

Sports Tourism and Its Impact on the Local Economy in Semarang Regency

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Abstract

Semarang Regency needs an economic recovery strategy following the 2018 earthquake and the COVID-19 pandemic, which caused a 70% decline in tourist visits, with the potential for sports tourism yet to be comprehensively assessed. This study aims to identify types of light sports tourism, analyze their economic impact, and reveal the mechanisms and factors of their sustainability in Semarang Regency. Using a mixed-methods approach, data were collected through participant observation, in-depth interviews with 15 informants, and document studies. Qualitative data analysis used the Miles-Huberman model, while quantitative data was tested with a paired t-test. Three types of sports tourism dominate: trail running, road cycling, and mountain biking, which take advantage of the area's topography (300-1,200 meters above sea level). The economic impact showed significant increases: community income rose by 160% (p=0.002), SME income rose by 85.7% (p=0.015), accommodation occupancy rose by 113% (p=0.001), and equipment rental rose by 37.3% (p=0.028). The main mechanisms involved tiered community participation and digital promotion. Light sports tourism proved to be effective as a driver of inclusive post-disaster economic recovery in Semarang Regency.

Keywords: Sports tourism; economic impact; light sports tourism; post-disaster recovery.

Abstract

Semarang Regency requires an economic recovery strategy following the 2018 earthquake and the COVID-19 pandemic, which caused a 70% decline in tourist visits, with the potential for sports tourism yet to be comprehensively studied. This study aims to identify types of light sports tourism, analyze their economic impacts, and uncover their mechanisms and sustainability factors in Semarang Regency. Using a mixed-methods approach, data were collected through participant observation, in-depth interviews with 15 informants, and document review. Qualitative data analysis used the Miles-Huberman model, while quantitative data were tested using paired t-tests. Three types of sports tourism dominated: trail running, road cycling, and mountain biking, which utilize the area's topography (300-1,200 masl). The economic impact showed significant increases: community income increased by 160% (p=0.002), SME income increased by 85.7% (p=0.015), accommodation occupancy increased by 113% (p=0.001), and equipment rental increased by 37.3% (p=0.028). The main mechanisms involve tiered community participation and digital promotion. Light sports tourism has proven effective as a driver of inclusive economic recovery after the disaster in Semarang Regency.

Keywords: Sports tourism; economic impact; light sports tourism; post-disaster recovery.

Received: 16 Oktober 2025 | Revised: 22 Oktober, 12, 25 November 2025

Accepted: 1 Desember 2025 | Published: 11 Desember 2025



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Introduction

Tourism has long been recognized as a strategic sector in regional economic development, with the potential to drive various related economic sectors through a multiplier effect (Ilmi & Winata, 2025). Globally, tourism continues to transform and diversify, with the emergence of sports tourism as the fastest-growing segment (UNWTO, 2021). This phenomenon demonstrates a shift in tourist interest from passive consumption patterns to active experiences involving physical activity and a healthy lifestyle. In Indonesia, the development of this sector has a strong legal basis in Law Number 10 of 2009 concerning Tourism, which defines tourism as a variety of tourism activities supported by various facilities and services from the community, business actors, the government, and local governments (Hernoko et al., 2022).

Conceptually, the development of sports tourism has given rise to various theoretical studies attempting to categorize and analyze its dynamics. The classification (Gammon & Robinson, 1997) serves as a widely referenced initial framework, distinguishing sports tourism into two main types: hard sports tourism, associated with major international events such as the Olympics and the World Cup, and soft sports tourism, which is more dominated by lifestyle elements and active individual participation, such as running, hiking, and cycling. Subsequent theoretical developments, such as those proposed by Gibson (1998), added another dimension by introducing the category of nostalgic sports tourism, associated with visits to historic sports sites. Globally, tourism continues to undergo transformation and diversification, one of which is the emergence of sports tourism as the fastest-growing segment (UNWTO, 2021).

