



Creative innovation based on wildlife biodiversity for participatory ecotourism management in Prachuap Khiri Khan province

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Abstract

As the demand for housing and agricultural land increases, conflicts between humans and wildlife have become more pervasive, resulting in the unfortunate loss of wild elephants and gaurs in Prachuap Khiri Khan Province (PKN). Meanwhile numerous wildlife species still hold potential for tourism promotion. The necessary knowledge related to wildlife in PKN was explored and synthesized to design and develop a wildlife tourism (WT) innovation that involves local participation to address conflicts and promote WT in the area. This innovation consists of four routes, a guidebook and four video clips. Subsequently, use of WT innovation was evaluated with tourists who participated in the program. After the trips, they reported high satisfaction (84.33%) with the overall WT innovation. Feedback from users, academics, and stakeholders revealed positive perceptions (+8.40) of the WT innovation, acknowledging its benefits for wildlife ecotourism and expressed low confidence (+2.39) in its ability to fully resolve human-wildlife conflicts and generate substantial income for the local community. Finally, the 3A7M wildlife ecotourism management model (3A7M model) was constructed based on lesson learned from WT management in Kui Buri National Park (NP). This model has been accepted by stakeholders who are relevant WT in PKN and can serve as guideline for initiating WT management or enhancing WT potential in any wildlife protected areas.

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Introduction

Wildlife issues continue to arise in many areas due to human behavior that damages the Earth, the home

of all living things. To protect the Earth, it is essential to promote environmental awareness and encourage changes in human actions that impact the environment. This involves fostering ecological understanding to

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inspire to adopt positive behaviors toward environmental preservation. An effective way to build this awareness is through ecotourism, which allows people to experience diverse ecosystems firsthand by visiting natural attractions. This approach not only provides relaxation but also offers a deeper appreciation of nature, making the experience much more meaningful.

PKN is located in the western region of Thailand, characterized by a series of high mountains that extend along the border of Thailand and Myanmar to the west, sloping eastward toward the Gulf of Thailand. The diverse landforms allow for the visibility of rare animals like the “Panda Crab,” a waterfall crab that resides at the summit of Khao Luang Mount in Namtok Huai Yang NP, the “Serow,” a reserved wild animal native to Thailand that lives in the limestone hills in Khao Sam Roi Yot NP and “Whale Sharks,” gentle giants of the sea that swim gracefully near Talu Island in Ao Siam NP.

These important creatures demonstrate that PKN is an area rich in biodiversity, where unique wildlife contributes to local development. For example, the cooperation between Kui Buri NP and Ban Ruam Thai Community involves Wild Elephants and Gaurs in tourism management under government regulations and mutual agreements. This initiative allows tourists to observe wild animals in their nature habitats while being supported by a local wildlife conservation club. This form of ecotourism is commonly referred to as “Thailand Safari.” However, conflicts do arise between humans and wildlife in Kaeng Krachan NP, where Wild Elephants encroach into villages, damaging local properties and crops, which sadly leads to the loss of wildlife. In Kui Buri NP, rangers discovered the remains of an Asiatic Wild Dog trapped in illegal equipment, indicating that prohibited hunting is still a problem. Additionally, irresponsible tourism has caused the Malayan Plover to lose its habitat and breeding grounds on the beaches of Khao Sam Roi Yot NP. This rare bird, found in Thailand, is at risk of extinction due to careless tourists.

The current wildlife situation highlights three crucial problems that need urgent resolution: (1) the conflict between humans and wildlife, (2) the risk of wild species disappearing from natural ecosystems, and (3) the lack of understanding regarding nature and the environment. Existing measures such as law enforcement, remedies, and monitoring have not yet effectively addressed these issues. However, the ecotourism activities in Kui Buri NP, which allows for wildlife observation, have been successful in generating income for local communities and fostering wildlife conservation.

Therefore, tourism serves as a potential solution to

wildlife problems. It can create awareness of the importance of wild animals, promote wildlife protection, and reduce human-wildlife conflict. Effective dissemination of information through various channels is necessary to encourage travel, relying on the effectiveness of public relations media. Additionally, tourism innovation must be designed and developed appropriately to increase tourists' exposure to natural wildlife, fostering a greater awareness of nature and environment conservation through collaborative ecotourism services with protected area officers and local communities.

While conflicts between humans and wildlife persist, there remains potential for many more wild species in PKN, beyond just Wild Elephants in Kui Buri National Park, to be promoted through ecotourism. This approach will enhance ecological understanding among both tourists and locals regarding the importance of wildlife and its ecosystem. Such understanding can generate local benefits through ecotourism initiatives. The objectives of this research include (1) exploring and synthesizing essential knowledge, (2) designing and developing creative innovations based on the biodiversity of wildlife in PKN, and (3) evaluating the application of these innovations. The goal is to use these innovations to introduce wildlife species, their ecosystems, and related activities, especially in PKN, which is not yet well-known to tourists. It is anticipated that these innovations will promote wildlife and ecosystem conservation, reduce conflicts between humans and wildlife, and generate income for local communities actively involved in wildlife conservation through ecotourism.

