



Adaptation Strategies for Cultural Tourism Management in the Extreme Climate: A Case Study of the Old Chinese Community, Buriram Province

กลยุทธ์การปรับตัวสำหรับการจัดการการท่องเที่ยวเชิงวัฒนธรรม
ในภาวะภูมิอากาศสุดขีด: กรณีศึกษาชุมชนเมืองเก่าชาวจีน จังหวัดบุรีรัมย์

Tanakorn Thongtumsiri^{1}*

ธนากร ทองธรรมศิริ

Ochanya Buatham²

โอชญญา บัวธรรม

Preeda Chaiya³

ปริดา ไชยา

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¹Faculty of Tourism and Hotel Management, Mahasarakham University, Thailand
คณะการท่องเที่ยวและการโรงแรม มหาวิทยาลัยมหาสารคาม ประเทศไทย

²Faculty of Tourism and Hotel Management, Mahasarakham University, Thailand
คณะการท่องเที่ยวและการโรงแรม มหาวิทยาลัยมหาสารคาม ประเทศไทย

³Faculty of Tourism and Hotel Management, Mahasarakham University, Thailand
คณะการท่องเที่ยวและการโรงแรม มหาวิทยาลัยมหาสารคาม ประเทศไทย

*Corresponding Author. E-mail: 65011061004@msu.ac.th

บทคัดย่อ

การศึกษานี้มีวัตถุประสงค์เพื่อสำรวจผลกระทบของภาวะภูมิอากาศสุดขีด (Global boiling era) และวิเคราะห์กลยุทธ์การปรับตัวสำหรับการจัดการท่องเที่ยวเชิงวัฒนธรรมในชุมชนเมืองเก่าชาวไทยเชื้อสายจีน จังหวัดบุรีรัมย์ ใช้ระเบียบวิธีวิจัยเชิงคุณภาพผสมผสานแนวทางพรรณนาและแนวทางเล่าเรื่อง เก็บรวบรวมข้อมูลจากการศึกษาเอกสาร การสังเกตการณ์ทั้งแบบมีส่วนร่วมและไม่มีส่วนร่วม และการสัมภาษณ์เชิงลึกผู้ให้ข้อมูลหลัก 18 ท่าน จาก 3 กลุ่ม ได้แก่ ภาครัฐ ภาคเอกชน และตัวแทนชุมชน รวมถึงกลุ่มคนรุ่นใหม่ (New Gen) และปราชญ์ชุมชน และวิเคราะห์ข้อมูลด้วยการวิเคราะห์เนื้อหาและการวิเคราะห์เชิงประเด็น ภายใต้กรอบแนวคิดแบบ Input-Process-Output (IPO) ผลการวิจัยพบว่า ภาวะภูมิอากาศสุดขีดส่งผลกระทบต่อ 2 มิติต่อชุมชน ในมิติกายภาพ ความร้อนสะสมและความชื้นสูงเร่งให้สถาปัตยกรรมไม้อายุกว่า 100 ปี เสื่อมสภาพอย่างรวดเร็ว ขณะที่นักท่องเที่ยวหลีกเลี่ยงกิจกรรมกลางแจ้งในช่วงที่อุณหภูมิสูงสุด ในมิติสังคม ชุมชนเผชิญวิกฤตการสืบทอดวัฒนธรรมระหว่างรุ่น เนื่องจากคนรุ่นใหม่มองว่างานอนุรักษ์เป็นงานจิตอาสาที่ขาดความมั่นคงทางเศรษฐกิจ จนบางประเพณีอย่างพิธีคุยกี้ไถ่สู่สูญหาย ทั้งนี้ งานวิจัยยังเผยให้เห็น "ความขัดแย้งในการปรับตัว" (Adaptation Paradox) กล่าวคือ กลยุทธ์บรรเทาความร้อนระยะสั้น เช่น การใช้ระบบปรับอากาศและยานพาหนะไฟฟ้า กลับเพิ่มการบริโภคพลังงาน ซึ่งส่งผลให้วิกฤตสภาพภูมิอากาศทวีความรุนแรงขึ้นอย่างไรก็ตาม ชุมชนมีจุดแข็งเฉพาะตัว คือ "การท่องเที่ยวเชิงศรัทธา" (Faith-Based Tourism) ซึ่งแรงจูงใจทางจิตวิญญาณในพิธีกรรม เช่น พิธีพะเก่ง ช่วยให้นักท่องเที่ยวยอมรับสภาพอากาศที่เลวร้ายได้ สะท้อนถึง "ความยืดหยุ่นเชิงความร้อน" (Thermal Inelasticity) อันโดดเด่นของการท่องเที่ยวประเภทนี้ งานวิจัยเสนอโมเดลกลยุทธ์การปรับตัว 4 ประการ ได้แก่ 1) ปรับพิธีกรรมให้เป็นมิตรต่อสิ่งแวดล้อม เช่น เปลี่ยนรูปเทียนแบบดั้งเดิมเป็นระบบไฟฟ้า เพื่อลดความร้อนสะสมและมลพิษ PM2.5 2) สร้างฐานข้อมูลดิจิทัลเพื่ออนุรักษ์