These theories have increasingly developed, taking into account the economic and social aspects of sports tourism. The multiplier effect model of (Archer, 1977; Jelita & Kistanti, 2025) and the economic impact model of tourism provide an analytical framework for understanding how tourist spending can create a ripple effect on the local economy through related sectors such as accommodation, food and beverage, transportation, and retail. Meanwhile, the concept of sustainable tourism, popularized by (Butler, 2017) and further developed in the context of sports tourism by (Hinch & Higham, 2004), emphasizes the importance of balancing economic benefits, environmental conservation, and socio-cultural sustainability.

Semarang Regency, Central Java, provides a relevant and urgent context to be studied through the lens of these theories. This region boasts unique topographic diversity, from lowlands to mountains reaching elevations of 1,200 meters above sea level, which theoretically aligns with the characteristics of nature-based sports tourism. However, two major events in recent years have significantly impacted the local tourism sector: the 2018 earthquake and the COVID-19 pandemic. Data from the Central Statistics Agency (BPS) of Semarang Regency (2022) noted that both disasters caused a 70% decline in tourist arrivals, creating conditions that can theoretically be analyzed using the tourism recovery and destination resilience paradigms developed by Ritchie and Jiang (2019).

In the context of post-crisis recovery, soft sports tourism has emerged as an alternative strategy with several theoretical advantages. Unlike hard sports tourism, which requires

significant infrastructure investment, soft sports tourism aligns with the community-based tourism development model proposed by Oktavia (2025:23), in which local communities play an active role in the tourism value chain. The concept of community participation and community empowerment is relevant for analyzing the extent to which local communities can capitalize on the economic opportunities of sports tourism (Siwi et al., 2024).

However, there is a research gap that needs to be filled in the context of Semarang Regency. Previous studies in Indonesia, such as Dzikrirazak et al.'s (2018) study, which focused on the impact of the international Tour de Linggarjati event in Kuningan, have been limited to analyzing large-scale events with a hard-sports tourism approach and have neglected the community-based aspects of post-pandemic sports tourism. Meanwhile, research on the economic impact of sports tourism in Central Java is still scarce, particularly those that analyze the multiplier effect mechanisms through local community involvement in the value chain, from accommodation and culinary provision to transportation and other supporting services. Michael's linkage theory and tourism cluster model (Pujiati et al., 2025) can be used to analyze the extent to which sports tourism can create linkages with other local economic sectors.

By answering these questions through the integration of various theoretical frameworks, this research aims to not only map potential and measure direct impacts but also uncover the processes and determinants that enable sports tourism to drive economic recovery. The findings of this study are expected to serve as an evidence-based and theory-grounded reference for local governments, destination managers, and local communities in formulating policies and strategies for developing sustainable, ecologically sound sports tourism that provides tangible economic benefits to the people of Semarang Regency.

Method

This study employed a mixed-methods approach that integrates qualitative descriptive design and quantitative analysis. This design was chosen based on recommendations (Nasarudin et al., 2024:34) that emphasize that mixed methods enable a more comprehensive understanding of complex social phenomena by combining the depth of qualitative data with the generality of quantitative data. In the context of this study, a qualitative approach was used to in-depth explore the types of light sports tourism, economic impact mechanisms, and stakeholder perceptions, while a quantitative approach was used to empirically measure the resulting economic impact.

The specific design applied was a convergent parallel design, in which qualitative and quantitative data collection and analysis were conducted simultaneously in the same phase, then the results of both approaches were combined to obtain a holistic understanding (Basiroen, 2025:56). This design aligns with the research objective of identifying (qualitative) and measuring (quantitative) the impact of sports tourism. The research was conducted in Semarang Regency from October 2021 to August 2022, focusing on areas with significant sports tourism activity.

The population in this study includes all stakeholders directly involved in sports tourism activities in Semarang Regency, including local communities, micro, small and

medium enterprise (SME) operators, accommodation owners, outdoor equipment rental providers, and event organizers. The sampling technique used purposive sampling combined with snowball sampling, in accordance with recommendations (Patton, 2015:34) for qualitative research that requires key informants with specific knowledge and experience. The criteria for selecting informants were having direct knowledge of organizing sports tourism events; being operationally involved in related tourism businesses; and having direct experience of the economic impact of these activities.

