

Silk Industry of Jammu & Kashmir and the SDGs: A Post-Development Perspective

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Abstract

This paper examines the silk industry of Jammu & Kashmir through the analytical lens of post-development theory, which challenges the epistemological and political foundations of mainstream development models while foregrounding plural, locally rooted knowledge systems (Escobar, 1995; Kothari et al., 2019). Rather than treating sericulture merely as an instrument for achieving Sustainable Development Goals (SDGs), the analysis inverts the evaluative frame: What do the SDGs look like when interpreted through the lived experiences, ecological practices, and cultural values of silk-producing communities in the region? Drawing on archival material, government reports, field interviews, and secondary literature, the study maps sericulture to selected SDGs — notably poverty reduction (SDG 1), zero hunger (SDG 2), gender equality (SDG 5), reduced inequalities (SDG 10), climate action (SDG 13), and life on land (SDG 15). It demonstrates how traditional sericultural systems integrate circular resource use, biodiversity conservation, and intergenerational knowledge transfer without relying on external sustainability frameworks. The findings highlight a paradox: while the silk industry of J&K embodies the ideals of the SDGs, these contributions often remain invisible to global metrics. By re-centering policy discourse on community-defined sustainability indicators, the paper argues for development strategies that learn from, rather than overwrite, indigenous and locally embedded practices. This approach offers a critical re-imagination of sustainability that moves beyond quantitative targets towards culturally grounded, ecologically attuned futures.

Keywords: Post-development, SDGs, sericulture, Jammu & Kashmir and local knowledge

1. Introduction

Sustainability has emerged as the dominant paradigm in 21st-century global development discourse, shaping international policy, research agendas, and funding priorities. Since the formal adoption of the 2030 Agenda for Sustainable Development at the United Nations Sustainable Development Summit in September 2015, 193 member states have committed to achieving 17 Sustainable Development Goals (SDGs) and 169 targets that together constitute a “plan of action for people, planet and prosperity” (United Nations, 2015). The SDGs seek to

integrate the economic, social, and environmental dimensions of development into a single, holistic framework — addressing interconnected challenges such as poverty eradication, gender equality, climate action, sustainable production and consumption, and biodiversity protection (Le Blanc, 2015; Sachs et al., 2019).

In the Indian context, this global agenda intersects with a diverse array of traditional livelihood systems that are simultaneously economically significant, ecologically sensitive, and culturally embedded. One such system is sericulture — the rearing of silkworms (*Bombyx mori*) and the production of silk fibre. India is the world's second-largest silk producer, but the Union Territory of Jammu & Kashmir (J&K) holds a distinctive place in the country's sericultural landscape. While J&K accounts for a modest share of national production volumes, it is renowned for its high-quality bivoltine silk, whose exceptional tensile strength, natural sheen, and uniform filament length make it highly valued in both domestic weaving clusters and international luxury textile markets (Central Silk Board, 2023; Greater Kashmir, 2023). The region's temperate climate, distinct altitudinal gradients, and long-standing cultivation of hardy mulberry varieties create optimal conditions for bivoltine cocoon rearing (Bhat et al., 2014).

For thousands of rural households in J&K sericulture remains a supplementary yet critical livelihood activity. It provides a seasonal cash income that complements agriculture, mitigates rural underemployment, and enables diversification of livelihood sources in areas with limited access to industrial labor markets (Dar et al., 2020). Importantly, sericulture in J&K has historically been organized around family-based, smallholder production units, where the knowledge of silkworm rearing, mulberry cultivation, and cocoon handling is transmitted orally and experientially across generations, embedding the activity in local social and cultural rhythms.

This paper examines the silk industry of J&K through the analytical lens of post-development theory, a perspective that interrogates the epistemological and political underpinnings of mainstream development models and foregrounds plural, locally rooted knowledge systems (Escobar, 1995; Kothari et al., 2019). Rather than framing sericulture simply as an instrument for achieving SDG targets, the analysis inverts the question: What do the SDGs look like when interpreted through the lived experiences, values, and ecological practices of silk-producing communities in J&K? This inversion shifts the epistemic center from global indicator frameworks to community-defined sustainability, thereby illuminating the ways in

which local sericultural practices predate, parallel, and enrich contemporary sustainability discourses.

By situating J&K's sericulture within both the historical evolution of global sustainability frameworks and the ongoing debates in post-development scholarship, this paper argues for a reframing of policy approaches — from measuring traditional industries against universal benchmarks to recognizing them as autonomous systems of sustainability. This approach is not merely academic; it carries implications for how India's rural development policy, SDG monitoring architecture, and sericulture sector strategies can be redesigned to foreground cultural resilience, ecological stewardship, and gendered knowledge systems.

