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The Role of the Gunung Anyar Mangrove Ecotourism Site (Surabaya City) in Empowering MSMEs Based on Local Economic Potential: Institutional Support and Structural Constraints

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Abstract. *This study analyzes how the Gunung Anyar Mangrove Ecotourism site in Surabaya empowers micro, small, and medium enterprises (MSMEs) through business premises, income, and training and promotional support, and what constrains this role. A qualitative descriptive case study design was employed. Data were collected through observation, semi-structured interviews with seven purposively selected informants (the head of the Mangrove Ecotourism Technical Implementation Unit, four MSME operators, and two visitors), and documentation between December 2025 and April 2026. Management records report 20 food-and-beverage MSMEs, 15 in Gunung Anyar with a cumulative turnover of IDR 575.9 million and 5 in Medokan Ayu with IDR 29.4 million (recorded up to November 2025), as well as 25 MSMEs supplying the merchandise store. The site provides stalls, free licensing facilitation, training partnerships, and destination promotion; however, the benefits are uneven and depend on visitor numbers. The findings suggest that the main constraints lie in destination-level design, namely stall layout, product variety, single-gate circulation, and cancelled programming, rather than in MSME capacity alone. Support is therefore strong at the input level but weak at the market interface where MSMEs meet visitors. Redesigning stall layout and visitor circulation, curating the product mix, and formalizing coordination between management and MSMEs are recommended.*

Keywords:

Mangrove Ecotourism; MSME empowerment;

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local economic potential; destination management

INTRODUCTION

Micro, small, and medium enterprises (MSMEs) account for the overwhelming majority of business units in Indonesia, yet their competitiveness remains constrained by limited capital, low productivity, restricted market access, and weak innovation capability (Tambunan, 2019). These constraints have made empowerment strategies grounded in each region's local potential a policy priority, because such strategies allow enterprises to develop distinctive products from resources that competitors cannot easily replicate (Purnomo & Purwandari, 2025). Tourism is one channel through which local potential can be converted into business opportunities. As tourist activity expands, demand for culinary products and mangrove-based foods and crafts is expected to rise, and visitor spending becomes a source of income for residents (Andriyanti et al., 2023). In practice, however, small tourism firms depend heavily on the destinations in which they operate (Thomas et al., 2011), and many Indonesian MSMEs remain small-scale and traditional, with limited promotional reach and weak integration into destination management (Puspaningtyas & Ilman, 2026).

Mangrove ecotourism is a form of sustainable, nature-based tourism that links the ecological functions of coastal areas with community well-being through learning-oriented and locally beneficial economic activity (Fennell, 2020). A systematic review of Southeast Asian cases shows that ecotourism revenue has funded infrastructure, community services, and mangrove restoration, while emphasizing that these gains depend on fair benefit-sharing (Blanton et al., 2024). In Indonesia, mangrove ecotourism has been assessed as a management alternative that preserves mangrove ecosystems while generating economic benefits (Askar et al., 2021; Hidayat et al., 2024), and its success depends heavily on community involvement in planning, management, and evaluation (Kur'aeny et al., 2025; Sukuryadi et al., 2021). In Surabaya, the Gunung Anyar Mangrove Ecotourism site, a botanical garden managed by a municipal technical implementation unit, hosts MSMEs in the food-and-beverage and handicraft sectors. It therefore offers an informative case of whether, and under what conditions, a government-managed urban ecotourism site translates visitor flows into MSME empowerment.

Prior studies relevant to this question fall into five strands, which are summarized in Table 1: the community-based development and sustainability of mangrove ecotourism; community empowerment and governance in mangrove destinations; MSMEs and mangrove-based products; studies of the Wonorejo mangrove site in Surabaya; and studies of the Gunung Anyar site itself. Studies outside Surabaya mostly examine village or regency settings, enterprise-level capability, or ecological and multidimensional sustainability. The Surabaya studies are closer to the present question. At Wonorejo, earlier work formulated development strategies and entrepreneurship models based on local potential (Umam et al., 2016; Winarto & Setyowarni, 2022), and Andriyanti et al. (2023) described free stalls, training, low-cost market events, and protection from competing traders as the main empowerment channels. At Gunung Anyar, studies have examined the site's development through

a pentahelix approach (Churin'in et al., 2024), its tourism development strategy (Firnanda, 2025), the managers' strategy for raising visitor appeal (Salsabila & Eprilianto, 2024), community empowerment and the economy of the surrounding sub-district (Marshelynda et al., 2024), and a local economic development model for the Gunung Anyar Tambak area (Puspaningtyas & Ilman, 2026). These studies show that both government-led MSME support and destination development have been documented in Surabaya. As far as we could determine, however, they do not report recorded MSME turnover or connect what MSMEs earn to destination-level management decisions such as stall layout, visitor circulation, and programming.

