

# Agro-tourism Supply Chain and Logistics Management in Nakhon Pathom Province, Thailand

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## Abstract

The objective of this study is to analyze logistics and supply chains linking agro-tourism with the learning community lifestyle in Nakhon Pathom Province, collect information, and provide recommendations on logistics and supply chain development to create a sustainable community. The research instruments included 400 questionnaires distributed to tourists and interviews with representatives from government/private sectors and learning centers/agricultural tourism sites. This study examined nine aspects: information flow, physical flow, financial flow, services at tourist destinations, tourist attractions, agro-tourism in accordance with the community lifestyle, location, personnel, and products. The data were presented in percentages, means, and standard deviations and were statistically analyzed using SPSS.

The results from 400 questionnaires revealed a high level of agreement across all aspects (mean = 3.83, SD = 0.77). When considering each aspect, the highest agreement was found in agro-tourism in conformity with the community lifestyle (mean = 4.17, SD = 0.70), followed by personnel (mean = 4.12, SD = 0.73), and information flow at a moderate level (mean = 3.38, SD = 0.83). From the tourists' perspective, information related to public relations should be improved to reach a wider audience than currently achieved by government/private sectors. Moreover, information regarding tourist sites/location signs and brochures should be readily available to serve tourists. Such information should align with the relevant government/private agencies and representatives from agro-tourism/learning centers.

**Keywords:** Logistics and supply chain, agro-tourism, physical flow, information flow, financial flow

## 1. Introduction

Agricultural practices have long been an integral part of Thai culture, with the country's fertile land supporting diverse crops. Modern agriculture not only sustains local communities but also serves as a source of income through local wisdom and cultural uniqueness. By promoting agro tourism, local communities can showcase their agricultural heritage, encouraging tourists to engage with the land and its produce, while preserving traditions. Nakhon Pathom, rich in agricultural potential, presents various activities such as fruit picking and organic farming experiences, enhancing visitors' understanding of rural life. The integration of tourism with agriculture can stimulate local economies, providing jobs and

fostering community development. Identifying key attractions is essential for sustainable tourism. Focus should also be on improving logistical and supply chain management to ensure an efficient tourism experience. By studying agricultural tourism logistics, researchers aim to enhance community economies in Nakhon Pathom, paving the way for better resource management and continuous development. The goal is to create a vibrant agro tourism sector that thrives on sustainable practices, benefiting local residents and attracting more visitors in the process.

### **1.1 Research Objective**

- 1) To study the general conditions of agricultural tourism towards learning about community lifestyles in Nakhon Pathom Province.
- 2) To propose logistics and supply chain management for agricultural tourism towards learning about community lifestyles in Nakhon Pathom Province.

## **2. Literature Review**

### **Integration of Logistics and Tourism Supply Chain**

Logistic management in tourism involves the efficient handling and coordination of resources, services, and information to enhance the tourist experience. Effective supply chain management helps in optimizing service delivery by ensuring that resources are allocated efficiently across various stakeholders in the tourism sector (Bhatta & Bhatta, 2020). This integration leads to improved customer satisfaction through timely services and better-quality offerings.

The advancement of technology plays a crucial role in modernizing logistics and supply chain processes in tourism. Technologies such as data analytics, IoT, and AI enhance operational efficiency and allow for better decision-making, ultimately leading to enhanced customer experiences (González-Torre et al., 2020). Tour operators and service providers are now able to track customer preferences and optimize service delivery accordingly.

Sustainability is becoming increasingly essential in tourism logistics. Implementing eco-friendly practices within the supply chain can contribute to reducing the environmental impact associated with tourism activities. This includes sustainable sourcing, waste management, and the use of renewable resources (Teng & Wang, 2020). Research indicates that sustainable logistics not only benefits the environment but also enhances brand reputation and customer loyalty.

Tourism logistics faces various challenges such as seasonality, unpredictability in demand, and the need for collaboration among multiple stakeholders (Jabbar & Raza, 2020). Addressing these challenges is paramount for ensuring a seamless experience for tourists. Effective communication and coordination among suppliers, transporters, and service providers are critical to overcoming these obstacles.

### **Potential and Capacity of Agricultural Tourism Areas**

Enhancing the potential of agricultural areas for agricultural tourism is crucial for promoting the use of natural resources and local community capabilities, which positively impacts income generation and sustainable development. Studies have shown that developing human resources

and fostering knowledge about agriculture can increase both potential and capacity to accommodate tourists (Sangpetch et al., 2021).