Table 1. A total of 15 informants

No	Informant Type	Amount	Experience (Years)	Specific Criteria
1	Village Head/Local Leader	3	5-10	Coordinating events at the village level
2	SME Operators	5	2-5	Providing culinary, souvenir, or transportation services
3	Accommodation/Rental Owner	7	3-8	Manage a homestay, villa, or equipment rental

The determination of the sample size is based on the concept of data saturation proposed by Guest et al. (2006), where the addition of new informants no longer provides significant information or themes. In this study, saturation was reached after the 12th interview, but the researcher continued with up to 15 informants to ensure a diversity of perspectives. Data collection techniques were carried out using three main complementary techniques: participant observation, semi-structured in-depth interviews, and documentation studies. Qualitative data were analyzed using an interactive model (Miles & Huberman 2014) which consists of three stages of data reduction, interview transcript data and observation notes were coded using open coding techniques with the help of NVivo 12 software.

The coding process refers to a grounded theory approach to identify concepts, categories, and properties from the data. Key themes that emerged included topographical utilization; community participation patterns; economic benefit distribution mechanisms; and supporting and inhibiting factors. Data were presented in matrices, relationship diagrams, and descriptive narratives to facilitate conclusion drawing. This presentation follows the data display principles of (Miles & Huberman 2014), which emphasize the importance of systematic data organization. Conclusion drawing and verification were carried out through two triangulation techniques: method comparison by comparing the results of observations, interviews, and documentation; and member checking by confirming the researcher's interpretations with informants to ensure accuracy.

Quantitative data analysis was conducted using descriptive and inferential statistics. Changes in income before and after the event were analyzed using a paired t-test using SPSS version 25, with a significance level of $\alpha = 0.05$. This analysis was based on the assumption of data normality, which was first tested using the Shapiro-Wilk test. Income data were normalized into consistent time periods (per event) to ensure comparability. The paired t-test formula used was

$$t = \frac{\bar{D}}{s_D / \sqrt{n}}$$

Where is the average difference, s is the standard deviation of the difference, and n is the number of sample pairs. Integration of qualitative and quantitative data Integration is carried out in the interpretation stage following the side-by-side comparison model of (Creswell, 2015), where qualitative and quantitative findings are presented in parallel and then analyzed for convergence, divergence, or complementarity. $\bar{D}_{SD}n$

Results

This study involved 15 key informants who were selected purposively with the following characteristics.

Table 2. Profile of Research Informants

No	Informant Code	Role/Position	Location (Village/Sub-district)	Experience (Years)	Type of Business/Involvement
1	INF-01	Village head	Vibration, Landmark	8	Semarang Mountain Trail event coordinator
2	INF-02	UKM Operator (Culinary)	Bandungan, Bandungan	5	Coffee shop & traditional food
3	INF-03	Homestay Owner	Kopeng, Getasan	6	5-room accommodation
4	INF-04	UKM Operator (Souvenir)	Banyubiru, Banyubiru	3	Sales of local crafts & agricultural products
5	INF-05	Bicycle Equipment Rental	Landmark, Landmark	4	Mountain bike & road bike rental (30 units)
6	INF-06	Village head	Jombor, Dam	10	Semarang King of the Mountain (KOM) Coordinator
7	INF-07	SME Operator (Transportation)	Tuntang, Tuntang	5	Participant shuttle transportation provider
8	INF-08	Villa Owner	Ngremis, Banyubiru	8	Villa with 10 rooms & meeting facilities
9	INF-09	Local Tour Guide	Gedangan, Bringin	7	Trekking & trail running guide
10	INF-10	UKM Operator (Catering)	Sumowono, Sumowono	4	Food package provider for event participants
11	INF-11	Guest House Owner	Durian, Bringin	3	Guest house with 8 rooms
12	INF-12	Tent & Equipment Rentals	Bawen, Bawen	5	Rent tents, mattresses, and camping equipment
13	INF-13	UKM Operator (Photo/Video)	Susukan, Bandungan	2	Sports event documentation services
14	INF-14	Village Bazaar Manager	Ketapang, Bringin	6	Joint booth manager for village MSME products
15	INF-15	Village head	Temple, Bandungan	9	Semarang Cycling Challenge event coordinator

