

Preserving Local Economies through Sustainable Innovation: The Role of TLBMC in Developing Creative Kampongs

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Abstract

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Creative kampongs play a crucial role in preserving cultural heritage while simultaneously fostering local economic growth; however, they encounter significant challenges in attaining sustainability across economic, environmental, and social dimensions. Addressing these challenges necessitates adopting innovative approaches harmoniously integrating these objectives into cohesive development strategies. This study employs the Triple Layer Business Model Canvas (TLBMC) to establish a structured framework for promoting sustainable innovation in creative kampongs, facilitating a balance between cultural preservation, economic resilience, and environmental sustainability. This study aims to investigate the potential of the Triple Layered Business Model Canvas (TLBMC) in facilitating the sustainable development of creative kampongs by enhancing economic, social, and environmental resilience. The research employs a qualitative case study methodology, concentrating on three batik-producing kampongs in Surakarta: Kampong Laweyan, Kampong Kauman, and Kampong Sondakan. Data was collected through semi-structured interviews, focus group discussions, and document analysis. The TLBMC framework analyzed economic, environmental, and social sustainability initiatives. Findings indicate that each kampong exhibits varying levels of sustainability-oriented innovation. Kampong Sondakan and Laweyan have significantly improved economic and ecological sustainability through waste reduction initiatives and eco-friendly production methods. Kampong Kauman demonstrates progress in preserving cultural heritage while concurrently integrating practices related to the circular economy. The TLBMC framework effectively illustrates the interconnected nature of sustainable development initiatives within these creative kampongs, revealing enhanced stakeholder engagement and community empowerment opportunities.



1. Introduction

Creative kampong has emerged as an innovative solution for enhancing economic and social welfare in the context of rapid changes in urban economic and demographic structures (Bustamante Duarte et al., 2024; Yuliasuti & Sukmawati, 2020). As a form of community-based regional development, creative kampong not only bolsters the local economy through creativity and distinctive cultural practices but also plays a significant role in preserving cultural identity and fostering social interaction (Sarjiyanto et al., 2023; Yuliasuti & Sukmawati, 2020). In Indonesia, creative kampongs have proliferated across various regions, each exhibiting unique characteristics, such as Kampung Batik in Surakarta, renowned for its traditional batik industry, which supports culture-based tourism. Moreover, the capacity of batik SMEs to absorb new ideas and practices is essential for promoting economic and environmental sustainability. For instance, research on Malaysian batik SMEs found that having a strategic focus on innovation and environmental issues significantly affects their sustainability outcomes (Nawi et al., 2020). There is still a research gap focusing on the innovation and sustainable development roles of SMEs in the context of the kampong and Indonesia. It points towards the importance of a comprehensive framework for community-driven innovation for sustainable development.

Sustainability-oriented innovation (SOI) holds particular significance for batik creative kampongs. Studies indicate that a commitment to the environment is crucial for implementing circular economy practices within the batik industry (Hatammimi, J., Gunawan, 2024; Widhiastuti & Muafi, 2022). Additionally, education and community involvement are key drivers of innovation. A model aimed at fostering sustainable competitive advantage in batik SMEs stresses the importance of nurturing a culture of innovation within these organizations (Indriyaningrum & Fachrunnisa, 2021). The integration of technology in batik production is also vital for sustaining innovation, with technological advances like Batik helping artisans expand their creative capabilities and develop new designs (Ciptandi & Arumsari, 2024). On the flip side, kampongs often face challenges such as urbanization, environmental degradation, and social fragmentation, which require innovative solutions for revitalization. There is a gap in the literature in the form of a lack of studies that develop a holistic framework for the creative kampongs with attention to the innovation and sustainability nexus.