ภูมิปัญญาและมรดกทางมุขปาฐะที่เสี่ยงสูญหาย 3) ส่งเสริมการท่องเที่ยวตามคำค้น ควบคู่กับการติดตั้งระบบป้องกันความร้อนในอาคารประวัติศาสตร์ เพื่อแก้ปัญหาทั้ง เศรษฐกิจและเชิงกายภาพอย่างพร้อมกัน 4) สร้างเส้นทางอาชีพที่มั่นคงให้คน รุ่นใหม่ในฐานะ "เจ้าหน้าที่ทางวัฒนธรรม" เพื่อแก้ไขวิกฤตการสืบทอดอย่างเป็นระบบ ข้อเสนอแนะเชิงนโยบาย เน้นการเปลี่ยนผ่านจากการอนุรักษ์แบบตั้งรับสู่การจัดการ เชิงรุกแบบบูรณาการเทคโนโลยี เพื่อเป็นกลไกขับเคลื่อนการท่องเที่ยวเชิงวัฒนธรรม อย่างยั่งยืนในยุควิกฤตสภาพภูมิอากาศ

คำสำคัญ: ภาวะภูมิอากาศสุดขีด การท่องเที่ยวเชิงวัฒนธรรม การจัดการอย่างยั่งยืน การท่องเที่ยวเชิงศรัทธา ความขัดแย้งในการปรับตัว

Abstract

This study aimed to explore the impacts of extreme climate conditions (the global boiling era) and analyze adaptation strategies for cultural tourism management in the Thai-Chinese old town community of Buriram Province. A qualitative research methodology was employed, combining descriptive and narrative approaches. Data were collected through document analysis, participant and non-participant observations, and in-depth interviews with 18 key informants from three sectors: the public sector, the private sector, and community representatives, including the younger generation and local scholars. The data were analyzed using content and thematic analysis under the Input-Process-Output (IPO) conceptual framework. The findings revealed that extreme climate conditions impacted the community in two dimensions. Physically, accumulated heat and high humidity accelerated the deterioration of

century-old wooden architecture, while tourists avoided outdoor activities during peak temperatures. Socially, the community faced an intergenerational cultural transmission crisis, as the younger generation perceived conservation work as volunteerism lacking economic stability, bringing some traditions, such as the *Gui Qi* ritual, to the verge of disappearance. Furthermore, the research unveiled an "Adaptation Paradox," wherein short-term heat mitigation strategies, such as the use of air conditioning and electric vehicles, inadvertently increased energy consumption, thereby exacerbating the climate crisis. However, the community possessed a unique strength in "Faith-Based Tourism." Spiritual motivations in rituals, such as the *Pha Keng* ceremony, enabled tourists to tolerate adverse weather conditions, reflecting a remarkable "Thermal Inelasticity" distinct to this type of tourism. The study proposes a four-pronged adaptation strategy model: 1) adapting rituals to be environmentally friendly, such as replacing traditional incense and candles with electric alternatives to reduce accumulated heat and PM2.5 pollution; 2) creating a digital database to preserve local wisdom and oral heritage at risk of being lost; 3) promoting night tourism alongside the installation of heat protection systems in historical buildings to simultaneously address economic and physical challenges; and 4) establishing stable career pathways for the younger generation as "cultural officers" to systematically resolve the transmission crisis. Policy recommendations emphasize the transition from passive conservation to

proactive, technology-integrated management as a driving mechanism for sustainable cultural tourism in the climate crisis era.

