

Sericulture and Environmental Sustainability: Media as a Circular Development Model from 19th-Century Cooperative Practice to Contemporary Rural Revival in Georgia

Tekla Ivaneishvili

Ivane Javakhishvili Tbilisi State University
Department of Journalism and Mass Communication,
Faculty of Social and Political Sciences

Academic Supervisor: Natia Kuprashvili

Ivane Javakhishvili Tbilisi State University
Associate Professor

Introduction

Sericulture in Georgia has historically followed a cyclical trajectory marked by rise, decline, revival, and transformation. Once a cornerstone of rural economic life and cultural identity, silk production nearly disappeared at the end of the nineteenth century, was artificially revived during the Soviet industrial period, and again declined in the 1990s following systemic political and economic disruption. Yet, the repeated re-emergence of sericulture suggests that local knowledge, community networks, and cultural memory possess a durability that outlives political regimes.

In the twenty-first century, sericulture is reappearing in Georgia not as a centrally orchestrated state program, but as a grassroots initiative emerging from rural communities. Particularly notable is the case of women silk growers in Akhmeta, whose efforts combine local experience, academic consultation, municipal engagement, and media visibility. This contemporary development invites a historical comparison: the cooperative model established in the nineteenth century by Nestor Tsereteli and the current revival promoted through AgroNews and Agrogaremo TV appear to rest on similar foundational principles—knowledge dissemination, collective organization, and public communication.

This study examines these two historical moments comparatively to explore how agricultural production, education, and media function as an integrated ecosystem. It asks whether media can operate not merely as a reporting mechanism, but as an infrastructural component of sustainable rural development.

The nineteenth-century cooperative movement led by Nestor Tsereteli represented more than an economic association. It embodied a circular development model in which agricultural production generated income, income financed education and local institutions, and education strengthened production quality and market competitiveness. Knowledge, cooperation, and communication formed a self-reinforcing cycle.

In contrast, contemporary sericulture revival in Akhmeta reflects both continuity and disruption. While the principles of cooperation, knowledge acquisition, and community mobilization persist, the financial circularity between production and knowledge infrastructure appears weakened. Media today amplifies rural voices and facilitates visibility, yet it is rarely financially sustained by the agricultural sector it promotes.

By comparing the nineteenth-century cooperative framework with the twenty-first-century revival movement, this paper investigates how media can function as a sustainability mechanism within rural economic ecosystems. It situates sericulture not only as an agricultural practice but as a case study in circular development, gendered rural entrepreneurship, and media-supported resilience.

Through historical analysis and contemporary case study examination, the research seeks to answer a central question: Can the integration of production, knowledge, and media—once organically connected—be reconstructed as a sustainable model in modern Georgia?

Theoretical Framework

This study integrates three interrelated theoretical perspectives: circular economy theory, development communication, and media sustainability. Together, these frameworks provide a conceptual lens

for understanding sericulture not merely as an agricultural activity, but as an ecosystem linking production, knowledge, and communication.

Circular economy theory emphasizes regenerative systems in which production, consumption, and knowledge circulate within a closed-loop structure, minimizing waste and maximizing value creation (Geissdoerfer et al., 2017). Unlike linear economic models—extract, produce, dispose—the circular model promotes reinvestment of resources into social and productive infrastructure.

Historically, nineteenth-century Georgian sericulture cooperatives operated within a proto-circular structure. Agricultural production generated income; income supported educational institutions and local associations; education improved production techniques and market competitiveness. Although not formally conceptualized as “circular economy” at the time, this cooperative structure aligns with contemporary sustainability frameworks.

In rural economies, circularity extends beyond material flows to knowledge flows. Knowledge dissemination, skills training, and collective organization become mechanisms for resilience. Thus, circularity in this study is understood both economically and epistemically.

Development communication theory positions media as a facilitator of social transformation rather than a neutral transmitter of information (Servaes, 2008). In participatory models, communication strengthens local capacity, fosters community organization, and enables informed decision-making.

In the nineteenth-century cooperative model, printed materials, public lectures, and institutional networks served as communication infrastructures. In contemporary Georgia, digital media platforms such as AgroNews and Agrogaremo TV perform analogous functions—disseminating agricultural knowledge, amplifying rural initiatives, and connecting producers with wider audiences.