In this regard, local wisdom is an essential but underused context of the sustainability of the kampong region's innovation. It includes the legacy of knowledge and values that dictate the spatial movement, environmental stewardship, and socio-ecosystem balance of the community. It has been shown that including such knowledge in innovation frameworks helps achieve better sustainability results. For example, Chu, Anguelovski, and Carmin (2020) describe the role of ecological wisdom in developing cohesive and adaptive urban ecosystems. Also, Taryana (2024) shows the application of the TLBM in a creative community enterprise in Bogor and argues that the model subtly integrates the local cultural context. Although local wisdom is perceived as intangible, these case studies demonstrate that local wisdom can be harnessed through

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sophisticated frameworks such as SOI and TLBMC for a constructive, design-driven, and community-based development.

This study aims to apply the Triple Layered Business Model Canvas (TLBMC) to establish a structured approach that integrates economic, environmental, and social objectives, thereby promoting sustainable development in kampongs. The TLBMC framework has been effectively utilized in various settings, showcasing its ability to encourage sustainable business practices and community involvement (Abbasnia et al., 2023; Fadila et al., 2024). Furthermore, incorporating creative industries into kampong development can enhance cultural heritage and attract tourism, which are crucial for economic sustainability. Reviving traditional arts and crafts plays a significant role in shaping the identity and charm of kampongs (Megiyono et al., 2024). Thus, this study contributes to the TLBMC literature by examining the application of the TLBMC in the context of creative kampongs and seeks to integrate innovation and sustainability systematically.

Developing creative kampongs through the TLBMC framework offers an innovative approach to enhancing community engagement and promoting sustainability in urban environments. This research will examine how the TLBMC can help revitalize traditional Indonesian neighborhoods, known for their unique cultural and social dynamics. The innovative aspect of this study lies in its focus on the TLBMC framework, which addresses economic viability and incorporates environmental and social factors, encouraging a holistic approach to community development. This research will explore how creative initiatives can be systematically integrated into the TLBMC framework, ensuring that cultural values are preserved while promoting local economic growth. This study aims to provide a comprehensive framework for kampong revitalization based on the TLBMC approach by filling a gap in the existing literature. Ultimately, it seeks to enhance the quality of life for residents while protecting their rich cultural heritage by examining the interplay between economic, environmental, and social elements.

2. Conceptual Framework

Sustainable innovation is increasingly recognized as vital for achieving environmental sustainability and enhancing local economies. Alshammari and Alshammari (2023), emphasized that green innovation creates an environment conducive to fostering sustainability. This aligns with the TLBMC framework, which integrates economic, environmental, and social dimensions into a cohesive business model, promoting a comprehensive approach to sustainability. Hurriyati *et al.* (2023) illustrates how the environmental layer of the TLBMC can guide organizations in addressing environmental challenges while advancing sustainable practices. This is particularly relevant for creative kampong, where local resources and cultural traditions can be harnessed to promote sustainability.

The TLBMC functions as a strategic tool for mapping sustainable business models that can invigorate local economies. The TLBMC can facilitate a circular economy by emphasizing sustainable resource reuse (Joyce & Paquin, 2016). This approach is particularly advantageous for creative kampongs, where local artisans and businesses can adopt circular practices to reduce waste and maximize resource efficiency. When anchored in local wisdom and traditional ecological and social knowledge, circularity allows for more culturally relevant and sustainable practices. Pineda and others (2023)

noted that integrating local cultural elements into the initiatives of the creative economy strengthens environmental sustainability and improves the community's welfare. Embedding local wisdom in innovation management and incorporating TLBMC allows innovation that helps the community to address socioeconomic, ecological, and social goals together.

Joyce and Paquin (2016) noted that TLBMCs can facilitate communication and collaboration among stakeholders, essential for implementing sustainable initiatives in local contexts. The role of technological innovation in achieving sustainability is also significant. Xiao and Su (2022) emphasized that organizational innovation mediates the relationship between technological innovation and sustainability, suggesting that innovative practices can improve social and environmental outcomes. Additionally, innovations incorporating the local wisdom of indigenous ecological practices and participatory governance tend to be more culturally resonant and have higher levels of community engagement. Bi, Yuan and Ni (2025) show that systems for safeguarding indigenous knowledge contribute positively to environmental outcomes and social trust. Therefore, innovation driven by TLBMC combined with local wisdom is much more effective in achieving sustainability and preserving culture.