Keywords: Global boiling era, Cultural tourism, Sustainable management, Faith-based tourism, Adaptation paradox

Introduction

The global tourism sector has historically served as a fundamental catalyst for economic proliferation and cross-cultural exchange; however, the industry currently confronts unprecedented, operationally consequential challenges precipitated by the global boiling era. Coined by the United Nations, this term denotes a critical intensification of global warming phenomena, wherein extreme thermal events and meteorological unpredictability have evolved from prospective risks into immediate, life-altering realities (Greenpeace, 2023; World Meteorological Organization [WMO], 2023). Across the globe, the profound impacts of the global boiling era are palpable; for instance, recent record-breaking heatwaves in Southern Europe have forced the temporary closure of iconic historical monuments, while extreme temperatures and unpredictable seasonal shifts in Southeast Asia have severely disrupted local livelihoods and traditional outdoor festivals. This environmental crisis poses a grave threat to cultural sustainability. The United Nations World Tourism Organization (UNWTO) posits that sustainable tourism development requires a delicate equilibrium between economic expansion, the conservation of cultural heritage, and the maintenance of environmental integrity (UNWTO, 2023).

In the wake of the COVID-19 pandemic, tourist behaviors have undergone a paradigm shift, characterized by a heightened preference for secondary cities and Community-Based Tourism (CBT), where travelers prioritize authentic engagement with local lifestyles (Thongtumsiri, 2024).

Understanding the profound relationship between the global boiling era and tourism management is imperative because climate volatility fundamentally destabilizes the physical and operational parameters of destinations. Escalating temperatures and stochastic seasonal variations disrupt agricultural patterns and tourism calendars, necessitating adaptive management strategies to ensure both visitor safety and the economic resilience of the host community (Thongtumsiri, 2024). To maintain viability, CBT management must transcend traditional methodologies in favor of dynamic frameworks capable of mitigating climate-induced health hazards, such as heat stress, and addressing infrastructure degradation resulting from extreme weather events (Haider et al., 2023). Furthermore, this era of environmental turmoil demands the integration of technology into contemporary tourism management, such as utilizing digital archiving to safeguard vulnerable cultural knowledge and adopting eco-friendly mobility or electric ceremonial alternatives to ameliorate localized pollution levels (Thongtumsiri, 2024).

While the post-pandemic trend offers economic revitalization for secondary cities, it simultaneously exposes vulnerable communities to the vagaries of the current environmental epoch. Within this context, the Thai-Chinese Old Town Community in Buriram Province presents a highly

pertinent case study. Distinguished by its Sino-Thai architectural heritage, distinct dialect, and traditional festivals, this specific community functions as a critical locus for examining cultural resilience because it perfectly encapsulates a profound dual vulnerability. Tangibly, extreme heat and high humidity compromise the structural integrity of its century-old wooden edifices, shrines, and artifacts, thereby deteriorating the very heritage that underpins cultural tourism. Intangibly, and equally critically, the community faces a severe social crisis regarding intergenerational cultural transmission; the younger demographic increasingly perceives conservation work as economically unstable volunteerism, pushing certain traditions to the brink of obsolescence (Teerawanit, 2024). Concurrently, the global boiling era exerts a substantial influence on tourist behavior, as visitors increasingly eschew outdoor cultural engagement during periods of peak thermal intensity, opting to abbreviate their visitation or redirect consumption toward climate-controlled environments (Ruangsuksriwong, 2024).

The sustainability of community-based cultural tourism is contingent upon the active engagement of local stakeholders and the effective intergenerational transmission of intangible heritage. Despite these escalating threats, a critical research gap persists in the existing literature. While prior studies extensively address the macroeconomic impacts of climate change on mass coastal tourism, there is a distinct void at the nexus of extreme climate impacts, intergenerational cultural transmission, and community-based resilience within secondary urban heritage sites. Consequently, investigating adaptive strategies is imperative

because passive conservation is demonstrably no longer adequate; absent robust community engagement and strategic adaptation, tourism activities risk commodification or total disappearance. This research aims to bridge this gap by investigating how local management can re-engineer tourism activities to align with principles of environmental and cultural sustainability. The primary contribution of this study lies in elucidating the dynamics of faith-based tourism resilience, demonstrating how spiritual motivations can engender remarkable "thermal inelasticity" among visitors. Furthermore, the study provides a proactive, technology-integrated adaptation model that not only physically safeguards heritage assets from extreme weather but also establishes sustainable socio-economic frameworks to engage the younger generation, ensuring the longevity of cultural tourism amidst ongoing global climate volatility.

