

Local Wisdom-Based Conservation Strategy for Fried Grasshoppers to Strengthen Gunungkidul's Culinary Tourism Identity

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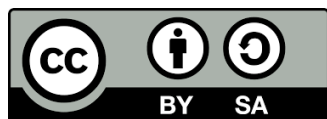
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Abstract

Walang goreng is a distinctive culinary heritage of Gunungkidul that reflects the community's adaptation to the ecological conditions of the karst landscape. This study aimed to identify forms of local wisdom in the preservation and utilization of *walang goreng*, examine its role in strengthening Gunungkidul's culinary tourism identity, and formulate an integrated preservation strategy. The study employed a qualitative approach with a descriptive ethnographic design. Data were collected through participatory observation, in-depth interviews with traditional hunters and micro, small, and medium enterprise (MSME) actors, documentation, and focus group discussions. Data analysis followed an interactive model involving data condensation, data display, and conclusion drawing. The findings showed that local wisdom was reflected in knowledge of *belalang* habitat and seasonality, traditional night hunting practices (*nyuluh*), selective harvesting, traditional processing methods, and the intergenerational transmission of culinary knowledge. *Walang goreng* has also developed into a marker of local culinary identity and a source of creative economic activity. However, increasing demand and declining local availability have encouraged supply from other regions, creating challenges for maintaining local authenticity. The proposed preservation strategy integrates ecological conservation, cultural documentation, gastronomic storytelling, product quality and legality improvement, experiential culinary tourism, and pentahelix collaboration. This study positions *walang goreng* not merely as a food product but as a cultural experience whose ecological, historical, and social narratives require continuous preservation.



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INTRODUCTION

Tourism development in Gunungkidul has increasingly expanded beyond nature-based attractions toward products that offer distinctive cultural experiences. In contemporary tourism, local food functions as an important medium for interpreting place, culture, and community identity (Baldacchino, 2015; Kim & Iwashita, 2016; Liu et al., 2026; Stalmirska, 2024). Traditional food is therefore not consumed solely for its taste but may also become part of the tourist experience and destination differentiation (Bessiere, 1998). In Gunungkidul, *walang goreng*, primarily made from the wood

grasshopper (*Valanga nigricornis*), represents one of the region's most distinctive culinary products.

The existence of *walang goreng* is closely related to the adaptive capacity of communities living in karst environments. Historical food practices indicate that local communities utilized available biological resources as alternative food sources. Over time, *walang goreng* has transformed from a local food practice into a culinary tourism product with economic value. This transformation creates opportunities to strengthen Gunungkidul's identity while simultaneously presenting preservation challenges. Habitat degradation, agricultural pesticide use, declining availability of local grasshoppers, reduced transmission of ecological knowledge, and commercialization without adequate cultural context may weaken the authenticity of this culinary heritage (Ambele et al., 2025; Chidozie Ogwu, 2025; Cruz-García et al., 2025; Kipkoech et al., 2023; Selaledi et al., 2021).

The central issue is therefore not merely how to increase production but how to maintain the relationship among ecological resources, traditional knowledge, culinary practices, community identity, and tourism development. This study addresses three research questions: (1) What forms of local wisdom are reflected in the preservation and utilization of grasshoppers as traditional food? (2) What role does *walang goreng* play in strengthening Gunungkidul's culinary tourism identity? and (3) What integrated preservation strategy can ensure ecological sustainability while strengthening culinary tourism identity?

The novelty of this study lies in integrating local wisdom and tourism identity into a unified preservation framework. The proposed approach, referred to in the research document as Narrative-Based Preservation, positions *walang goreng* as a cultural experience rather than merely a commercial product. Therefore, preservation encompasses ecological conservation, protection of traditional knowledge, documentation, storytelling, quality improvement, and stakeholder collaboration (Banda et al., 2024; Chigwada & Ngulube, 2025; Saputra, 2024).

Ethnogastronomy provides a framework for understanding food as a product of interactions among people, the environment, history, and culture. Within this perspective, culinary practices reveal how communities adapt to environmental conditions and construct collective identity (Atmodjo, 2019). Traditional food can also become a tourism attraction when its cultural meanings and local development contexts are effectively communicated to visitors (Bessiere, 1998).

The concept of local wisdom in this study refers to knowledge and practices developed through long-term interactions between communities and their environments. In the context of *walang goreng*, local wisdom is reflected in knowledge of grasshopper habitats, seasonal patterns, traditional harvesting techniques, selective collection practices, and culinary processing methods. Such knowledge is important because the continuity of this culinary tradition depends not only on raw material availability but also on the preservation and transmission of cultural knowledge across generations (Guiné et al., 2021; Hendriyani et al., 2026; Mardatillah et al., 2019; Sharif et al., 2016).