Table 1. Positioning of the present study relative to prior research

Study	Focus	Setting	What remains open
Prihadi et al. (2024); Hidayat et al. (2024)	Community-based mangrove ecotourism assessed with biophysical and ecosystem-service approaches	Karangsong, Indramayu; Kaliwlingi, Brebes	Village settings; MSME earnings and site management arrangements not examined
Askar et al. (2021); Sukuryadi et al. (2021); Tjahjono et al. (2022)	Ecological and multidimensional sustainability of mangrove ecotourism	Jeneponto; Lembar Bay, Lombok; Banyuurip Mangrove Center	Sustainability focus; MSME-level outcomes not examined
Desnyarti & Zulkarnaini (2025); Kur'aeny et al. (2025); Susanti (2025); Nugroho & Kohsaka (2026)	Development strategy, community empowerment, and governance of mangrove ecotourism	Bukit Batu, Bengkalis; Teluk Semanting, Berau; Balikpapan	Regency and village settings; urban, government-managed site not examined
Arfan et al. (2022); Faizin et al. (2023); Ariani (2024); Widiati & Azkia (2025)	MSMEs and mangrove-based products: ecopreneurship, soft skills, processed products, halal certification	Makassar; Pasuruan; Mentawir; Lontar, Serang	Enterprise as the unit of analysis; destination-level design not examined
Umam et al. (2016); Winarto & Setyowarni (2022)	Development strategy and entrepreneurship models based on local potential	Wonorejo mangrove ecotourism, Surabaya	Strategy and model formulation; MSME outcomes at the stall level not reported
Andriyanti et al. (2023)	Empowerment of SMEs through mangrove ecotourism (participatory action research)	Wonorejo mangrove ecotourism, Surabaya	Free stalls, training, and low-cost markets described; recorded turnover not reported; layout, circulation, and programming not analyzed

Study	Focus	Setting	What remains open
Churin'in et al. (2024); Salsabila & Eprilianto (2024); Firnanda (2025)	Destination development: pentahelix approach, visitor appeal, tourism strategy	Gunung Anyar Mangrove Botanical Garden, Surabaya	Destination lens; MSME turnover and the effect of layout on stall earnings not analyzed
Marshelynda et al. (2024); Puspaningtyas & Ilman (2026)	Community empowerment and the sub-district economy; local economic development model	Gunung Anyar Tambak, Surabaya	Sub-district and policy-model focus; MSME turnover not linked to site management decisions
This study	Role of an urban mangrove site in MSME empowerment and the constraints on that role	Gunung Anyar, Surabaya	Adds recorded MSME turnover and links MSME outcomes to destination-level management conditions, triangulating manager, MSME, and visitor accounts

Source: Compiled by the authors from the abstracts and stated settings of the cited studies.

Against this background, the study makes three contributions. First, it adds recorded turnover data and operator accounts from an urban, municipally managed mangrove botanical garden, whereas earlier work has centered on development strategy, community employment, and visitor appeal. Second, it triangulates the accounts of the site manager, MSME operators, and visitors rather than relying on a single stakeholder group. Third, it distinguishes support directed at MSMEs (premises, licensing, and training) from conditions set at the destination level (layout, circulation, and programming), and asks which of the two better explains the uneven outcomes observed.

Theoretical Framework

The study uses empowerment theory as its main lens, supported by tourism development theory. Scheyvens (1999) argues that empowerment through ecotourism should be assessed along economic, psychological, social, and political dimensions, and that economic gains are not empowering when benefits are narrowly distributed or when communities lack a voice in decisions. Community-based tourism (CBT) scholarship similarly treats participation in, and a degree of control over, tourism activities as the pathway through which local people benefit (Okazaki, 2008). However, empowerment is shaped by power relations and partnerships between communities and external actors, including governments (Dolezal & Novelli, 2022), and participation in developing countries faces operational, structural, and cultural limits, including centralized decision-making (Tosun, 2000). Comparative evidence from Indonesian tourism villages confirms that inclusive participation and fair benefit-sharing strengthen community resilience, whereas top-down governance limits inclusion (Pramono & Juliana, 2025).

