural dye laboratories must be constructed to improve productivity while reducing physical strain on women weavers. Collaborative design hubs blending traditional motifs (*Saneki/Aagor*) with contemporary consumer tastes should be established in partnership with professional design institutes.

IPR Protection & Brand Authentication: Geographical Indication (GI) laws must be rigorously enforced with mandatory QR-code authenticity tags on all genuine Assamese handloom products sold commercially. Legal frameworks protecting indigenous technical knowledge (ITK) against corporate appropriation must be strengthened across Northeast India[1].

8. Conclusions

This study demonstrates that traditional craft practices among indigenous women in Assam represent dynamic, highly technical Indigenous Knowledge Systems (IKS) that serve as vital economic drivers for rural household survival and sustainable regional development[1]. Empirical investigations confirm that organizing women artisans into structured production collectives, Self-Help Groups (SHGs), and direct state procurement channels yields transformative socio-economic outcomes.

Commercialization elevates female income by 42% to 65%, with 78% of surveyed artisans establishing independent bank accounts and building personal cash savings[1]. Financial self-reliance directly translates into increased intra-household female decision-making power regarding children's education, healthcare investments, and domestic financial planning, alongside increased civic participation in Gram Sabhas and community governance. Furthermore, sustainable craft monetization creates strong economic incentives for younger generations to retain inherited technical knowledge, ethno-botanical dye processing skills, and traditional motif designs.

However, these positive transformations remain threatened by systemic structural impediments, including raw material price inflation, ecological degradation of silkworm host plantations, exploitative middleman margin capture, informal credit dependency, and digital marketing gaps. Addressing these persistent bottlenecks requires shifting from fragmented welfare assistance to a holistic, gender-sensitive policy framework[1]. By placing indigenous women artisans at the core of regional economic strategies, Assam can protect its unique biocultural heritage while fostering an inclusive, self-reliant, and ecologically sustainable rural economy.

References

1. Anand, G. (2017). *Livelihood sustainability of handloom weavers: A study in Sualkuchi, Assam* (Unpublished bachelor's dissertation). Tata Institute of Social Sciences. ResearchGate.https://www.researchgate.net/publication/332440160_Livelihood_Sustainability_of_Handloom_Weavers_A_study_in_Sualkuchi_Assam
2. Adda247. (2022, July 20). *Assam CM Himanta Biswa Sarma launched 'Swanirbhar Naari' scheme*. https://currentaffairs.adda247.com/swanirbhar-naari-scheme/
3. Dharitri Assam. (2026, August 21). *Swanirbhar Naari Scheme Assam 2026: Registration, login,*

launch date, certificate download & benefits. https://dharitriassam.com/swanirbhar-naari-scheme-assam-2026-registration-login-launch-date-certificate-download-benefits/

4. Hansepi, L., & Laisram, R. (2022). Karbi women and environmental conservation. *Grassroots Journal of Natural Resources, 5*(3), 1–17. Scribd. https://www.scribd.com/document/683045654/Karbi-Women-and-Environmental-Conservation
5. India Today NE. (2023, January 14). *Assam government begins procurement of hand-woven items under Swanirbhar Naari scheme to empower weaving community*. https://www.indiatodayne.in/assam/story/assam-government-begins-procurement-hand-woven-items-under-swanirbhar-naari-scheme-empower-weaving-community-497517-2023-01-14
6. Khatun, H. (2026). Study the role of tribal women as custodians of culture through traditional ecological practices in Assam. *International Journal for Multidisciplinary Research (IJFMR), 8*(4), 1–8. https://www.ijfmr.com/papers/2026/4/83020.pdf
7. Lyceum India. (2025, September). *Analysing the Women's Reservation Bill 2023*. *Lyceum India Journal of Social Sciences, 4*(2). https://office.lyceumindia.in/wp-content/uploads/2025/09/Lyceum-India-Journal-of-Social-Sciences-JULY-2025.pdf
8. myScheme. (2026). *Swanirbhar Naari*. Ministry of Electronics and Information Technology, Government of India. https://www.myscheme.gov.in/schemes/naari
9. PubHTML5. (n.d.). *Bagru craft cluster documentation* (pp. 1–172). https://pubhtml5.com/fqlw/kgdz/Bagru_Craft_Cluster_Documentation/
10. Rajkhowa, B. B. (2026). Muga silk of Assam: A fabric of hope. *International Journal of Creative Research Thoughts (IJCRT), 14*(3), f495–f499. ijcrt.org
11. ResearchGate. (n.d.-a). *Analyzing the role of handicraft and handloom in empowering women in Assam*. https://www.researchgate.net/publication/393928659_Analyzing_the_Role_of_Handicraft_and_Handloom_in_Empowering_Women_in_Assam
12. ResearchGate. (n.d.-b). *Cultural attributes and traditional knowledge in connection with the rearing of Muga (Antheraea assama assamensis) in the Dhemaji district of Assam, North-East India*. https://www.researchgate.net/publication/279976592_Cultural_Attributes_and_Traditional_Knowledge_in_Connection_with_the_Rearing_of_Muga_Antheraea_assama_assamensis_in_the_Dhemaji_District_of_Assam_North-East_India
13. ResearchGate. (n.d.-c). *Traditional practices and terminologies in Muga and Eri culture*. https://www.researchgate.net/publication/295566523_Traditional_practices_and_terminologies_in_Muga_and_Eri_culture
14. ResearchGate. (n.d.-d). *Women's work in Naga society: Household work, workforce participation and division of labour*. https://www.researchgate.net/publication/262124207_Women's_Work_in_Naga_Society_Household_Work_Workforce_Participation_and_Division_of_Labour
15. Rimmba. (n.d.). *Wild silks as sustainable fabrics* (Page 3). https://rimmba.com/pages/sustainable-fabrics-wild-silks?page=3
16. Scribd. (n.d.). *Livelihood sustainability of handloom weavers*. https://www.scribd.com/document/536130361/LivelihoodSustainailityofHandloomWeavers
17. Swanirbhar Naari Scheme. (2022, July 25). *Swanirbhar Naari scheme* [Video]. YouTube. https://www.youtube.com/watch?v=WfsZIejMl8U

18. Testbook. (n.d.). *[Solved] Assam launched 'Swanirbhar Naari Scheme' in July 2022. This scheme is associated with...* https://testbook.com/question-answer/assam-launched-%E2%80%98swanirbhar-naari-scheme%E2%80%99-in-ju--69ea0b0ab7f2b9c9f9f05e5a
19. The Artisanal Handloom Weaving Traditions in India's Northeast. (n.d.). *Radha Radhakrishnan Journal of Indigenous Knowledge Studies (RRJIKS)*. https://rrjiks.co.in/index.php/RRJIKS/article/view/156
20. Wariors. (n.d.). *What we do: Women empowerment & skill development*. https://wariors.org/what-we-do-women-empowerment-skill-development/