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## Sustainable Digital-Based Educational Tourism of Gastronomic Cultural Heritage in Cibuluh Village, Subang Regency, West Java Province

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### ABSTRACT

Cibuluh Village in Subang Regency, West Java Province, is a leading village in West Java because of its cultural wealth and natural tourism, but cultural tourism based on sustainable gastronomy approach studies has not been carried out. Researchers are trying to do community service to develop special interest educational tourism to integrate the use of digital technology for education, cultural preservation, and gastronomy simultaneously. As well as researching the sustainability of economic and cultural aspects through a digital tourism model in Cibuluh Village in particular. The analysis uses the theory of cultural heritage, gastronomy components, educational tourism, sustainable tourism development, tourist interest, digitalization, community participation. The results of the study are that Cibuluh Village has great potential in local gastronomic cultural heritage that is distinctive and authentic, both in terms of local food ingredients, traditional processing techniques, and cultural values contained in its culinary practices. Then the Cibuluh Village Community showed enthusiasm and initial readiness to participate in the development of gastronomic educational tourism, although capacity building is still needed in the aspects of education, hospitality, and digitalization. Digitalization is a key factor in expanding the reach of village gastronomy tourism promotion and marketing. However, the limitations of digital literacy and ICT infrastructure are currently challenges that must be overcome through ongoing training and technical support. There are potential tourists (especially from big cities) showing high interest in local culinary interaction and education-based tourism experiences, with a preference for authentic, sustainable experiences that have not been touched by mass tourism. The development of gastronomic educational tourism in Cibuluh Village must be based on the principle of sustainability, namely by actively involving local communities, maintaining cultural authenticity, and utilizing technology wisely to support conservation and promotion. Therefore, multi-stakeholder collaboration is needed between village communities, local governments, universities, creative industry players, and digital platforms to ensure that this initiative not only has an economic impact, but also socially, culturally, and ecologically in the long term.

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## 1. INTRODUCTION

Countries around the world have promoted their Cities of Gastronomy and Indonesia also has great potential for sustainable gastronomic educational tourism. One of them is Cibuluh Village in Subang Regency, in West Java Province. This village is a leading village in West Java because of its cultural wealth and natural tourism, but cultural tourism based on sustainable gastronomic study approaches has not been carried out. Researchers are undertaking community service efforts to develop special interest educational tourism.

Currently, there are many studies discussing sustainable tourism, cultural preservation, and the use of digital technology in tourism (Ningsih, C, et.al, 2025), but there are still few that specifically examine the integration of the three in the context of specific villages in Indonesia, especially in West Java and Cibuluh village. In addition, literature that emphasizes economic sustainability, cultural preservation, and digital innovation simultaneously is still lacking. It need moral entrepreneurship and creativity to develop gastronomy tourism (Ningsih, C, et.al, 2024). Smith, J. (2020) explained that related to the digitalization of tourism and cultural heritage conservation, it only focuses on the use of digital in preserving cultural heritage, but is not specific to certain villages in Indonesia. Furthermore, Supriadi, R. & Wibowo, S. (2019) in the development of sustainable tourism in villages in a case study in West Java Province discussed the sustainable tourism development model but did not discuss much about the role of digital technology. Local gastronomy as a sustainable tourism potential in Indonesia highlights that gastronomy is a tourist attraction, but has not fully integrated digital innovation.

Therefore, there is still a lack of studies that integrate the use of digital technology for education, cultural preservation, and gastronomy simultaneously in certain villages in Indonesia. Also, not many have researched the sustainability of economic and cultural aspects through digital tourism models in Cibuluh village in particular. Empirically, there is no data that measures the effectiveness of using digital platforms in increasing awareness and preserving culture and gastronomy at the village level. Therefore, it is necessary to conduct field studies and surveys of village communities and tourists to fill in the gaps in data on implementation and its impacts. In addition, it is important to examine both the successes and obstacles in implementing digital-based educational tourism in the local context.

