

Article

# Design of eco-cultural city tourism village development model through creative-based tourism towards a sustainable creative industry

Wiwik Setyaningsih<sup>1,\*</sup>, Ahmad Syawaludin<sup>2</sup>, Yosafat Winarto<sup>1</sup>, Sri Yuliani<sup>1</sup><sup>1</sup> Faculty of Engineering, Sebelas Maret University, Surakarta 57126, Indonesia<sup>2</sup> Faculty of Education, State University of Malang, Malang 65145, Indonesia\* **Corresponding author:** Wiwik Setyaningsih, [wiwik@staff.uns.ac.id](mailto:wiwik@staff.uns.ac.id)

## CITATION

Setyaningsih W, Syawaludin A, Winarto Y, Yuliani S. (2024). Design of eco-cultural city tourism village development model through creative-based tourism towards a sustainable creative industry. *Journal of Infrastructure, Policy and Development*. 8(9): 7593. <https://doi.org/10.24294/jipd.v8i9.7593>

## ARTICLE INFO

Received: 28 June 2024

Accepted: 15 July 2024

Available online: 4 September 2024

## COPYRIGHT



Copyright © 2024 by author(s).

*Journal of Infrastructure, Policy and Development* is published by EnPress Publisher, LLC. This work is licensed under the Creative Commons Attribution (CC BY) license. <https://creativecommons.org/licenses/by/4.0/>

**Abstract:** The sustainability of the creative industry through creative-based tourism in the Laweyan Tourism Village requires the support of a sustainable and inclusive development model for local communities. This research aims to present the design of a tourist village development model that applies the eco-cultural city concept as a Surakarta City Perspective through creative-based tourism towards creative industries. This research uses a qualitative approach with a descriptive exploratory method. Data collection techniques use interviews with key informants. Empirical observation using cultural mapping as identification of physical mapping of spatial layout, buildings and environment, as well as cultural landscapes for tangible and intangible cultural assets of the community in the local landscape in the Laweyan tourist village. Content analysis is applied as a research data analysis method. The research results provide an overview of the design of the creative-based tourism village development model towards a sustainable creative industry including aspects attraction, accessibility, amenities, and ancillary, and green tourism. Model design requires commitment and participation from the government and private sector in collaborating with sustainable tourist village development forums.

**Keywords:** eco-cultural city; tourism village development model; creative-based tourism; sustainable creative industry; green tourism

## 1. Introduction

The tourism and creative economy sectors continuously encourage the achievement of various Sustainable Development Goals (SDGs) in a holistic manner, encouraging inclusive economic growth, protecting the environment, and promoting social and cultural welfare. The tourism and creative economy sectors have experienced significant development in Indonesia from year to year, their role has been proven to be able to increase state and community income in various regions (Ministry of Tourism and Creative Economy, 2024). This progress must be balanced with the development of tourism and the creative economy in an integrated, sustainable manner through community and government support up to the city level with its superior tourist villages (Bhaskara et al., 2023; Blapp and Mitas, 2020; Jaelani et al., 2020).

Developing tourist villages with local wisdom is one of the priorities of the Ministry of Tourism in developing world-class Indonesian tourism (Lawei and Setyaningsih, 2023; Ministry of Tourism and Creative Economy, 2020). The spatial pattern forms a linear grid in Indish architectural style which doubles as a residence and batik industry. The environment is dominated by narrow, high streets, close together, and influenced by the toponymic power of the village name. Meanwhile, the Surakarta City Regional Spatial Planning policy for 2011–2031 stipulates the

development of the Laweyan batik tourism village in the City Service Center System as a creative home industry batik tourism village. Thus, the Laweyan tourist village has great potential to be developed as a creative tourism destination towards a sustainable creative industry.

Strategic steps to develop the Laweyan tourist village need to be taken to create a sustainable creative industry. However, until now there has been no reference for a design model for developing a tourist village that applies the eco-cultural city concept as a perspective in urban tourism development planning, placing urban heritage as the center of development that gives character to city development as a whole (Guri et al., 2021; Lu et al., 2023; Quintana, 2020). Therefore, creative-based tourism (CBT) is seen as relevant as an approach to provide a unique, authentic, Laweyan batik village tourism experience based on local creative expression (Aji et al., 2023; Yuliani and Setyaningsih, 2023). Apart from that, the CBT application for developing the Laweyan tourist village needs to be designed based on sustainable creative industry efforts.

The realization of creative industries through creative-based tourism in the Laweyan tourist village really requires the design of a tourist village development model that applies the concept of an eco-cultural city through creative-based tourism towards a sustainable creative industry. The research problem focuses on the absence of a reference design model for developing tourist villages through creative-based tourism towards a sustainable creative industry. Existing research is still limited to the development of creative based tourism (Aji et al., 2023; Mukaromah et al., 2024; Sarjiyanto et al., 2023). In fact, tourist villages have the potential for unique value and high local wisdom (physical character of the environment, social life and community culture), which can be packaged as a unique tourist attraction, highly competitive, and presented as a tourist attraction (Setyaningsih, 2016).

Development of tourist villages oriented towards creative industry aspects is needed to encourage Sustainable Development Goals (SDGs), especially SDGs (9) Industry, Innovation and Infrastructure; (8) Decent Work and Economic Growth; and (11) Sustainable Cities and Communities (del Arco et al., 2021; Wirahayu et al., 2023; Setyaningsih et al., 2015). Therefore, in designing the expected tourist village development model, the eco-cultural city concept is used as an urban development approach that combines ecological, cultural, economic and sustainability aspects (Adedeji, 2023; Zheng et al., 2023). This concept can provide a holistic view of the development of the use of local creative resources, such as art and culture, to create different and interesting tourism experiences as is called the creative-based tourism concept (Blapp and Mitas, 2020; Remoaldo et al., 2020; Wang et al. al., 2020). Creative-based tourism is integrated into tourism activities oriented towards developing creative industries by paying attention to environmental sustainability, cultural diversity and the social welfare of the community. In this way, it is hoped that a tourist village development model will be obtained with the application of the eco-cultural city concept through creative-based tourism towards a sustainable creative industry as a basis for recommending policies in developing a sustainable tourist village model.

Based on the background of this research, this research was formulated on the exploration and design of a tourist village development model by applying the eco-cultural city concept through creative-based tourism towards a sustainable creative

industry. This design is expected to contribute to the tourism sector to encourage leading tourist villages towards creative tourism and a sustainable creative industry.