The literature indicates that TLBMCs (Triple Layer Business Model Canvases) are a practical framework for integrating local wisdom, sustainability, and innovation in developing creative kampongs. By adopting sustainable innovation practices and utilizing TLBMCs, local communities can enhance their economic resilience, preserve local cultural heritage, and promote environmental sustainability. Moreover, the interaction among leadership, organizational support, and technological innovation further amplifies the potential of TLBMCs in fostering sustainable practices within creative kampongs.

3. Methodology

This research employs a qualitative approach utilizing case study methodology as delineated by (Yin, 2003). The study focuses on three case study areas identified as creative kampongs in Surakarta, each characterized by its engagement in the batik creative sector. Batik represents a significant component of the creative economy in Surakarta, classified within the crafts sub-sector. The selected creative kampongs for this study are Laweyan Kampong, Sondakan Kampong, and Kauman Kampong, as illustrated in *Figure 1*.

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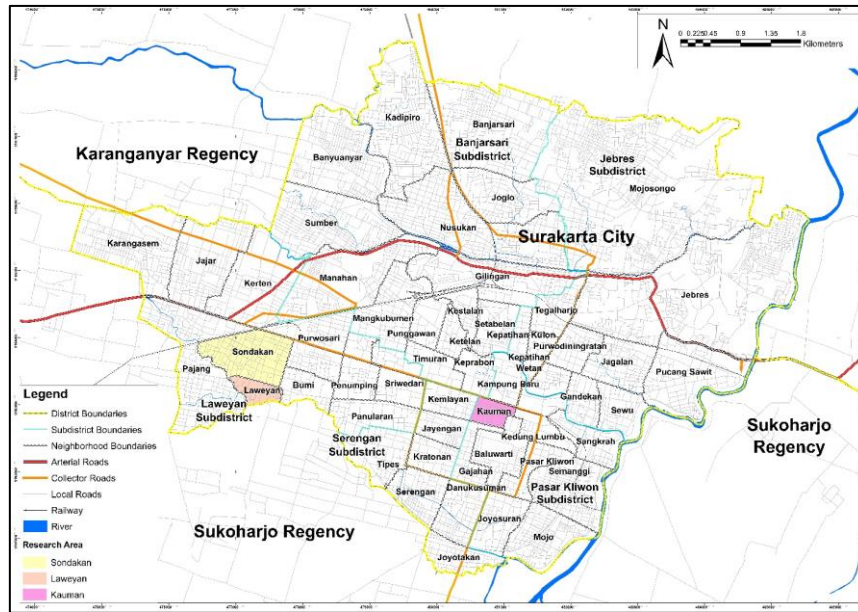


Figure 1. Location of Three Case Studies, 2024

Data and information were collected in three case study locations through semi-structured interviews and documentary reviews. The semi-structured interviews and focus group discussions involved key stakeholders, including representatives from local governments, community leaders from the three creative kampong study areas, kampong governments in these creative kampongs, as well as members of the Laweyan Tourism Awareness Groups (Pokdarwis) and Sondakan Pokdarwis. The primary objective of the semi-structured interviews was to explore the potential and challenges associated with implementing sustainability-oriented innovation within each creative kampong. The documentary review aimed to identify programs and policies related to developing creative kampongs, thereby supporting these kampongs in achieving sustainability. The government documents reviewed included the Medium-Term Development Plan (RPJMD) of Surakarta City, Surakarta City Spatial Plan (RTRW), Strategic Planning of Government Units, Surakarta City Creative Economy Development Action Plan 2016-2021, the Environmental Government Unit Wastewater Management Master Plan, and the Creative Kampong Activity Report.