## 2. LITERATUR REVIEW

Gastronomy can be explained as the study of the relationship between culture and food, where gastronomy studies various components of culture with food as its center (culinary arts) (Ningsih, C. & Turgarini, D., 2020). The scope of gastronomy does not only see food in terms of fulfilling physiological needs but also the study of food as a cultural aspect and asset for the region. It is also stated that gastronomy is the art and science of good eating. In fact, gastronomy basically involves, discovering, feeling, experiencing, researching, understanding and writing about food preparation and the overall sensory quality of human nutrition (Turgarini, 2019; DeSalvo, P., 2013).

The characteristics of gastronomic tourism consist of 1) Gastronomy as an element and indicator of globalization; in particular, the affirmation of regional competition throughout the world 2) Tourists play a role in the evolution of gastronomic tourism 3) Tourism as a revealer of regional or local gastronomic potential and as a contributor to developing or renewing national and sub-national identities 4) Gastronomic tourism as a means of introducing culinary products as cultural products 5) The evolution of gastronomic tourism provides direction for tourism development 6) Gastronomy as a constructive element in forming the image of a

tourist destination 7) Gastronomy as a tourist travel destination 8) Gastronomy as an element of heritage with a tourism dimension.

Based on the initial survey, Cibuluh tourism village is still in its early stages of development and therefore requires guidance to enable the community to manage tourism activities professionally. Some of the challenges faced by Cibuluh tourism village currently include not having a tourism development plan, having limited innovation in offering tourism products, limited facilities for organizing tourism space, limited public understanding of tourism implementation, tourism potential. Additionally, the village's traditional food and beverage products have not yet been optimized as part of a gastronomic educational tourism experience. Therefore, researchers conducted a study on the development of gastronomy based on traditional food, with the aim of being a reference for organizing educational tourism in Cibuluh tourism village based on community empowerment that can be carried out sustainably (Dougherty, M.L., 2013; Everett, S., & Aitchison, C. 2008).

The role of digital technology in supporting cultural heritage conservation and sustainable tourism development globally (Smith, J. (2020); Khatri, I, 2019). This study shows that digitalization can improve access, education, and cultural preservation, but challenges include limited resources and infrastructure. To analyze the development of community-based tourism, the results of Supriyadi and Wibowo's (2019) study on sustainable tourism development in villages - a case study of West Java, which discusses the model of community-based tourism development in West Java Province, emphasizing the importance of local community participation in cultural preservation and sustainable economy.

The use of digital information technology is also described as a tool to expand marketing and education. Meanwhile, the potential of local gastronomy as a tourism asset that can attract tourists while supporting cultural preservation and economic sustainability. The use of digital media as promotion and education is important to expand the reach of gastronomic tourism.

In relation to the need for digital technology in education and cultural preservation, you can see the study of Kim, S. & Lee, H. (2022) which reviews various digital innovations such as AR/VR-based applications, digital platforms, and social media that are used for education and cultural preservation globally, and are relevant for application in tourist villages. Based on the literature above, it can be concluded that the application of digital technology in cultural and gastronomic tourism has great potential to improve education, preservation, and sustainable economic attractions. However, challenges such as infrastructure, community capacity, and the sustainability of technology use need to be considered (Gössling, S., 2019; Suyunchaliyeva, M., et.al. 2020; Vázquez-Medina, 2023).

A comprehensive inventory provides a basis for data-based decision-making in designing destination development strategies (Guo, S., 2014; Wu, Y., et.al, 2013). As expressed by Gunn & Var (2002), mapping the potential and existing conditions of an area allows planners to formulate more effective and sustainable zoning, spatial planning, and management strategies. Especially in gastronomic tourism which is highly dependent on local contexts such as food culture, food availability, and culinary traditions, inventory is an important tool for documenting these elements spatially and thematically. Without a structured inventory process, the development of tourism areas is prone to mismatches between potential and policy implementation. This can have an impact on land use conflicts, development disparities between areas, and a decrease in environmental and social carrying capacity. Therefore, inventory is not only administrative in nature, but is also a strategic process to realize inclusive, adaptive and sustainable tourism area planning (Inskoop, 1991).