The informant profiles demonstrate the diversity of roles within the sports tourism ecosystem. The majority of informants (9 people) come from the micro-enterprise (SME) sector, offering a variety of services, from culinary and accommodation to support services. Five other informants serve as village managers or coordinators, indicating the involvement of local government structures. Geographically, informants are spread across the seven sub-districts that are the primary locations for the event, with an average of 5.6 years of experience in their respective fields, indicating a sufficient level of maturity to provide in-

depth information. Based on observations and interviews, three types of soft sports tourism were identified as dominantly developing in Semarang Regency.

1. Trail running

- Semarang Mountain Trail Main Event (25K, 50K, 100K Distance)
- The characteristics utilize mountain routes with an altitude of 800-1,200 meters above sea level, rocky terrain, and pine forest routes.
- Participants 300-500 runners per event, including 5-10% international participants.
- Key Quote INF-09 (Tour Guide): "The trail here has a unique gradient. From a 300-meter start, it climbs to a 1,200-meter peak in 15 km. It's both a challenge and a major draw for runners seeking adrenaline and scenery."

2. Road cycling

- Semarang King of the Mountain (KOM) Main Event
- The characteristics of the asphalt road route are long climbs (7-12 km) and an average gradient of 8-12%.
- Participants: 200-300 cyclists per event, dominated by communities from big cities (Semarang, Solo, Yogyakarta).
- Key quote from INF-06 (Village Head): "This KOM event has become a regular event. Most of the participants come from outside the district, some even from Jakarta. They usually stay for 1-2 nights, so the impact on the village economy is quite significant."

3. Mountain biking

- Semarang Enduro Challenge Main Event
- The trails are characterized by single track, technical descents, and rocky terrain in forest areas.
- Participants 150-200 cyclists per event, with intermediate to advanced skill levels.
- Key quote from INF-05 (Bike Renter): "Mountain biking has become increasingly popular post-pandemic. Our enduro events are always full of participants. Interestingly, many beginners come, become interested, and become regular renters outside of events."

Quantitative data shows a significant increase in various economic indicators following the holding of sports tourism events.

Table 3. Comparison of economic indicators before and after the sports tourism event

Indicator	Average Before Event (IDR/Event)	Average After Event (IDR/Event)	Increase (%)	Paired t-test (p-value)
Community Income (Per Household)	250,000	650,000	+160%	0.002 (significant)
SME Income (Per Business)	350,000	650,000	+85.7%	0.015 (significant)
Accommodation Occupancy Rate (%)	45% (average 171 rooms)	95% (average 365 rooms)	+113%	0.001 (significant)
Equipment Rental (Unit)	244 units	335 units	+37.3%	0.028 (significant)

The statistical analysis showed that all economic indicators experienced a statistically significant increase ($p < 0.05$). Community income increased most dramatically (+160%), indicating that economic benefits were spread widely to the household level. Accommodation

occupancy rates of nearly 100% indicated optimal absorption capacity of the local accommodation sector. The 85.7% increase in SME income demonstrated the important role of micro-enterprises in the sports tourism value chain. When discussing the economic impact of events like trail running, it is important to examine more deeply how these events can affect local incomes.

In a statement from INF-02, a culinary SME operator revealed that his sales could increase three-fourfold during the event. This demonstrates the significant impact the event has on small businesses. On normal days, he would only be able to sell 50 portions of food. However, during the event, his sales jumped to 200 portions. This isn't just a number, but also reflects the increased demand for food and beverages during the event. Furthermore, this success not only benefits the business owner but also benefits the local farmers who provide the ingredients. In this case, local food ingredients like sweet potatoes, bananas, and coffee sold out.