## **2. Literature review**

### **2.1. Eco-cultural city**

Eco-cultural city is a concept that integrates ecological principles and cultural preservation in city planning and development. The eco-cultural city concept as a perspective in planning urban tourism development, places urban heritage as the center of development that gives character to the development of the city as a whole (Guri et al., 2021; Lu et al., 2023; Quintana, 2020). Eco-cultural cities offer a comprehensive approach by combining environmental and cultural elements so that cities can create attractive and sustainable tourist destinations (Guri et al., 2021; Liu and Shu, 2020; Tien et al., 2021). Eco-cultural city is a city that promotes a balance between environmental sustainability, cultural heritage preservation, and economic development through tourism. A concept like this aims to create attractive tourist destinations while maintaining a balance between human and natural needs (Alisa and Ridho, 2020; Mateoc-Sirb et al., 2022).

The architectural approach with eco culture city is designing development in a city that maintains local culture and traditions by paying attention to the ecology of the surrounding environment to support a sustainable economy. The eco-cultural city concept is a perspective for the City of Surakarta for the integration of various development sectors in order to maintain a balance between cultural development and human activities and environmental conservation (Rahmadi et al., 2021; Sulistiowati et al., 2023). Culture and local wisdom based on community environmental ecology are expected to grow the tourism sector and ensure sustainable economic growth. City development that combines cultural nuances with environmentally friendly cities is expected to increase the welfare of its people in a sustainable manner (Huang and Cao, 2022). Case studies from various cities in the world show that the appropriate implementation of eco-cultural cities can bring significant economic, social and environmental benefits thereby contributing to sustainable development goals (Guri et al., 2021; Lazar and Chithra, 2022; Quintana, 2020).

### **2.2. Village tourism**

Tourist villages are an interesting issue in the context of tourism, especially in countries that have abundant cultural and natural wealth such as Indonesia. A tourist village is a form of tourist destination that is based on a local community and offers an authentic experience to tourists through direct interaction with the culture, traditions and daily life of the local community (Ap et al., 2020; Arintoko et al., 2020; Lubis et al., 2020). Tourist villages are developed to produce tourism services while maintaining the original characteristics of the village in order to empower local communities and create economic benefits for the community (Purnomo et al., 2020; Yusuf et al., 2023). Tourist villages not only aim to attract tourists, but also to improve the economic welfare of the local community (Curcic et al., 2021; Wijijayanti et al., 2020). The strategies implemented, such as infrastructure development, tourism

management training and effective marketing, can have a positive impact on the local economy. Laweyan Batik Village in Surakarta is an attractive tourist village destination thanks to its rich cultural heritage. As the oldest batik village in Indonesia, Laweyan has an attraction for its Indisch (Javanese-European) architectural style, high fences, floors with typical Middle Eastern carpet patterns (Forum of Laweyan Batik Kampoeng Development, 2024). Apart from that, the Laweyan Batik tourist village offers tourists a memorable experience regarding the stunning process of making traditional batik using traditional techniques that have been passed down from generation to generation. With this, Batik Laweyan village as a tourist village is actively promoting community involvement in managing local tourism potential so as to create sustainable tourism.

### **2.3. Creative-based tourism**

Creative-based tourism can be interpreted as an approach that emphasizes cultural and creative experiences for tourists (Carvalho, 2020; Palencikova and Csapo, 2021). In contrast to ordinary tourism which only involves passive observation of tourist objects or natural scenery, creative-based tourism involves tourists interacting in local arts activities, making handicrafts, playing music and other cultural expressions (Hani et al., 2012; Palencikova and Csapo, 2021). Creative-based tourism encourages meaningful interactions between tourists and local residents (Rahmany and Djajadiningrat, 2014; Remoaldo et al., 2022). This creates an immersive experience for tourists while empowering local communities thereby impacting economic capacity and well-being. Creative-based tourism in this research is an approach to providing a unique, authentic, Laweyan batik village tourism experience based on local creative expression. This activity is in accordance with the core of creative-based tourism which offers an authentic and immersive experience for tourists to learn the traditional craft of batik from batik craftsmen (Setyawan, 2013). Implementing the concept of creative-based tourism can be an effort by Kampung Batik Laweyan towards a sustainable creative industry.

### **2.4. Sustainable creative industry**

Sustainable creative industry refers to the results of added value from creativity in the production and distribution of goods and services so that it has an impact on improving the economy. The creative industry does not only focus on creating quality products or services, but also on efforts to encourage sustainable positive social, economic and environmental impacts (Kunda et al., 2021; Skavronska, 2017). Some examples of creative industries include arts and crafts, design, music, culinary, and others (Aldianto et al., 2020; Arcos-Pumarola et al., 2023; Wohl, 2022). Kampung Batik Laweyan applies the concept of sustainable tourism integrating local economic development efforts, cultural education and environmental preservation.

Environmental preservation efforts in Laweyan Batik Village include the use of environmentally friendly materials in the batik production process as well as the application of environmentally friendly practices to the waste produced (Yuliani and Setyaningsih, 2023). In addition, cultural education activities such as batik making and the Laweyan Batik Village cultural tour have become an integral part of the tourism

experience offered (Ermawati, 2023; Nuriyanto, 2022). Not only does the local community increase understanding and awareness of their own cultural values, but the Batik Laweyan village opens up new economic opportunities through the tourism industry. In addition, the policy support of the Surakarta City Government through the Surakarta City Regional Spatial Planning Plan for 2011–2031 encourages the development of the Laweyan batik tourist village as a tourism village and creative home industry (Lohr et al., 2021). Thus, the Laweyan tourist village has great potential to be developed as a creative tourism destination towards a sustainable creative industry.

### **3. Materials and methods**

This research uses a qualitative approach with an exploratory method aimed at identifying problems with potential local wisdom in spatial planning, buildings and the environment based on empirical data and theoretical studies and then preparing a design based on the formulation of a tourist village development model. The research was located in Laweyan Batik Village, Laweyan District, Surakarta City, Indonesia. Laweyan Batik Village is the oldest batik village in Indonesia with the building styles in Laweyan being heavily influenced by European and Islamic architectural styles, so that many Indisch (Javanese-European) architectural style buildings have emerged with simple facades oriented inward, flexible, with high fences, complete with floors. which has a typical Middle Eastern carpet pattern, making it a special attraction for tourists. The historical characteristics and patents of more than 250 Laweyan batik motifs have the potential to become a focus for the development of creative-based tourism towards a Sustainable Creative Industry.

This research data is in the form of primary data consisting of empirical observation data, empirical observation with cultural mapping as identification of physical mapping of spatial layout, buildings and environments, as well as cultural landscapes for tangible and intangible, tangible and intangible cultural assets in the local landscape of the Laweyan tourist village. Apart from that, the research data is in the form of field notes resulting from interviews with key informants selected purposively. The selection of key informants was based on mastery of understanding about the Batik Laweyan Tourism Village, involvement as a community figure managing the Batik Laweyan tourist village, contribution to the progress of managing the Batik Laweyan tourist village and proven by a certificate.