2. Evolution of Sustainable Development and the SDGs

The concept of **sustainable development** did not emerge fully formed in 2015 with the SDGs; rather, it evolved through a series of interlinked global policy milestones, each shaped by prevailing environmental, economic, and political concerns. This genealogy is important because it reveals the **institutional logic** underlying the SDGs — a logic that post-development scholars have often critiqued for its reliance on **universalist, top-down frameworks** (Escobar, 1995; Esteva, 2010).

2.1 Early Roots: From Stockholm to Brundtland

The modern environmental agenda entered the international stage with the **United Nations Conference on the Human Environment**, held in **Stockholm in 1972**. This was the first major global summit to link environmental concerns with economic development, resulting in the **Stockholm Declaration** — a set of 26 principles affirming the interdependence of human well-being and environmental health (United Nations, 1972). While pioneering, the Stockholm framework reflected a tension: developing countries feared that environmental restrictions could constrain their industrial growth, while developed countries emphasized pollution control and conservation (Adams, 2009).

The next major milestone came with the **World Commission on Environment and Development (WCED)**, chaired by Gro Harlem Brundtland, which published *Our Common Future* in 1987. This report popularized the now-canonical definition of sustainable development as “**development that meets the needs of the present without compromising the ability of future generations to meet their own needs**” (WCED, 1987, p. 43). It introduced two key concepts: **needs**, with priority given to the poor, and **limitations**, imposed by environmental carrying capacity. The Brundtland vision sought to reconcile economic growth with ecological limits — an attempt at what was later termed “weak sustainability”

(Neumayer, 2013) — but still assumed that modernisation and growth were compatible with environmental stewardship.

2.2 Rio 1992 and Agenda 21

The **1992 United Nations Conference on Environment and Development (UNCED)** in Rio de Janeiro, commonly known as the Rio Earth Summit, expanded the institutional framework for sustainability. Its major outcome, **Agenda 21**, was a comprehensive action plan promoting the integration of environment and development in decision-making at all levels (United Nations, 1992). The summit also adopted the **Rio Declaration on Environment and Development**, the **Convention on Biological Diversity (CBD)**, and the **United Nations Framework Convention on Climate Change (UNFCCC)**.

Agenda 21 introduced important procedural innovations — notably **participatory decision-making** and **local action plans** — anticipating the ‘Local Agenda 21’ movements of the late 1990s (Lafferty & Eckerberg, 2013). However, from a post-development perspective, Rio still operated within a **managerial, technocratic paradigm** in which local communities were seen primarily as **implementers** of sustainability policies rather than **originators** of alternative visions of well-being (Escobar, 1995).

2.3 Millennium Development Goals (2000–2015)

The adoption of the **Millennium Development Goals (MDGs)** in 2000 marked a shift towards **target-driven development**. The MDGs focused on eight global priorities, including poverty reduction, universal primary education, gender equality, and disease control (UN, 2000). Environmental concerns were largely confined to **Goal 7: Ensure environmental sustainability**, which emphasised access to safe drinking water, sanitation, and biodiversity protection.

While the MDGs achieved measurable progress in certain areas, critics argued that their narrow focus and **indicator-centric approach** neglected cultural, ecological, and structural dimensions of inequality (Fukuda-Parr, 2016; Saith, 2006). Moreover, the MDGs were primarily framed as obligations for the Global South, reinforcing a **North–South aid logic** rather than a universal sustainability compact.

2.4 Sustainable Development Goals (2015–2030)

In 2015, the **Sustainable Development Goals (SDGs)** replaced the MDGs, significantly expanding the scope to **17 goals** and **169 targets**, applicable to all countries regardless of income status (United Nations, 2015). The SDGs are characterized by three distinguishing features:

1. **Universality** — all member states, both developed and developing, are responsible for achieving the goals.
2. **Integration** — recognition of the interconnectedness of social, economic, and environmental dimensions.
3. **Participation** — calls for the involvement of civil society, the private sector, and local communities.

The SDGs include explicit commitments to **climate action (SDG 13)**, **life on land (SDG 15)**, and **inclusive economic growth (SDG 8)**, reflecting a more holistic framing than the MDGs (Sachs et al., 2019). Yet, they remain fundamentally **indicator-based**, which can obscure **qualitative, culturally embedded forms of sustainability**. For example, the contribution of traditional sericulture in Jammu & Kashmir — with its biodiversity conservation, low-carbon production, and gendered labor systems — is largely invisible in SDG monitoring frameworks that prioritize quantifiable outputs over local meanings and practices (Kothari et al., 2019).