From a development communication perspective, media functions as a mediator between local production and broader institutional recognition. It enhances visibility, legitimizes grassroots initiatives,

and contributes to the formation of what may be described as communicative capital.

Media sustainability scholarship emphasizes the structural conditions that enable media systems to function as stable social institutions (Couldry & Hepp, 2017). Beyond financial viability, sustainability involves institutional integration within social ecosystems.

In the historical cooperative case, media and education were financially embedded within the production cycle. Contemporary rural media, however, often operates externally to agricultural production, relying on project-based funding or advertising models disconnected from farming output.

This structural disconnection creates what may be termed a “broken circularity”: knowledge circulates, visibility increases, but economic reinvestment into media infrastructure remains limited.

Contemporary sericulture revival in Akhmeta also intersects with gender and rural entrepreneurship theory. Women-led agricultural initiatives often emerge as adaptive responses to economic marginalization and labor market constraints (Agarwal, 2010). Collective organization among women producers can enhance bargaining power, knowledge sharing, and community resilience.

In this framework, media exposure contributes to social recognition and symbolic empowerment, while cooperative structures contribute to economic agency.

The study conceptualizes sericulture as a triadic system:

Production ↔ Knowledge ↔ Media

In the nineteenth century, this system functioned as a closed loop. In the contemporary case, the loop partially operates but lacks full financial integration.

The theoretical question guiding the analysis is whether media can transition from being an external amplifier to becoming an infrastructural component of a renewed circular rural economy.

Methodology

This study employs a qualitative comparative case study design to examine the relationship between agricultural production, knowledge dissemination, and media infrastructure across two historical periods in Georgia: the nineteenth-century sericulture cooperative movement and the contemporary revival initiative in Akhmeta.

The research follows a historical-comparative analytical framework. It combines archival-historical analysis with contemporary case study examination in order to identify structural continuities and disruptions within rural development models.

The study does not aim to measure economic output quantitatively; rather, it focuses on structural and communicative dimensions of sustainability, cooperation, and knowledge circulation.

Two primary datasets were used:

1. Historical Case (19th Century):

- Archival materials and secondary historical literature on Nestor Tsereteli's cooperative model
- Documentation of sericulture associations and educational institutions
- Historical accounts of cooperative structures and financing mechanisms

2. Contemporary Case (21st Century):

- Media content analysis of AgroNews and Agrogaremo TV coverage of the Akhmeta women silk growers
- Public statements and interviews with participants
- Observational documentation of institutional involvement (municipal and academic collaboration)

The contemporary analysis focuses on media narratives, visibility mechanisms, and the structural organization of women producers.

The research proceeded in three stages:

Stage 1: Structural Mapping

Each historical period was analyzed according to four structural indicators:

- Production model
- Knowledge infrastructure
- Media/communication mechanisms
- Financial circulation

This mapping allowed for direct comparison of systemic integration.

Stage 2: Circularity Assessment

Using circular economy theory as a conceptual framework (Geissdoerfer et al., 2017), both cases were evaluated in terms of:

- Economic reinvestment mechanisms
- Knowledge reintegration into production
- Institutional sustainability

The goal was to determine whether a closed-loop development model existed and to what extent it functioned.

Stage 3: Media Role Evaluation

Drawing on development communication theory (Servaes, 2008), the study examined whether media functioned as:

- Informational transmitter
- Institutional mediator
- Structural component of the production system

Particular attention was paid to whether media was financially embedded within the agricultural ecosystem or operated as an external amplifier.

Limitations

The historical case relies on archival and secondary sources, limiting access to granular economic data. The contemporary case is based primarily on media documentation and public records rather than longitudinal economic tracking.

Additionally, the two cases operate within radically different political and economic systems, which limits direct causal comparison. The study therefore emphasizes structural parallels and divergences rather than empirical equivalence.

Historical Case Analysis: The Nestor Tsereteli Cooperative Model

The nineteenth-century sericulture revival in Georgia, led by Nestor Tsereteli, represents a structurally integrated model of rural development in which agricultural production, institutional education, and communication networks functioned as mutually reinforcing components.