Based on these criteria, the subject of this research was chosen, namely the key research informant who was the chairman of the Forum of Laweyan Batik Kampoeng Development. Apart from the criteria of understanding and ability to explain the information required by researchers, the chairman of the Forum of Laweyan Batik Kampoeng Development has been based on a letter of appointment and assignment from the management of the Batik Laweyan tourist village through the Surakarta City Regional Government Agency Number: 050/I250.

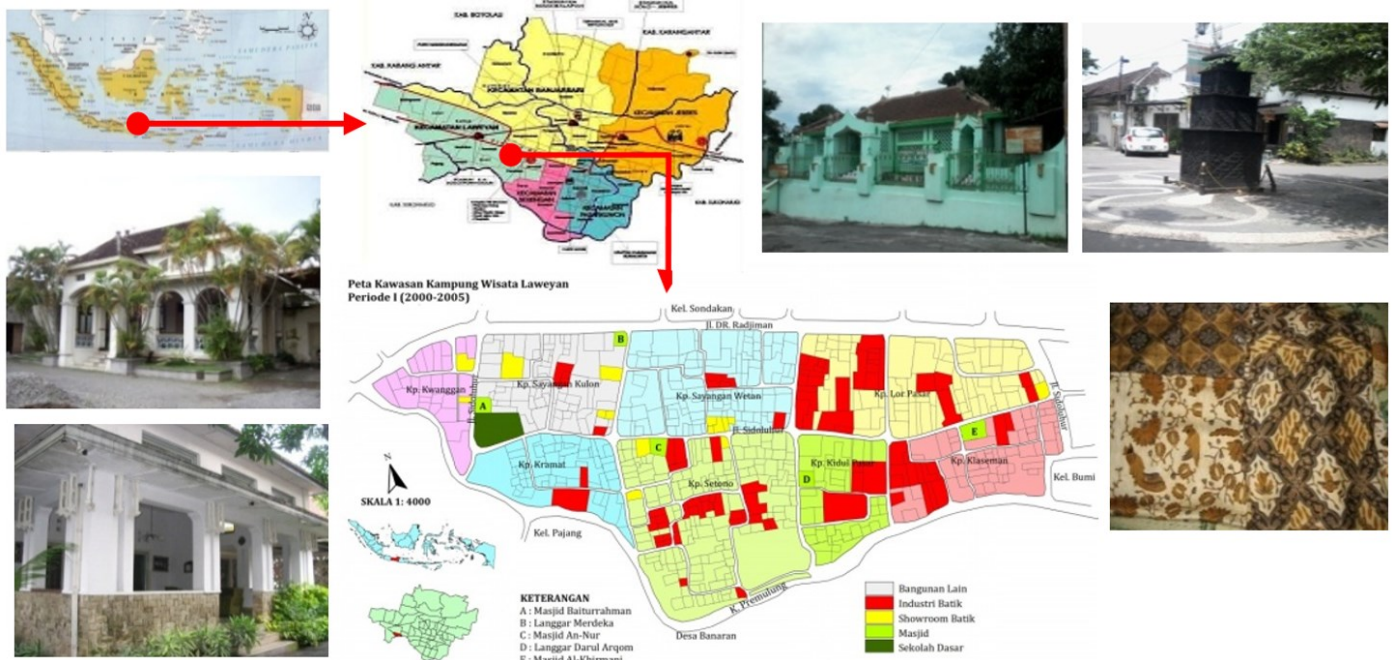
The cultural mapping process in Kampung Batik Laweyan involves important steps to identify, map and analyze cultural assets. Identify the cultural assets owned by Laweyan Batik Village not only in traditional batik heritage, but also the village's distinctive architecture, handicraft practices, and batik knowledge and skills from

generation to generation. After that, mapping was carried out with a physical inventory and documentation including the locations of batik craftsmen, art galleries, batik tourist studios that have cultural value. The analysis is to understand the value, condition and challenges faced by each cultural asset through an assessment of its historical and cultural significance and potential for the sustainability of the management of Kampung Batik Laweyan to become a sustainable creative industry. The data obtained becomes a review in developing optimal potential so that a model for developing environmentally friendly urban tourism villages through culture-based tourism towards a sustainable creative industry is more precisely designed.

The data obtained was then studied and supported by a theoretical perspective from the literature to formulate a model design for developing an eco-cultural city tourist village through creative-based tourism towards a sustainable creative industry. The development model design refers to the formulation of the main aspects of tourism sector development which have been adapted by researchers, consisting of eco-cultural city, attraction, accessibility, amenities, ancillary, and green tourism. Data analysis for this research was carried out using content analysis consisting of the stages of unitizing, sampling, recording or coding, reducing, inferring and narrating (Krippendorff, 2004).

#### 4. Results

The results obtained through empirical observation with cultural mapping in Laweyan Batik Village produced a profile of the research object. Laweyan tourist village, located in Laweyan Village, Laweyan District, Surakarta City. Laweyan tourist village with an area of 24.83 ha, consisting of dry land, in the form of yards/buildings covering an area of 20.56 ha, and rivers, roads, open land and cemeteries covering an area of 4.27 ha. Laweyan batik tourism village is visualized in **Figure 1**.



**Figure 1.** Profile of Laweyan batik tourism village.

As in **Figure 1**, it is known that the use of land and space in the Laweyan tourist village is directed at residential and commercial facilities. According to the relocation and refunctionalization plan for special city elements, the Laweyan tourist village functions as a batik home industry area which provides an industrial wastewater drainage system. As for the architecture of Laweyan houses as a specific area, the style of the buildings is heavily influenced by European and Islamic architectural styles, so that many Indisch (Javanese-European) architectural style buildings have emerged with simple inward-oriented, flexible facades, with high fences.