Objective

The primary objective of this qualitative study is to explore the interplay between tourism management in the global boiling era and community-based tourism (CBT) management. Based on the environmental and intergenerational challenges identified, this research specifically aims:

1. To examine how extreme climate conditions in the global boiling era affect both the tangible (architectural heritage) and intangible (intergenerational cultural transmission) cultural tourism assets of the Thai-Chinese Old Town Community in Buriram Province.

2. To analyze the community's current local management and cultural tourism strategies, specifically investigating the emergence of an "Adaptation Paradox," wherein short-term environmental mitigation efforts may inadvertently conflict with long-term ecological sustainability.

3. To synthesize a proactive adaptation framework that leverages community strengths, such as faith-based tourism resilience, to resolve this paradox, mitigate environmental threats, and ensure the long-term sustainability of cultural tourism.

Conceptual Framework

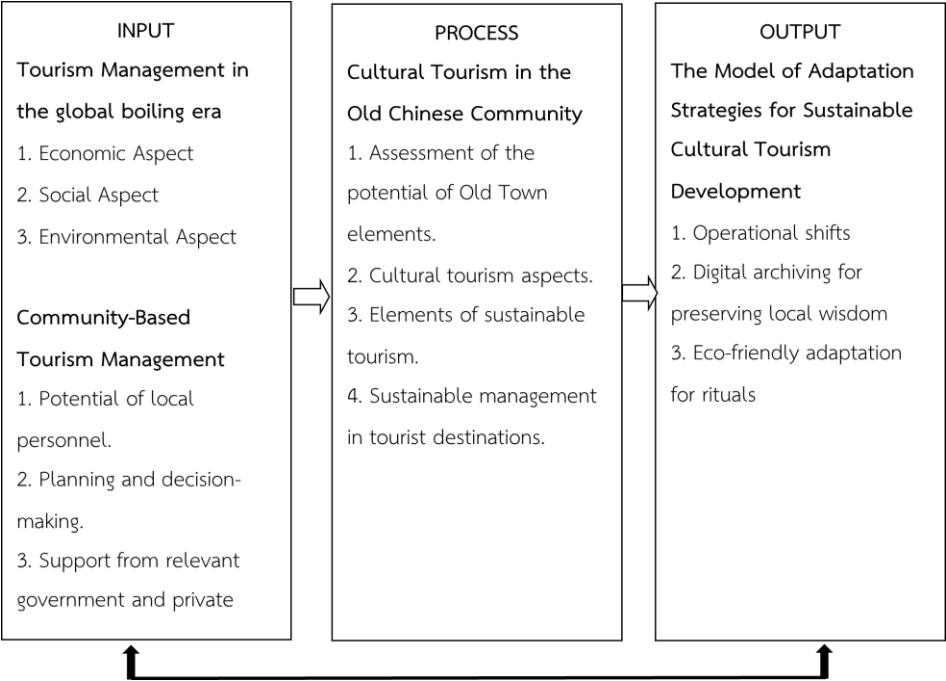


Figure 1. Conceptual Framework

The conceptual framework for this research adopts an Input-Process-Output (IPO) model, augmented with a feedback mechanism to demonstrate the dynamic interplay between global environmental challenges and local management strategies. Grounded in the systems approach to tourism impact studies (Fletcher, 1989), this framework moves beyond a linear progression to illustrate how tourism components continuously interact, adapt, and inform future resilience.

Input

The framework begins with two interacting theoretical foundations. The first variable, Tourism Management in the Extreme Climate (global boiling) Era, evaluates the external stressors through economic, social, and environmental dimensions. The second variable, Community-Based Tourism (CBT) Management, focuses on the internal capacity of the community, specifically evaluating local personnel potential, planning and decision-making processes, and sustainability support from institutional sectors. Hypothesis H1 posits a mutual relationship and dynamic interplay between these global environmental stressors and local CBT management strategies.

Process

The process stage represents the core area of empirical investigation: Cultural Tourism in the Thai-Chinese Old Town Community. This variable evaluates the resilience and current status of the community's tourism assets through four dimensions: 1) Assessment of the potential of Old Town elements (with a specific emphasis on the preservation of Chineseness and the unique Sino-Thai architectural and

spiritual identity), 2) Cultural tourism aspects, 3) Elements of sustainable tourism, and 4) Sustainable management of tourist destinations. Hypothesis H2 investigates the specific impact of extreme climate management on this cultural tourism context, while Hypothesis H3 evaluates the influence of CBT management on preserving these core assets.