The assessment of the capacity of agricultural tourism areas examines how well a location can accommodate visitors, considering various factors such as location, infrastructure, and available services. Proper assessments can aid in planning and developing tourism more effectively (Prakongkham et al., 2022).

Maintaining sustainability in the development of agricultural tourism is essential, as tourism can impact the environment and local lifestyles. Approaches for responsible development are suggested, including managing visitor numbers and promoting sustainable agricultural practices (Huang et al., 2023).

The involvement of local communities in the development of agricultural tourism is vital for the success of tourism initiatives. Studies find that communities with high participation in planning and implementation can enhance their capacity to host tourists and increase tourist satisfaction (Intaruk & Suwannaphakdi, 2024).

### **Community-Based Tourism Management**

**Sustainable Community Tourism Development.** Community-based tourism has emerged as a recognized approach for sustainable development, promoting local culture and providing tangible support to community economies. This development emphasizes community involvement and the enhancement of local capacity (Sithole & Manyane, 2021).

Stakeholders at both local and national levels, such as local communities, tourism operators, and government agencies, play a crucial role in providing support. The management of community tourism is more successful when there is collaboration among these stakeholders (Suh & Sahu, 2023).

Cultural experiences are key factors that make community-based tourism attractive and popular. Tourists often seek to engage with the culture and lifestyles of local communities, and effective management that focuses on preserving local culture can give tourism offerings a unique character (Kumar et al., 2022).

The management of community-based tourism not only positively affects the economy but can also impact social and environmental aspects. Studies show that effective management can mitigate negative environmental impacts and improve the quality of life for local communities (Almeida et al., 2024).

**Digital Development to Strengthen Tourism Supply Chain Potential of Participatory Community-Based Tourism Enterprises** aims to 1) to develop a prototype of digital data storage system for community enterprises, and 2) to study the satisfaction of digital data storage system usage of community-based enterprises for participatory community-based tourism supply chain. The study was mixed method research using the in-depth interview as a tool to collect data from 52 sample community enterprises in Phatthalung Province. The study found that in offering products and services to tourists, it consisted of the storefront and database software systems for product or service owners. The community could record data to present information on the history, origin of products, product information in digital media format. After that, the satisfaction study was conducted from two sample groups, which were users and information presenters in the system. It was found that the overall user satisfaction in all dimensions was at

a highest level. When considered each dimension, the results of the evaluation of user satisfaction in the system developed in terms of system performance were at a highest level. The presentation satisfaction was at a highest level. The satisfaction in benefits was at a highest level. Moreover, overall 400 tourists' satisfaction in system in all dimensions was at a high level. When considered on each dimension, the results found that the satisfaction of tourists in system performance was at a high level. The satisfactions both in the form of presentation and in benefits were at a highest level, so the developed system can be used for efficient digital storage. (Wissawa Aunyawong, 2022)

### 3. Method

The population used in this study is divided into three groups: tourists visiting the area, with 400 questionnaires distributed randomly; government and private sector agencies related to the study, totaling 3 participants; and representatives from agricultural tourism sites/learning centers, totaling 7 participants, selected through purposive sampling.

- Conduct a literature review by examining documents, books, textbooks, articles, and related research, and analyze the characteristics of the required data.
- Synthesize the knowledge gained into a conceptual framework, define the scope, and develop tools for the research.
- Create a draft questionnaire, define the objectives of the questionnaire, and determine the tools to be used in the research.
- Verify the accuracy and comprehensiveness of the questions and revise them according to recommendations.
- Print questionnaires according to the number of target population for data collection preparation.

This research is a mixed-methods study that employs both quantitative and qualitative research methods as follows:

The quantitative research involved distributing questionnaires to tourists visiting the area, with a total of 400 respondents chosen through random sampling. The data is divided into three sections as follows:

Section 1: General information about the tourists visiting agricultural tourism areas.

Section 2: Questions regarding the components of logistics and supply chain in agricultural tourism, structured to cover 9 areas of potential, including: information flow, physical flow, financial flow, services at tourist destinations, tourist attractions, agro-tourism in accordance with the community lifestyle, location, personnel, and products. This section uses a five-point Likert scale for responses. (5 points = Very high; 4 points = High; 3 points = Moderate; 2 points = Low; 1 point = Very low).