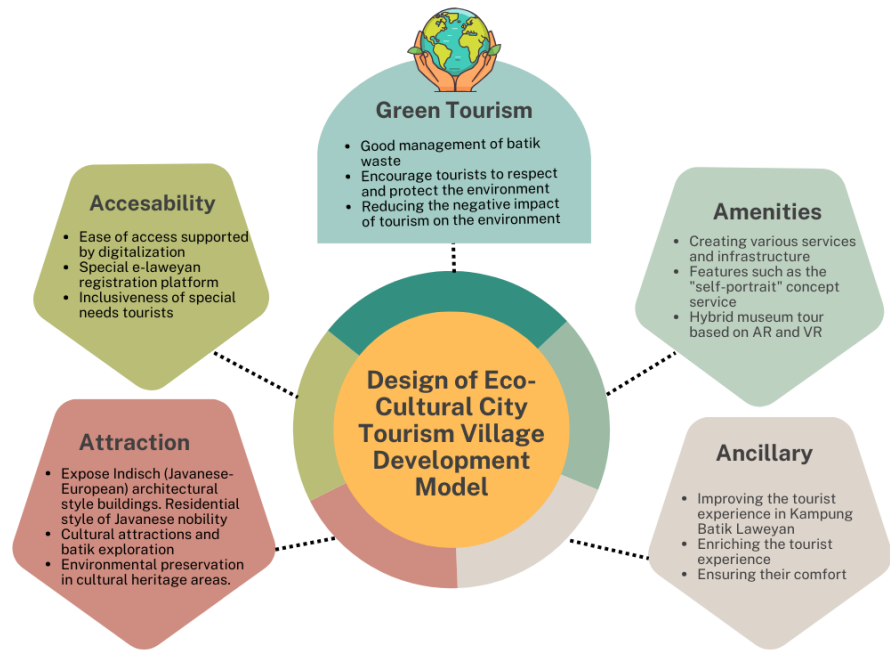
Meanwhile, field notes from the interview with Mr. A, a figure from the Laweyan Kampong Batik Development Forum, stated that the Laweyan people were not of noble descent, but because they had a close relationship with the palace through the batik trade and were supported by existing wealth, the residential style, especially that of the batik merchants, was heavily influenced by the residential style of the Javanese aristocrats. Merchant house buildings generally consist of a pavilion, ndalem, sentong, gandok, pavilion, factory, beteng, regol, a fairly large front yard with the building orientation facing north-south, and the roof of the building mostly uses a pyramid roof (Forum of Laweyan Batik Kampong Development, 2024).

Laweyan Batik Village experienced quite a significant architectural transformation during 2000–2015 due to changes in the community's commercial activities by opening batik showrooms in their homes. Changes in community commercial activities have an impact on the mixing of residential and commercial activities, giving rise to an architectural transformation process of physical changes to buildings and the environment with a change in function from residential buildings to commercial batik show rooms. Changes followed in the facade and building materials as the aesthetics of the commercial showroom building with glass, rolling doors and iron doors as a strengthening and security factor for the garage. The above creates a more dynamic physical diversity, but tends to still be visible in its locality so that it can attract tourist interest and also has the potential to achieve a sustainable creative industry.

Therefore, the empirical study requires follow-up through the preparation of a design formulation for the development model of Batik Laweyan Village towards a sustainable industry through creative-based tourism based on the principles of the eco-cultural city of Surakarta. Adhering to the principle "Solo Future is Solo Past" means that Surakarta City Development refers to the rich culture of Surakarta City in the past. This is reflected in the concept of eco-cultural city as an urban planning strategy adopted in the tourism sector in an effort to integrate and synergize between development sectors in the context of maintaining a balance between cultural development and human (economic) activities with the conservation of ecological systems. The design concept of the development model designed by the researcher is presented in **Figure 2**.

The design concept for the Batik Laweyan Village development model towards a sustainable industry through creative-based tourism based on the principles of the eco-cultural city of Surakarta was formulated based on the main aspects of tourism sector development consisting of attraction, accessibility, amenities, ancillary and green tourism. Further description of the model design that has been developed in this research is presented in **Table 1**.





**Figure 2.** Concept of development model design.

Source: Authors.

**Table 1.** Design of eco-cultural city tourism village development model through creative-based tourism towards a sustainable creative industry.

Aspect	Eco-Cultural City Concept	Creative-based Tourism	Eco-Cultural City Tourism Village Development Model
Attraction		Tourists' active participation in creative and cultural activities to develop their creative potential while interacting with local culture thus providing memorable experiences and the potential to empower local communities.	Aspects that attract tourists to visit the Laweyan Batik village. The strategy involves exposing Indisch (Javanese-European) architectural style buildings with simple inward-oriented, flexible facades, high fences, complete with floors with typical Middle Eastern carpet patterns. The residential style of the Javanese nobility consists of pavilion, ndalem, sentong, gandok, pavilion, factory, beteng, regol, but most of the buildings use a pyramid roof. Apart from that, cultural attractions such as modern batik fashion, batik art and batik art exhibitions, as well as environmental preservation in cultural heritage areas.
Accessibility	City planning strategies, especially the tourism sector, are efforts to integrate and synergize between development sectors in the context of maintaining a balance between cultural development and human (economic) activities with conservation of ecological systems.		Ease of access for tourists to reach destinations through the development of adequate public transportation infrastructure and easy access by telephone, such as through the special e-laweyan platform which is integrated with registration. Apart from that, accessibility also involves factors - ease of access for tourists with special needs from various locations and backgrounds.
Ancillary			Supporting services are needed to improve the tourist experience at Kampung Batik Laweyan. Ancillary includes services such as multilingual tour guides with good public speaking, car rental, security services, tourist information and emergency services so as to enrich tourists' experience and ensure their comfort.
Green Tourism			Sustainable tourism practice strategies: use of renewable energy, good management of batik waste, reduction of carbon footprint, efficiency and effectiveness of water and energy use, and recycling waste. In addition, the green tourism aspect strategy encourages tourists to respect and protect the tourist environment and reduce the negative impact of tourism on the environment.

The design was developed by authors.



Based on the development model design in **Table 1**, it is known that the formulation of the main aspects of tourism sector development is based on attraction, accessibility, amenities, ancillaries and green tourism. The design formulation for each aspect has been presented by emphasizing the relevance of the current empirical conditions of Kampung Batik Laweyan. Discussion on each aspect of the development model design was reviewed in the discussion session.

## **5. Discussion**

Based on the research findings, it shows that Kampung Batik Laweyan is an attractive cultural tourism destination with creative-based tourism where tourists experience directly learning the batik process, stimulate the creativity of motifs based on imagination, visit batik galleries, tour batik art museums, and buy batik products directly from the manufacturer. Pivoting on the specialty of the Laweyan tourist village is batik, batik as a commodity with regional economic potential encourages great potential for the Laweyan Batik Village towards creative industries (Hakim et al., 2022; Mukaromah et al., 2023; Sarjiyanto et al., 2023). World heritage in cultural aspects through batik is a strong basis for the development of sustainable creative industries (Husin et al., 2021; Nuriyanto, 2022).

Tourism development requires regulatory support through government policies and related institutions (Dalei et al., 2021; Khan et al., 2020; Kubickova and Campbell, 2020). Document review found that the Regional Spatial Planning (RTRW) of the local government, namely Surakarta City, for 2020–2031 stipulates the development of the Laweyan batik tourist village in the City Service Center System as a tourism village and batik home industry. Thus, the Laweyan tourist village has great potential to be developed as a tourist destination promoting a sustainable creative industry (Damayanti and Putri, 2023; Kusumastuti and Sari, 2023). Therefore, this research focuses on the design of an eco-cultural city tourism village development model through creative-based tourism towards a sustainable creative industry.