Output and Feedback Loop

The final output of the framework is the Model of Adaptation Strategies for Sustainable Cultural Tourism Development. As indicated by Hypothesis H4, this model is directly derived from the analysis of the cultural tourism process. Crucially, aligning with Fletcher's (1989) feedback concept, this output does not serve as a static endpoint. Instead, it generates a feedback loop where the resulting adaptation strategies (e.g., operational shifts to night tourism, digital archiving) continuously feed back into the system to enhance future CBT Management (Input) and fortify the preservation of Chineseness (Process). This ongoing interplay ensures the long-term sustainability and resilience of the community's heritage amidst continuous environmental flux.

Method

Research Design and Approach

This study employs a qualitative research methodology to investigate the complex dynamics of cultural tourism management under conditions of extreme climate, or what the United Nations has termed the global boiling era. Rather than adopting a single qualitative lens, the design deliberately integrates two complementary approaches to ensure

analytical depth and contextual richness. A descriptive approach is applied to systematically document the physical condition of the community's tangible heritage assets including its architectural fabric, shrine infrastructure, and ceremonial spaces while a narrative approach is employed to capture the lived experiences, cultural memories, and place-based urgency articulated by local stakeholders. Together, these approaches enable the study to move beyond surface-level observation toward a nuanced understanding of how environmental stressors and intergenerational dynamics interact within a specific heritage community. The overarching aim is to analyze the interplay between community-based tourism (CBT) management and cultural heritage preservation, culminating in the development of a context-sensitive, sustainable adaptation model for the Thai-Chinese Old Town Community in Buriram Province.

Key Informants

Purposive sampling was employed to identify 18 key informants whose roles, expertise, and community positions rendered them uniquely qualified to provide substantive insight into the research phenomena. The sample was stratified into three functionally distinct groups to ensure that perspectives from across the governance, industry, and community spectrums were comprehensively represented. The first group comprised six government sector representatives, including the Provincial Tourism and Sports Official, the Mayor of Buriram Municipality, municipal cultural officers, community development officers, academic experts in tourism planning, and regional policy analysts. These individuals provided macro-

level perspectives on institutional responses to climate-related challenges and existing conservation policy frameworks. The second group represented the private sector, consisting of two key industry leaders: the President of the Tourism Industry Council and the President of the Tourism Business Association of Buriram Province. These informants offered critical insights into the economic repercussions of extreme weather on tourism enterprises, shifts in tourist consumption patterns, and the operational feasibility of commercial adaptation strategies. The third and largest group comprised ten community representatives, positioning local voices at the core of the study. This cohort included the President of the Sawang Janya Tham Sathan Foundation, five representatives from the younger demographic residing in the Community Behind the Railway Station, and four local scholars or community philosophers (*Prat Chao Ban*). This group was essential for elucidating the on-the-ground realities of the "Adaptation Paradox," the lived experiences of faith-based tourism resilience, and the nuanced intergenerational tensions surrounding cultural transmission.

Synthetic Research Results

To align with the research objectives, the qualitative evidence has been analyzed descriptively and narratively, synthesizing the findings into four conceptualized themes. This synthesis elucidates the complex interplay between extreme climate impacts, internal community dynamics, and the ensuing environmental feedback loops, culminating in a proactive model for sustainable management.

1. The Dual-Dimensional Impacts of Extreme Climate on Cultural Tourism Assets

The investigation reveals that the extreme climate of the global boiling era acts as a severe external stressor, threatening the community across two highly vulnerable dimensions: the tangible decay of historical assets and the socio-economic disruption of tourist behaviors.

Physical Heritage Degradation: The Irreversibility Threshold

In the first dimension, prolonged extreme heat and humidity are visibly accelerating the structural decay of the community's architectural soul. Observations regarding the 100-year-old Thao Kae Li wooden house highlight this vulnerability, as the structure is reaching what can be termed an irreversibility threshold. As Anonymous 1 noted, "The historic wooden building of Thao Kae Li... is currently without anyone to care for it and is deteriorating according to its condition over time." This physical degradation is consistent with the findings of Maistrou Pougakioti and Lazoglou (2023), who emphasize that historic settlements and sensitive materials face a critically high risk of irreversible damage from thermal expansion.