From the perspective of tourism development, the economic contribution of tourism to local communities depends less on the volume of visitors than on the strength of the linkages between tourism demand and local suppliers; where linkages are weak, spending leaks away from local enterprises (Meyer, 2007). Because small

tourism firms are embedded in destinations whose infrastructure, flows, and attractions they do not control (Thomas et al., 2011), their performance depends on how the destination itself is designed and managed. In this study, these ideas are operationalized as three analytical dimensions of the site's role, namely (1) business premises and infrastructure, (2) income and economic impact, and (3) training and promotional support, together with the constraints observed on each.

The research questions are as follows: (RQ1) How does the Gunung Anyar Mangrove Ecotourism site provide business premises, generate income, and offer training and promotional support for MSMEs? (RQ2) What constrains this role? (RQ3) What priority actions can strengthen synergy among the ecotourism manager, local government, MSME operators, and visitors? Accordingly, the study aims to analyze the site's role in MSME empowerment, to identify the constraints on that role, and to formulate prioritized recommendations.

RESEARCH METHODS

This study employed a qualitative descriptive design, treated as a single-site case study (Creswell & Poth, 2018; Yin, 2018), because it seeks an in-depth understanding of how a particular ecotourism site operates and how the people involved experience it. Qualitative description is appropriate when the aim is a comprehensive account of a phenomenon that remains close to the data rather than the development of abstract theory (Kim et al., 2017). The Gunung Anyar Mangrove Ecotourism site was selected because it is an environment-based destination developed by the Surabaya City Government to conserve mangrove ecosystems while building a tourism sector, and because it hosts MSMEs engaged in culinary, handicraft, and service activities.

Fieldwork took place over five months: a field survey in early December 2025, followed by observation, interviews, and documentation from January to April 2026. Primary data consist of the informants' accounts and the researchers' observations. Secondary data comprise official government documents, management reports, visitor statistics, published news reports of management data, and prior studies. The site's role was examined through the three analytical dimensions described above, together with the constraints observed on each.

Informants were selected through purposive sampling (Patton, 2015) on the basis of their direct knowledge of the site's management, MSME activity, or visitor experience. Seven informants participated (Table 2). The sample is small and was designed to capture variation across the three stakeholder roles rather than to achieve statistical representation.

Table 2. Informant profile

Code	Role	n	Selection criterion	Perspective
I1	Head of the Mangrove Ecotourism Technical Implementation Unit (UPT)	1	Responsible for site management and MSME programs	Manager
M1–M4	MSME operators at the site	4	MSME operators selling at the research site	Business owner
T1–T2	Visitors	2	Visitors randomly selected at the research site	Consumer
Total		7		

Source: Field data, 2025–2026.

Three techniques were used. First, observation covered tourism activity, MSME activity, facility conditions, and interactions among visitors, management, and MSME

operators. Second, semi-structured in-depth interviews were conducted with all seven informants, following the themes listed in Table 3. Third, documentation (photographs, management reports, visitor statistics, and regulations) was used to complement and verify the interview and observation data. Quotations in this article were translated from Indonesian by the authors.

Table 3. Interview themes by analytical dimension

Dimension	Interview themes	Main informants
Business premises and infrastructure	Allocation and condition of stalls and merchandise-store space; adequacy of facilities, layout, and visitor circulation	I1, M1–M4, T1–T2
Income and economic impact	Changes in sales; sources of income fluctuation; involvement of local residents and workers	I1, M1–M4
Training and promotional support	Licensing facilitation (NIB, PIRT, halal); training programs; promotion channels and events	I1, M1–M4
Constraints and synergy	Visitor comfort and flow; product variety; programming; coordination between management and MSMEs	All informants

Themes are derived from the three analytical dimensions.

Analysis followed the interactive model of Miles et al. (2014) in four steps. (1) Interviews were transcribed and read repeatedly. (2) Data were condensed through coding: deductive codes were derived from the three analytical dimensions, while inductive sub-codes (e.g., layout, product variety, visitor circulation, programming, and revenue dependence) were added as they emerged and subsequently grouped into themes (Braun & Clarke, 2006). Coding was conducted by the researcher using NVivo. Each excerpt reported in the Results is attributed to a single informant, identified by the codes presented in Table 2. (3) Data were displayed in matrices (Tables 4 and 5). (4) Conclusions were drawn and checked against the other data sources. Given the small sample, saturation was understood as thematic sufficiency within each informant group rather than statistical saturation. Previous research on saturation suggests that relatively homogeneous samples may reach thematic saturation within approximately twelve interviews (Guest et al., 2006). Accordingly, the findings are treated as exploratory and analytically, rather than statistically, generalizable (Patton, 2015).