The development model design formulation is based on the main aspects of tourism sector development consisting of attraction, accessibility, amenities and ancillaries. In the attraction aspect, the development principle is emphasized on exposing Indisch (Javanese-European) architectural style buildings and Javanese aristocratic residential styles consisting of pavilions, ndalem, sentong, gandok, pavilions, factories, beteng, regol, but most of the buildings use pyramid roofs. This method has a big impact on increasing tourist interest because the physical exposure of the destination is so significant to tourist interest (Arumugam et al., 2023). Apart from that, the development of the Laweyan Batik village needs to develop cultural attractions such as modern batik fashion, batik art and batik art exhibitions. Environmental preservation in cultural heritage areas must be maintained as the oldest batik village tourist village in Indonesia, meaning it has very high and distinctive historical value. Furthermore, tourists' creations can be appreciated through a showroom of tourists' work which can be marketed through the digital platform of Kampung Batik Laweyan. Thus, the increased attractiveness through physical exposure of destinations and arts and culture attractions in Laweyan Batik Tourism Village has an impact on the development of sustainable creative industries in

### Laweyan Batik Village.

Development in the accessibility aspect focuses on developing adequate and easy-to-access public transportation infrastructure (Gonda, 2023; Kanwal et al., 2020). Furthermore, digital transformation of registration and access to specific locations for the Kampung Batik Laweyan destination is very necessary so that registration can be accessed anytime and anywhere. Apart from that, accessibility also involves factors - ease of access for tourists with special needs from various locations and backgrounds. In this way, efforts towards an eco-cultural city can be realized as an inclusive tourism future (Gillovic and McIntosh, 2020). The development of the accessibility aspect of Kampung Batik Laweyan supports increasing access for tourists with special needs from various locations and backgrounds, which has implications for inclusive dream tourism. This accessibility contributes to the development of the Laweyan Batik creative industry which can be reached and accessed by anyone.

The amenities development design emphasizes the strategy of creating various services and infrastructure that support the comfort and experience of tourists while in Batik Laweyan Village, including the availability of hotel buildings, accommodation, resorts, restaurants, waiting rooms and rest areas for tourist satisfaction. Apart from that, additional features such as the “self-portrait” concept service and virtual museum tours based on virtual reality and augmented reality can also support satisfied tourists and return visits (Cranmer et al., 2023; Hulusic et al., 2023; Jiang et al., 2023). This gives an impression that cannot be found in other tourist villages, especially Eco-cultural city, through the assistance of tours of the Laweyan batik art museum from time to time, which really helps in creative education to raise the spirit of culture and nationalism. The implications of developing facilities in creating various services and infrastructure in Kampung Batik Laweyan support the comfort and experience of tourists while in Kampung Batik Laweyan. This condition is important for providers of sustainable creative industries in Kampung Batik Laweyan because creative industry providers not only present attractive products, but also provide services that tourists receive when visiting Kampung Batik Laweyan, thereby providing a meaningful experience.

Development of the ancillary aspect is formulated with supporting designs needed to improve the tourist experience in Kampung Batik Laweyan. Ancillary includes services such as multilingual tour guides with good public speaking, car rental, security services, tourist information and emergency services so as to enrich tourists' experience and ensure their comfort. Ancillary is an additional aspect but has been proven to have a significant impact on increasing the value of the tourism sector, both local and national (Narawati et al., 2021; Saragih, 2023; Syaiful, 2021). The implications of ancillary aspects in enhancing additional services enrich tourists' experiences and ensure their comfort. Gaining meaningful experiences for tourists in Kampung Batik Laweyan encourages destination sustainability. This implication is in accordance with the support of the sustainable creative industry in ensuring the sustainability of the Kampung Batik Laweyan destination either for visiting or as a wholesale agent for batik buyers from various regions.

A review on green tourism suggests designs to encourage responsible tourism practices. This concept helps reduce the negative impact of tourism on the environment and ensures the sustainability of the environment and society (Saseanu et

al., 2020; Yakymchuk et al., 2021). Therefore, relevant strategies towards a sustainable creative industry include the use of renewable energy, good waste management, and efficient and effective use of water and energy. Apart from that, the design formulation of the development model emphasizes the role of tourists to respect and protect the tourist environment, not to throw rubbish carelessly and not to damage the environment so that green tourism is an effort to maintain the sustainability of the tourism environment and reduce the negative impact of tourism on the environment (Kusumah, 2024). Overall, balanced development of these four aspects becomes guidelines that can be developed to help the tourism sector as previous research has had a positive impact on the tourism sector (Ambarwati and Munawaroh, 2023; Hamidah et al., 2024; Kurniawan et al., 2023). The implications of the green tourism concept for developing destinations such as Kampung Batik Laweyan to become a sustainable creative industry are driven by environmentally friendly tourism practices that help protect the environment around the village for the batik making process. By attracting tourists who care about the environment and culture, Kampung Batik Laweyan increases income from the sale of batik products and cultural tourism which provides sustainable economic benefits for the local community.

## **6. Conclusion**

Design of the creative-based tourism village development model towards a sustainable creative industry including aspects attraction, accessibility, amenities, and ancillary, and green tourism. This design is specifically aimed at the Batik Laweyan Village tourism sector in promoting creative-based tourism, environmental preservation and culture in order to move towards a sustainable creative industry. The model for developing tourist villages in this research is partly in accordance with the paradigm of developing tourist villages with green tourism as in previous researchers in Kampung Batik Laweyan, Surakarta City for sustainable development (Maryam et al., 2021; Yuliani and Setyaningsih, 2023).

This research is limited to obtaining research results on the design of the eco-cultural city tourism village development model through creative-based tourism towards a sustainable creative industry in Kampung Batik Laweyan Surakarta. The development model design is limited to the application of eco-cultural city principles which are the development concept of the City of Surakarta. Apart from that, the development of this model design is limited to the development of tourism aspects, consisting of: attraction, accessibility, amenities, and ancillary, and green tourism. However, this research found that the development of tourism village potential is greatly influenced by the contribution of local government. Government policies through regulations have an impact on tourism and need to pay attention to sustainability aspects which are very necessary.

**Author contributions:** Conceptualization, WS and AS; methodology, YW and SY; software, AS; validation, WS, YW and SY; formal analysis, WS; investigation, AS; resources, WS; writing—original draft preparation, WS and AS; writing—review and editing, YW and AS; visualization, WS and SY; supervision, WS; project administration, WS and AS; funding acquisition, WS. All authors have read and

agreed to the published version of the manuscript.

**Acknowledgments:** The author would like to thank the Surakarta City Laweyan Batik Kampoeng Development Forum for being willing to provide information as data needed in this research.

