

# Proposing the Strategies for Sustainable Tourism Development of Coastal Recreational Fishery: A Case Study of Qingshan Fishing Village, Qingdao, China

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Wen Zhaoyun<sup>1</sup> and Chuensumon Bunnag<sup>2\*</sup>

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## Abstract

This study aims to: (1) analyze the current state of recreational fishery tourism in Qingshan Fishing Village; (2) evaluate its internal and external influencing factors; and (3) propose sustainable development strategies. A qualitative research approach was employed, incorporating in-depth interviews with 12 stakeholders. To identify key drivers and barriers, the study utilized a combination of weighted SWOT analysis, TOWS Matrix, Quantitative Strategic Planning Matrix (QSPM), and PESTEL analysis as part of the situational analysis model. Findings reveal that, despite Qingshan's abundant tourism resources, distinctive culture, and ecological assets, it faces limitations such as insufficient infrastructure, weak service systems, product uniformity, talent shortages, and transportation challenges. External opportunities include rising market demand, ecotourism growth, and cultural-tourism integration, while threats stem from intense competition, delayed digital transformation, and commercialization pressures. Based on these insights, the study recommends strategies such as diversifying recreational offerings, integrating ecological and fishery elements, advancing smart tourism, enriching cultural and immersive experiences, fostering local talent, upgrading infrastructure, and enhancing marketing and product differentiation to promote sustainable tourism development.

**Keywords:** Sustainable Tourism Development, Coastal Recreational Fishery, Situational Analysis Model

\*Corresponding author e-mail: bchuensumon@gmail.com

<sup>1</sup> DBA Student, International college, Mahanakorn University of Technology, Bangkok, Thailand. e-mail: 02447@qdbhu.edu.cn

<sup>2</sup> Associate Professor, International college, Mahanakorn University of Technology, Bangkok Thailand. e-mail: bchuensumon@gmail.com



## Introduction

The fishery economy, vital for China's food security and agricultural development, has seen significant growth, with fishery output increasing from 1.4% to 7.0% of total agricultural output since 1978 (Ministry of Agriculture and Rural Affairs of the People's Republic of China, 2022). China became the global leader in aquaculture in 1989 and the top exporter of fishery products since 2002. However, challenges such as the COVID-19 pandemic, Japan's nuclear wastewater discharge plan, industrialization, and urbanization threaten the sustainability of coastal fishing villages. Additionally, rapid industrialization and urbanization have led to the decline of traditional fisheries, resource depletion, and the gradual disappearance of fishing villages (Wang et al., 2022, pp.10-100). Coastal fishing villages worldwide, such as those in Japan, Norway, and Canada, face similar issues of resource depletion, environmental degradation, and socio-economic decline, highlighting the global vulnerability of these communities (Stuchtey et al., 2023 pp.784-785).

The sustainable development of China's fishery economy under the rural revitalization strategy requires industrial transformation, with recreational fishery gradually replacing traditional fishing. This model integrates tourism, recreational, and culture, combining primary and tertiary industries (Hu et al., 2022, pp.1-13). Environmental awareness is crucial for sustainability, as sustainable tourism protects natural, cultural, and economic aspects of destinations (Niedziółka, 2022, pp.157–166). Therefore, strategic planning is essential to balance environmental, socio-cultural, and economic dimensions. Comparable transitions in fishing communities in New Zealand and the Mediterranean demonstrate how recreational fishery tourism can drive economic diversification and support cultural preservation. (Jasrotia et al., 2021, pp.173-189).

Qingshan fishing village, located in Qingdao—a city with a well-developed fishery industry in northern China—has evolved into a unique tourist destination with strong fishing culture characteristics since the reform and opening up era (Charity China, 2024). With government investment and infrastructure improvements, the village has transformed into a scenic area known as the "Fishing Village Folk Customs Museum," emphasizing recreational fishing as a core activity. However, despite these developments, Qingshan fishing village still faces multiple challenges. The recreational fishery industry started late, remains small in scale, has a low level of industrial development, and suffers from an unreasonable structure and limited innovation. Tourism offerings are relatively simple, primarily consisting of recreational fishing, seafood, and basic coastal crafts. Environmental pollution from resource overuse, a lack of skilled practitioners, and insufficient technical and financial support further hinder sustainable development.



Despite extensive studies on coastal fishing village sustainability and recreational fishery tourism globally, there is a research gap in integrated, context-specific strategies that balance ecological conservation, cultural preservation, and economic development, particularly in the context of China's rapidly changing rural coastal areas. Existing research often focuses separately on either environmental or economic aspects, lacking a holistic approach that incorporates local stakeholder perspectives and applies comprehensive situational analysis models. This study addresses these academic limitations by combining qualitative stakeholder insights with multiple analytical frameworks (weighted SWOT, TOWS, QSPM, PESTEL) to develop targeted sustainable development strategies for Qingshan fishing village.

As a tourism village with recreational fishery as its main focus, Qingshan fishing village faces many obstacles to development, and problems in production, livelihood, ecology, and other aspects are gradually emerging. To attract more tourists and promote sustainable rural recreational fishery tourism, it is essential to continuously address these challenges and formulate effective, sustainable development strategies.

## Research Objectives

This study positions Qingshan fishing village as a representative case to examine the challenges and opportunities in transitioning from traditional to recreational fishery tourism within the broader context of declining global fisheries and China's rural revitalization strategy. Despite cultural assets and policy support, the village faces structural and socio-environmental constraints common to many coastal communities. By focusing on Qingshan fishing village, this study aims to generate context-specific insights to guide sustainable development strategies and contribute to both local policymaking and global discussions on sustainable fishery tourism. The research objectives are as follows:

- (1) To analyze the current situation in Qingshan fishing village.
- (2) To evaluate the internal and external potential factors in Qingshan fishing village.
- (3) To propose sustainable development strategies for recreational fishery tourism in Qingshan fishing village.