Validity was supported by three forms of triangulation (Sugiyono, 2020; Patton, 2015): source triangulation compared the accounts of the manager, MSME operators, and visitors; technique triangulation compared interviews with observation and documents; and time triangulation compared information gathered at different points between December 2025 and April 2026. For example, informant's account of 15 food-and-beverage stalls matches the 15 Gunung Anyar MSMEs in the management records (Table 4) and the 15 stands reported by Salsabila and Eprilianto (2024). All participants provided informed consent, and confidentiality was maintained throughout the research process. The research was conducted with permission from the relevant site management, with ethical considerations observed throughout the data collection and reporting process.

RESULTS AND DISCUSSION

Result

The results are organized by the three analytical dimensions of the site's role, followed by the constraints identified. Interpretation and comparison with prior studies are reserved for the Discussion.

Site profile and management

The site lies on Surabaya's east coast. Its address is Jalan Medokan Sawah Timur in Medokan Ayu, Rungkut (Dewi et al., 2022), and visitors arrive through the Gunung Anyar entrance, which centralizes visitor arrival. Physical development began on 29 April 2018 through collaboration among the Surabaya City Government, the Ministry of Public Works and Public Housing (PUPR), BRIN, and the Indonesian Botanical Gardens Foundation (YKRI), initially focusing on rehabilitating damaged mangrove forest and building trekking paths and a pier. The Gunung Anyar section covers about 27 hectares (Salsabila & Eprilianto, 2024), within a botanical garden of about 34 hectares in total that also includes Medokan Sawah and Wonorejo (Jatim Times, 2025). The area has served as a community conservation site since 2022 and was inaugurated on 26 July 2023, World Mangrove Day, as Indonesia's first botanical garden dedicated to mangroves. At inauguration it held 56 of the 74 mangrove species found in Indonesia and offered a 12-meter observation tower, a 30-meter bamboo suspension bridge, a 5.4-kilometer tourism waterway, a jogging track, an auditorium, and gazebos (Figure 1). UPT data record 86,021 visitors between January and 21 December 2025, an upward trend through the year (Jatim Times, 2025).



Figure 1. The Gunung Anyar Mangrove Ecotourism site: (a) boardwalk through the mangrove forest, (b) dome-shaped steel-mesh structure beside the boardwalk, (c) entrance area with a buggy car, (d) indoor facility, and (e) the tourism waterway

Source: Authors' documentation, 2026.

The site is managed by the Mangrove Ecotourism Technical Implementation Unit (UPT) under the Surabaya City Food Security and Agriculture Agency (DKPP), established under Mayoral Regulation No. 41/2023 and Mayoral Decree No. 188.45/145/436.1.2/2018. The UPT conserves the mangrove collection, maintains facilities such as the boardwalks and observation tower, manages ticket admissions, runs planting and environmental education programmes, and reinvests tourism revenue in maintenance, working with BRIN, YKRI, and corporate partners under corporate social responsibility (CSR) schemes such as PT Suparma Tbk. Promotion led by DKPP includes official social media, school invitations, photo spots, and World Mangrove Day events. Figure 2 summarizes the actors and the relationships described by informants and documents.