One of the main challenges in tourism area inventory is the complexity of spatial and non-

spatial data that must be managed. In this case, Geographic Information System (GIS) technology provides an effective solution to facilitate the inventory process digitally, spatially, and integrated. GIS allows the integration of location data with non-spatial attributes, such as culinary types, cultural values, service capacity, and visitation levels. Through visualization in the form of thematic maps, planners can easily identify the distribution of gastronomic potential, relationships between tourist spots, and gaps in supporting facilities. Spatial analysis capabilities such as buffers, overlays, network analysis, and hotspot mapping also make GIS a very powerful tool in supporting the evaluation and planning process of the area (Longley et al., 2015). Furthermore, GIS facilitates the process of updating data periodically and collaboratively. By using a web-based GIS platform, local governments, tourism actors, and the community can participate in the inventory process through a data sharing system. This is in line with the principle of participatory planning which encourages multi-party involvement in the management of tourism areas (Goodchild, 2007).

GIS can also be used to map the local food supply chain, the location of traditional producers, and tourist consumption patterns. This information is very relevant in designing local economic development strategies based on gastronomy, while maintaining the sustainability of existing culinary resources. Mapping distribution patterns is a key stage in the process of inventorying gastronomic tourism areas which aims to understand how culinary tourism objects are distributed in geographic space. This information is important for identifying potential concentrations, untapped areas, and spatial relationships between tourist points. ArcGIS provides various tools and methods to conduct this analysis visually and quantitatively, thus supporting the formulation of spatial data-based policies.

The initial step in mapping distribution is collecting data that includes the geographical location of gastronomic tourism points (specialty stalls, traditional markets, culinary centers, etc.) along with their supporting attributes, such as types of food, historical value, number of visitors, and operating hours. Data can be obtained through; 1) Field survey: using handheld GPS or mobile GIS applications to obtain accurate location coordinates. 2) Secondary data: such as administrative maps, satellite imagery, culinary MSME data from the tourism office or trade office. 3) Crowd sourcing: through participatory platforms such as Google Maps, social media, or online forms to collect data from the public in real time (Goodchild, 2007).

After the data is collected, geocoding is performed to convert addresses into coordinate points, which are then inputted into ArcGIS in the form of feature layers. Mapping distribution patterns in ArcGIS is done through several visualization approaches and spatial analysis; 1) Thematic maps: used to show distribution based on certain categories, for example, culinary type distribution maps (traditional, modern, mixed) or visit intensity maps. 2) Heatmap: describes the density of gastronomic tourism points in a certain area. This technique is useful for identifying culinary area clusters (hotspots) that have the potential to be developed further. 3) Kernel Density Estimation (KDE): a statistical method used to refine distribution maps and show areas of high concentration in the form of color gradients (Silverman, 1986). 4) Proximity analysis: evaluates the accessibility of culinary tourism locations to other infrastructure such as main roads, bus stops, or lodging areas. Through this distribution pattern mapping, planners can find out whether culinary tourism points are concentrated in the city center or spread out on the outskirts, as well as assess the level of access equity and the potential for developing new areas.

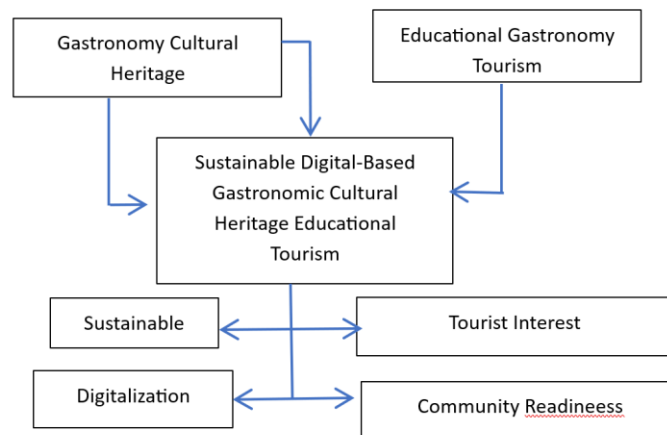
Conversely, areas with potential but not yet developed can be directed as intervention zones with an approach to empowering local communities and strengthening the culinary supply chain. The distribution pattern-based approach also helps reduce inequality between regions and encourages equitable distribution of economic benefits from the tourism sector.

