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# INTEGRATING SUSTAINABILITY INTO SPORTS TOURISM: A GSTC-BASED FRAMEWORK FOR THAILAND'S INTERNATIONAL EVENTS

Nuttavut PHONSRI<sup>1</sup>, Penprapa TEERANUWAT<sup>1</sup>, Supasak NGAOPRASERTWONG<sup>1</sup> and Boonyada PAHASING<sup>1</sup>

1 Suan Sunandha Rajabhat University, Thailand; nuttavut.ph@ssru.ac.th (N. P.); penprapa.te@ssru.ac.th (P. T.); supasak.ng@ssru.ac.th (S. N.); boonyada.pa@ssru.ac.th (B. P.)

## Handling Editor:

Professor Dr. Ismail Suardi WEKKE Universitas Muhammadiyah Barru, Indonesia  
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## Abstract

This study examines the integration of the Global Sustainable Tourism Council (GSTC) framework into international sports event management in Thailand. Employing a mixed-methods design, quantitative survey data (n=400) from three host provinces were analyzed via PLS-SEM, revealing that socio-economic benefits strongly predict environmental impact ( $\beta = 0.887$ ,  $p < 0.001$ ) and that environmental performance enhances event management quality ( $\beta = 0.444$ ,  $p = 0.003$ ). Complementary qualitative interviews underscored four priority areas aligned with GSTC criteria: participatory governance, inclusive local business engagement, cultural heritage protection, and enforceable environmental controls. The findings advocate for a harmonized national policy model that bridges Thailand's Bio-Circular-Green (BCG) economic strategy with GSTC standards to advance sustainable sports tourism. Practical recommendations include introducing tax incentives for green practices, adopting carbon monitoring systems, and strengthening cross-sector coordination. This research provides a validated framework and actionable strategies for embedding sustainability into large-scale events, offering policymakers, event organizers, and destination managers valuable insights to enhance long-term tourism resilience and regional competitiveness.

**Keywords:** Sustainable Sports Tourism, GSTC Framework, Event Sustainability, Stakeholder Engagement, Tourism Policy Integration

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## **Introduction**

Sports tourism, which blends competitive sports with leisure travel, has become a dynamic global phenomenon attracting diverse groups, including tourists, athletes, researchers, and local communities. These events not only enhance the appeal of destinations but also contribute significantly to local economies. However, they also raise long-term concerns regarding their social, cultural, and environmental impacts on host communities. In Thailand and across Asia, challenges such as balancing rapid tourism growth with cultural preservation and managing environmental pressures at iconic venues illustrate the urgency of sustainable approaches. This paper aims to address these gaps by contextualizing Thailand's sports tourism within broader Asian trends and sensitivities. Recent reports from the Ministry of Tourism and Sports note that Thailand welcomed over 25 million international visitors post-COVID-19, with sports tourism contributing significantly to recovery strategies. Studies in Asia (Ishac, 2024) emphasize the growing role of sports events in sustainable development. In this regard, sports tourism is increasingly recognized as a driver of post-COVID recovery, fostering economic revitalization, cross-cultural exchange, and alignment with the Sustainable Development Goals (United Nations Tourism, n.d.; Ishac, 2024).

This study investigates community attitudes toward hosting large-scale international sports events as a form of sustainable sports tourism. Public perception plays a critical role in determining the success of such events, making it necessary to balance economic gains with socio-cultural values and environmental responsibility. While large-scale events often focus on financial outcomes, maintaining community identity and environmental integrity remains essential for long-term sustainability.

Sports tourism includes a wide range of activities—from global competitions like the Olympics to localized attractions such as golf courses and adventure sports. These activities closely align with the goals of sustainable tourism, offering opportunities to conserve natural environments, preserve cultural heritage, and support community development. The Global Sustainable Tourism Council (GSTC) provides a globally recognized framework for evaluating sustainability in destinations and tourism operations. Its criteria cover management, socio-economic benefits, cultural preservation, and environmental protection.

The GSTC framework, through its Industry and Destination Criteria, offers guidance for integrating sustainability into sports tourism ecosystems involving governments, the private sector, and content creators. Unlike ecotourism, which emphasizes nature, GSTC promotes a balanced integration of economic, social, and environmental dimensions.