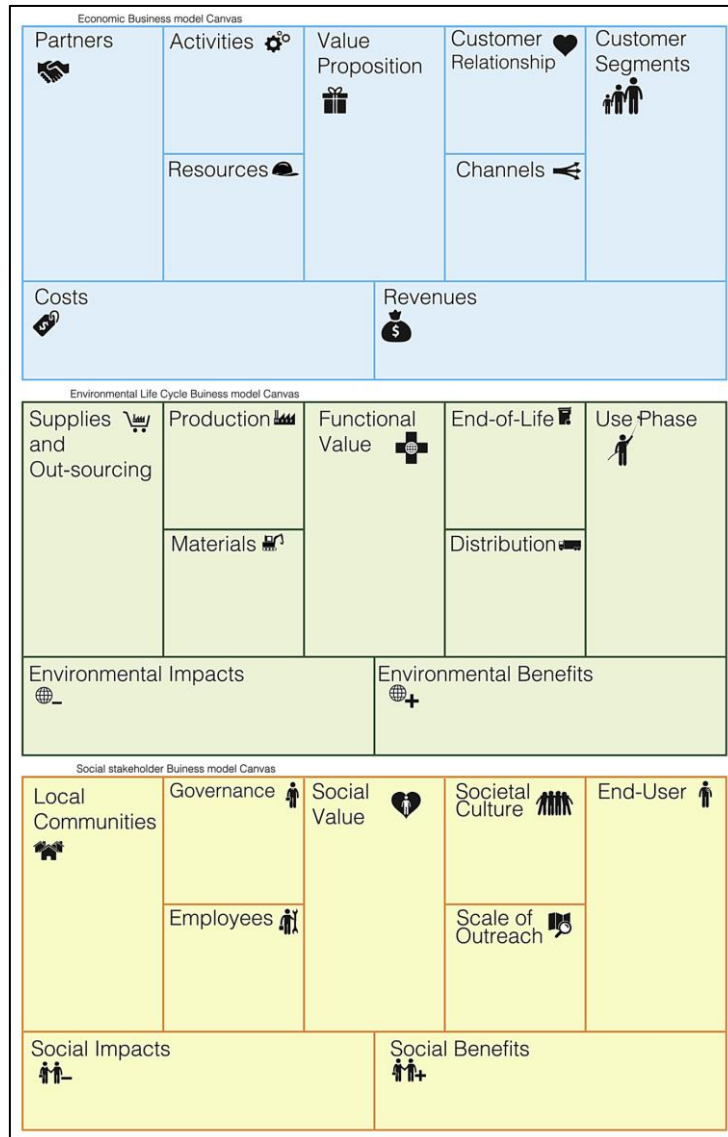


Figure 2. TLMBC Framework (Joyce & Paquin, 2016)

This study aims to develop a conceptual framework for creative kampong development, grounded in the Triple Layer Business Canvas Model (TLBMC). This framework will examine the implementation of various sustainability-oriented innovations undertaken by each kampong, focusing on the dimensions of innovation types, life cycle stages, and target dimensions. The analysis is structured into two stages: 1) identifying the efforts made by each kampong to implement diverse sustainability-oriented innovations across the specified dimensions; and 2) evaluating and analyzing the sustainable development of creative kampongs by applying the TLBMC conceptual framework.

The Triple Layered Business Model Canvas (TLBMC) is an analytical framework to facilitate sustainability-oriented business model innovation. This model expands upon the original Business Model Canvas developed by Osterwalder and Pigneur by incorporating two additional layers, environmental and social, alongside the economic layer. Each layer enables organizations to assess and visualize the value they generate from economic, environmental, and social dimensions, offering a comprehensive "triple

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bottom line" perspective encompassing economic, environmental, and social impacts (Joyce & Paquin, 2016). The three layers are illustrated in *Figure 2*.