This demonstrates a mutually beneficial relationship between businesses and local farmers. As demand increases, farmers also benefit from the sale of their products. Thus, these events serve as a driver of the local economy, not only attracting visitors but also strengthening the network between producers and consumers. In the context of accommodation, a statement from INF-08 provides a clear picture of the positive impact on the hospitality sector. Villa owners reported that their villas' occupancy rates increased significantly during the KOM event, with bookings reaching 100%. This demonstrates that the event not only attracted out-of-town attendees but also had a direct impact on the income of accommodation owners.

Under normal circumstances, the villa is only 30-40% occupied on a typical weekend, but during the event, all rooms were fully booked up to two weeks in advance. This success demonstrates that large events can be a magnet for tourists looking for accommodation. Furthermore, some attendees booked groups of 15 people. This indicates that the event attracted not only individuals but also large groups, which in turn increased demand for accommodation. This phenomenon indicates that accommodation managers need to develop appropriate marketing strategies to attract more visitors in the future.

The INF-05 statement from a bike renter also provides valuable insight into the event's impact on equipment rentals. Under normal circumstances, renters are only able to rent 10-15 bikes per day. However, during the event, all 30 available bikes were sold out. This indicates a significant surge in demand, particularly from out-of-town participants. They may not have brought their own bikes for various reasons, such as limited space or a desire to use a bike suited to the event's track conditions. In this case, bike renters had to adapt to the increased demand.

They even had to rent additional equipment from friends to meet the needs of the participants. This shows that large events not only benefit bike renters but also create opportunities for collaboration between different renters. More broadly, this increase in equipment rentals can also impact the local transportation industry and the tourism sector as a whole. From the discussion above, we can conclude that events like trail running have a significant impact on the local economy. Increased community income, accommodation

occupancy, and equipment rentals are just a few aspects that demonstrate how these events can drive economic growth.

By connecting businesses, local farmers, and equipment renters, these events create a mutually beneficial ecosystem. Therefore, it is crucial for stakeholders to continue supporting and developing such events for the well-being of local communities. Within the context of the local economy, locally based value chains play a crucial role in distributing economic impact. These value chains encompass various stages involving local communities, from raw material procurement to product marketing. At the upstream stage, local suppliers of raw materials, such as agricultural products and crafts, serve as the backbone of the local economy.

For example, local farmers who grow organic vegetables or fresh fruit not only provide raw materials for the local market but also contribute to environmental sustainability through eco-friendly agricultural practices. Within the value chain, service providers such as accommodation, transportation, and culinary services play a vital role in supporting local economic activities. For example, a homestay run by local residents not only provides accommodation for visitors but also offers authentic cultural experiences. This creates a mutually beneficial relationship between visitors and the local community, where visitors gain valuable experiences while the local community earns additional income.

Downstream, marketing and documentation are key to attracting more visitors. Using social media to promote local products, such as handicrafts or regional specialties, can increase their visibility and appeal. Thus, locally based value chains not only create jobs but also strengthen cultural identity and the economic sustainability of communities. One compelling aspect of an event's economic impact is the multiplier effect generated by audience participation. Engaging events not only engage participants but also attract spectators and supporters who come to enliven the atmosphere.

For example, at a cycling event held in a village, even though the number of participants was only around 200, the number of spectators and families who attended could reach 500. This shows that the event not only had a direct impact on the participants but also on the surrounding community. INF-14, a bazaar manager, noted that the village bazaar's turnover increased by almost 300% thanks to the presence of spectators. The spectators not only watched the event but also shopped at the village bazaar, which is usually quiet. Thus, the event created significant economic opportunities for local vendors. This multiplier effect demonstrates the importance of designing events that not only focus on participants but also consider the spectator experience.