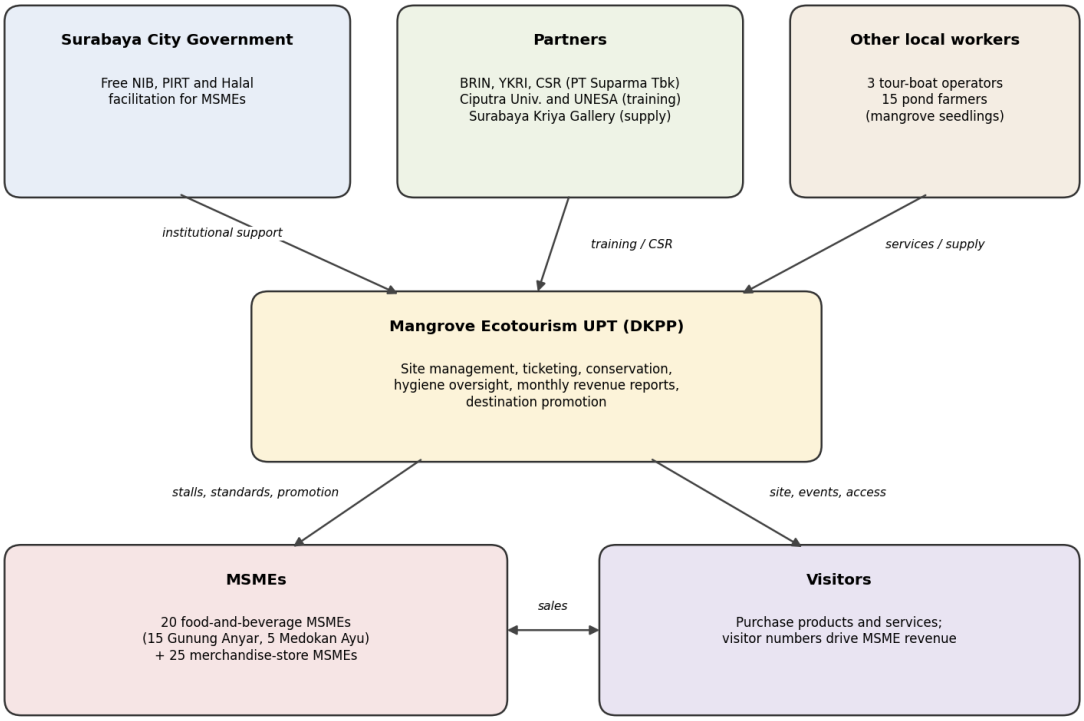


Figure 2. Actors and relationships around the Gunung Anyar Mangrove Ecotourism site (compiled by the authors from interviews and management documents)

Source: Compiled by the authors from interviews and management documents.

Business premises and infrastructure

The site opens commercial space for MSMEs at official stalls selling local products such as young coconut drinks, mangrove-inspired snacks, and refreshments. Informant described the arrangement as follows:

> "*This destination was designed from the outset as an instrument for local economic empowerment through community-based ecotourism. The transformation of land that was formerly a fishpond and temporary waste disposal site has proven successful in opening up inclusive commercial business space. Currently, the ecotourism facility accommodates 15 food and beverage stalls, as well as 25 MSMEs that sell their products at the site's merchandise store. This synergy also engages external workers, such as three tour-boat operators and fifteen pond farmers who supply mangrove seedlings, with local residents utilizing this business space in a variety of ways*." (I1)

A visitor, however, assessed the same arrangement differently:

> "*From the consumer's perspective, the provision of commercial space is considered suboptimal. Currently, the presence of MSMEs fails to fully enhance the site's tourism appeal. This can be attributed to two primary operational factors: a lack of product variety and uniqueness, and stall locations that are neither strategic nor well organized. From an operational management standpoint, the physical space provided by management has not been matched by layout planning strategies or product standardization capable of appealing to tourists' shopping psychology*." (T2)

Premises are therefore widely available, but the accounts diverge on whether their location and arrangement serve the MSMEs and the visitors.

Income and economic impact

Management records list 20 food-and-beverage MSMEs: 15 in Gunung Anyar and 5 in Medokan Ayu, a sub-district whose residents management counts among the communities involved in the site (Jatim Times, 2025). The Gunung Anyar and Medokan Ayu sides of the site are linked by a connecting bridge that was reported closed in 2023 (Salsabila & Eprilianto, 2024). In addition, 25 MSMEs supply the merchandise store, as the head of the UPT indicated above. Recorded turnover is summarized in Table 4. The figures are cumulative turnover recorded in UPT data up to November 2025, that is, before the fieldwork period (Jatim Times, 2025). Because the source does not state when the recording period began, the figures cannot be interpreted as monthly or annual income.

Table 4. Recorded turnover of food-and-beverage MSMEs by location (cumulative, up to November 2025)

Location	MSMEs	Turnover (IDR million)	Share of total	Average per MSME (IDR million)
Gunung Anyar	15	575.9	95.1%	38.4
Medokan Ayu	5	29.4	4.9%	5.9
Total	**20**	**605.3**	**100%**	**30.3**

Source: UPT records as reported by Jatim Times (2025): IDR 575,854,500 (Gunung Anyar), IDR 29,408,000 (Medokan Ayu), and IDR 605,262,500 in total, rounded here to IDR million. Shares and averages are calculated by the authors. Averages conceal differences among individual MSMEs, and the start of the recording period is not stated in the source.