4. Results And Discussion

This case study is examined in two stages. First, the implementation efforts of various Sustainability-Oriented Innovations undertaken by each kampong are identified, focusing on the dimensions of innovation types, life cycle stages, and target dimensions. Second, an evaluation and analysis of the development of sustainable creative kampongs is conducted utilizing the TLBMC analysis framework.

The Three Creative Industries in Kampong and their Implementation of Sustainability of Innovation

Our study examined three innovative kampongs and found that sustainability efforts were organically displayed even in small-scale or temporary activities. The following are descriptions of each kampong's overview and sustainability efforts.

Kampong Kauman

The growth of Kampong Kauman began when the King of the Surakarta Palace, Paku Buwono III, constructed the Palace's Great Mosque between 1763 and 1788. The palace's demand for batik goods contributed to the emergence of Kampong Kauman as a hub for batik producers. The demand for batik in Kampong Kauman began to wane in the 1970s and 1980s. The development of batik in this kampong was initiated in 1876 by Haji Misbach, a descendant of a line of batik merchants and leader of the Sarekat Islam. With the potential for cultural heritage of old structures and batik culture, the Surakarta City administration began redeveloping the glory of Kampong Kauman in 2006 by designating it as the Kampong Wisata Batik Kauman. Following the foundation of Kampong Kauman as a tourist kampong, the Surakarta Kampong Wisata Batik Kauman Association was formed. In addition, the Surakarta City Regional Medium-Term Development Plan for 2011-2031 also identifies Pasar Kliwon Sub-district (including Kampong Kauman) as a cultural tourism destination.

Kampung Batik Kauman is comprised of 50 entrepreneurs, up from 5 batik entrepreneurs when it was founded. On the west side of the Surakarta Palace, specifically in RW.3 and RW.4, the majority of batik artisans were located. The Kauman batik tradition derives its inspiration directly from Ndalem Keraton Kasunanan Surakarta Hadiningrat. This was evidenced by the batik works that were created, which resembled the batik patterns that the Keraton family frequently employs. Three batik shops still retain the traditional batik-making process: Batik Gunawan Setiawan, Batik Dakon Mas, and Batik Sekar Tadjji. On the other hand, a number of business owners have employed the stamping method, employing reusable copper stamping tools in their production process. This method provides for a more productive production procedure than hand-drawn batik.

Kampong Kauman has implemented various innovations related to sustainability. Existing batik businesses are beginning to employ ecologically friendly materials, such as the use of local plantations to support the coloring material, the minimum use of plastic for handicraft and packing, and the deployment of paperless documentation for some members. Additionally, the range of batik styles widens the target market from the middle to the higher class. In addition, this stamped batik also recycles discarded wax, known as "nglorot." Additionally, the processing of batik waste in Kampung Kauman

has made use of the Communal Wastewater Treatment and the reuse of batik cleaning water for plants. Some of the evidences provide Kauman's commitment to sustainability and the circular economy idea, which is the reuse and recycling of the product and production process.

Kampong Laweyan

Since 1546, when Ki Ageng Henis first started residing in this region, the kampong of Desa Lawe (now known as Laweyan) has been well-known as a manufacturer of batik. The development of Laweyan was supported by the royal government (Keraton) by completing the liaison infrastructure between the palace and Kampong Laweyan. In 1912, the first association of entrepreneurs in Indonesia was formed, the Sarekat Dagang Islam (SDI), which was initiated by Haji Samanhudi. In 1935, the Persatoean Peroesahaan Batik Boemipoetra Soerakarta cooperative (PPBBS) was established.