From a post-development standpoint, the SDGs represent both a **progressive step** in expanding the sustainability agenda and a **continuation of the managerial logic** that situates local knowledge as data to be fitted into pre-existing global metrics. This tension becomes especially evident when examining rural livelihood systems like J&K's silk industry, which embody sustainability in practice without conforming neatly to SDG indicator sets.

3. Theoretical Framework

3.1 Post-Development Theory

Post-development theory emerged in the 1990s as a radical critique of the dominant development paradigm that had shaped policy discourse since the mid-20th century. Foundational works, such as Arturo Escobar's *Encountering Development* (1995), argued that "development" operates as a discourse rooted in Eurocentric modernity, imposing a singular vision of progress that marginalises alternative cultural, ecological, and economic logics. Rather than being a neutral, universal good, development is seen as a historically situated project tied to colonial legacies and the political economy of global capitalism (Escobar, 1995; Sachs, 1992).

Central to post-development thinking is the idea that communities possess their own forms of knowledge and ways of organising life that do not require validation through Western or state-centric metrics. This orientation resonates with the concept of **epistemic justice**, which calls for recognising the legitimacy of knowledge systems that have been historically

subordinated or silenced (Fricker, 2007; Santos, 2014). In practice, this means valuing locally embedded ecological practices, cultural traditions, and livelihood systems not merely as “resources” for development, but as autonomous systems of meaning and sustainability.

3.2 SDGs and the Problem of Universalism

The Sustainable Development Goals (SDGs), adopted by the United Nations in 2015, represent the most comprehensive global framework for integrating economic, social, and environmental priorities (United Nations, 2015). However, while the SDGs seek to be universally applicable, they often operationalise progress through **quantifiable indicators**—poverty headcounts, employment ratios, biodiversity indices—that can obscure the qualitative dimensions of local well-being (Fukuda-Parr & McNeill, 2019).

Critiques have noted that such universalism risks reproducing the same development orthodoxies that post-development theorists challenge, particularly when local priorities do not align neatly with global benchmarks (Kothari, Salleh, Escobar, Demaria, & Acosta, 2019). In the context of rural and indigenous livelihoods, the SDGs can inadvertently impose external priorities, reshaping local economies and ecologies in ways that undermine self-determination.

3.3 Bridging the Two: A Post-Development Reading of the SDGs

Applying a post-development lens to the SDGs does not necessarily entail rejecting them outright; rather, it involves **reframing the analytical question**. Instead of asking how local systems can be “brought into alignment” with SDG targets, the approach asks: *What do sustainability and well-being look like when defined from within these systems?* This inversion foregrounds lived experiences, community-defined values, and ecological relationships as the basis for interpreting the SDGs, rather than treating them as externally imposed yardsticks.

In the case of Jammu & Kashmir’s silk industry, such a reframing brings into view dimensions of sustainability—intergenerational transmission of sericultural skills, seasonal reciprocity between agriculture and cocoon rearing, gendered labour organisation in household economies—that may not be fully captured by global metrics yet are central to the resilience and vitality of the industry.

Sericulture in Jammu & Kashmir has deep historical roots, with institutional foundations laid under the Dogra rulers in the late 19th century through state-managed mulberry plantation schemes and the establishment of industrial hubs such as the *Resham Ghar* in Jammu and the Government Silk Factory in Srinagar, which together created an integrated system of