Section 3: Open-ended questions aimed at gathering information to help plan the development of logistics and supply chains in agricultural tourism towards learning about community lifestyles.

Qualitative research was conducted through in-depth interviews with government agencies, private sectors, and operators, selected through purposive sampling, to gather facts about agricultural tourism:

1. Structured interviews were conducted to explore qualitative data regarding the development of logistics and supply chains in agricultural tourism, interviewing relevant government and private agencies as well as operators to obtain information for further descriptive analysis of agricultural tourism areas.

2. Participatory observation was conducted by engaging in various activities, including discussions and field studies to understand the context of agricultural tourism areas. This approach provided more detailed and clearer information.

As mentioned above, collecting data through in-depth interviews aims to gather deeper insights and understand the key issues of each tourist site. The researcher arranged direct appointments with government agencies, private sectors, and operators in the tourist areas to discuss and exchange factual information.

#### 4. Results and Discussion

From Tab 1, categorized by gender, it was found that the majority of respondents were female, totaling 207 people or 51.75%, while males accounted for 193 people or 48.25%. When categorized by occupation, the survey found that the majority were farmers, totaling 135 people or 33.75%. Following them were students at 114 people or 28.50%, and the least represented occupation was general laborers, with 23 people or 5.75%.

*Table 1: Information of the Respondents*

<b><i>Gender</i></b>	<b><i>Persons</i></b>	<b><i>Percentage</i></b>
<i>Male</i>	207	51.75
<i>Female</i>	193	48.25
<i>Total</i>	400	100.00
<b><i>Occupation</i></b>		
<i>Farmers</i>	135	33.75
<i>Students</i>	114	28.50
<i>Civil service</i>	62	15.50
<i>Private business</i>	41	10.25
<i>Company/State Enterprise Employee</i>	25	6.25
<i>General laborers</i>	23	5.75
<i>Total</i>	400	100.00

From Table 2, it was found that the opinions on logistics and supply chain linking agricultural tourism to community lifestyle learning were at a high level ( $\bar{x} = 3.83$ , S.D. = 0.77). When considered by specific aspects, the aspect of community agricultural tourism received a high rating ( $\bar{x} = 4.17$ , S.D. = 0.70), followed by the aspect of personnel at a high level ( $\bar{x} = 4.12$ , S.D. = 0.73), and the lowest rating was for the information flow aspect, which was at a moderate level ( $\bar{x} = 3.38$ , S.D. = 0.83).

Table 2: Logistics and supply chain linking agricultural tourism to community lifestyle learning

<i>Logistics and supply chain linking agricultural tourism to community lifestyle learning</i>	$\bar{x}$	<i>S.D.</i>	<i>Remarks</i>
<i>Information flow</i>	3.38	0.81	<i>Moderate</i>
<i>Physical flow</i>	3.57	0.82	<i>High</i>
<i>Financial flow</i>	3.68	0.77	<i>High</i>
<i>Services at tourist destinations</i>	3.71	0.85	<i>High</i>
<i>Tourist attractions</i>	4.00	0.75	<i>High</i>
<i>Agro-tourism in accordance with the community lifestyle</i>	4.17	0.70	<i>High</i>
<i>Location</i>	3.78	0.81	<i>High</i>
<i>Personnel</i>	4.12	0.73	<i>High</i>
<i>Products</i>	4.10	0.71	<i>High</i>
<i>Total</i>	3.83	0.77	<i>High</i>

## 5. Conclusion

The study concluded that the opinions on logistics and supply chains linking agricultural tourism to community lifestyle in Nakhon Pathom Province learning are rated high across eight aspects, which include physical flow, financial flow, services at tourist destinations, tourist attractions, agro-tourism in accordance with the community lifestyle, location, personnel, and products. From the tourists' perspective, it was found that the information related to public relations should be improved to reach a wider audience than currently achieved by government agencies and private sectors. Furthermore, information regarding tourist sites, direction signs, and brochures should be readily available to facilitate visitors. This information should align with the relevant government agencies and representatives from agricultural tourism/learning centers.

## 6. Acknowledgment

The authors would like to express their heartfelt gratitude to Suan Sunandha Rajabhat University for providing financial support to present this research at the international academic conference. This support has been instrumental in facilitating the dissemination of our findings and fostering academic exchange on a global platform.

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