Destination identity emphasizes the distinctive characteristics that differentiate one place from another. Food can become a marker of local identity when it represents recognizable cultural narratives and provides visitors with meaningful experiences (Bessiere, 1998; Richards, 2012). Accordingly, *walang goreng* has the potential to serve as a gastronomic identity marker because it connects food, local ecology, history, traditional practices, and visitor experiences.

This study also adopts the perspective that local wisdom should be developed into opportunities for sustainable tourism without losing its cultural foundation. Therefore, commercialization should be accompanied by documentation, community participation, environmental responsibility, and the preservation of authenticity.

METHOD

This study employed a qualitative approach with a descriptive ethnographic design. This approach was selected because local wisdom and culinary identity are social and cultural constructions that require contextual understanding of meanings, practices, and experiences. Ethnographic inquiry enabled the researchers to examine the relationships among people, the environment, and food practices within the community setting.

The research was conducted in Gunungkidul, particularly in Semanu, Paliyan, and Wonosari, which were identified as areas associated with grasshopper habitat, hunting activities, and *walang goreng* processing. Informants were selected using purposive and snowball sampling techniques. They included traditional grasshopper hunters, *walang goreng* micro, small, and medium enterprise (MSME) actors, tourists who had consumed the product, and relevant government representatives.

Data were collected through participatory observation, semi-structured in-depth interviews, documentation, and focus group discussions (FGDs). Observations focused on hunting activities, equipment, habitat selection, seasonal knowledge, and harvesting practices. Interviews explored hunting history, traditional processing methods, cultural meanings, market development, product quality, and tourist perceptions. Documentation was used to record cultural, culinary, and promotional information. FGDs were conducted to synthesize findings and formulate an integrated preservation strategy.

The researcher served as the primary instrument, supported by interview guides, field notes, audio recording equipment, and visual documentation. Data analysis followed the interactive model of Miles et al. (2014), consisting of data condensation, data display, and conclusion drawing. Data credibility was strengthened through source triangulation, technique triangulation, and comparison with relevant ethnogastronomy and community-based tourism literature.

The operational analysis focused on three dimensions: local wisdom through ethnobiological and ethnotechnological knowledge, tourism identity through the relationship between food, place, and visitor experience, and an integrated strategy through the identification of strengths, opportunities, aspirations, and results. The research period was January–November 2026, with the primary field focus located in Gunungkidul.

RESULTS AND DISCUSSION

***Walang Goreng* as Culinary Heritage and Local Identity**

The findings indicate that *walang goreng* occupies a distinctive position within Gunungkidul's culinary landscape. It is associated with the ecological characteristics of the karst environment and with the community's capacity to utilize locally available resources. The culinary practice consequently contains economic, cultural, and tourism dimensions. Rather than functioning solely as a snack, *walang goreng* can represent local resilience, adaptation, and community creativity.

The research document identifies several types of grasshopper consumed in Gunungkidul, including *walang kayu*, *walang dami*, *walang uthes/beras*, *walang gambuh*, and *walang gepuk*, with *walang kayu* described as the most favored. This diversity demonstrates the community's knowledge of local biological resources and its ability to distinguish materials used for food.

Forms of Local Wisdom in Hunting and Processing

Traditional hunting is locally known as *nyuluh* and is commonly carried out at night, approximately from 19.00 to 23.00 WIB. Hunters use simple equipment such as flashlights and manually capture grasshoppers from vegetation. The practice depends on knowledge of when and where grasshoppers are most easily found. Informant Bapak Inung, who has practiced hunting since approximately 2004–2005, described hunting knowledge accumulated through long experience.

Local ethical practices were also identified. Hunters avoid unnecessary damage to vegetation, do not take all grasshoppers in one location, leave smaller individuals to grow, and recognize informal norms concerning hunting areas. These practices indicate that preservation knowledge is embedded in everyday livelihood practices rather than existing only as formal regulation.

Traditional processing begins with cleaning the grasshoppers by removing wings and internal contents, followed by washing and seasoning. One UMKM informant described marination using garlic, shallots, salt, and seasoning before frying. Another informant used a bacem-style seasoning and double-frying technique to achieve a crispier product with longer keeping quality. Product innovation includes flavor variants such as spicy-sweet, sweet, spicy-savory, and savory, while maintaining the basic traditional character.

Market Development and Preservation Challenges

The interviews indicate that demand for *walang goreng* remains high, particularly during holiday periods and increased tourist visits. Social media, attractive packaging, and flavor diversification have helped broaden the market. The research notes an average 2026 market price of approximately Rp250,000 per kilogram and identifies different flavor preferences among visitors from different regions. These observations suggest that culinary tourism contributes to market expansion.

At the same time, local supply is becoming more limited. According to the informant account, suppliers now include areas outside Gunungkidul, such as Blora, West Java, Solo, Madura, Bondowoso, Lamongan, Kebumen, Kulon Progo, Banyumas,

Cilacap, Indramayu, and Lampung. The shift toward external supply demonstrates a tension between market continuity and local authenticity. The research also records that UMKM actors generally have halal certification and business identification numbers (NIB), while some still face difficulties obtaining PIRT certification.