mulberry cultivation, silkworm rearing, and reeling under strict state control (Kaul, 1929; Government of Jammu and Kashmir, 1919; Directorate of Sericulture J&K, 2021). The region's temperate climate and diverse agro-ecological zones made it uniquely suited for high-quality bivoltine silk production, a fact that distinguished J&K from other silk-producing states in India. Following independence, the state continued to dominate the sector, providing subsidised inputs, extension services, and assured cocoon procurement, until the liberalisation era of the late 1980s and 1990s, when the World Bank–funded National Sericulture Project (NSP) promoted privatisation, decentralisation of seed production, and market liberalisation (Government of India, 1995; Bhat & Dar, 2017). While these reforms were framed as measures to increase efficiency and global competitiveness, they simultaneously dismantled the state's protective role, leading to the closure of key institutions—most notably the Resham Ghar in Jammu—thereby exposing smallholder producers to price volatility, reduced institutional support, and dependence on private traders (Hussain & Bhat, 2019). Today, J&K contributes less than 1% of India's raw silk output, yet remains the country's only significant producer of high-quality bivoltine silk (Central Silk Board, 2023), with production concentrated in smallholder households across both divisions: in the Jammu region, lower-altitude districts such as Rajouri, Kathua, and Udhampur sustain spring and autumn crops, while in the Kashmir valley, cooler districts like Pulwama, Anantnag, and Budgam excel in premium bivoltine production. In tribal and border areas, including Pahari-speaking communities of Rajouri district, sericulture remains embedded within subsistence agriculture, gendered labour practices, and indigenous ecological knowledge of mulberry tree management—forms of socio-ecological resilience that predate contemporary sustainability frameworks and remain largely invisible to global development metrics. This trajectory from state-led industrial dominance to liberalised smallholder production underscores why a purely SDG-aligned evaluation of sericulture risks erasing the political economy of institutional change and the enduring role of local knowledge systems, thereby validating a post-development approach that re-centres sustainability on community-defined priorities rather than externally imposed indicators.

4. Local Knowledge Systems and Sustainability in Sericulture:

During the field work it was observed that the local sericultural practices in Jammu & Kashmir represent a complex knowledge system that combines ecological understanding, seasonal rhythms, and socially embedded labour organisation. Households maintain mulberry trees on field bunds and community grazing lands, pruning branches in accordance with

traditional calendars that align leaf maturity with silkworm feeding cycles, a timing refined over generations through empirical observation of local climatic patterns (Dar et al., 2018; Rashid & Sofi, 2020). Silkworm rearing spaces are typically prepared within the household where ventilation, humidity, and light are regulated using locally available materials such as jute screens, earthen floors, and manually operated fans, reflecting an intimate adaptation to microclimatic conditions without reliance on industrial infrastructure. Labour in this process is gendered: while men often prune and transport mulberry leaves, women take primary responsibility for feeding, cleaning, and disease management, drawing on a repository of indigenous techniques for identifying early signs of *grasserie* or *flacherie* through larval colour changes, odour, and feeding behaviour. Such practices operate alongside, and sometimes in resistance to, state-promoted “scientific” methods, producing a hybridised or syncretic knowledge regime (Agrawal, 1995; Kothari, 2021) in which local ecological ethics, such as non-wasteful leaf harvesting and careful cocoon boiling to preserve fibre quality, carry implicit sustainability logics. Yet these forms of knowledge are rarely documented in extension manuals or development reports, resulting in a form of epistemic marginalisation that mirrors post-development critiques of the SDG framework’s emphasis on standardised metrics over locally defined well-being indicators. By situating these practices within a post-development reading of sustainability, it becomes possible to see sericulture not merely as an economic activity contributing to SDG targets such as poverty alleviation (SDG 1), gender equality (SDG 5), and sustainable production (SDG 12), but as a culturally grounded system whose resilience and environmental stewardship predate—and in some respects exceed—the scope of the global development agenda.

5. Reframing the SDGs through Local Sustainability Logics

Sericulture in Jammu & Kashmir embodies a locally grounded sustainability system whose contributions to the UN Sustainable Development Goals (SDGs) emerge not through external interventions, but through community-embedded practices that have evolved over generations. In terms of SDG 1 (No Poverty) and SDG 2 (Zero Hunger), mulberry-based sericulture offers a reliable supplementary income stream during agricultural lean periods: a hectare of mulberry can support multiple silkworm cycles annually, generating cash flow with minimal capital input while enhancing household food security (Mukherjee & Ghosh, 2012). By-products such as pupae and leaf waste supplement livestock feed, linking sericulture to nutritional resilience as well as income (Daily Excelsior, 2021). SDG 5 (Gender Equality) is enacted through women’s central roles in rearing, disease detection, and