## Scope of the Research

Qingshan fishing village was selected as the primary research site due to its designation as one of China's first national-level traditional villages and its status as a relatively well-preserved settlement in the Qingdao region, possessing considerable potential to drive the development of coastal recreational fishery tourism. This study employed purposive sampling,

a non-probability sampling method commonly used in qualitative research, which prioritizes the selection of participants capable of providing rich, relevant information aligned with the research objectives (Nyimbili et al., 2024, pp.90-99). In-depth interviews were conducted with 12 stakeholders representing six key groups within the tourism system—tourists, community representatives, government officials, business owners, retailers, and sanitation workers. Qualitative research is particularly well-suited for this study as it enables a deep, contextualized understanding of stakeholder perspectives, values, and lived experiences, which are critical for analyzing the complex socio-cultural, environmental, and structural factors influencing sustainable tourism development. Furthermore, in-depth interviews facilitate the exploration of subjective meanings, localized knowledge, and nuanced interactions that quantitative methods alone cannot capture. Given the study's objectives to assess internal and external factors and formulate context-specific sustainable development strategies, qualitative inquiry provides the necessary flexibility and depth to generate comprehensive, grounded, and actionable insights.

## Conceptual Framework

Based on the preceding introduction, research objectives, and scope, it is recommended that a more systematic research approach be adopted to analyze the current condition of Qingshan Fishing Village, investigate the factors influencing the sustainable development of recreational fishery tourism, and propose strategic recommendations for sustainable tourism development. These perspectives have informed the formulation of the conceptual framework for this study, as depicted in Figure 1 below.

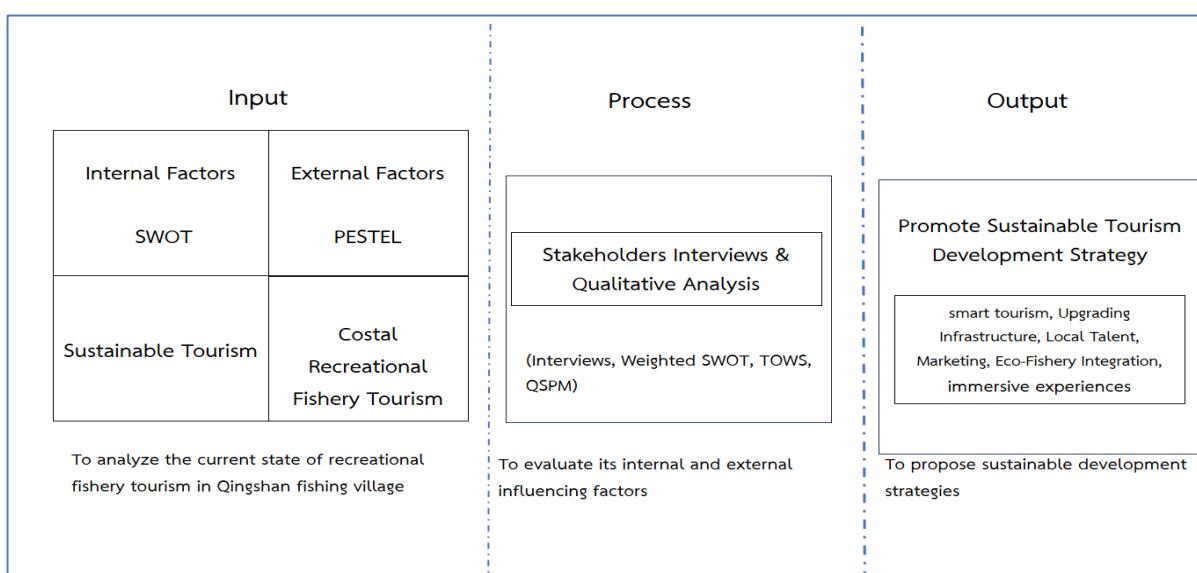


Figure 1 Conceptual Framework (Researcher, 2025)

## Literature Review

### Concept Upon Sustainable Tourism Development

Sustainable tourism is conventionally understood through the balanced integration of economic, environmental, and social dimensions (Streimikiene et al., 2020, pp.71–259). However, recent scholarship challenges this triadic model by emphasizing cultural development as a distinct pillar, which complicates conceptual clarity due to overlapping social and cultural boundaries (Buhalis et al., 2023, pp.293-313). Although stakeholder collaboration is widely promoted to reconcile resident and tourist interests (Richardson, 2021, pp.1-10; Global Sustainable Tourism Council, 2021), existing literature often overlooks power imbalances and marginalization issues inherent in such processes. The expanding social dimension addresses ethical concerns such as peacebuilding and inequality reduction (Nunkoo et al., 2024. pp.1-267), yet practical methodologies for implementing these goals remain underdeveloped. Persistent scholarly debates highlight unresolved tensions among economic, socio-cultural, and environmental priorities, with limited examination of their policy implications (Leenoi, 2024). Overall, the literature underscores the need for integrative frameworks that clarify conceptual distinctions, address governance complexities, and operationalize social justice to enhance sustainable tourism's effectiveness across diverse contexts. This study responds to these gaps by employing a multidimensional, context-sensitive framework focused on Qingshan fishing village.

1. **The economic dimension** emphasizes the contribution of tourism to the local economy, including economic growth, employment opportunities, and the economic development of local communities and businesses (Buhalis et al.,2023, pp.293-313).
2. **The socio-cultural dimension** focuses on the socio-cultural impact of tourism on local communities, including social and cultural well-being, technological, community participation, community benefits, and the preservation of cultural heritage and social structure (Niedziółka,2022, pp.157–166; Khizar et al. ,2023, pp.1-10; Wang et al., 2022, pp.10-100).
3. **The environmental dimension** highlights the environmental impact of tourism, encompassing natural environments and ecosystems (Deb et al.,2023, pp.1703-1716).