## **Literature Review**

This research addresses a gap in sports tourism literature by examining how stakeholders adapt to GSTC principles. It evaluates community and organizer perspectives to understand better the socio-economic and environmental implications of hosting international sports events. The study aims to support both academic and practical advancement by offering a community-based view of sustainability and providing actionable insights for planners and policymakers. By adopting GSTC-based practices, Thailand can enhance its competitiveness in the global sports tourism industry while ensuring equitable, culturally respectful, and environmentally sound development. However, prior literature on sustainable sports tourism in Asia remains limited. Regional challenges such as environmental conservation in tropical climates, community resistance to over-tourism, and cultural preservation in host cities (e.g., Japan, Singapore, South Korea) have been highlighted but insufficiently linked to GSTC frameworks. While GSTC provides a global benchmark, critics argue its criteria may not fully capture community-specific concerns in Asia. Expanding on these critiques allows for a more nuanced analysis of potential community impacts, both positive and negative. This section provides a

structured review of the literature on sustainable sports tourism and establishes a conceptual framework based on the GSTC criteria.

To expand the scope of the literature review, it is necessary to examine the academic discourse on sustainable sports tourism in Asia and beyond, particularly where the Global Sustainable Tourism Council (GSTC) framework intersects with practical implementation across diverse socio-cultural contexts. Previous scholarship has emphasized that while the GSTC offers a globally recognized standard, its application often encounters challenges in regions with differing governance structures, cultural values, and levels of community participation (Bricker & Schultz, 2011; Misener & Mason, 2006). For instance, in Japan, protecting cultural heritage sites during mega sporting events such as the Tokyo Olympics has been central to sustainability planning, reflecting the emphasis on cultural continuity and local identity (Johnston et al., 2021). In Singapore, strong regulatory frameworks and government oversight have enabled a more top-down approach to sports tourism management, ensuring efficiency but sometimes limiting grassroots community engagement (Pasquinelli & Bellini, 2017). South Korea, by contrast, has adopted a hybrid model that integrates cultural heritage preservation with modern sporting infrastructure, highlighting the possibility of adapting GSTC criteria to reflect local values (Vodenska, 2020)

The conceptual framework for this study is grounded in the four dimensions of the GSTC model: sustainable management, socio-economic benefits, cultural heritage, and environmental protection. These dimensions provide the theoretical lens for evaluating how sports tourism can be organized sustainably in Thailand. Each dimension was operationalized into measurable constructs for quantitative analysis and served as a guiding theme for qualitative interviews. The GSTC model is particularly suited because it integrates global sustainability standards with adaptable criteria, but this study acknowledges its limitations in fully capturing localized cultural and community issues. By aligning the framework with Thailand's sports tourism context, the research provides a structured approach to linking global criteria with local realities, ensuring that sustainability is assessed holistically across management, economic, social, and environmental domains.

In recent years, scholars have increasingly highlighted the importance of contextualizing global sustainability frameworks, such as the Global Sustainable Tourism Council (GSTC) criteria, to fit Asian socio-cultural realities better. While the GSTC provides a standardized structure for evaluating environmental, social, and economic practices, several researchers argue that its Western-oriented benchmarks may not fully capture community-specific values in Asia (Bricker & Schultz, 2011; Kajornbun & Dhirathiti, 2019). For instance, the emphasis on quantifiable environmental metrics may overlook intangible cultural heritage and community rituals that are central to tourism acceptance in countries such as Thailand and Japan. This suggests that adapting GSTC principles through participatory approaches with local stakeholders is essential to avoid imposing top-down standards that may conflict with community needs (Misener & Mason, 2006).

Comparative studies from across Asia reinforce this concern. In Singapore, sustainable sports event planning has emphasized efficiency and strict environmental regulation, but critics argue that a top-down approach has limited local engagement in shaping outcomes. Similarly, research on the Tokyo 2020 Olympics highlighted ambitious zero-waste initiatives and renewable energy investments; however, scholars noted a lack of a robust community legacy framework, particularly given that many facilities were repurposed without direct community participation (Waldenberger, 2020). By contrast, the PyeongChang 2018 Winter Olympics in South Korea incorporated renewable energy solutions and regional development programs. However, evaluations revealed uneven benefits, with rural communities experiencing fewer gains than urban centers (Kim & Grix, 2021). These case studies illustrate the dual challenge

of achieving global benchmarks while ensuring equitable distribution of benefits across diverse localities.