Following the near collapse of sericulture in the mid-nineteenth century due to disease and market disruption, Tsereteli initiated a cooperative-based recovery model grounded in collective organization. Rather than relying solely on state intervention, the model emphasized local association structures that organized producers, standardized practices, and facilitated knowledge dissemination.

The cooperative framework created a structured network of silk producers who operated not as isolated farmers but as members of an institutionalized agricultural community. This collective organization increased production reliability and market access while reducing vulnerability to systemic shocks.

A central feature of Tsereteli's model was the integration of education into the production cycle. Agricultural knowledge was not treated as external expertise but as a core infrastructural component. Training institutions, demonstration practices, and instructional materials strengthened producers' technical competence.

From a circular economy perspective (Geissdoerfer et al., 2017), this represents an early form of epistemic circularity: knowledge enhanced production efficiency; increased production generated income; income sustained institutional development.

Education in this context functioned as a productive asset rather than a separate sector. The boundaries between economic activity and knowledge generation were porous and interdependent.

Although nineteenth-century media differed fundamentally from contemporary digital platforms, communication mechanisms played an essential role. Printed materials, public lectures, and association meetings facilitated the circulation of technical knowledge and organizational cohesion.

Within the development communication framework (Servaes, 2008), these mechanisms can be interpreted as early communicative infrastructures that supported collective action. Information dissemination was not passive; it structured community mobilization and strengthened cooperative identity.

Importantly, communication was embedded within the production system. It was neither externally funded nor detached from agricultural output. Instead, it operated as a functional component of the cooperative economy.

The most significant structural characteristic of the Tsereteli model was financial reintegration. Revenue generated from silk production contributed to sustaining educational institutions and organizational structures. These institutions, in turn, improved production quality and market competitiveness.

This created a self-reinforcing loop:

Production → Income → Education & Institutional Support → Improved Production

Such integration corresponds to contemporary circular economy principles, even though the terminology did not exist at the time. The system minimized dependency on external funding and reinforced internal resilience.

While nineteenth-century cooperative structures operated within a patriarchal social context, sericulture historically relied heavily on household labor, including women's participation in silk cultivation and processing. Although formal recognition of gendered economic

agency was limited, women's labor formed a substantial part of the production infrastructure.

This dimension becomes particularly significant when contrasted with the contemporary women-led revival initiative.

The Tsereteli cooperative model can be characterized by:

- Institutionalized collective organization
- Integrated educational infrastructure
- Embedded communication mechanisms
- Financial circularity
- Relative autonomy from external funding

The historical case thus demonstrates a closed-loop rural development model in which production, knowledge, and communication were structurally interconnected.

This model provides the analytical baseline for evaluating the contemporary revival of sericulture in Akhmeta. The key question becomes whether similar structural integration can be reconstructed under current socio-economic conditions.

Contemporary Case Analysis: Women-Led Sericulture Revival in Akhmeta and Media Mediation

The contemporary revival of sericulture in Akhmeta represents a grassroots-driven rural initiative emerging within a fundamentally different socio-economic environment from that of the nineteenth century. Unlike the Tsereteli cooperative model, which developed within an integrated institutional framework, the current revival is characterized by decentralized organization, project-based support, and media-facilitated visibility.

The Akhmeta case centers on a group of women silk growers who initiated collective production efforts in response to limited rural employment opportunities and economic marginalization. Their engagement with sericulture is not merely an agricultural practice but a strategy of rural entrepreneurship and local empowerment.

In contrast to historical top-down cooperative institutionalization, the contemporary initiative operates through informal coordination, municipal collaboration, and academic consultation. The production process remains relatively small-scale and relies heavily on voluntary mobilization and shared knowledge.

This reflects a participatory development communication model (Servaes, 2008), where local actors drive initiative formation rather than external authorities imposing structural frameworks.

Unlike the nineteenth-century integrated educational infrastructure, the contemporary case relies on external expertise provided by agricultural specialists, universities, and advisory services. Knowledge circulates through workshops, consultations, and mediated coverage rather than through permanently embedded institutional training centers.