### Concept of Coastal Recreational Fishery

The concept of coastal recreational fishery varies across academic disciplines, reflecting its multidimensional and region-specific character. In the U.S., the National Marine Fisheries Service includes limited commercialization within its scope. Bower et al. (2020, pp.518-535) highlight its recreational and participatory diversity, while Jiang (1992, pp.47-52) emphasizes its role in promoting fishing village revitalization through leisure and tourism. Wang et al. (2022, pp.10-100.)



regard it as a new form of tourism that integrates primary and tertiary industries. In this study, coastal recreational fishery is defined as an integrated activity that combines coastal environments, recreational fishing, cultural experiences, and tourism services. It represents a transformation from traditional fishing to a modern, sustainable model aimed at balancing ecological conservation, cultural preservation, and economic development. Using Qingshan fishing village as a case study, this research examines the sustainable development of coastal recreational fishery from multiple dimensions, addressing both visitor satisfaction and community livelihood needs.

### **QSPM Matrix Analysis**

This study utilized the Quantitative Strategic Planning Matrix (QSPM) to evaluate and prioritize strategic alternatives for the sustainable development of tourism in Qingshan fishing village, integrating both internal and external factors. QSPM is a strategic management tool designed to provide a structured and objective method for evaluating alternative strategies (Elezaj & Kuqi, 2023, pp.90-96). This approach ensured a structured and objective evaluation, ultimately selecting the most suitable strategy to support the sustainable tourism development of Qingshan fishing village.

## **Methodology**

### **1. Research Design and Case Selection**

This study adopted a qualitative case study design, focusing on Qingshan Fishing Village, a well-preserved national-level traditional village in Qingdao with high potential for sustainable coastal recreational fishery tourism development. The case study approach enabled in-depth exploration of context-specific issues relevant to the study's objectives.

### **2. Sampling Strategy and Participants**

Using purposive sampling, a non-probability technique suited for qualitative research, 12 stakeholders were selected across six representative groups: tourists, local residents, government officials, business owners, retailers, and sanitation workers. This diversity ensured the inclusion of multiple perspectives related to tourism planning and community dynamics.

### **3. Data Collection and Credibility Measures**

Semi-structured interviews were employed as the primary data collection method. Each interview lasted 30–60 minutes and followed a guide comprising three sections: (1) respondent profile (occupation, residence, travel experience), (2) analysis of internal and external tourism factors (based on SWOT), and (3) open-ended follow-up questions.

To ensure the validity and credibility of the qualitative data, this study adopted multiple verification strategies. The interview guide was refined through expert evaluation and pilot testing to enhance content relevance and clarity. In line with Wilson (2016, pp. 1549-1573),



data triangulation was employed by incorporating perspectives from diverse stakeholder groups (e.g., users, providers, governor and related agencies), utilizing both online and face-to-face interviews for cross-validation, conducting member checks to confirm the accuracy of interview transcripts, and engaging in peer debriefing to enhance analytical reliability. These measures collectively strengthened the trustworthiness and methodological rigor of the research process.

#### 4. Data Analysis Procedures

The interview transcripts were analyzed thematically through a combined deductive-inductive coding approach, initially categorizing data based on the SWOT framework while allowing for emergent themes. These codes were then grouped into broader conceptual categories. Subsequently, stakeholders rated the identified SWOT factors using a five-point Likert scale, and the resulting average scores were used to assign weights to each factor, facilitating a structured and quantitative strategic analysis.

5. This study employs a multi-stage strategic analysis framework. Initially, a weighted SWOT analysis is conducted to evaluate both internal strengths and weaknesses, and external opportunities and threats. Notably, the assessment of these external factors is enhanced through the application of PESTEL analysis, providing a comprehensive understanding of the macro-environmental influences. Following the weighted SWOT analysis, a TOWS matrix is utilized to formulate strategic options by aligning strengths with opportunities, strengths with threats, weaknesses with opportunities, and weaknesses with threats. Finally, the Quantitative Strategic Planning Matrix (QSPM) is employed to objectively prioritize these generated strategies based on their attractiveness and feasibility, ultimately guiding the sustainable development of tourism in fishing village.

6. Research Limitations should be noted: The small sample size ( $n=12$ ) limits generalizability purposive sampling may introduce selection bias. The subjectivity inherent in qualitative coding is mitigated through triangulation and inter-coder checks, but not eliminated. Findings are context-specific, requiring caution when applying results beyond Qingshan or similar village settings

## Results

The In-depth Interviews were conducted with a diverse group of respondents, including 2 tourists, 2 community representatives, 2 government officials, 2 business owners, 2 retailers, and 2 sanitation workers. The interviewees displayed a wide range of educational backgrounds, from below high school to master's degrees, ensuring representativeness across different education levels. Most respondents had long-term residence or work experience in Qingshan fishing village, providing in-depth knowledge of local development and tourism evolution.

Geographically, the respondents were mainly from Qingshan fishing village or nearby areas, enhancing the reliability of the data. The diversity in occupations allowed the study to capture multiple perspectives on sustainable tourism development in the village.