Within Thailand, literature has also underscored the interplay between community perceptions, environmental sustainability, and socio-economic benefits. Pongprasert & Karnjanakit (2019) found that residents' perceptions of sports tourism impacts varied significantly across host provinces, with concerns about overcrowding and environmental degradation balancing against anticipated economic gains. This aligns with global research suggesting that without meaningful consultation, large-scale events may exacerbate community resistance and erode trust in local governance (Smith, 2014). Furthermore, women's roles in community-based tourism and gastronomy-related initiatives indicate that inclusive stakeholder participation not only strengthens cultural authenticity but also contributes to equitable outcomes (Björk & Kauppinen-Räsänen, 2016). These insights point to the need for Thailand's sustainable sports tourism strategy to integrate gender-sensitive and community-led practices within the GSTC framework.

Another critical perspective comes from environmental sustainability literature. Studies on sporting events in protected areas, such as Poland and Slovakia, reveal the risks of ecological degradation when event planning fails to account for fragile ecosystems (Malchrowicz-Moško et al., 2019). Applying these lessons to Southeast Asia, where biodiversity hotspots coincide with tourism hubs, emphasizes the importance of incorporating ecological carrying capacity into event design. Thailand, therefore, must not only align with GSTC principles but also embed biodiversity conservation and cultural heritage protection into its policy frameworks. This integrated perspective ensures that sustainable sports tourism advances both global sustainability agendas and local socio-cultural resilience.

## **Research Methodology**

This study employed a mixed-methods approach to examine community attitudes and event management practices in international sports tourism. The quantitative component involved collecting data through questionnaires distributed to 400 participants across three provinces: Ubon Ratchathani, Chanthaburi, and Songkhla. These provinces were purposively selected because they were designated as sport cities. Simple random sampling was applied within each province to ensure representativeness. The sample size of 400 was determined to achieve statistical power and ensure regional representation, following guidelines from Krejcie & Morgan (1970) and contemporary recommendations for SEM analysis. Stratified random sampling within provinces ensured representativeness.

For the qualitative component, focus group interviews were conducted with four purposively selected key informants, following Wilson's (2012) guidelines. The participants were two university instructors—one specializing in tourism and the other in sport management—each with at least 5 years of teaching experience and a background in tourism-related research. The remaining participants included an entrepreneur in the sports tourism industry and a community leader experienced in organizing international sporting events. While the qualitative sample was small, purposive selection from community leaders, entrepreneurs, and academics ensured depth of insight. However, limitations of representativeness are acknowledged, and future studies should expand the sample to include broader community voices.

The questionnaire used in the quantitative research was developed based on the Global Sustainable Tourism Criteria (GSTC) and covered four key dimensions: management, economic, social, and environmental sustainability. Data were analyzed using descriptive statistics, including percentages, means, and standard deviations. Furthermore, Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to assess the measurement and structural models. The measurement model evaluation involved analyses of outer loadings, reliability, and the constructs' convergent and discriminant validity. The structural model

assessment focused on testing the research hypotheses and analyzing the relationships among latent variables. Indicators were adapted to the Thai sports tourism context through expert consultation and pilot testing. Convergent validity, discriminant validity, and reliability measures were reported.  $R^2$  values for endogenous constructs were provided to assess explanatory power. The conceptual framework is grounded in GSTC dimensions (management, economic, social, and environmental) and guides both instrument design and analysis.

To address the second research objective, qualitative data were analyzed using grounded theory, following the approach proposed by Corbin & Strauss (2008). The interviews were transcribed, categorized, and systematically analyzed to identify emerging themes and patterns in event organizers' practices for managing international sports competitions in accordance with GSTC standards. Coding was conducted independently by two researchers, with inter-coder reliability checks (Cohen's kappa = 0.82) to ensure transparency and rigor.