**Funding:** This research was funded by Ministry of Education, Culture, Research and Technology of the Republic of Indonesia, grant number “1076.1/UN27.22/PT.01.03/2024” and the APC was funded by Ministry of Education, Culture, Research and Technology of the Republic of Indonesia.

**Conflict of interest:** The authors declare no conflict of interest.

## References

- Adedeji, J. A. (2023). Conclusion: Design Strategies for Eco-cultural Cities. In: *Ecological Urbanism of Yoruba Cities in Nigeria: An Ecosystem Services Approach*. Cham: Springer International Publishing. pp. 161–183.
- Aji, H. K., Murdani, A. D., & Wijayati, H. (2023). The Strategy in Developing Global Competitive Tourism Based on Creative Economy and Local Wisdom (Case Study: Solo City, Indonesia). *International Journal of Business and Applied Economics*, 2(5), 851–862. <https://doi.org/10.55927/ijbae.v2i5.5970>
- Aldianto, L., Wirawan, C., Anggadwita, G., et al. (2020). Integrated clustering of creative industries to foster innovation: Bandung’s creative industries. *International Journal of Entrepreneurial Venturing*, 12(4), 420. <https://doi.org/10.1504/ijev.2020.109542>
- Alisa, F., & Ridho, Z. (2020). Sustainable cultural tourism development: A strategic for revenue generation in local communities. *Journal of Economic and Tropical Life Science (JETLS)*, 4 (2), 47-56.
- Ambarwati, D., & Munawaroh, N. A. (2023). Do attraction, Accessibility, amenities and ancillary for interest visiting of visitor? the role of customers satisfaction. *Enrichment: Journal of Management*, 13(5), 3268–3280.
- Ap, A. R., Imron, D. K., & Pertiwi, C. (2020). Tourism village: Challenges and opportunities in new normal. In: *Proceedings of the 6th International Conference on Social and Political Sciences (ICOSAPS 2020)*. pp. 540–544.
- Arcos-Pumarola, J., Paquin, A. G., & Sitges, M. H. (2023). The use of intangible heritage and creative industries as a tourism asset in the UNESCO creative cities network. *Heliyon*, 9(1), e13106. <https://doi.org/10.1016/j.heliyon.2023.e13106>
- Arintoko, A., Ahmad, A. A., Gunawan, D. S., et al. (2020). Community-Based Tourism Village Development Strategies: A Case of Borobudur Tourism Village Area, Indonesia. *Geo Journal of Tourism and Geosites*, 29(2), 398–413. <https://doi.org/10.30892/gtg.29202-477>
- Arumugam, A., Nakkeeran, S., & Subramaniam, R. (2023). Exploring the Factors Influencing Heritage Tourism Development: A Model Development. *Sustainability*, 15(15), 11986. <https://doi.org/10.3390/su151511986>
- Bhaskara, G. I., Filimonau, V., Wijaya, N. M. S., et al. (2023). Innovation and creativity in a time of crisis: A perspective of small tourism enterprises from an emerging destination. *Tourism Management Perspectives*, 46, 101093. <https://doi.org/10.1016/j.tmp.2023.101093>
- Blapp, M., & Mitas, O. (2020). Creative tourism in Balinese rural communities. *Current Issues in Asian Tourism*, 219–246. <https://doi.org/10.4324/9780429291593-16>
- Carvalho, R. (2020). Understanding the creative tourism experience in cultural and creative events/festivals. *ISLA Multidisciplinary e-Journal*, 3(1), 1–18.
- Cramer, E. E., Tom Dieck, M. C., & Jung, T. (2023). The role of augmented reality for sustainable development: Evidence from cultural heritage tourism. *Tourism Management Perspectives*, 49, 101196. <https://doi.org/10.1016/j.tmp.2023.101196>
- Ćurčić, N., Mirković Svitlica, A., Brankov, J., et al. (2021). The Role of Rural Tourism in Strengthening the Sustainability of Rural Areas: The Case of Zlakusa Village. *Sustainability*, 13(12), 6747. <https://doi.org/10.3390/su13126747>
- Dalei, N. N., Chourasia, A. S., Sethi, N., et al. (2021). Roles of policies, regulations and institutions in sustainability of ocean tourism. *Journal of Infrastructure, Policy and Development*, 5(2), 1295. <https://doi.org/10.24294/jipd.v5i2.1295>
- Damayanti, K. A., & Putri, S. D. (2023). Burden Sharing as the Effort in Bridging Locality and Internationalization: The Penetration of Kampung Batik Laweyan into Global Market. In: *Proceedings of the 3rd Universitas Lampung International*