An additional preservation challenge is the desire to develop grasshopper cultivation from eggs to harvest. The informants estimate a cultivation period of approximately five to six months, but environmental temperature management remains a technical obstacle. This indicates that cultivation may be a potential long-term strategy, although it requires further scientific and technical study before being adopted as a preservation solution.

***Walang Goreng* and Culinary Tourism Identity**

The findings show that tourists often initially recognize *walang goreng* as an unusual or extreme food. However, when they receive information about its history and the community's adaptation to the local environment, the product is more readily understood as a cultural food. This suggests that the cultural meaning of the product is not automatically communicated through consumption alone; it needs to be mediated through narrative and interpretation.

Walang goreng strengthens destination identity through four interconnected elements: uniqueness of the product, traditional processing, local historical narrative, and the visitor's culinary experience. The combination differentiates Gunungkidul from destinations whose tourism products rely primarily on scenery. The culinary product can therefore function as a complementary identity marker within the wider tourism destination.

Integrated Preservation Strategy

The findings support an integrated preservation model consisting of four mutually reinforcing domains. First, ecological conservation includes habitat protection, preservation of vegetation, reduction of harmful agricultural chemicals, regulation of harvesting areas, and rehabilitation of vulnerable karst environments. Second, cultural preservation includes documentation of hunting and processing knowledge, intergenerational transmission, digital archiving, and gastronomic festivals.

Third, creative economic strengthening includes culturally based branding, improved packaging, product legality and hygiene, and development of gastronomic tourism packages. Fourth, pentahelix collaboration connects academics, government, communities, media, and businesses. This model aims to ensure that economic development does not separate the product from its cultural and ecological context.

The findings confirm that the value of *walang goreng* is multidimensional. From an ethnogastronomic perspective, the food embodies the interaction between environmental adaptation and cultural practice. Its existence illustrates how communities can transform a locally available biological resource into a food tradition and subsequently into a tourism product. This is consistent with the position that traditional food can contribute to local development and tourism attraction when its cultural context is retained (Bessiere, 1998).

The hunting practices documented in the study are particularly important for understanding local wisdom. Knowledge of seasonality, habitat, hunting time, selective capture, and informal rules represents practical ecological knowledge. However, the observed decline in local availability suggests that traditional knowledge alone is insufficient when environmental conditions and market pressure change. Preservation therefore needs to connect local practices with ecological monitoring and community-based conservation.

The development of external supply networks creates an important issue of authenticity. External sourcing may sustain business operations and satisfy demand, but it can also weaken the association between the product and Gunungkidul if the product is marketed without explaining its provenance. The appropriate response is not necessarily to reject external supply, but to establish transparent product narratives and distinguish locally sourced products from products supplied from other regions. Such differentiation can protect the credibility of Gunungkidul's culinary identity.

The role of storytelling is consequently central. The findings show that tourists' perceptions can shift from viewing *walang goreng* as merely an extreme food toward recognizing it as a cultural product after receiving historical and ecological explanations. This supports the need for interpretation that links the food to local history, community resilience, hunting traditions, processing techniques, and the karst environment. Gastronomic tourism should therefore provide an experience of place, rather than simply a transaction involving food.

The proposed preservation strategy also indicates that sustainability requires collaboration. Academics can support documentation, research, innovation, and mentoring; government can strengthen regulation, conservation, infrastructure, and destination promotion; communities preserve knowledge and practices; media expand cultural communication; and businesses strengthen product development and markets. The pentahelix approach is therefore appropriate for a culinary heritage whose sustainability depends simultaneously on culture, ecology, tourism, and economic activity.

CONCLUSION

Walang goreng is a distinctive gastronomic heritage of Gunungkidul that reflects local adaptation to the karst environment and functions as a marker of culinary tourism identity. Local wisdom is manifested through knowledge of habitat and seasonality, traditional night hunting (*nyuluh*), selective harvesting, traditional seasoning and frying techniques, and the intergenerational transmission of culinary knowledge. The product also generates economic opportunities through micro, small, and medium enterprises (MSMEs), tourism demand, product innovation, and digital promotion.

The primary preservation challenges include the declining availability of local grasshoppers, environmental pressures, the need to improve product legality and quality, and the risk of cultural decontextualization caused by commercialization without sufficient cultural narratives. Therefore, the recommended preservation strategy is an

integrated model that combines ecological conservation, documentation and transmission of cultural knowledge, cultural storytelling, quality and legality improvement, experiential gastronomic tourism, and pentahelix collaboration.

This research recommends that local stakeholders establish community-based guidelines for sustainable harvesting, develop systematic documentation and storytelling programs, strengthen MSME assistance related to food legality and quality standards, and develop tourism packages that connect the product with its ecological and cultural contexts. Any cultivation initiative should be supported by further technical research, particularly regarding environmental conditions and temperature management.

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