Thematic analysis was used to conduct a comprehensive SWOT analysis of the sustainable development of recreational fisheries tourism in Qingshan Fishing Village, based on interview results. In the internal environment analysis, the focus was on examining the strengths(S) and weaknesses(W) of the village's development of recreational fisheries tourism to understand its internal resources and development constraints. In the external environment analysis, the researcher primarily combined PESTEL analysis (macro level), focusing on identifying the opportunities(O) and threats(T) facing the development of recreational fisheries tourism in Qingshan fishing village. Research findings are as follows:

**Table 1** Internal and external factors in SWOT analysis

Internal Factors	
Strength	Weakness
S1. Abundant tourism resources	W1. Infrastructure deficiencies
S2. Unique culture	W2. Inadequate Tourism Service System
S3. Beautiful ecological environment	W3. Tourism Product Homogenization
S4. Characteristic fishing village architecture	W4. Lack of Professional Talent
S5. Characteristic fishing village scenery	W5. Lack of Community Vitality
S6. Unique fishing experience	W6. Traffic and Parking Difficulties
External Factors	
Opportunity	Threat
O1. Policy support (Political)	T1. Extreme weather and public health (Social Environmental)
O2. Growing market demand (Social)	T2. Intense market competition (Economic)
O3. Employment and investment opportunities (Economic)	T3. Lagging smart tourism (Technological/Social)
O4. Ecotourism trends (Social/Environmental)	T4. Impact of tourism commercialization (Social)
O5. Enhanced tourist spending power (Economic)	T5. Insufficient infrastructure capacity (Social)
O6. Cultural and tourism integration (Social)	T6. Uneven peak and off-peak seasons (Social/Environmental)

Based on the thematic analysis of stakeholder interviews, this study identifies key internal and external factors shaping the sustainable tourism development of Qingshan fishing village.



Internally, the village exhibits strengths such as rich cultural and ecological resources, distinctive fishing architecture, and immersive fishing experiences. However, it faces weaknesses including infrastructure gaps, service deficiencies, product homogenization, and limited human capital.

For instance, “*I'm drawn to the rich tourism resources here, and I love the natural ecological tourism environment of the fishing village. Here, I can enjoy the beautiful scenery, feel the charm of nature, explore the village's long history and culture, and seek ancient wisdom*”, remarked by a tourist T1. “*As tourism continues to develop, the fishing village not only offers visitors unforgettable fishing experiences, but its unique seafood dishes also leave a lasting impression*”, remarked by a business owner B1. Meanwhile, tourist T2 noted that “*when I visited the fishing village, I encountered some inconveniences. Upon driving in, there wasn't a dedicated signage system, and it took me a long time to find suitable parking, which wasted some of my time. Also, my child couldn't find suitable entertainment activities in the village, which made him feel a bit bored.*” “*Our retail products are mainly machine-made goods, lacking local handcrafted items, which makes them less appealing to tourists*”, remarked by a retailer R1.”

Externally, the village benefits from supportive policies, rising market demand, and cultural-tourism integration, which together present strong opportunities. Yet it remains constrained by environmental risks, seasonal imbalances, and competitive pressures from other destinations.

For instance, “*China's long-term implementation of its rural revitalization policy and the proactive fulfillment of its "14<sup>th</sup> Five-Year Plan" development requirements have brought strong policy support and encouragement to the fishing village's tourism economy. These numerous favorable policies have not only facilitated local tourism investment but also promoted the preservation of fishing village culture*,” remarked by a government official G1. Retailer R2 noted that “*In recent years, a growing number of tourists have enjoyed participating in local folk festivals and experiencing the festive atmosphere. Their willingness to purchase local organic agricultural products has also increased, with a stronger preference for unique, fresh local produce.*” Meanwhile, business owner B2 noted that “*Due to its coastal location, the fishing village is affected by strong winds every year, which generally leads to a decrease in tourist numbers. Particularly during winter's strong winds, rain, and snow, hardly any tourists visit. Furthermore, the spring flu season also causes many tourists to reduce their outings for personal safety reasons. All these factors directly impact local tourism revenue.*” “*In peak season, the crowds get so big that trash piles up all over the village, public areas get messed up, and it causes a ton of headaches for the whole fishing village*,” remarked by a Community representative C1 .

To systematically assess strategic responses, the study employs structured scenario-based models—including weighted SWOT, TOWS matrix, and QSPM analysis—offering a comprehensive foundation for strategic planning and sustainable tourism development.

### 1. Weighted SWOT analysis

This study conducted a thematic analysis of the strengths, weaknesses, opportunities, and threats identified by 12 stakeholders, assigning scores on a scale from 1 to 5 (1 being the least important and 5 being the most important). The analysis identified 6 internal strengths, 6 internal weaknesses, 6 external opportunities, and 6 external threats. These factors were categorized as favorable factors (strengths and opportunities) and constraining factors (weaknesses and threats) to guide the sustainable development of tourism in Qingshan Fishing Village's coastal leisure fishery. Table 2 presents the weighted scores and rankings for each factor.