Socio-Behavioral Tourist Deterrence: The Economic Disruption of Climate Unpredictability

Beyond the structural decay of the built environment, this climate crisis simultaneously inflicts severe socio-behavioral disruptions. Thermal unpredictability profoundly impacts traditional festivals, such as the *Giu* (opera) and Vegetarian Festivals, which serve as the community's

primary economic engines. Extreme heat directly deters tourist participation during the daytime. Highlighting this shift, Anonymous 2 observed: "The global boiling era is another factor determining the travel of tourists... even if the activity is interesting, the weather and temperature are another variable."

Faith-Based Thermal Resilience: The Community's Endogenous Adaptive Capacity

However, despite these physical and economic deterrents, the qualitative data uncovered a unique endogenous resilience within the community's "faith-based tourism" (*Mu-te-lu*). Rituals such as *Pha Keng* (misfortune shedding) maintain consistent visitor engagement regardless of extreme heat. This phenomenon reflects a remarkable "thermal inelasticity," supporting Wang and Huang's (2023) assertion that profound spiritual motivations provide a higher psychological utility to tourists, effectively overriding environmental discomforts.

2. Community-Based Tourism Management: The Intergenerational Transmission Crisis as a Structural Bottleneck

While extreme climate events threaten the community's physical assets, internally, the community faces a strategic and structural bottleneck in Community-Based Tourism (CBT) management regarding the transmission of intangible heritage. The descriptive analysis reveals a palpable tension between elder traditionalists and the younger demographic. This emerging generation often views cultural stewardship as burdensome, unpaid volunteer work lacking economic security. Unless

this perception shifts toward establishing cultural management as a professionalized career path, complex rituals face imminent obsolescence. Highlighting how this critical lack of personnel directly endangers specific practices, Anonymous 3 stated: "The *Gui Qi* tradition is starting to disappear because there are currently no personnel to continue it."

3. The Adaptation Paradox and Environmental Feedback Loops

Building upon these physical and social vulnerabilities, the analysis highlights a profound interplay between local climate adaptation strategies and broader environmental feedback loops. As the community and tourists attempt to build resilience against extreme heat—such as retreating to air-conditioned buildings or utilizing electric vehicles (EVs) for tours—they inadvertently increase local energy consumption. This "Adaptation Paradox" means that short-term coping mechanisms increase the community's carbon footprint, thereby feeding back into and exacerbating the global boiling phenomenon they are trying to escape. This cyclical relationship aligns with Hall and Wendt's (2020) studies on tourism's environmental feedback loops.

Beyond the issue of energy consumption, the strategic shift toward night tourism presents a critical conservation paradox. Rescheduling outdoor festivals to evening hours successfully mitigates human heat stress and sustains the local tourism economy. However, while this economic adaptation is effective, the physical conservation effort remains compromised. Historic wooden structures and shrines continue to absorb accumulated solar radiation throughout the 24-hour

cycle. Thus, economic resilience in the evening does not equate to the physical survival of the heritage assets, which suffer continuously from daytime accumulated heat.

4. The Synthesized Model of Adaptation Strategies for Sustainable Cultural Tourism

Responding to the environmental and socio-cultural vulnerabilities outlined above, this study proposes a prescriptive, synthesized model for sustainable cultural tourism. To ensure long-term survival, the community must move beyond simple, reactive adaptation toward a strategic evolution encompassing four core strategies:

Eco-Friendly Ritual Adaptation Transitioning to electric incense and candles within shrines maintains the spiritual atmosphere while critically reducing localized heat stress and PM2.5 pollutants. This directly addresses and mitigates the negative energy feedback loop of the "Adaptation Paradox."

Digital Heritage Preservation and Archives Codifying vulnerable oral traditions, specifically the *Pha Keng* chants and *Gui Qi* procedures—into digital databases. As supported by Nuanmeesri (2022), integrating digital platforms ensures that cultural knowledge is preserved indefinitely, mitigating the risk of total loss stemming from the intergenerational crisis.

Professionalized Community Engagement Transforming local social media pages into professionalized communication platforms managed by dedicated, paid administrators from the younger demographic.

This systematically resolves the structural personnel bottleneck by offering economic security to the youth, establishing them as professional "cultural officers."

Operational Night Tourism with Physical Shielding

Implementing night tourism to protect human health, coupled with seeking disaster-relief funds to install passive cooling or thermal insulation on historic buildings. This holistic socio-spatial strategy addresses the paradox of daytime accumulated heat, ensuring that both the economy and the physical architecture survive concurrently.