Therefore, distribution pattern mapping is not only an analytical tool, but an integral part of a fair, inclusive, and sustainable planning process in sustainable gastronomic cultural heritage educational tourism village.

### 3. METHODS

This study employed a mixed-method research approach, combining qualitative and quantitative analyses with a participatory approach to explore the potential, perceptions, and readiness of the community in developing sustainable digital-based gastronomy educational tourism. The qualitative approach is carried out through in-depth interviews, participatory observations, and focus group discussions (FGD) with local residents, MSME actors, traditional leaders, and the village government. While quantitatively, it is carried out using a structured survey to measure the level of knowledge, attitudes, and practices of the community and prospective tourists towards digital gastronomy educational tourism.

The conducted in Cibuluh Village, Tanjungsiang District, Subang Regency, West Java Province. Data collection methods included in-depth interviews with key informants. Participatory observation of local gastronomy activities (food production, traditional culinary, traditional ceremonies related to food).



**Figures 1.** Research Flow

Source: Processed by Researcher (2025)

Focus Group Discussion was conducted to explore public perceptions, as well as questionnaires as a quantitative data collection tool. Documentation studies to trace the history and potential of local culture. Data analysis techniques were qualitative by conducting thematic analysis (coding, categorization, interpretation of cultural meaning). While quantitatively: descriptive statistical analysis (frequency, average, and crosstab), and simple correlation analysis if necessary.

### 4. RESULTS AND DISCUSSION

Based on the results of community service, Cibuluh Village was found to have a rich gastronomic heritage rooted in local ingredients, including Sundanese tumpeng (with assorted side dishes), nasi liwet sayur jantung cau (banana blossom soup), sayur honje, lodeh, Subang-style oncom, opak, lahang, and local banana dishes.

Cooking for celebrations in Cibuluh Village involves the use of traditional cooking utensils (hawu, lesung, lisung). Cibuluh Village offers its own uniqueness. The village is surrounded by vast plantations of cassava, mangosteen, and banana. Additionally, the cultivation of various types of fish and rice fields that produce quality rice are also the characteristics of Cibuluh Village. In fact, this village has a culinary wealth with various typical foods processed by the

local community. Subang Regency has two villages with unique culinary specialties, namely Cibuluh Village in Tanjungsiang District and Cisaat Village. Each village has its own typical papais (banana leaf-wrapped steamed dish) and opak (traditional Sundanese rice crackers) dishes with their own characteristics. Papais in Cibuluh Village is rectangular in shape, small in size, and has a distinctive savory salty taste. On the other hand, the papais of Cisaat Village is triangular shape, large in size, and has a dominant sweet taste. Another uniqueness is also found in opak. Opak typical of Cibuluh Village, Subang, has a savory salty taste and is small in size.



**Figures 2.** Traditional Food and Beverage Typical of Cibuluh Village

Source : [Turgarini, D. \(2024\)](#)

Meanwhile, opak in the Ciamis area has a large shape and a sweet taste. The difference in taste and shape is proof of the culinary richness of the two areas. Papais and opak are typical snacks that are popular with local people and tourists. The uniqueness of the taste and shape is an attraction in itself to try ([Turgarini, D., 2024](#)). Cibuluh Tourism Village offers a variety of culinary delights that can be enjoyed when visiting there. In terms of the fulfillment or availability of food ingredients in making their village's specialties, they do not have difficulty obtaining them and do not lack the raw materials they need. Many villagers grow their own raw materials around their homes, which can be used as daily food and facilitate their activities. They only lack a few ingredients such as wheat flour, shallots, and garlic, which they choose to buy at the market ([Turgarini, D., 2024](#)). The Digital Gastronomy Educational Tourism Travel Pattern is analyzed as follows