## Research Results

This section presents the findings from the mixed-methods analysis, integrating quantitative survey results with qualitative interview data to provide a comprehensive understanding of sustainable sports event management.

### Quantitative Analysis

The quantitative assessment focused on three core areas: 1) the implementation of sustainable management practices in international sports events, 2) community perceptions of socio-economic and environmental impacts, and 3) validation of the proposed conceptual framework using Partial Least Squares Structural Equation Modeling (PLS-SEM).

Survey respondents strongly agreed with adopting sustainable event management practices. Alignment with the local tourism season ( $\bar{X} = 4.723$ ), adherence to official regulations and oversight ( $\bar{X} = 4.670$ ), and the inclusion of community participation mechanisms ( $\bar{X} = 4.532$ ) were particularly well-regarded. Perceived socio-economic benefits, including enhanced local business opportunities ( $\bar{X} = 4.705$ ) and strengthened community cohesion ( $\bar{X} = 4.702$ ), were rated very highly. Environmental outcomes also received positive evaluations, notably for raising public awareness of ecosystem conservation ( $\bar{X} = 4.628$ ) and improving local scenery ( $\bar{X} = 4.635$ ).

The measurement model, comprising four latent constructs—Event Management (SEM), Economic and Social Impact (ECSO), and Environmental Impact (EN)—and 33 observed indicators demonstrated robust psychometric properties. Reliability was confirmed (Cronbach's alpha > 0.7), and both convergent (AVE > 0.5) and discriminant validity (assessed via the Fornell-Larcker criterion and cross-loadings) were established.

The structural model revealed significant relationships among the constructs:

- 1) Economic and Social Impact (ECSO) exhibited a strong, positive direct effect on Environmental Impact (EN) ( $\beta = 0.887$ ,  $p < 0.001$ ).
- 2) Environmental Impact (EN) had a significant positive influence on Event Management (SEM) ( $\beta = 0.444$ ,  $p = 0.003$ ).
- 3) The direct path from ECSO to SEM was positive but only marginally significant ( $\beta = 0.304$ ,  $p = 0.056$ ), suggesting its influence may be more fully mediated through environmental outcomes.

These quantitative results indicate that socio-economic benefits are a potent driver of positive environmental perceptions, which in turn significantly enhance the quality and sustainability of event management.

### Qualitative Analysis

Thematic analysis of in-depth interviews, structured around the four pillars of the Global Sustainable Tourism Council Criteria for Destinations (GSTC-D), provided nuanced insights that contextualize and reinforce the statistical findings.

1) Effective Sustainability Management: Key informants (KI-1, KI-2, KI-3) emphasized the critical need for long-term, participatory strategic planning. This includes ensuring transparent public access to information and holistically addressing environmental, socio-economic, cultural, and safety concerns through inclusive community engagement in the destination planning process.

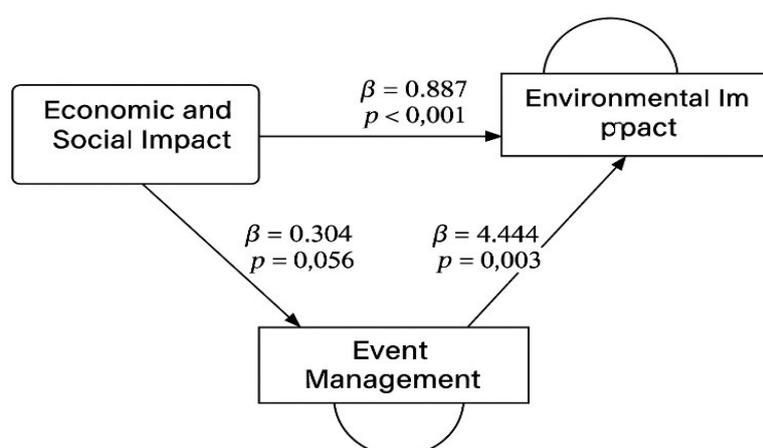
2) Maximizing Socio-Economic Benefits: All informants (KI-1 to KI-4) unanimously highlighted the importance of creating systems that actively support local Small and Medium-sized Enterprises (SMEs). This involves promoting fair trade and enabling local entrepreneurs to leverage regional cultural and natural assets, such as handicrafts, traditional cuisine, and agricultural products, within the sports tourism value chain.