**Table 2** Weighted scores in SWOT matrix

Items	Expert Scoring												Relative Weight	Mean Score	Weighted Score	Ranking
	T-1	T-2	C-1	C-2	G-1	G-2	B-1	B-2	R-1	R-2	S-1	S-2				
Strengths	S1.	4	4	5	4	5	4	5	5	4	4	4	0.161	4.42	0.7115	5
	S2.	4	3	4	4	5	5	5	4	5	3	5	0.158	4.33	0.6849	6
	S3.	5	4	5	5	5	4	5	5	4	5	5	0.173	4.75	0.8229	2
	S4.	4	4	4	5	5	5	4	5	5	5	4	0.167	4.58	0.7662	3
	S5.	4	3	4	5	5	5	4	5	5	5	4	0.164	4.50	0.7386	4
	S6.	4	5	4	5	5	5	5	5	5	5	5	0.176	4.83	0.8521	1
Weaknesses	W1.	5	4	3	5	3	5	5	5	5	5	5	0.196	4.58	0.8971	2
	W2.	5	3	2	4	3	3	4	3	3	3	3	0.139	3.25	0.4511	6
	W3.	4	4	3	3	4	3	4	3	3	4	4	0.149	3.50	0.5231	4
	W4.	4	3	4	4	4	4	3	3	3	4	4	0.157	3.67	0.5741	3
	W5.	3	3	4	4	4	3	4	3	3	3	3	0.146	3.42	0.4985	5
	W6.	5	5	5	5	5	5	5	5	5	5	5	0.214	5.00	1.0676	1
Opportunities	O1.	4	4	5	5	5	5	4	4	3	5	4	0.188	4.42	0.8301	1
	O2.	5	5	4	4	4	4	4	5	3	4	5	0.177	4.17	0.7388	2
	O3.	3	3	5	4	3	3	4	4	3	4	5	0.160	3.75	0.5984	4
	O4.	3	4	4	5	4	5	4	5	3	3	4	0.167	3.92	0.6528	3
	O5.	4	5	4	4	4	4	3	3	3	3	3	0.152	3.58	0.5464	6
	O6.	3	3	4	4	4	4	4	4	3	4	4	0.156	3.67	0.5721	5
Threats	T1.	3	3	3	4	2	3	2	2	3	3	3	0.124	2.83	0.3516	6
	T2.	4	4	5	4	4	4	5	5	5	4	5	0.197	4.50	0.8869	2
	T3.	3	3	4	3	3	4	4	4	5	4	3	0.157	3.58	0.5623	4
	T4.	4	3	3	3	3	4	3	4	3	4	3	0.146	3.33	0.4866	5
	T5.	5	3	3	4	3	3	4	4	4	5	4	0.168	3.83	0.6436	3
	T6.	5	5	4	5	4	5	5	5	4	5	5	0.208	4.75	0.9881	1

[Stakeholders are: T-1 = Tourist 1, T-2 = Tourist 2, C-1 = Community representative 1, C-2 = Community representative 2, G-1 = Government official 1, G-2 = Government official 2, B-1 = Business owner 1, B-2 = Business owner 2, R-1 = Retailer 1, R-2 = Retailer 2, S-1 = Sanitation worker 1, S-2 = Sanitation worker 2].

Based on the weighted SWOT analysis (Table 2), this study identifies key factors influencing the sustainable development of Qingshan Fishing Village across four strategic dimensions. The most significant strengths—unique fishing experiences (S6) and a beautiful ecological environment (S3)—form the village's core tourism appeal, supported by distinctive architecture and scenic charm (S4, S5). However, major weaknesses such as poor transportation and parking (W6), inadequate infrastructure (W1), and a lack of professional talent (W4) constrain development and innovation. On the opportunity side, strong policy support (O1), rising market demand (O2), and ecotourism trends (O4) offer growth potential. Conversely, seasonal tourism imbalance (T6), intense competition (T2), and underdeveloped smart tourism (T3) present external challenges.

## 2. TOWS matrix analysis

In the strategy formulation process, the results of semi-structured interviews and SWOT analysis are combined to compare the internal and external factors in the SWOT matrix, in order to develop possible strategic plans. The specific results can be found in Table 3 of the TOWS matrix analysis.

According to Table 3, the researcher developed TOWS strategies based on the results of semi-structured interviews and the SWOT analysis. These strategies focus on a multidimensional approach involving ecological environment, socio-cultural development, technological innovation, and community co-construction, aiming to promote sustainable tourism-driven economic growth and harmonious community development in Qingshan fishing village.

**Table 3** The TOWS strategies obtained from SWOT analysis

Internal Factors	Strength(S)	Weakness(W)
External Factors	SI,S2,S3,S4,S5,S6	W1,W2,W3,W4,W5,W6
Opportunity(O)	<b>Attacking Strategy:</b> SO1. Develop diversified recreational activities(S1,S2,O2,O6) SO2. Integrate ecological environment with fishery characteristics(S3,S6,O2) SO3. Promote smart tourism (S2, O2) SO4. Integrate cultural and ecological experiences (S2,S3,O6)	<b>Build Strengths for attacking strategy:</b> WO1. Upgrade Smart Tourism Infrastructure(W1,W6,O1) WO2. Integration of Traditional Culture and Deep Experience(W5,O1.O6) WO3. Diversify Marketing and Brand Building (W3, O2,O5) WO4. Cultivate Professional Tourism Service Talent(W6,O1,O5)

Table 3 (Per)

Internal Factors	Strength(S)	Weakness(W)
External Factors	SI,S2,S3,S4,S5,S6	W1,W2,W3,W4,W5,W6
Threat(T)	Defensive Strategy:	Build Strengths for Defensive Strategy:
T1,T2,T3,T4,T5,T6	ST1. Smart Tourism and Transportation Facility Optimization (T3,T5,T6,S1) ST2. Unique Folk Customs and Differentiated Tourism Product Development (T2,T4,S2,S4) ST3. Government Support and Off-Season Tourism Development (T6,S1) ST4. Smart Tourism Platform and Targeted Marketing(T2,T3,S1)	WT1. Infrastructure and Service Level Enhancement(W1,T1,T4) WT2. Cultural Protection and Unique Product Development (W3,T4) WT3. Transportation Services and Smart Tourism Response(W6,T2,T3) WT4. Tourism Product Diversification and Innovation (W3, T2)

### 3. QSPM analysis

In the analysis of the Quantitative Strategic Planning Matrix (QSPM), the researcher combined the results of the weighted SWOT and TOWS matrix analyses to assess the tourism environment of Qingshan fishing village. After systematically evaluating internal and external factors through surveys, the advantages and disadvantages of various strategies were analyzed. The QSPM utilizes Attractiveness Scores (AS) to assess the relative importance of each factor to alternative strategies (Rushanti & Indrasari, 2020, pp.1-10), with the range for attractiveness scores is 1 = not attractive, 2 = somewhat attractive, 3 = reasonably attractive and 4 = highly attractive. The attractiveness scores were completed by 12 stakeholders, and the average value was taken as the attractiveness score.