While this model ensures technical guidance, it does not yet demonstrate full systemic reintegration of knowledge financing into production output. Training activities depend partly on external institutional support rather than income generated exclusively from silk production.

Thus, epistemic circularity exists in a partial form: knowledge enhances production capacity, but production revenue does not consistently finance knowledge infrastructure.

A critical distinction between historical and contemporary cases lies in the role of media. AgroNews and Agrogaremo TV serve as central communication platforms that amplify the initiative, provide public recognition, and connect rural producers with broader audiences.

Media coverage fulfills several functions:

- Increasing public awareness of sericulture revival
- Legitimizing women-led agricultural entrepreneurship
- Attracting potential institutional or municipal attention
- Framing sericulture as environmentally sustainable and culturally significant

From a development communication perspective, media operates as a mediator between rural producers and the broader socio-economic environment.

However, media in this case functions primarily as an external amplifier rather than an embedded structural component of the production cycle. Financial flows from silk production do not directly sustain media institutions.

One of the most distinctive features of the contemporary revival is the explicit visibility of women as economic actors. Unlike the nineteenth-century context, where women's labor was structurally central but institutionally under-recognized, the Akhmeta initiative foregrounds women as leaders and organizers.

Media coverage contributes to the accumulation of symbolic capital—public recognition, narrative empowerment, and institutional legitimacy. This dimension reflects contemporary gender and rural entrepreneurship frameworks (Agarwal, 2010), in which collective organization strengthens agency and resilience.

Thus, while financial circularity remains incomplete, symbolic and communicative circularity is significantly enhanced.

Structural Comparison Indicators

When evaluated through the circular economy framework (Geissdoerfer et al., 2017), the contemporary case demonstrates:

- Active production capacity
- Externalized knowledge support
- Strong media-mediated visibility
- Weak financial reintegration into communication infrastructure

The development model remains partially open rather than fully closed-loop.

The Akhmeta case suggests the emergence of a hybrid rural sustainability model in which:

Production ↔ External Expertise ↔ Media Visibility

The structural challenge lies in transforming this mediated visibility into economically sustainable institutional support. If production output begins to systematically finance knowledge dissemination and communication channels, the model could evolve toward a renewed circular framework.

Comparative Discussion

The comparative analysis of the nineteenth-century Tsereteli cooperative model and the contemporary women-led sericulture revival in Akhmeta demonstrates both structural continuity and systemic disruption in the relationship between production, knowledge, and communication.

Across both periods, sericulture functions as more than an agricultural activity; it operates as a rural development mechanism dependent on collective organization, knowledge transfer, and public communication. However, the ways these elements are institutionally integrated differ fundamentally.

From the perspective of circular economy theory (Geissdoerfer et al., 2017), the most significant distinction between the two cases is the degree of circular integration.

In the nineteenth-century cooperative model, the system functioned as a closed loop:

Production → Income → Education & Institutional Support → Improved Production

Income generated from silk production was reinvested into education, cooperative infrastructure, and communication mechanisms, which in turn improved production quality and market capacity. This embedded reinvestment reduced dependency on external support and enhanced resilience through internal financing.

In the contemporary Akhmeta case, the model is best described as partially circular or structurally open. Production exists and knowledge transfer occurs, but financial reintegration remains limited. Expertise is frequently externalized through institutional partnerships and project-based support, while media remains an external amplifier

rather than a financially embedded component of the production ecosystem.

This produces what may be conceptualized as **broken circularity**: knowledge and visibility circulate, but economic feedback into communication infrastructure remains weak.

Development communication theory (Servaes, 2008) helps explain why communication is central in both cases. In the historical model, communication and knowledge dissemination were structurally embedded within cooperative life through association meetings, printed materials, and organized training. Communication served a functional role in sustaining the cooperative system.

In the contemporary context, communication is mediated primarily through digital media platforms such as AgroNews and Agrogaremo TV. These outlets provide visibility, legitimacy, and narrative framing, enabling rural producers—especially women—to gain public recognition and institutional attention.

However, the function of communication has shifted: instead of being embedded within the production system, it increasingly operates as an external support mechanism. This reflects broader patterns of media sustainability in modern environments, where media institutions often depend on advertising or donor funding rather than sectoral reinvestment (Couldry & Hepp, 2017).