The determination of Laweyan as a Kampong batik by the Surakarta City Government, as well as the establishment of the Kampong Batik Laweyan Development Forum (FPKBL), was carried out in 2004. In 2010, Kampong Batik Laweyan was designated as a cultural heritage area protected by the Ministry of Culture and Tourism. Since then, various programs related to the development of Kampong Laweyan, both physical and non-physical, have continued. The programs were not only for the preservation of cultural heritage but also related to the development of batik SMEs. Apart from coming from the central government or local governments, these programs were also initiated by academics, the private sector, and FPKBL.

Kampong Sondakan

Along with Kampong Laweyan, Kampong Sondakan started to emerge in the early 1900s. In the 1970s, Sondakan Kampong, through its Canting Kakung community, founded by Pak Kusairi (Batik Creator Danar Hadi), produced a community of contemporary batik artists employing stamps, cantings, and brushes in various styles. In 2012, Pokdarwis (Tourism Awareness Group) Sondakan reopened the Samanhudi museum, which the mayor of Surakarta had inaugurated in 2008. In 2013, Kampong Sondakan was granted the top 10 national tourism Kampong and got funding from the Ministry of Tourism and Creative Economy's National Community Empowerment Program (PNPM) tourism.

The Kampong Sondakan Tourism Development Forum (FPKW) was established the same year to develop Sondakan as a tourist Kampong. Since then, Kampong Sondakan has held the Napak Budaya Samanhoedi (NBS) carnival to honor the Islamic Trade Union's founder and legendary hero. In addition, the Surakarta City Government initiated the implementation of numerous programs for the development of Kampong Sondakan. These initiatives involve providing funding to MSMEs, training in management and marketing, and integrating tourist Kampong with ASITA (Association of Indonesian Tour Operators) and PHRI (Indonesian Hotel and Restaurant Association). In addition to producing batik, Kampong Sondakan boasts culinary potential, keroncong art, wayang art, museums, and knitted bags, caps, and other handicrafts. The marketing of batik has begun to utilize online media for promotion and networking. The majority of batik entrepreneurs in Kampong Sondakan use a pre-order method in which they sell samples of various themes to clients or popular batik stores, and then create fresh batik on demand.

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In accordance with consumer demand, the batik production process in Kampung Sondakan predominantly employs stamping. However, some still employ the canting method or a combination (stamp and canting). The copper-made stamping tool can be used again. The entire industry continues to utilize synthetic colours. However, a common WWTP already manages the waste of the entire batik sector, allowing waste water to be carefully organized without endangering the surrounding ecosystem. Attempts have been made to employ natural dyes, but because the coloring process takes longer, it is currently not practicable. Wax waste can be reduced by freezing it again after the "nglorot" process and reusing it. All of these processes were circulated through local contacts and had an effect on the efficiency and efficacy of the businesses, which is consistent with the circular economy and sustainability principles.

According to the three kampong overview, in terms of promoting sustainability, Kampong Kauman trailed behind while Kampong Laweyan and Sondakan advanced. Yet, their sustainability initiatives are encouraging. Sondakan's proximity to Kampong Laweyan has resulted in a community with comparable sustainability initiatives. Despite the fact that the neighborhood is building its own characteristics and relying on its own resources, numerous batik businesses in the neighborhood have developed close ties and networks with those in Laweyan. This engagement expands the potential for sharing knowledge in any sustainability efforts.

Developing Sustainable Creative Kampong through TLBMC Framework

Based on the description of the activities and efforts undertaken by each village, an analysis was subsequently conducted utilizing the TLBMC framework. Through TLBMC, we Assess and visualize the value generated from economic, environmental, and social dimensions, thereby providing a comprehensive "triple bottom line" perspective that encompasses the economic, environmental, and social impacts. The TLBMC framework for Surakarta Creative Kampong is presented in Table 1.