The average of these scores is used in the analysis. Total Attractiveness Scores (TAS) reflect the attractiveness of each factor to a specific strategy (Haekal et al., 2020, pp.137-145), while the Sum Total Attractiveness Score (STAS) is calculated by summing all TAS values within a strategy column. A higher STAS indicates a more favorable strategy. This approach provides a multi-perspective evaluation, enhancing the legitimacy and transparency of the strategy, and fostering stronger cooperation between Qingshan fishing village tourism and its stakeholders. Based on these scores, the researcher determined the strategic priorities.



**Table 4** QSPM Matrix for SO, WO, ST, and WT Strategies

Key factor	Weight	SO1	SO2	SO4	SO11	WO1	WO2	WO3	WO4	ST1	ST3	ST5	ST7	WT1	WT4	WT5	WT9	
		AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS	
O1	0.204	4.42	0.90	4.50	0.92	4.33	0.88	4.33	0.88	4.83	0.64	4.75	0.62	4.75	0.62	4.75	0.62	4.75
O2	0.196	4.25	0.83	4.33	0.85	4.25	0.83	4.25	0.83	4.67	0.58	4.58	0.57	4.50	0.56	4.67	0.58	4.58
O3	0.169	3.67	0.62	3.75	0.63	3.67	0.62	3.67	0.62	3.75	0.44	3.75	0.44	3.75	0.44	3.75	0.43	3.75
O4	0.119	2.58	0.31	2.67	0.32	2.58	0.31	2.58	0.31	2.67	0.27	2.67	0.27	2.67	0.27	2.67	0.27	2.67
O5	0.146	3.17	0.46	3.25	0.48	3.17	0.46	3.17	0.46	3.25	0.35	3.25	0.35	3.25	0.35	3.25	0.35	3.25
O6	0.165	3.58	0.59	3.67	0.61	3.50	0.58	3.50	0.58	3.67	0.40	3.67	0.40	3.67	0.40	3.67	0.40	3.67
T1	0.125	2.92	0.36	2.92	0.36	2.92	0.36	2.92	0.36	2.92	0.30	2.92	0.30	2.92	0.30	2.92	0.30	2.92
T2	0.200	4.67	0.93	4.75	0.95	4.58	0.92	4.58	0.92	4.75	0.76	4.75	0.76	4.75	0.76	4.75	0.76	4.75
T3	0.150	3.50	0.53	3.58	0.54	3.50	0.53	3.50	0.53	3.58	0.46	3.58	0.46	3.58	0.46	3.58	0.46	3.58
T4	0.132	3.08	0.41	3.17	0.42	3.08	0.41	3.08	0.41	3.17	0.38	3.17	0.38	3.17	0.38	3.17	0.38	3.17
T5	0.186	4.33	0.80	4.42	0.82	4.33	0.80	4.33	0.80	4.42	0.60	4.42	0.60	4.42	0.60	4.42	0.60	4.42
T6	0.207	4.83	1.00	4.92	1.02	4.75	0.98	4.67	0.97	4.92	0.83	4.92	0.83	4.92	0.83	4.92	0.83	4.92
S1	0.147	3.83	0.57	3.92	0.58	3.83	0.57	3.83	0.57	3.92	0.27	3.92	0.27	3.92	0.27	3.92	0.27	3.92
S2	0.154	4.00	0.62	4.08	0.63	4.00	0.62	4.00	0.62	4.08	0.28	4.08	0.28	4.08	0.28	4.08	0.28	4.08
S3	0.179	4.67	0.84	4.75	0.85	4.58	0.82	4.58	0.82	4.83	0.36	4.83	0.36	4.83	0.36	4.83	0.36	4.83
S4	0.170	4.42	0.75	4.50	0.76	4.33	0.74	4.33	0.74	4.50	0.33	4.50	0.33	4.50	0.33	4.50	0.33	4.50
S5	0.163	4.25	0.69	4.33	0.71	4.25	0.69	4.25	0.69	4.33	0.31	4.33	0.31	4.33	0.31	4.33	0.31	4.33
S6	0.186	4.83	0.90	4.92	0.91	4.75	0.88	4.75	0.88	4.92	0.38	4.92	0.38	4.92	0.38	4.92	0.38	4.92
W1	0.184	4.42	0.81	4.42	0.81	4.33	0.80	4.33	0.80	4.42	0.58	4.42	0.58	4.42	0.58	4.42	0.58	4.42
W2	0.128	3.08	0.40	3.08	0.40	3.08	0.40	3.08	0.40	3.08	0.29	3.08	0.29	3.08	0.29	3.08	0.29	3.08
W3	0.170	4.08	0.69	4.08	0.69	4.08	0.69	4.08	0.69	4.08	0.41	4.08	0.41	4.08	0.41	4.08	0.41	4.08
W4	0.181	4.33	0.78	4.33	0.78	4.33	0.78	4.25	0.77	4.33	0.45	4.33	0.45	4.33	0.45	4.33	0.45	4.33
W5	0.135	3.25	0.44	3.25	0.44	3.25	0.44	3.25	0.44	3.25	0.32	3.25	0.32	3.25	0.32	3.25	0.32	3.25
W6	0.201	4.83	0.97	4.83	0.97	4.75	0.96	4.75	0.96	4.83	0.69	4.83	0.69	4.83	0.69	4.83	0.69	4.83
STAS		10.41	10.57		10.32		10.30		10.66		10.64		10.63		10.62		10.65	
Priority		2	1		3		4		1		2		3		4		2	

The QSPM analysis results in Table 4 further detail the rankings of SO (attacking strategy), WO (build strengths for attacking strategy), ST (defensive strategy), and WT (build strengths for defensive strategy) strategies, highlighting the main strategic priorities for Qingshan fishing village, and the detailed strategy ranking results are shown in Table 5 below.