Discussion

Building upon the proposed adaptation model, this discussion contextualizes the qualitative findings within contemporary theoretical frameworks, critically analyzing the complex interplay between environmental stressors, community management, and cultural resilience.

1. Cultural Power vs. Environmental Stress

The resilience of faith-based tourism foremost among these findings is the profound interplay between severe environmental stress and endogenous cultural power. While extreme heat predictably deters general leisure activities, the research revealed that "faith-based tourism" fundamentally alters human behavioral responses in the global boiling era. Tourists actively choose to endure severe thermal discomfort to participate in rituals such as the *Pha Keng* (misfortune shedding), exhibiting a remarkable "thermal inelasticity." This phenomenon can be analyzed

through the theoretical lens of Wang and Huang (2023), who established that Chinese cultural values and spiritual motivations function as profound drivers of tourist behavior. In this context, the spiritual utility such as merit-making and psychological security, overrides the physical "cost" of heat exposure. The implication here is that the community's cultural belief system possesses an intrinsic climate resilience; however, management cannot rely solely on this endurance, as it risks the biological safety and health of the tourists.

2. The Paradox of Adaptation: Sustainability and Environmental Interplay

Moving beyond the behavioral resilience of tourists, a theoretically significant and original finding of this study is the identification of a structural "Adaptation Paradox" embedded within the community's current tourism management practices, one that reveals how well-intentioned resilience strategies can simultaneously undermine the very sustainability goals they are designed to achieve. This paradox operates across two distinct but interrelated planes: the energy-climate feedback loop and the economic-conservation disconnect. Both of these planes demand a critical re-examination of what "adaptation" genuinely means in the context of heritage tourism under the global boiling era conditions.

Operating on the first plane, the energy-climate feedback loop demonstrates that when the community adapts to heat by utilizing air-conditioned spaces or electric vehicles to maintain economic benefits, they inadvertently increase local energy consumption. This creates a

negative feedback loop that exacerbates the very climate crisis they are adapting to—a theoretical interplay directly supported by Hall and Wendt (2020), who argued that tourism's energy demands critically impact global environmental shifts.

Conversely, on the second plane, the shift toward night tourism exposes the economic-conservation disconnect. While relocating operations to the evening ensures the economic survival of festivals, the physical architecture (e.g., the century-old wooden houses) remains continuously exposed to daytime accumulated heat. This aligns with Maistrout Pougkakioti and Lazoglou (2023), who identified that historic settlements face continuous, high-risk degradation from thermal expansion regardless of operational hours. The implication is that current resilience strategies are heavily skewed toward short-term economic survival, inadvertently neglecting holistic, long-term physical conservation.

3. Economic Incentives and the Intergenerational Crisis in CBT

Beyond the physical and environmental paradoxes discussed above, the results expose a critical structural bottleneck within the social dimension of Community-Based Tourism (CBT) management: the younger generation views cultural stewardship as financially insecure volunteer work, threatening the continuity of complex rituals like *Gui Qi*. This finding directly challenges the idealized, harmonious CBT framework proposed by Phonyothee (2020), which assumes that public participation flows naturally from shared community values. Instead, the Buriram case strictly aligns with the theoretical arguments of Moayerian, McGehee, and

Stephenson (2022) and Intan and Yusof (2022), who emphasize that "social sustainability" is virtually impossible without robust economic viability. These data imply that traditional, altruistic volunteering is a demonstrably obsolete mechanism in an era of compounding economic and environmental instability. Long-term protection of intangible culture necessitates transforming cultural stewardship into professionalized, economically viable career pathways, such as the proposed "cultural officers", to foster genuine capacity building among the youth.

4. Implications for a Sustainable Adaptive Model

Ultimately, to resolve these structural paradoxes and reconcile economic vitality with heritage protection, the proposed adaptation strategies must be theoretically grounded in modernization and meaning re-creation. The eco-cultural shift toward environmentally friendly rituals (e.g., electric incense) and digital archiving is not merely a technological upgrade, but an essential survival strategy. This aligns with Nuanmeesri (2022), who advocated for leveraging digital platforms to standardize and preserve tourism services in emerging cities. Moreover, adapting the physical spaces of shrines to utilize electric ceremonial items supports Boonwanno (2021), who theorized that for conservation to successfully coexist with tourism, historical spaces must adapt to new functional realities while maintaining their authentic spiritual meaning. The ultimate implication of this research is that proactive, technology-integrated management, rather than passive preservation, is the only viable mechanism to ensure the sustainable future of cultural tourism in the global boiling era.