3) Safeguarding Cultural Heritage: Informants (KI-2, KI-4) stressed that sustainable tourism requires formal policies and operational systems to assess, protect, and restore both natural and cultural heritage sites—from archaeological structures to traditional landscapes—ensuring they are preserved as foundational assets.

4) Mitigating Environmental Impacts: There was strong consensus among all informants (KI-1 to KI-4) on the imperative for enforceable waste management systems. Priorities include adopting the principles of reduce, reuse, and recycle, alongside the safe disposal of non-recyclable waste, to minimize the ecological footprint of sports tourism activities.

### Integration of Findings

The convergence of quantitative and qualitative data presents a coherent narrative. The strong statistical relationship between socio-economic benefits (ECSO) and environmental impact (EN) is vividly illustrated by community narratives that directly link local business promotion with heightened ecological conservation efforts. Furthermore, the qualitative emphasis on structured, participatory governance and enforceable environmental systems provides the "how" behind the quantitative finding that environmental performance (EN) is a key driver of effective event management (SEM). This mixed-methods synergy validates the proposed framework and offers a multi-faceted understanding of the drivers of sustainability in sports event management.



**Figure 1** Structural Model of Sustainable Event Management

The structural model illustrates the relationships between the key latent constructs. It confirms a very strong, direct influence of Economic and Social Impact (ECSO) on Environmental Impact (EN) ( $\beta = 0.887$ ,  $p < 0.001$ ). Environmental Impact (EN), in turn, has a significant

positive effect on Event Management (SEM) ( $\beta = 0.444$ ,  $p = 0.003$ ). While the direct path from ECSO to SEM is positive, its marginal significance ( $\beta = 0.304$ ,  $p = 0.056$ ) suggests that the influence of socio-economic factors on management quality is likely more indirect and mediated through environmental outcomes. This model underscores the interconnected nature of sustainability dimensions in sports tourism.

## **Conclusion and Discussion**

This study provides an integrated analysis of the pathways toward sustainable sports tourism in Thailand, synthesizing empirical findings with broader theoretical and policy implications. The discussion contextualizes these results within existing literature and international practices, while the conclusion outlines contributions, practical applications, and future directions.

### **Synthesis of Findings and Scholarly Dialogue**

The research underscores that effective sustainability management of international sports events necessitates multi-level collaboration among provincial, administrative, and local agencies to formulate interconnected strategies. Such coordination ensures aligned marketing and development efforts for sports tourism, resonating with Kajornbun & Dhirathiti (2019), who highlight the role of structured annual plans in local tourism governance. International comparisons reveal distinct emphases: while Singapore and Japan prioritize stringent environmental protocols, South Korea integrates cultural heritage preservation into event planning. These models suggest that Thailand must adapt Global Sustainable Tourism Council (GSTC) criteria to align with local cultural sensitivities, including respect for religious sites and community identity.

A key finding is the role of international sports events in promoting off-season tourism in secondary cities, thereby enhancing the value of the tourism product and stimulating local economies—particularly benefiting hotels, restaurants, and SMEs (Gkarane et al., 2024). The qualitative insights substantiate the quantitative patterns; for instance, while the structural model indicated that economic benefits (ECSO) drive environmental awareness (EN), community informants explicitly linked SME financial gains to community-led ecological initiatives, highlighting the interdependence of these dimensions.

Regarding socio-economic impacts, international sports events present both opportunities and challenges. Proactive plans to integrate small and medium-sized enterprises (SMEs) can stimulate local economies and create inclusive value chains. Community involvement—engaging diverse groups, including the elderly and youth, as volunteers—fosters positive attitudes and active participation (Stukas et al., 2016). Moreover, prioritizing local products and services at events strengthens the local economy and enhances social cohesion (Smith, 2014).