**Figures 3.** Travel Pattern Map

Source : [Turgarini, D. \(2024\)](#)

In addition, there is also food distribution, which is a visual depiction that shows the location and distribution of certain types of food in an area. This map can be made for various scales, from global to local, and can use various visualization methods, such as symbols, colors, and gradations.



may vary depending on conditions and mutual agreement. The culinary experience includes tastings of signature dishes such as Lembang's special Grilled ketan bakar, colenak, Subang honey pineapple, pomelo kerupuk melarat banana-based culinary creations, seblak, ayam bakakak, fried rice.



**Figure 6.** Tour Package Poster

Source: *Turgarini, D. (2024)*

The following is a poster for a tour package to Cibuluh Village, Subang Regency. This poster contains details of the facilities and activities that can be done in Cibuluh Tourism Village as well as information on the costs required to travel to Cibuluh Village. The tour package to Cibuluh Tourism Village includes facilities in the form of transportation and a driver, a Tour Guide who is a local resident of Cibuluh Village, a typical Cibuluh Village lunch package consisting of Sundanese tumpeng rice, lodeh, stir-fried banana blossom, stir-fried genjer, fried fish, sambal and typical Sundanese snacks such as rengginang, opak, papais and so on. The rice companion menu can be adjusted to the tastes of tourists or consumers.

#### 4.1. Recommendations

Based on research in Cibuluh village, efforts are needed to strengthen community capacity, in the form of digital marketing training, culinary storytelling, and hospitality for MSME actors, women's farmer groups, and village youth. Furthermore, it is necessary to establish a village gastronomy community to curate and manage educational tourism agendas collectively. For the development of Gastronomy educational tourism products can be developed by designing thematic tour packages such as "Learning to Cook in the Traditional Sundanese Hawu Kitchen in Cibuluh Village" and "Exploring Taste & Culinary Stories of Cibuluh". The Festival 7 Sungai and the Hajat Bumi Tradition must feature traditional food and folk performances that include cultural stories, food philosophy, and direct involvement of tourists in activities (hands-on experience).

Related to digitalization and branding, an integrated digital platform should be developed including a website, social media, and a culinary directory containing information on traditional or local food types, recipes, preparation methods, equipment, and organoleptic descriptions. Educational visual content, such as short videos, vlogs, and e-books, should also be produced to highlight the history of food, local recipes, and profiles of business actors. Collaboration with culinary influencers and travel bloggers is recommended to increase promotional reach. In addition, it is necessary to build strategic partnerships with the Subang Regency Tourism Office, vocational education institutions (for internships and training), and

digital tourism and MSME platforms such as Tokopedia Salam, Traveloka Xperience. Additionally, the village should apply for the Thematic Tourism Village program under the Indonesian Ministry of Tourism and Creative Economy. This village also needs to carry out sustainable preservation to encourage the regeneration of traditional culinary knowledge through recipe documentation, videos, and intergenerational workshops. Finally, ecotourism principles should be implemented such as using local ingredients, minimizing plastic waste, conserving water, and promoting ethical behavior among tourists.

## 5. CONCLUSION

Cibuluh Village has great potential in the unique and authentic local gastronomic cultural heritage, both in terms of local food ingredients, traditional processing techniques, and cultural values contained in its culinary practices. The community of Cibuluh Village has demonstrated enthusiasm and initial readiness to participate in the development of gastronomic educational tourism, although capacity building is still needed in the aspects of education, hospitality, and digitalization. Digitalization is a key factor in expanding the reach of promotion and marketing of village gastronomic tourism.

The development of gastronomic educational tourism in Cibuluh Village must be based on the principle of sustainability, namely by actively involving local communities, maintaining cultural authenticity, and utilizing technology wisely to support conservation and promotion. Therefore, multi-party synergy is needed between village communities, local governments, universities, creative industry players, and digital platforms to ensure that this initiative not only has an economic impact, but also socially, culturally, and ecologically in the long term.

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