microclimatic regulation—tasks requiring embodied expertise in larval stage recognition, feeding intervals, and environmental adjustments (Kulsum Ahad et al., 2022). However, structural barriers such as lack of land titles, cooperative leadership roles, and credit access limit their formal recognition, underscoring the need for gender-sensitive policy reform. SDG 10 (Reduced Inequalities) is supported by the sector's accessibility to marginal and landless farmers, including borderland and tribal communities, as sericulture requires little land and minimal infrastructure, thereby lowering barriers to entry and fostering inclusive rural economies (Rashid & Sofi, 2020). At the ecological level, SDG 12 (Responsible Consumption and Production) and SDG 15 (Life on Land) are advanced through agroforestry systems in which mulberry trees conserve soil, enhance biodiversity, and maintain forest edge ecologies, while traditional rearing avoids heavy chemical inputs, thereby aligning with low-carbon farming goals also central to SDG 13 (Climate Action) (FAO, 1996; Extension Journal, 2024). A post-development lens reveals that these outcomes occur without reliance on global metrics: households practice circular resource flows (e.g., recycling pupae and leaf litter), define well-being in terms of household balance, ritual continuity, and ecological care, and embed production in cultural rhythms such as harvest festivals—all largely invisible to SDG monitoring frameworks (Agrawal, 1995; Kothari, 2021). This paradox—that the region's silk industry substantively fulfils SDG ideals without depending on SDG frameworks—underscores the need for policies that learn from and strengthen such endogenous systems, rather than imposing externally defined performance targets that risk erasing local epistemologies.

6. Political Economy Shifts and Knowledge Marginalisation

The transformation of Jammu & Kashmir's silk industry since the late twentieth century cannot be understood without situating it within the broader shifts in India's political economy, particularly the liberalisation and structural adjustment reforms of the late 1980s and early 1990s. The 1989 demonopolisation of the silk sector, coupled with the World Bank–funded National Sericulture Project (NSP, 1989–1996), marked a decisive turn towards privatisation, market liberalisation, and the adoption of “scientific” sericulture packages (Government of India, 1997; Bhat, 2014). While officially framed as interventions to enhance productivity and global competitiveness, these reforms restructured the institutional landscape: state-run reeling factories such as the Resham Ghar in Jammu were either closed or downsized, extension services were reoriented towards commercially viable units, and procurement systems were increasingly mediated by private traders. In practice, this shift

displaced many small-scale reelers and rearers from state-supported value chains, forcing them to adapt to volatile market prices without the protective buffer of guaranteed procurement (Harriss-White, 2003). More subtly — but with equal significance — the epistemic basis of sericulture governance changed. Localised knowledge systems, refined over generations through empirical engagement with climate, pests, and mulberry ecology, were increasingly devalued in favour of standardised “scientific” packages disseminated through top-down extension manuals. Practices such as staggered leaf pruning, indigenous disease identification, and low-input mulberry intercropping — once central to the resilience of household-based sericulture — were either omitted from official literature or dismissed as “unscientific” (Agrawal, 1995). This epistemic marginalisation mirrors a wider post-development critique of global development frameworks, including the SDGs, which privilege quantifiable indicators and externally validated best practices over context-specific definitions of well-being and sustainability (Escobar, 1995; Kothari et al., 2019). The closure of the Resham Ghar in Jammu further exemplifies how the dismantling of industrial infrastructure eroded not only economic livelihoods but also the institutional memory of sericulture, contributing to an archival and policy silence that obscures the sector’s local heritage. As a result, the industry’s current alignment with certain SDG principles — low-carbon production, gendered knowledge transmission, biodiversity-friendly agroforestry — is achieved largely *in spite of*, rather than because of, formal development interventions, underscoring the need to re-centre community epistemologies in policy design.

7. Conclusion: Rethinking Sustainability Through Local Epistemologies

The case of sericulture in Jammu & Kashmir reveals a fundamental disjuncture between the lived realities of silk-producing communities and the universalised frameworks of global development agendas. By foregrounding post-development perspectives, this paper has shown that local sericultural practices — embedded in ecological ethics, gendered cooperation, and cyclical resource use — constitute an autonomous sustainability system that predates the SDGs and, in many respects, exceeds their scope. While SDG mapping can make these contributions visible in policy discourse, it risks flattening complex cultural and ecological logics into discrete, measurable targets. The liberalisation-era restructuring of the silk industry further underscores how top-down interventions, framed as modernisation, can marginalise local knowledge and dismantle the institutional supports that once sustained community-based production. Yet, despite these disruptions, households continue to adapt and innovate within their own epistemic frameworks, maintaining biodiversity-friendly

mulberry agroforestry, low-carbon rearing methods, and equitable labour divisions shaped by tradition rather than market logic. Recognising this resilience demands a shift in policy thinking: from imposing external targets to co-producing strategies with communities as epistemic equals. In this reframing, sericulture is not merely an instrument for delivering on SDGs such as poverty alleviation, gender equality, and climate action, but a living example of how sustainability can be defined, practised, and measured from the ground up. For development policy, the challenge is not to retrofit these systems into pre-existing frameworks, but to allow such locally rooted knowledges to shape what “development” itself means.

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