**Table 5** The Ranking Results of STAS

Strategies	STAS	Priority
<b>Attacking Strategy:</b>		
SO2: Integrate ecological environment with fishery characteristics	10.57	1
SO1: Develop diversified recreational activities	10.41	2
SO3: Promote smart tourism	10.32	3
SO4: Integrate cultural and ecological experiences	10.30	4
<b>Build Strengths for attacking strategy:</b>		
WO1: Upgrade Smart Tourism Infrastructure	10.66	1
WO2: Integration of Traditional Culture and Deep Experience	10.64	2
WO3: Diversify Marketing and Brand Building	10.63	3
WO4: Cultivate Professional Tourism Service Talent	10.62	4
<b>Defensive Strategy:</b>		
ST1: . Smart Tourism and Transportation Facility Optimization	10.64	1
ST2: Unique Folk Customs and Differentiated Tourism Product Development	10.59	2
ST4: Smart Tourism Platform and Targeted Marketing	10.56	3
ST3: . Government Support and Off-Season Tourism Development	10.55	4
<b>Build Strengths Defensive Strategy:</b>		
WT1: Infrastructure and Service Level Enhancement	10.66	1
WT4: Tourism Product Diversification and Innovation	10.65	2
WT2: Cultural Protection and Unique Product Development	10.63	3
WT3: Transportation Services and Smart Tourism Response	10.62	4

## Conclusion

1. The analysis of the current situation of Qingshan fishing village shows that the assessment of internal factors revealed the village possesses rich internal assets, including abundant tourism resources, unique culture, beautiful ecological environment, characteristic fishing village architecture and scenery, and unique fishing experiences. However, the village

also faces internal weaknesses such as insufficient infrastructure, an imperfect tourism service system, homogenization of tourism products, a lack of professional talent and community vitality, as well as transportation issues. The assessment of external factors identified opportunities such as increasing market demand, employment/investment potential, ecotourism trends, growing tourist spending power, and the potential for cultural and tourism integration. Conversely, external threats include intense market competition, slow development of smart tourism, and the negative impacts of commercialization.

**2. The evaluate results of the internal and external potential factors of Qingshan fishing village** show that most stakeholders' evaluations have similarities. The main performance is as follows; most stakeholders reached a high degree of consensus on the core strengths, weaknesses, key opportunities, and threats. Experts generally believe that the unique fishing experience and the beautiful ecological environment are the core internal strengths of the fishing village, while traffic and parking difficulties are the core weaknesses that urgently need to be addressed. Regarding development opportunities, policy support and growing market demand are considered to have the greatest potential, while the integration of culture and tourism is less attractive. However, in terms of threats, the uneven peak and off was unanimously considered the main external threat, but the perceived threat of extreme weather and public health was consistently lower.

The differences in evaluations are reflected in the perspectives of various groups. Tourists gave lower scores to the unique culture, employment and investment opportunities, cultural and tourism integration, and lagging smart tourism, indicating a lack of deep engagement with local culture, limited awareness of tourism-related economic benefits, and a belief that cultural-tourism integration and smart tourism services need improvement. Community representatives rated the insufficient tourism service system and the impact of tourism commercialization lower, suggesting that the current service system meets needs and the impact of commercialization is manageable. Government officials noted that while tourism has created some employment and investment opportunities and service infrastructure meets basic needs, further improvement is required. Business owners gave a lower score to extreme weather and public health, believing these factors have little impact on their operations or have been addressed with countermeasures. Retailers rated the unique culture, lack of professional talent, policy support, and market demand growth lower, considering the unique culture's limited impact on their businesses, the lack of professional talent as not significant, insufficient policy support, and unclear growth in market demand. Sanitation workers rated

the impact of tourism commercialization lower, indicating that the environmental impact is under control, or that they are more concerned with other environmental issues.

The consensus areas provide a foundation for Qingshan fishing village's development strategies, highlighting key strengths, weaknesses, and promising directions. However, differences in stakeholders' perceptions emphasize the need to consider all parties' needs when formulating strategies, bridging cognitive gaps for effective plans. Special focus should be on enhancing tourists' cultural experiences, smart tourism, and the government's role in improving employment opportunities and infrastructure.

**3. The results of the sustainable development strategy** show that, the strategic framework outlines two primary approaches: an attacking strategy leveraging strengths and opportunities, and a defensive strategy mitigating threats by addressing weaknesses. The attacking strategy prioritizes developing diversified recreational activities, integrating the ecological environment with fishery characteristics, promoting smart tourism, and integrating cultural and ecological experiences. To build strengths for this attacking strategy, the focus is on upgrading smart tourism infrastructure, integrating traditional culture and deep experiences, diversifying marketing and brand building, and cultivating professional tourism service talent.

The defensive strategy centers on optimizing smart tourism and transportation facilities, developing unique folk customs and differentiated tourism products, securing government support for off-season tourism development, and implementing smart tourism platforms and targeted marketing. To build strengths for this defensive strategy, key actions include infrastructure and service level enhancement, cultural protection and unique product development, optimizing transportation services and smart tourism response, and pursuing tourism product diversification and innovation.