Informants described the economic effect in two ways. One reported tangible benefits but also unevenness:

> *"Ecotourism has indeed brought tangible benefits to local communities by creating business opportunities, such as retail and parking services. The area is also considered successful in raising residents' ecological awareness. However, these economic and social impacts remain uneven and are not yet sustainable. The fluctuating incomes of MSMEs show that ecotourism still relies on a revenue model driven by immediate visitor numbers rather than on a self-sustaining MSME business ecosystem. Nevertheless, the income growth experienced by some MSME operators shows that the economic activity generated by the ecotourism area has a positive effect on community well-being."*(M4)

Another account points to strong sales in handicrafts, where mangrove batik sells out and requires supply support from the Surabaya Kriya Gallery's Merr: "A massive surge in revenue has also been experienced in the local craft sector such as with mangrove batik, where products frequently sell out, necessitating vertical supply support from the Surabaya Kriya Gallery's Merr branch." Management monitors product development through monthly revenue reports.

Training, standardization, and promotional support

The city government has facilitated the free acquisition of business identification numbers (NIB), home-industry food production permits (PIRT), and halal certification for MSMEs at the site. Management has partnered with Ciputra University for human-resource capacity training and with Universitas Negeri Surabaya (UNESA) for commercial English training. For hygiene standardization, management requires food and beverage products to carry expiry-date labels and requires expired products to be removed promptly to prevent food poisoning. The promotion documented in this

study (social media, school invitations, photo spots, and World Mangrove Day events) is destination-level promotion by the DKPP; the data collected do not document a promotion program aimed specifically at individual MSME products.

Constraints

Five constraints emerged from the data (Table 5). Informant described the decline in visitor interest and the circulation problem as follows:

> "*Visitor interest waned following the cancellation of the live music program due to social concerns. Specifically, the sawer tipping culture, which was deemed unethical. Furthermore, regarding facility management and flow, the single-gate system used for both entry and exit creates circulation issues; this leads to overcrowding when visitors are moving in and out, indirectly diminishing the comfort of tourists wishing to view or purchase the locally sourced products displayed throughout the area."* (I1)

Table 5. Constraints on the site's role in MSME empowerment: evidence and level of origin

Constraint	Evidence	Source type	Level of origin
Stall layout and siting	Stalls described as neither strategic nor well organized; space provided without layout planning	T1-T2	Destination management
Limited product variety and uniqueness	Lack of variety and uniqueness reduces the site's appeal; no product standardization	T1-T2	MSME products and management curation
Single-gate circulation	One gate for entry and exit causes overcrowding and reduces comfort when viewing or buying products	I1	Destination management (infrastructure)
Cancelled entertainment programming	Live music cancelled over concerns about sawer tipping; visitor interest declined afterwards	I1	Destination management (programming)
Visitor-dependent, uneven income	Income fluctuates with immediate visitor numbers; benefits uneven across MSMEs and locations (Table 4)	M1-M4	Structural (revenue model)

Note: Informant codes correspond to the participant profiles presented in Table 2. Three issues often cited as constraints for MSMEs—limited capital, low product innovation, and inadequate digital promotion—were not directly documented in the data collected for this study. Product variety and uniqueness provide the closest evidence related to product innovation and are therefore not presented as separate findings.

Discussion

Support is strong at the input level but weak at the market interface

The results reveal a consistent pattern (Figure 3). What the site provides to MSMEs consists mainly of inputs: stalls, free licensing, training partnerships, hygiene standards, and destination-level promotion. What the informants describe as problematic are the conditions at the point where MSMEs meet visitors: where stalls are placed, how visitors move through the site, which products are offered, and what draws people in (Table 5). In Meyer's (2007) terms, the site has created points of contact between tourist demand and local enterprises, but the linkages through which visitor presence is converted into sales remain weak. In terms of tourism development theory, the creation of a conducive environment and institutional strengthening have been only partly achieved: institutions have been strengthened on the MSME side through licenses and training, whereas the environment in which MSMEs sell has not been designed with equal attention. This interpretation rests on a small sample, but it is consistent across the accounts collected.