- Conference on Social Sciences (ULICoSS 2022). p. 453.
- del Arco, I., Ramos-Pla, A., Zsembinszki, G., et al. (2021). Implementing SDGs to a Sustainable Rural Village Development from Community Empowerment: Linking Energy, Education, Innovation, and Research. *Sustainability*, 13(23), 12946. <https://doi.org/10.3390/su132312946>
- Ermawati, K. C. (2023). Tourism development based on local culture. *Journal of Global Tourism Research*, 8(1), 11–14. [https://doi.org/10.37020/jgtr.8.1\\_11](https://doi.org/10.37020/jgtr.8.1_11)
- Forum of Laweyan Batik Kampoeng Development. (2024). Laweyan House Architecture. Available online: <https://kampoengbatiklaweyan.org/arsitektur-rumah-laweyan/> (accessed on 12 June 2024).
- Gillovic, B., & McIntosh, A. (2020). Accessibility and Inclusive Tourism Development: Current State and Future Agenda. *Sustainability*, 12(22), 9722. <https://doi.org/10.3390/su12229722>
- Gonda, T. (2023). The importance of infrastructure in the development of accessible tourism. *Journal of Infrastructure, Policy and Development*, 8(2). <https://doi.org/10.24294/jipd.v8i2.2735>
- Guri, E. A.-I., Osumanu, I. K., & Bonye, S. Z. (2020). Eco-cultural tourism development in Ghana: potentials and expected benefits in the Lawra Municipality. *Journal of Tourism and Cultural Change*, 19(4), 458–476. <https://doi.org/10.1080/14766825.2020.1737095>
- Hakim, L., Abdullah, I., & Sa'adah, N. (2022). The Organizational Philosophies of Laweyan Batik Businesses in Surakarta, Indonesia. *WISDOM*, 23(3), 200–213. <https://doi.org/10.24234/wisdom.v23i3.825>
- Hamidah, C., Novalita, R., & Fitrah, H. (2024). Analysis of the influence of Attractions, Amenities, Accessibility, and Ancillary on Service Satisfaction for Visitors of Coastal Tourism Objects Manohara Pidie Jaya District. *Sumatra Journal of Disaster, Geography and Geography Education*, 8(1), 30–36.
- Hani, U., Azzadina, I., Sianipar, C. P. M., et al. (2012). Preserving cultural heritage through creative industry: A lesson from Saung Angklung Udjo. *Procedia Economics and Finance*, 4, 193–200. [https://doi.org/10.1016/S2212-5671\(12\)00334-6](https://doi.org/10.1016/S2212-5671(12)00334-6)
- Huang, L., & Cao, Y. (2022). Review of the Integrated Development of Ecological and Cultural Forestry. *Sustainability*, 14(11), 6818. <https://doi.org/10.3390/su14116818>
- Hulusic, V., Gusia, L., Luci, N., et al. (2023). Tangible User Interfaces for Enhancing User Experience of Virtual Reality Cultural Heritage Applications for Utilization in Educational Environment. *Journal on Computing and Cultural Heritage*, 16(2), 1–24. <https://doi.org/10.1145/3593429>
- Husin, R., Hidayah, N., & Mukmin, T. M. (2021). Creative industries in supporting Indonesia's economic growth in innovation perspective. *Bus Econ J*, 12, 1–4.
- Jaelani, A. K., Handayani, I. G. A. K. R., & Karjoko, L. (2020). Development of tourism based on geographic indication towards to welfare state. *International Journal of Advanced Science and Technology*, 29(3s), 1227–1234.
- Jiang, S., Moyle, B., Yung, R., et al. (2022). Augmented reality and the enhancement of memorable tourism experiences at heritage sites. *Current Issues in Tourism*, 26(2), 242–257. <https://doi.org/10.1080/13683500.2022.2026303>
- Kanwal, S., Rasheed, M. I., Pitafi, A. H., et al. (2020). Road and transport infrastructure development and community support for tourism: The role of perceived benefits, and community satisfaction. *Tourism Management*, 77, 104014. <https://doi.org/10.1016/j.tourman.2019.104014>
- Khan, A., Bibi, S., Lorenzo, A., et al. (2020). Tourism and Development in Developing Economies: A Policy Implication Perspective. *Sustainability*, 12(4), 1618. <https://doi.org/10.3390/su12041618>
- Krippendorff, K. (2004). Reliability in Content Analysis. *Human Communication Research*, 30(3), 411–433. <https://doi.org/10.1111/j.1468-2958.2004.tb00738.x>
- Kubickova, M., & Campbell, J. M. (2018). The role of government in agro-tourism development: a top-down bottom-up approach. *Current Issues in Tourism*, 23(5), 587–604. <https://doi.org/10.1080/13683500.2018.1551338>
- Kunda, I., Tjarve, B., & Eglite, Z. (2021). Creative industries in small cities: contributions to sustainability. In: *Economic Science for Rural Development Conference Proceedings*. Jelgava, Latvia: Latvian University of Life Sciences and Technologies, 55.
- Kurniawan, B. W., Suaidah, I., & Astuti, I. Y. (2023). The Component of 4A AS A Support for Interest in Visiting the City of Kediri, East Java. *Journal of Humanities Social Sciences and Business (JHSSB)*, 3(1), 245–256. <https://doi.org/10.55047/jhssb.v3i1.865>
- Kusumah, G. (2024). Get to know the concept of green tourism and its positive impact on nature and society. Available online: <https://mpar.upi.edu/mengenal-konsep-green-tourism-dan-dampak-positifnya-bagi-alam-dan-masyarakat/> (accessed on 20 June 2024).

- Kusumastuti, D., & Sari, S. M. (2023). Strengthening the Creative Economy of Small and Medium Industries in Supporting the Tourism Potential in Surakarta. In: Proceedings of the International Conference on Multidisciplinary Studies (ICOMSI 2022). pp. 25–34.
- Lazar, N., & Chithra, K. (2021). Role of culture in sustainable development and sustainable built environment: a review. *Environment, Development and Sustainability*, 24(5), 5991–6031. <https://doi.org/10.1007/s10668-021-01691-8>
- Liu, S., & Shu, H. (2020). Sustainable Cultural Tourism and Heritage Conservation in China: Case Studies of the Ancient Waterfront Towns in the South of the Yangtze River. *Sustainable Development and Planning XI*. <https://doi.org/10.2495/sdp200021>
- Lohr, A., Stadler, M., Schultz-Pernice, F., et al. (2021). On power pointers, clickerers, and digital pros: Investigating the initiation of digital learning activities by teachers in higher education. *Computers in Human Behavior*, 119, 106715. <https://doi.org/10.1016/j.chb.2021.106715>
- Lu, M., Duan, Y., & Wu, X. (2023). Evaluation of the coupling and coordination degree of eco-cultural tourism system in the Jiangsu-Zhejiang-Shanghai-Anhui region. *Ecological Indicators*, 156, 111180. <https://doi.org/10.1016/j.ecolind.2023.111180>
- Lubis, H., Rohmatillah, N., & Rahmatina, D. (2020). Strategy of Tourism Village Development Based on Local Wisdom. *Journal Ilmu Sosial Dan Humaniora*, 9(2), 320. <https://doi.org/10.23887/jish-undiksha.v9i2.22385>
- Maryam, S., Rahayu, E. S., Sutrisno, J., & Gravitanian, E. (2021). Environmental development of batik village laweyan surakarta to eco-industrial park. *Procedia Environmental Science, Engineering and Management*, 8(4), 773–781.
- Mateoc-Sirb, N., Albu, S., Rujescu, C., et al. (2022). Sustainable Tourism Development in the Protected Areas of Maramureş, Romania: Destinations with High Authenticity. *Sustainability*, 14(3), 1763. <https://doi.org/10.3390/su14031763>
- Ministry of Tourism and Creative Economy. (2020). Acceleration of Reactivity and Recovery of Tourism and Creative Economy. Available online: <https://kemenparekraf.go.id/> (accessed on 2 May 2024).
- Ministry of Tourism and Creative Economy. (2024). Creative Economy Subsector. Available online: <https://kemenparekraf.go.id/layanan/Subsektor-Ekonomi-Kreatif> (accessed on 2 May 2024).
- Mukaromah, H., Astuti, W., Putri, R. A., et al. (2024). Developing urban kampong as a sustainable tourism destination to elevate creative cluster industry. *AIP Conference Proceedings*. <https://doi.org/10.1063/5.0186069>
- Narawati, T., Karwati, U., & Sukmayadi, Y. (2021). Songah in the Cultural Tourism Industry. In: Proceedings of the 3rd International Conference on Arts and Design Education (ICADE 2020). pp. 135–138.
- Nuriyanto, L. K. (2022). Preservation of the batik industry in Indonesia as part of the national identity. *International Journal of Science and Applied Science: Conference Series*, 6(2), 1–18.
- Palencikova, Z., & Csapo, J. (2021). Creative tourism as a new tourism product in Slovakia. *Constantine the Philosopher University in Nitra*.
- Purnomo, S., Rahayu, E. S., Riani, A. L., et al. (2020). Empowerment model for sustainable tourism village in an emerging country. *Journal of Asian Finance, Economics and Business*, 7(2), 261–270. <https://doi.org/10.13106/jafeb.2020.vol7.no2.261>
- Quintana, V. M. (2020). Eco-cultural tourism: Sustainable development and promotion of natural and cultural heritage. *IntechOpen*.
- Rahmadi, A. R., Ad'hani, H., & Wulandari, K. D. (2021). An Analysis of the 11th SDGs: Sustainable Cities and Communities in Surakarta Under the DPSIR Framework. *Journal of Global Environmental Dynamics*, 2(3), 1–5.
- Rahmany, R., & Djajadiningrat, S. T. (2014). Methodology of generating 'Creative Tourism Kampung' and stakeholders engagement analysis in Kampung Kreatif Dago Pojok project. *Journal of Business and Management*, 3(5), 589–611.
- Remoaldo, P., Matos, O., Freitas, I., et al. (2020). An International Overview of Certified Practices in Creative Tourism in Rural and Urban Territories. *Journal of Hospitality & Tourism Research*, 46(8), 1545–1573. <https://doi.org/10.1177/1096348020950792>
- Remoaldo, P., Serra, J., Marujo, N., et al. (2020). Profiling the participants in creative tourism activities: Case studies from small and medium sized cities and rural areas from Continental Portugal. *Tourism Management Perspectives*, 36, 100746. <https://doi.org/10.1016/j.tmp.2020.100746>
- Saragih, Y. S. (2023). Analysis of the Effect of Tourism Development on Tourist Satisfaction in the Bukit Indah Simarjarunjung Tourism Area, Pariksabungan Village, Simalungun Regency. *Jurnal Ekonomi Dan Bisnis Digital*, 2(1), 115–134. <https://doi.org/10.55927/ministal.v2i1.2506>
- Sarjiyanto, S., Sarwoto, S., Gunaratne, M. S., et al. (2023). Sustainable Industry, Culture and Community Development: A Case