A key implication of the comparison concerns scalability. The historical cooperative model contained a built-in scaling mechanism: as production expanded, institutional and educational capacity expanded alongside it through reinvestment.

In the contemporary case, scaling is constrained by the absence of stable circular financing. Visibility and public support can increase rapidly through media amplification, yet the material capacity to expand production and institutionalize training depends on external funding and sporadic institutional engagement.

This creates a sustainability paradox: modern media can amplify rural initiatives faster than rural economies can structurally absorb and financially sustain them.

The comparison also highlights a major gendered shift. Historically, women's labor was central to household-based sericulture but often remained institutionally invisible. In the Akhmeta revival, women are positioned not only as labor participants but as organizers and public agents.

Media plays a significant role in this transformation by producing symbolic capital and legitimizing women-led rural entrepreneurship (Agarwal, 2010). Thus, even in the absence of full economic circularity, communicative circularity contributes to empowerment and institutional recognition.

The analysis supports the conceptual model proposed in the theoretical framework:

Production ↔ Knowledge ↔ Media

In the nineteenth century, this triad formed an integrated and financially circular system.

In the contemporary case, the triad exists, but connections are uneven:

- Production and knowledge exchange are present but partially externalized.
- Media amplifies and legitimizes but is not economically embedded.

Therefore, the modern challenge is not merely reviving sericulture, but reconstructing the institutional linkages that allow production to sustain knowledge and communication infrastructures over time.

Conclusion

This study examined sericulture in Georgia through a comparative analysis of two historical moments: the nineteenth-century cooperative model led by Nestor Tsereteli and the contemporary women-led revival initiative in Akhmeta. By applying circular economy

theory, development communication frameworks, and media sustainability perspectives, the research explored how production, knowledge, and communication function as interconnected elements of rural development systems.

The historical case demonstrates a structurally integrated and financially circular model. Agricultural production generated income, income sustained educational institutions and communication mechanisms, and knowledge reinvestment enhanced production quality. This closed-loop structure minimized dependency on external actors and strengthened long-term resilience.

In contrast, the contemporary Akhmeta case reveals both continuity and fragmentation. Collective organization, knowledge exchange, and media mediation remain central components. However, financial reintegration into educational and communication infrastructures is limited. Media functions as a powerful amplifier—generating visibility, symbolic capital, and institutional recognition—but it is not yet economically embedded within the production cycle.

The comparative findings suggest that the sustainability of rural agricultural revival depends not only on production capacity but on structural integration. Circularity must extend beyond material output to include reinvestment in knowledge systems and communication platforms. Without such reintegration, rural initiatives risk remaining dependent on external funding and episodic institutional support.

At the same time, the contemporary case introduces a significant transformation: the visibility of women as rural economic leaders. Media plays a critical role in this shift by converting local initiative into public legitimacy and symbolic empowerment. Even in the absence of full financial circularity, communicative circulation strengthens social recognition and adaptive capacity.

The study contributes to scholarship on circular economy and development communication by demonstrating that media can function as rural development infrastructure. However, this infrastructural role requires economic embedding within the production system to achieve long-term sustainability.

Ultimately, the reconstruction of a resilient sericulture model in modern Georgia requires reconnecting the triadic system of production, knowledge, and media. The historical precedent suggests that such integration is possible. The contemporary challenge lies in transforming mediated visibility into structurally sustainable circularity.

References

1. Agarwal, B. (2010). *Gender and green governance: The political economy of women's presence within and beyond community forestry*. Oxford University Press.
2. Birchall, J. (1997). *The international cooperative movement*. Manchester University Press.
3. Couldry, N., & Hepp, A. (2017). *The mediated construction of reality*. Polity Press.
4. Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). The circular economy – A new sustainability paradigm? *Journal of Cleaner Production*, 143, 757–768. <https://doi.org/10.1016/j.jclepro.2016.12.048>
5. Servaes, J. (2008). *Communication for development and social change*. Sage Publications.
6. Kuprashvili, N., & Chalaganidze, N. (2018). *Constructive agricultural journalism* [Original work published in Georgian as *Konstruqciuli agrozhurnalistika*]. Universali.