Table I. The TLBMC Framework of Surakarta Creative Kampongs

Economic Business model Canvas

Partners	Activities	Value Proposition	Customer Relationship	Customer Segment
Keraton Kasunanan Surakarta Hadiningrat Ministry Culture and Tourism Local Government Academics Private Sector Association of Indonesian Tour Operators Indonesian Hotel and Restaurant Association	Batik production Tourism management Online market development Resources Cultural Resources Natural Resources Human Resources Tourism Infrastructure	Batik products with strong cultural heritage Eco-friendly materials Creative and High-Quality Products	Tourist Kampong Pre-Order and Custom Orders Digital Marketing Channels Kampong Showrooms and Shops Social Media and Online Platforms Tourism Events and Cultural Exhibitions	Local and International Tourists Middle- and Upper-Class Batik Enthusiasts Local Community and Batik Collectors
Costs		Revenues		

Batik Production Costs Tourism Management Costs Infrastructure and Technology Costs	Batik Product Sales Tourism Visit Income Sales of Other Creative Products
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Environmental Life Cycle Business model Canvas

Supplies and Out-sourcing	Production	Functional Value	End-of-Life	Use Phase
Local Natural Dyes Copper Stamping Tools	Eco-Friendly Production Methods Communal Wastewater Treatment (WWTP)	High-Quality, Durable Products Batik Cultural Heritage	Recyclable Wax Biodegradable Dyes	Minimal Washing Impact Color Fastness
	Materials Natural Plant-Based Dyes Copper and Cotton		Distribution Local and Digital Marketing Efficient Packaging	
Environmental Impacts Water Pollution Reduction Reduced Chemical Use		Environmental Benefits Waste Reduction Cultural Preservation and Eco-Tourism		

Social stakeholder Business model Canvas

Local Communities	Governance	Social Value	Societal Culture	End-User
Empowerment of Artisans and Small Businesses Community Involvement in Tourism	Collaborative Management with Government and Associations Kampong Leadership and Forums	Cultural Preservation Economic Opportunities for Locals	Heritage and Identity Community Cohesion	Tourists and Batik Enthusiasts Local and National Customers
	Employees Skilled Artisans Youth Employment		Scale of Outreach National and International Visibility Local Community Engagement	
Social Impacts Increased Community Income Strengthened Local Identity		Social Benefits Job Creation and Economic Growth Cultural Preservation and Awareness		

Source: Analysis by Author, 2025

The economic dimension of kampong sustainability emphasizes the enhancement of local competitiveness in alignment with sustainability principles. Creative industries grounded in cultural heritage (such as batik, handicrafts, and culinary arts) offer significant opportunities for economic development. By diversifying revenue streams and integrating physical products with cultural tourism and skills-based training programs, communities can stimulate income generation while concurrently preserving their traditions. Recent studies underscore the importance of incorporating digital

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technologies to market products and access broader local, national, and global markets (Geissdoerfer et al., 2017). Cultivating a skilled workforce in the creative and cultural sectors is essential through targeted training and workshops. Workforce development through education and workshops in the cultural and creative sectors is critical for fostering long-term economic resilience. Additionally, natural resources must be managed wisely to support sustainable production, emphasizing natural raw materials for craft products and promoting organic farming practices for local culinary offerings. Balancing operational costs with sustainable income is critical, focusing on resource efficiency and waste management. This may involve reducing the use of hazardous chemicals in manufacturing and utilizing renewable energy sources for production activities.

The environmental dimension in Kampong Batik emphasizes the integration of economic and cultural development with sustainability principles. While batik production is integral to local heritage, it often involves processes that exert significant environmental impacts, including chemical waste generated from dyeing and excessive water consumption. To address these challenges, kampongs can adopt eco-friendly practices that promote sustainable production. For instance, transitioning to natural dyes derived from plant or mineral sources can reduce chemical waste and enhance the attractiveness of batik products to environmentally conscious consumers (Geissdoerfer et al., 2017).