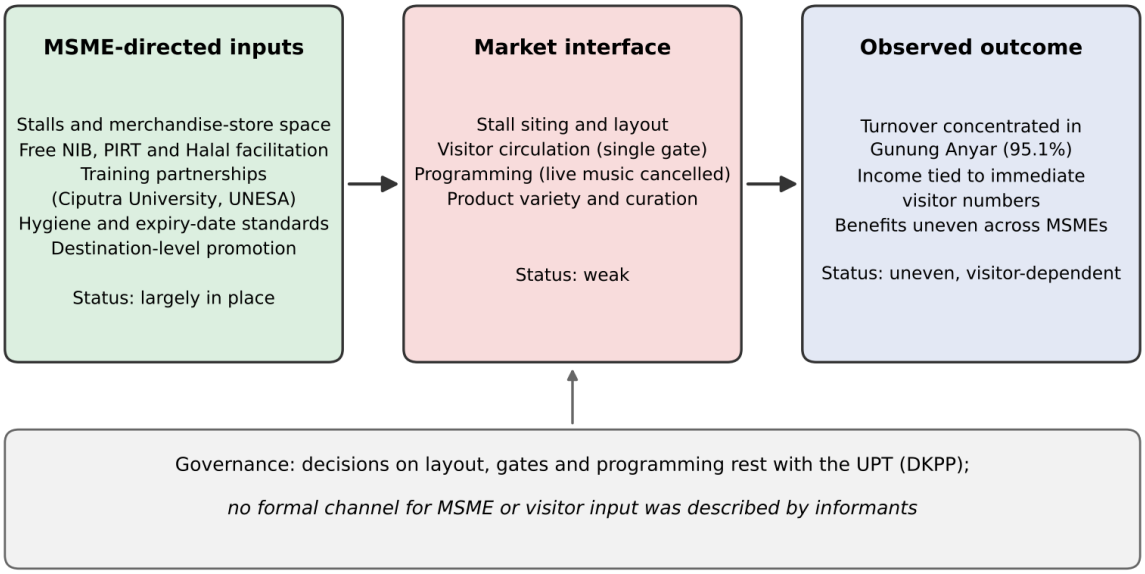


Figure 3. Input-level support versus the market interface in MSME empowerment at the Gunung Anyar site

Source: Synthesized by the authors from Tables 4 and 5.

Why income is uneven and visitor-dependent

Two observations help to explain the unevenness. First, turnover is concentrated: Gunung Anyar accounts for 95.1% of recorded turnover, with an average per MSME roughly 6.5 times that of Medokan Ayu (Table 4). Because the Gunung Anyar entrance centralizes visitor arrival and the bridge linking the two sides was reported closed (Salsabila & Eprilianto, 2024), a plausible explanation is that position relative to visitor flow matters more than business capability. This explanation was not tested here and depends on where the Medokan Ayu MSMEs operate. Second, MSME revenue follows footfall, and footfall in turn depends on decisions that MSMEs do not control, such as programming (the cancelled live music) and circulation (the single gate). Monthly visits to the Gunung Anyar section varied considerably during 2025 (Jatim Times, 2025), which is consistent with the informant's description of a revenue model driven by immediate visitor numbers. MSMEs are therefore exposed to destination-management decisions, and further capacity building alone would not remove the main source of instability. This pattern is consistent with the observation that the performance of small tourism firms is shaped by the destination context in which they operate (Thomas et al., 2011).

Dialogue with prior studies

The training and licensing support found here resembles the approaches that Desnyarti and Zulkarnaini (2025) recommend for mangrove ecotourism communities in Bengkalis and that Kur'aeny et al. (2025) describe in the participatory empowerment of Teluk Semanting. The facilitation of halal certification addresses a constraint that Widiati and Azkia (2025) identified among mangrove-based MSMEs in Lontar Village, and the strong sales of mangrove batik are in line with studies showing that products and businesses built on local mangrove resources can generate income (Arfan et al., 2022; Ariani, 2024; Faizin et al., 2023). These studies, however, concern village or regency settings in which the empowerment program or the enterprise itself is the unit of analysis. At Gunung Anyar, the program operates within a destination whose layout and programming are set by a government unit,

and the evidence here suggests that capacity-focused support is necessary but insufficient in that setting.