- Study of Kampung Batik Laweyan, Indonesia. *Journal of Sustainability Science and Management*, 18(1), 163–180. <https://doi.org/10.46754/jssm.2023.01.010>
- Saseanu, A. S., Ghita, S. I., Albastroiu, I., et al. (2020). Aspects of Digitalization and Related Impact on Green Tourism in European Countries. *Information*, 11(11), 507. <https://doi.org/10.3390/info11110507>
- Setyaningsih, W. (2016). Architectural transformation from an urban village to a tourist village. Case study: tourist village in Surakarta [PhD thesis]. Universitas Gadjah Mada.
- Setyaningsih, W., Iswati, T. Y., SriYuliani, et al. (2015). Low-Impact-Development as an Implementation of the Eco-Green-Tourism Concept to Develop Kampung towards Sustainable City. *Procedia—Social and Behavioral Sciences*, 179, 109–117. <https://doi.org/10.1016/j.sbspro.2015.02.414>
- Setyawan, A. B. (2013). Development of the city of Solo as a creative tourism city. UNS.
- Skavronska, I. V. (2017). Creative Industries in Ukraine: Analysis and Prospects of the Development. *Economics & Sociology*, 10(2), 87–106. <https://doi.org/10.14254/2071-789x.2017/10-2/7>
- Sulistiowati, R., Yulianto, Y., Meiliyana, M., et al. (2023). The Combination of City Branding and Ecocity: A Critical Review of Opportunities and Challenges in Indonesia. *Jurnal Bina Praja*, 15(1), 43–57. <https://doi.org/10.21787/jbp.15.2023.43-57>
- Surakarta City. (2012). Surakarta City Regional Regulation Number 1 of 2012 concerning Surakarta City Regional Spatial Planning for 2011–2031. Surakarta City.
- Syaiful, A. (2021). The Impact of Lerep Tourism Village Development on Tourism Businesses. *Efficient: Indonesian Journal of Development Economics*, 4(1), 1006–1020. <https://doi.org/10.15294/efficient.v4i1.41075>
- Tien, N. H., Viet, P. Q., Duc, N. M., et al. (2021). Sustainability of tourism development in Vietnam’s coastal provinces. *World Review of Entrepreneurship, Management and Sustainable Development*, 17(5), 579. <https://doi.org/10.1504/wremsd.2021.117443>
- Wang, C., Liu, J., Wei, L., et al. (2020). Impact of tourist experience on memorability and authenticity: a study of creative tourism. *Journal of Travel & Tourism Marketing*, 37(1), 48–63. <https://doi.org/10.1080/10548408.2020.1711846>
- Wijijayanti, T., Agustina, Y., Winarno, A., et al. (2020). Rural Tourism: A Local Economic Development. *Australasian Accounting, Business and Finance Journal*, 14(1), 5–13. <https://doi.org/10.14453/aabfj.v14i1.2>
- Wirahayu, Y. A., Sumarmi, S., Utomo, D. H., et al. (2022). Developing a Model of Sustainable Development Goals (SDGs) at the Agropolitan-Based ORO-ORO Ombo Tourism Village. *Geo Journal of Tourism and Geosites*, 42(2 supplement), 735–742. <https://doi.org/10.30892/gtg.422spl12-883>
- Wohl, H. (2021). Innovation and creativity in creative industries. *Sociology Compass*, 16(2). Portico. <https://doi.org/10.1111/soc4.12956>
- Yakymchuk, A., Popadynets, N., Valyukh, A., et al. (2021). Rural “green” tourism as a driver of local economy development in the process of decentralization of power. *Agricultural and Resource Economics: International Scientific E-Journal*, 232–259. <https://doi.org/10.51599/are.2021.07.01.12>
- Yuliani, S., & Setyaningsih, W. (2023). Green architecture in tourism sustainable development a case study at Laweyan, Indonesia. *Journal of Asian Architecture and Building Engineering*, 1–12. <https://doi.org/10.1080/13467581.2023.2287198>
- Yusuf, R., Widiyari, W., Lizein, B., et al. (2023). Citizen Participation in Developing Community Empowerment in Tourist Villages. *Journal of Social Science Global*, 1(1), 43.
- Zheng, S., Yang, S., Ma, M., et al. (2023). Linking cultural ecosystem service and urban ecological-space planning for a sustainable city: Case study of the core areas of Beijing under the context of urban relieving and renewal. *Sustainable Cities and Society*, 89, 104292. <https://doi.org/10.1016/j.scs.2022.104292>