Additionally, establishing wastewater treatment and recycling systems is crucial for ensuring efficient water usage, thereby minimizing the environmental footprint of dyeing processes and aligning with the principles of a circular economy (Kirchherr et al., 2017). Waste management is another critical aspect beyond production. Recycling fabric remnants into patchwork crafts or repurposing organic dye byproducts as fertilizers exemplifies the potential of circular economies to decrease waste. These practices lessen environmental impacts and stimulate innovation in developing sustainable product lines.

Infrastructure development that supports low-carbon mobility, such as bicycle lanes or facilities for electric vehicles, can be harmonized with eco-tourism initiatives in Kampong Batik. This integration enables visitors to engage in sustainable tourism while gaining insights into batik-making traditions, aligning with the broader objective of advancing environmental sustainability without compromising economic opportunities. Engaging in agroecological farming to supply natural dye materials and promoting the use of recycled or sustainable raw materials for batik production fortifies the kampong's sustainability framework. These practices enhance environmental integrity while enriching cultural and economic values. By implementing these strategies, Kampong Batik can ensure its cultural and economic growth is environmentally sustainable. Such initiatives mitigate ecological impacts and position the kampong as a leader in eco-friendly creative industries, promoting sustainable tourism opportunities.

At the social level, the objective is for innovative kampongs to enhance the welfare of local communities while preserving their cultural heritage. Kampongs can implement programs that engage all segments of society in various economic and cultural activities. Community empowerment initiatives, such as training in artisanal skills, digital marketing, and community-based tourism management, can create job opportunities and increase local incomes. Building a local economy rooted in culture must align with

efforts to protect existing cultural heritage, which includes art, music, and other local traditions.

Innovation is also essential for maintaining cultural relevance in broader markets. For example, integrating traditional batik techniques with contemporary designs can attract younger consumers. Innovations that blend traditional practices with modern market demands, such as contemporary batik designs, not only preserve cultural relevance but may also attract a younger demographic. It is crucial to ensure that social values, such as cooperation, mutual assistance, and a sense of community, remain central to kampong life. A key priority is to promote community participation in decision-making, ensuring that all societal levels benefit fairly from development efforts. As TLBMC frameworks highlight, preserving collective values like mutual assistance and shared cultural identity is as important as achieving economic and environmental objectives (Joyce & Paquin, 2016). This approach enriches the cultural landscape and creates an environment conducive to economic sustainability.

The three layers of the TLBMC must be interrelated and mutually supportive. For instance, initiatives aimed at promoting a culture-based creative industry can enhance economic revenues (Economic Layer), while simultaneously preserving local culture (Social Layer) and integrating environmentally sustainable practices within the production process (Environmental Layer). Employing the TLBMC as a framework, kampongs can develop business models that are economically viable and promote social and environmental sustainability in tandem. This necessitates collaboration among various stakeholders, including community members, government entities, and the private sector, to ensure that each layer contributes effectively to a sustainable, creative, and culturally rich kampong.

5. Conclusion

This study demonstrates that the Triple Layered Business Model Canvas (TLBMC) effectively promotes sustainable development in creative kampongs by integrating economic, environmental, and social dimensions. Applying the TLBMC to three batik-producing kampongs in Surakarta reveals that each kampong has developed unique innovations focused on sustainability. Kampong Laweyan and Kampong Sondakan have enhanced their environmental and economic practices by implementing waste management systems and eco-friendly production techniques. In contrast, Kampong Kauman exemplifies efforts in cultural preservation that align with circular economy principles, thereby enhancing economic viability and heritage conservation.

The findings underscore the potential of creative kampongs to stimulate local economies while preserving cultural values and promoting environmental responsibility. Furthermore, the TLBMC framework highlights the significance of cohesive collaboration among local government, community leaders, artisans, and other stakeholders. By fostering innovation through this comprehensive model, creative kampongs can thrive in an increasingly competitive and sustainability-focused landscape. This study contributes to a deeper understanding of how creative communities can develop sustainably and provides a model that other cultural heritage kampongs may adopt for long-term socio-economic and environmental resilience.

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