Research Suggestion

This investigation makes a distinct academic contribution by bridging the theoretical gap between climate change adaptation (CCA) and community-based tourism (CBT) within the broader discourse of the Global South. While previous studies have predominantly focused on the general economic impacts of climate change or physical infrastructure vulnerabilities in temperate European contexts, this research elucidates a novel mechanism of resilience applicable to tropical urban heritage sites worldwide: faith-based resilience.

Specifically, the study establishes a new theoretical standpoint that faith-based tourism possesses high thermal inelasticity. This contributes a nuanced variable to global sustainable tourism models, demonstrating that the profound spiritual utility of an activity can function as a psychological buffer against climate-induced behavioral changes. Furthermore, this study challenges the traditional global CBT paradigm that relies heavily on volunteerism. It contributes the broader theoretical finding that in an era of extreme climate and economic instability, cultural stewardship cannot survive on passion alone. Instead, professionalization is the missing theoretical link for intergenerational transmission, serving as a critical framework for sustaining heritage communities globally. Building upon these theoretical contributions, the practical implications of this study extend significantly beyond the local context of Buriram Province, offering a broader policy framework for cultural tourism adaptation at national and regional levels:

Redefining National Conservation Charters (From Passive to Adaptive)

The accelerated deterioration of historic architecture under extreme heat implies that national heritage organizations must shift from passive to adaptive conservation. Policy frameworks must be updated to legally permit modern interventions, such as climate-control retrofitting or eco-friendly ceremonial adaptations, without stripping sites of their authentic heritage status.

National Shift Toward Nocturnal Cultural Economies

The night tourism imperative observed in this case study serves as a macro-level indicator for tropical tourism destinations globally. National tourism policies should strategically pivot to support nighttime cultural economies, which are no longer mere marketing tools, but absolute health and safety necessities for tourists and residents susceptible to heat stress.

Digitization as National Cultural Insurance

The intergenerational crisis highlights an urgent implication for national knowledge management. Governments must subsidize the codification of oral traditions into digital formats. If policies fail to integrate digital preservation, intangible heritage across the region faces imminent extinction within one generation due to climate displacement.

Strategic Recommendations

Translating these theoretical implications into actionable steps, the following strategic recommendations are proposed for policymakers, local governments, and tourism boards beyond the local level:

1. Human Capital Professionalization Strategy Provincial and national governments should establish formal funding mechanisms to transform cultural stewardship from unpaid volunteerism into professional career paths for the youth. Allocating a dedicated percentage of tourism revenue to hire members of the younger demographic as "cultural officers" ensures long-term workforce resilience.

2. Climate-Resilient Infrastructure Strategy To safeguard physical assets, policymakers must allocate specific disaster-relief and climate-adaptation funds for heritage sites. This strategy involves subsidizing the installation of passive cooling technologies (e.g., thermal insulation or cool roofs) in historic buildings to mitigate daytime accumulated heat, thereby ensuring physical conservation alongside economic activities.

3. Temporal Tourism Repositioning Strategy Concurrently, to protect human health and economic vitality, tourism authorities should actively promote and facilitate the transition of major outdoor cultural festivals to nocturnal operations. This involves strategic investments in public safety, nighttime lighting infrastructure, and macro-marketing campaigns that rebrand extreme-weather destinations as safe, vibrant night tourism hubs.

Suggestions for future research

To expand upon this qualitative foundation and contribute to wider academic discussions on climate change adaptation, future research should consider the following directions:

1. To conduct quantitative surveys to measure the willingness to pay (WTP) of tourists for night tourism experiences versus daytime events across various Southeast Asian countries. This would provide the necessary economic data to convince macro-policymakers to invest in nocturnal infrastructure.

2. To address the physical vulnerabilities identified in this study, scholars should initiate longitudinal studies (spanning 5 to 10 years) tracking the specific degradation rates of wooden architecture correlated with rising regional temperatures. This would provide empirical data to support and broaden the risk assessment models for historic settlements globally.

3. To test the universality of the proposed framework, researchers should perform cross-cultural comparative studies of adaptation strategies in other high-heat-risk heritage communities (e.g., in Vietnam or Malaysia) to distinguish universal climate adaptation mechanisms from context-specific cultural behaviors.

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