## Discussion

**1. To analyze the current situation of recreational fishery tourism in Qingshan fishing village. Based on the sustainable tourism development in 4 dimensions as follows:**

**1) Economic Dimension:** The stakeholders widely acknowledge that policy support and increasing market demand are crucial opportunities for developing recreational fishery tourism in Qingshan fishing village, consistent with Buhalis et al. (2023, pp.293-313), who emphasize tourism's contribution to local economic growth and employment. However, the government's relatively cautious view on employment and investment opportunities reflects ongoing

challenges in turning tourism potential into concrete economic benefits, suggesting the need to better utilize policy and market strengths to attract investment and create quality jobs.

**2) Socio-cultural Dimension:** In this study, community representatives rated the tourism service system and the effects of commercialization relatively low. This may indicate their satisfaction with the current services or suggest that they prioritize economic gains over potential socio-cultural impacts. On the other hand, tourists gave lower scores to aspects such as the village's unique culture and the integration of culture with tourism. This suggests that the cultural experiences offered are not sufficiently engaging or authentic. The contrast between community and tourist perspectives points to a missed opportunity for Qingshan Fishing Village to fully utilize its cultural assets. This finding stands in contrast to Niedziótka's (2022, pp. 157–166) argument that enhancing tourist experiences requires strong collaboration. Moving forward, tourism development should focus more on incorporating local fishing culture into tourism offerings to deepen tourists' cultural connection and involvement.

**3) Environmental Dimension:** The beautiful ecological environment of Qingshan fishing village is widely recognized as a core strength, in line with the growing trends in ecotourism (Deb et al, 2023, pp.1703-1716).However, environmental staff rated the impact of tourism commercialization lower, possibly reflecting optimism about its environmental impact or prioritizing other environmental concerns. Moving forward, it is crucial to monitor the environmental effects of tourism development and implement proactive measures to protect and sustainably manage local natural resources.

**4) Recreational Fishery Dimension:** Qingshan fishing village's abundant fishery and cultural resources offer a strong foundation for recreational fisheries development. While tourists highly rated the unique fishing experience, there is room for improvement in integrating it with the ecological environment. Additionally, the potential of smart tourism to enhance the recreational fishery experience has not been fully realized, aligning with Bower et al.'s (2020 ,pp.518-535) emphasis on the diversity of recreational fisheries and the role of smart tourism in improving service quality. Future efforts should focus on innovating recreational products, using smart tourism to boost tourist participation, and ensuring the sustainable use of fishery resources.

## 2. To evaluate the internal and external potential factors

1) Qingshan fishing village's internal strengths, including its rich tourism resources, unique culture, beautiful ecological environment, distinctive architecture, and fishing experiences, align with key tourism attraction factors identified in the literature (Buhalis et al.,



2023, pp.293-313), with the unique fishing experience and ecological environment particularly matching ecotourism and experiential tourism trends (Streimikiene et al., 2020, pp.71–259). However, Key weaknesses in infrastructure, services, and talent highlight the need for improvements to enhance the village's tourism competitiveness.

2) In evaluate external potential factors, the study identified opportunities such as increasing market demand, employment/investment potential, ecotourism trends, growing tourist spending power, and the potential for cultural and tourism integration. These opportunities align with the tourism market growth, the rise of ecotourism, and the importance of cultural tourism integration mentioned in the literature (Wang et al.,2022, pp.10-100). Conversely, the slow development of smart tourism may limit Qingshan fishing village's ability to improve service quality and tourist experiences, which contrasts sharply with the literature emphasizing the role of technological in sustainable tourism development (Khizar et al. ,2023, pp.10-100).

### **3. To propose sustainable development strategies for recreational fishery tourism in Qingshan fishing village based on the QSPM analysis results**

The results of this study indicate that formulating an appropriate sustainable tourism development strategy for Qingshan fishing village's recreational fishery tourism, to promote its sustainable development, should fully leverage core strengths such as the unique fishing experience and the beautiful ecological environment, prioritize addressing key weaknesses like traffic and parking difficulties, and actively seize important opportunities such as policy support and market demand. This aligns with the approaches for promoting sustainable tourism development as emphasized by Richardson, (2021)& Global Sustainable Tourism Council (2021). Furthermore, differentiated strategies are needed to reconcile stakeholder differences and build consensus on key tourism development issues.

This study makes significant theoretical contributions to sustainable recreational fishery tourism by presenting a holistic methodological model that integrates multiple analytical frameworks (weighted SWOT, TOWS, QSPM, PESTEL) with qualitative stakeholder insights. It offers contextualized insights into the socio-economic, ecological, and cultural transitions of traditional fishing communities, exemplified by Qingshan Village, thereby bridging gaps in understanding the interplay between macro-level policies and local realities. Crucially, this research provides a more integrated theoretical foundation for coastal management by developing context-specific strategies that balance ecological, cultural, and economic dimensions. Ultimately, it enriches the global discourse on fishing village revitalization by offering a replicable model and comparative insights relevant to diverse international contexts.



## Recommendations

Based on the findings of this study, the following recommendations are proposed to promote the sustainable development of recreational fishery tourism in Qingshan fishing village.

**1. Leverage Strengths and Address Weaknesses:** Enhance core attractions such as fishing experiences and ecological resources. Improve infrastructure, especially traffic and parking, to boost accessibility and satisfaction.

**2. Bridge Stakeholder Gaps and Strengthen Collaboration:** Develop engaging cultural activities and accelerate smart tourism initiatives. Increase employment and investment opportunities, and upgrade infrastructure capacity. Promote sustainable practices, mitigate commercialization impacts, and raise awareness among businesses. Strengthen policy support and create strategies to tap into growing market demand.

### 3. Adopt a Balanced Strategic Approach:

**Attacking Strategy:** Build an eco-tourism brand integrating fisheries and ecology, diversify experiences, promote smart tourism, and enhance talent development and branding.

**Defensive Strategy:** Upgrade smart and transport infrastructure, create unique cultural products, support off-season tourism, and focus on innovation and cultural preservation.

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