Closer to this case, the Surabaya studies describe a similar pattern. At Wonorejo, Andriyanti et al. (2023) reported that free stalls, training, and low-cost market events had been provided, yet stall income remained low because few visitors came and vendors did not sell products distinctive to the mangrove forest; they therefore called for training on mangrove-based food, drinks, and crafts. The limited product variety described by a visitor in the present study is consistent with that finding, while this study adds that stall siting and circulation are also at issue. At Gunung Anyar, Salsabila and Eprilianto (2024), citing a 2023 news report, noted that culinary-center vendors complained of few visitors after the bridge linking the Gunung Anyar and Medokan Ayu sides was closed, and that visitors found the parking area far from the entrance; both observations parallel the circulation constraint identified here. Their suggestion of culinary festivals showcasing mangrove products points in the same direction as our recommendation to curate the product mix. Churin'in et al. (2024) likewise reported limited culinary facilities, weak promotion, and low visitor interest in merchandise at the same site, and Puspaningtyas and Ilman (2026) described local economic activities around Gunung Anyar as fragmented, weakly institutionalized, and dependent on government and corporate support. Unlike these studies, the present one relates recorded turnover to destination-level conditions.

The CBT literature emphasizes local participation in, and control over, tourism resources (Okazaki, 2008). The site studied here is managed by a municipal unit, and MSMEs occupy stalls provided by management; the community-based label therefore fits only partly. Scheyvens (1999) would ask whether economic benefits are accompanied by a voice in decisions, and Tosun (2000) identifies operational and structural limits to participation in developing-country tourism, including centralized decision-making. In the data collected here, decisions on layout, gates, and programming rest with management, and no formal channel for MSME or visitor input was described. Whether such a channel exists but was not mentioned remains an open question. This finding is consistent with Pramono and Juliana's (2025) observation that top-down governance tends to limit inclusion and with Dolezal and Novelli's (2022) argument that empowerment depends on the nature of partnerships between communities and external actors. It also echoes the call by Sukuryadi et al. (2021) for collaborative institutions in mangrove ecotourism. Finally, the uneven distribution of benefits reflects concerns raised in Indonesian and regional studies that mangrove tourism does not automatically benefit all residents (Blanton et al., 2024; Nugroho & Kohsaka, 2026) and Fennell's (2020) caution that ecotourism impacts must be managed to avoid social inequality.

Limitations

The study has five limitations. First, the sample is small (seven informants, two of whom were visitors) and covers a single site, so the findings are exploratory. Second, the turnover figures come from management records, are cumulative up to November 2025 from an unstated start date, and have no baseline; therefore, the study cannot show that income rose because of the site, only the recorded levels and their distribution. Third, well-being was not measured. Fourth, limited capital and digital promotion capability, which are often cited as MSME constraints (Tambunan, 2019) and as determinants of coastal MSME performance (Firdaus et al., 2026; Naayif et al., 2025; Walewangko et al., 2026), were not examined directly and remain to be tested. Fifth, the translation of interview excerpts may have altered some nuances.

CONCLUSIONS and RECOMMENDATIONS

The Gunung Anyar Mangrove Ecotourism site supports MSMEs by providing stalls and merchandise-store space, facilitating free licensing, partnering for training, and promoting the destination (RQ1). Recorded turnover is concentrated in Gunung Anyar, and informants describe benefits that are uneven and tied to immediate visitor numbers. The constraints identified are stall layout, limited product variety, single-gate circulation, cancelled programming, and visitor-dependent income (RQ2). The findings suggest that these constraints originate largely in destination-level management conditions rather than only in MSME capacity. The study does not establish that the site has improved community well-being or income over time. Table 6 sets out recommendations in order of priority (RQ3).

Table 6. Prioritized recommendations

Priority	Recommendation	Lead actor	Basis in findings
1	Redesign stall siting and visitor circulation, including options for separate entry and exit flows	UPT / DKPP, with MSME input	Layout and single-gate constraints (Table 5)
2	Curate and standardize the product mix to raise variety and uniqueness, building on strong handicraft lines such as mangrove batik	UPT with MSME operators and existing partners	Product variety constraint; handicraft sales
3	Reintroduce visitor programming under clear conduct guidelines that address the concerns that led to cancellation	UPT / DKPP	Programming constraint
4	Establish a periodic coordination forum among the UPT, MSME operators, and visitor feedback	UPT / City Government	No formal input channel described; unevenness of benefits
5	Conduct a needs assessment of MSME capital and digital capability before investing in digital marketing training	City Government with partner universities	Not documented in the present data

For future research, a quantitative study with baseline data is needed to measure the long-term effect of MSME empowerment on income distribution and employment, and comparative research across several mangrove ecotourism sites in Indonesia would show whether the pattern found here holds for other management models.

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