To mitigate cultural impacts, protecting natural and cultural heritage is essential. Advance community consultation and feedback mechanisms can improve event acceptance and reduce resistance (Misener & Mason, 2006). Environmental protection requires expert consultation and community leader involvement to enhance ecosystem conservation (McKinley et al., 2017). Pre-event environmental impact assessments, adoption of eco-friendly practices, and establishment of benchmarks are critical to reducing adverse effects (Mokhtar et al., 2014). Regulatory frameworks should ensure compensation for environmental damage (Malchrowicz-Moško et al., 2019), while criteria for carbon neutrality—including carbon credit mechanisms, as seen in major events such as the Olympics—should be adopted (Heynen & Ambeth, 2023). Collaboration between government stakeholders and local communities is vital to managing environmental impacts such as waste and pollution. Promoting environmental awareness, especially among youth through educational institutions, is key to fostering long-term sustainable behaviors (Daly-Smith et al., 2020). However, promoting environmentally

responsible behavior extends beyond awareness-raising to actual behavioral change, which remains a complex challenge (Poortinga et al., 2004). Event organizers must fully understand and implement "conservation tourism" or "ecotourism" as defined by the GSTC. The GSTC Criteria provide an internationally recognized framework for sustainable tourism management, as evidenced by their application across sectors ranging from seaside tourism to winter sports in Bulgaria (Vodenska, 2020). Adherence to these criteria, supported by certification, enhances stakeholder awareness and collaboration.

### **Limitations and Future Research**

The study acknowledges certain limitations. Local socio-cultural and economic specificities may constrain the generalizability of findings beyond the Thai context. Future cross-national comparative research is recommended to identify transferable best practices. Additionally, the marginally significant path from ECSO to SEM ( $p = 0.056$ ) indicates a methodological limitation. It suggests the need for further investigation with larger or more diverse samples to clarify this relationship.

### **Theoretical, Practical, and Policy Contributions**

This study makes several significant contributions. Theoretically, it extends the literature on sustainable sports tourism in Asia by critically examining the applicability of the GSTC model within a specific national context and proposing an integrated framework that connects socio-economic and environmental dimensions. Practically, it provides actionable guidance for policymakers, tourism authorities, and event organizers. Key recommendations include establishing clear policy frameworks aligned with GSTC and Thailand's Bio-Circular-Green (BCG) economic model, introducing tax incentives for sustainable practices, strengthening regulatory enforcement, and implementing inclusive community planning processes.

The findings contribute directly to the Sustainable Development Goals (SDGs), particularly SDG 8 (Decent Work and Economic Growth), SDG 11 (Sustainable Cities and Communities), and SDG 13 (Climate Action). By balancing global standards with local adaptations, Thailand can design sports events that are environmentally sound, socially inclusive, and culturally respectful. Introducing incentives and standards for "White Events" can further reinforce environmentally responsible practices, enhancing Thailand's global reputation as a sustainable tourism destination.

### **Strategic Future Directions and Regional Leadership**

Looking ahead, Thailand is uniquely positioned to emerge as a regional leader in sustainable sports tourism. Strategic future actions should include:

- 1) Longitudinal and Comparative Research: Conducting longitudinal studies to track evolving perceptions and comparative analyses across ASEAN to identify regional best practices.
- 2) Alternative Framework Exploration: Further research to test and integrate alternative sustainability frameworks alongside GSTC to better capture the nuances of developing economies.
- 3) Digital and Monitoring Innovation: Investing in digital tools—such as AI analytics, real-time feedback applications, and blockchain for transparent carbon accounting—to ensure accountability and continuous improvement.
- 4) Regional Collaboration: Initiating an ASEAN Sports Tourism Sustainability Network to facilitate policy harmonization, cross-border marketing, and collective monitoring of sustainability indicators.
- 5) Institutional Accountability: Establishing independent monitoring bodies, publishing transparent sustainability audits, and linking funding to measurable outcomes to maintain long-term momentum.

Ultimately, achieving sustainable sports tourism requires consistent alignment of national strategies, international benchmarks, and local community needs. By embedding accountability, inclusivity, and innovation into every stage of event management, Thailand can

cultivate a resilient sports tourism ecosystem. This vision transcends hosting individual events, positioning Thailand to shape the regional agenda for sustainable tourism and demonstrate leadership in Asia's pursuit of a sustainable future.

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