Sustainable use of natural resources is one way to develop the local economy without damaging the environment. In this case, the natural topography is utilized as a sports arena without requiring major modifications. INF-01, the village head, explained that they didn't need to build expensive infrastructure, as the trail already existed naturally. All they needed to do was clear and mark the trail to ensure its safe use. This approach not only saves costs but also preserves the environment. By utilizing existing natural resources, communities can attract tourists seeking authentic outdoor experiences. For example, hiking trails through beautiful natural scenery can be a major draw for nature lovers.

This not only provides economic benefits but also raises public awareness of the importance of environmental protection. Developing the local economy through community-based events and activities requires supporting factors to facilitate this growth. One crucial factor is regional policy support. A regular event calendar from the Tourism Office can help communities better plan and prepare for events. Community collaboration is also key, as the active involvement of local sports communities can increase community participation and enthusiasm.

Digital promotion also plays a crucial role in attracting visitors. Effective marketing through social media and event platforms can reach a wider audience, increasing the number of participants and spectators. For example, using Instagram to share engaging photos from previous events can attract people interested in participating. However, challenges cannot be ignored. One major challenge is supporting infrastructure. Damaged access roads and inadequate public facilities, such as limited public restrooms, can hinder visitor comfort. INF-10, a catering operator, revealed that during events, orders often increase, but they struggle to find additional trained staff. This highlights the need for event management training for small and medium enterprises (SMEs) to cope with the surge in demand.

Coordination between stakeholders is also a challenge that needs to be addressed. INF-15, the village head, stated that coordination between the village, sub-district, and relevant agencies still needs to be strengthened. Slow permitting processes can hinder event implementation, making it crucial to create more efficient communication channels between all parties involved. In this qualitative analysis, we have seen how economic impacts are distributed through three main mechanisms: locally based value chains, multiplier effects through audience participation, and sustainable use of natural assets. Local communities play a central role in every stage of the value chain, from raw material procurement to marketing.

Furthermore, engaging events not only benefit participants but also create economic opportunities for local vendors through the presence of spectators. Sustainable use of natural resources demonstrates that economic development can be achieved without damaging the environment. However, challenges such as inadequate infrastructure and coordination between stakeholders need to be addressed to maximize local economic potential. With the support of appropriate policies, community collaboration, and effective digital promotion, local communities can create a sustainable and mutually beneficial economic ecosystem. Therefore, it is crucial for all parties to work together to realize this vision for the common good.

Discussion

The findings of this study confirm the dominance of soft sport tourism in Semarang Regency, which aligns with the initial classification. However, this study provides a new nuance by showing that in the context of a region with varied topography, this "soft" category is not homogeneous, but rather has significant gradations of technical challenges. For example, the trail running route at an altitude of 1,200 meters above sea level and the enduro mountain biking trail have characteristics closer to adventure sport tourism as developed by (Buckley, 2006), but still involve broad community participation.

This suggests that the binary (hard-soft) classification needs to be developed into a continuum based on difficulty and participation levels. The 160% increase in community income and 85.7% increase in SMEs, along with a 113% increase in occupancy rates, strongly supports the multiplier effect theory of (Pajriah et al., 2025). However, this study uncovers specific mechanisms that differ from previous studies on mega-events. According to (Dzikrirazak et al., 2018), the Tour de Linggarjati found that the economic impact was more concentrated among large accommodation providers and corporate sponsors. In contrast, in Semarang Regency, the distribution of benefits was more evenly distributed among micro-enterprises and households.

This suggests that the creative economy tourism model proposed by Richards (2011) is more relevant to understanding the dynamics of local-scale sports tourism than the conventional model of large-scale events. This study makes an original contribution by testing the concept of tourism resilience in a dual context: the aftermath of the 2018 earthquake and the COVID-19 pandemic. The finding that sports tourism was able to recover accommodation occupancy rates from 45% to 95% within a short period supports the theory of destination adaptive capacity (Butler, 2017). However, unlike the study by Sahudra et al. (2023) in Kenya, which emphasized socio-cultural benefits, this study demonstrates that economic motivations are the primary driver of community participation in post-disaster recovery.

The methodological novelty of this study lies in the integration of digital promotion analysis as an explanatory variable. The finding that the social media campaign for the KOM Semarang event achieved 10,000 engagements confirms the theory (Xiang & Gretzel, 2010) about the role of social media in destination formation. However, what is new is the discovery of a digital cascade effect of user-generated content organically promoting local products such as coffee and crafts, creating a digital value chain previously unidentified in conventional studies.

Table 4. Comparison of findings with previous research

Aspect	This research (Semarang Regency)	(Dzikrirazak et al. 2018) - Kuningan	(Njoroge et al., 2017) - Kenya	Theoretical Implications
Event Scale	Medium-local (200-500 participants)	Large-international (1,000+ participants)	Small-community (<100 participants)	Optimal scale for community engagement
Distribution of Benefits	Evenly distributed to SMEs & households	Concentrated on large accommodations	Limited to certain groups	Inclusive vs. exclusive models
Digital Roles	Crucial for promotion & engagement	Minimal (relying on corporate sponsorship)	Not significant	Digital as an access equalizer
Sustainability	Depends on event routine & ecosystem	Depends on sponsors & international agenda	Depends on donor & project	Community-based sustainability
Post-Disaster Impact	Significant as a recovery mechanism	Not reviewed	Reviewed separately (drought context)	Sports tourism as a shock absorber

This systematic comparison reveals the study's unique position within the spectrum of sports tourism studies. While previous research tends to skew large-international versus small-local, this study finds a sweet spot in the middle: mid-scale events large enough to generate significant economic impact, yet small enough to meaningfully engage local

communities. These findings fill a gap between studies on mega-events (Weed & Bull, 2004) and community-based sports tourism (Higham & Hinch, 2009).

This research makes significant theoretical contributions by expanding the classification of sports tourism into a complexity-based continuum; developing a tiered participation model to understand the distribution of benefits; and identifying sports tourism as an effective post-disaster recovery mechanism. Practically, the findings suggest that a medium-scale approach with community engagement may be the optimal formula for sports tourism in developing regions. However, this success depends on developing capacity and supporting infrastructure that keeps pace with growing participation.

Conclusion

Based on an in-depth analysis of qualitative and quantitative data, this study concludes that soft sport tourism has developed into a significant and strategic driver of the local economy in Semarang Regency. Its three main forms—trail running, road cycling, and mountain biking—have successfully leveraged the region's diverse topography (from 300 to 1,200 meters above sea level) to create unique tourism experiences while generating measurable and inclusive economic impacts. These economic impacts are broad and statistically significant.

There was an increase in household income of 160% ($p = 0.002$), SME income of 85.7% ($p = 0.015$), and accommodation occupancy rate of 113% ($p = 0.001$) during the event. These data not only confirm the multiplier effect theory, but more importantly, show that economic benefits are distributed evenly to the micro-enterprise level and the local community, in contrast to the pattern of concentration on large actors often found in international events. This success is supported by a tiered participation mechanism involving three layers of actors: the core layer (active participants), the supporting layer (SMEs and service providers), and the community layer (the general public and spectators).

This mechanism has transformed sports tourism from a purely event-based activity to a community-based ecosystem, where economic and social values are mutually reinforcing. Digital promotion, particularly through social media, acts as a crucial catalyst in expanding reach and creating a digital value chain for local products.

In the specific context of Semarang Regency, sports tourism has proven to be a resilient recovery strategy following two major shocks: the 2018 earthquake and the COVID-19 pandemic. Its ability to be implemented at a relatively affordable cost, utilize existing natural assets, and involve direct community participation, makes it a relevant model for other regions facing similar challenges in reviving their tourism sectors and local economies.

Author's Statement

The authors declare that this article has not been published in any other journal. We would like to express our appreciation to all participants, school officials, and research assistants who participated in this study. We also extend our gratitude to the students who participated in the intervention and the classroom teachers who facilitated this educational innovation.

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