Literature Reviews

WT in PKN

PKN, a province in the western region of Thailand, offers a variety of interesting cultural and natural tourist attractions, such as Hua Hin Beach, Kalok Hill, Phraya Nakhon Cave, Kui Buri Temple, Chong Krachok Hill, Wanakorn Beach, Phra Mahathat Chedi Phakdee Prakat compound, and Talu Island (Department of Provincial Administration, 2022). These protected areas include national parks, forest parks, wildlife sanctuaries, community conservation areas, and marine and coastal protected regions, which serve as habitats for important wildlife and provide opportunities to observe wild animals. WT in the region offers diverse activities, including observing Wild Elephants and Gaurs at Kui Buri NP, feeding Dusky Langurs at Lom Muak Hill, bird

watching in Sam Roi Yot swamp, and snorkeling around Talu Island. Visitors can also encounter Wild Elephant along the roadside in Kaeng Krachan NP, view Fiddler Crab in mangroves of Pran Buri Forest Park and learn about the behavior of Fishing Cat in Baan Koh Phai community. These experiences are often enhanced by indirect WT activities, such as boating in the canals, exploring mangrove ecosystems along boardwalks, listening to local storytelling, and reviewing images captured by camera traps. However, these wildlife activities also demonstrate that PKN is an area where wildlife resources can be harnessed to promote tourism.

WT Model

Wildlife tourism emphasizes observing and interacting with wildlife in their natural habitats while promoting conservation and sustainability. Examples of successful wildlife tourism models include: (1) Kenya Safaris, which provide one of the top travel experiences globally, where expert local guides lead tailored tours to observe the “Big Five” (elephant, lion, leopard, rhinoceros, and buffalo) (Natural World Kenya Safari, 2025), (2) volunteering with animals in South Africa, allowing tourists to work directly with wild and rehabilitated animals in game reserves and with endangered species (Good Hope Volunteers, 2025), (3) the Indian Wildlife and Cultural Tour, which takes tourists to explore tiger sanctuaries and several ancient ruins built by kings (Third Rock Adventures, 2025), and (4) Van Os Photo Safaris, which offers the best outdoor photography experiences in the USA, allowing for deeper exploration and photography of wildlife, wild places, cultures, and architectural treasures (Van Os Photo Safaris, 2025). These models not only promote enjoyment of wildlife but also aim to foster understanding, respect, and conservation of the natural world. Effective management of these models goes beyond simply having wildlife; it also involves integrating all local resources to ensure sustainability.

Ecotourism and Community-based Tourism (CBT) Approaches

Ecotourism is a form of sustainable tourism or nature-based tourism that does not focus on the number of visitors, avoids unnecessary facility development, emphasizes nature and natural attractions to ensure positive environmental experience, encourages local community participation, raises income and quality of life for locals fairly and appropriately, and provides benefits for nature and conservation efforts (Benchachaya,

2006). The main ecotourism activities include hiking/trekking, nature education, nature photography and audio recording of natural sounds, birdwatching, cave exploring, stargazing, boat sightseeing, canoeing/kayaking, and snorkeling/scuba diving (Khamasuk, 2010). These activities take into account the carrying capacity of tourism resources, supporting sustainable tourism without negatively impacting resources (Benchachaya, 2006).

CBT is a type of tourism that prioritizes the sustainability of the environment, society, and culture, with management driven by the community. Communities play a crucial role in ownership and management, creating learning opportunities for visitors (Suansri, 2003). The focus is on knowledge exchange rather than solely generating income for local people (Chiang Mai University, 2005). Community members are actively involved in the CBT processes, including planning, implementation, activity selection, project evaluation and benefits sharing (Sarobol, 2003). Effective management is essential for ensuring equitable income distribution and profit sharing (Kaewsuriya, 2001). Additionally, good management involves selecting quality tourists who are committed to conserving tourist resources and community cultures (Prabphairi, 2002). Income generated from tourism is utilized for community development, maintaining infrastructure, managing impacts, and mitigating risks when capacities are exceeded (Thongma, 2008). Therefore, CBT requires collective determination and long-term dedication from local people, fostering ethics and promoting sound business practices. This can lead to successful community engagements, improved self-esteem, and sustainable income sources for locals (Phanwilai & Chanmaitri, 2007).

Ecotourism and community-based tourism (CBT) play significant roles in promoting sustainable practices that benefit both the environment and local communities. The term “community-based ecotourism” adds a further social dimension to this concept, referring to a form of ecotourism where the local community has substantial control over and involvement in its development and management. Furthermore, a significant portion of the benefits derived from this form of tourism remains within the community (WWF International, 2001). This research focuses on wildlife, which pertains to nature and ecosystems, while also highlighting tourism activities executed by the community. This can be referred to as “Community-based Ecotourism” or CBET.

Innovations in Tourism

Innovation offers potential and efficiency advantages across various activities by adding value that enhances effectiveness. Effective innovation must encompass three important dimensions: Newness, economic benefits, and a combination of knowledge and creativity (Aujirapongpan et al., 2010). Creativity is an essential skill in the 21st century, as it combines knowledge about life, careers, and technology to foster creative work. This, in turn, leads to innovation and new technologies that improve the quality of life for humanity (Worawatanachai, 2022). Innovation stems from creativity, a skill inherent to everyone. However, such exists at different levels, categorized into five types: Invention, change, synthesis, expanding the scope, and plagiarism, each relevant to the arts, science and local wisdom (Sutharat, 2004). These types can lead to new solutions for problems or the creation of valuable inventions that pave the way toward a smarter future. Local stories of White Squirrel on Sichang Island exemplify creative tourism activities. The act of feeding the White Squirrel, combined with linking tourist routes around the island, enhances enjoyment and creates unique tourist experiences. Another example includes local cat stories that are depicted through street art, becoming popular check-in points for visitors eager to engage in community activities (Sustainable Tourism Area Development Administration Organization, 2022). Although creative tourism emphasizes local culture, it is still possible to utilize stories about these animals to create activities that support tourism.

Innovation results from the integrated use of knowledge across various scientific fields to invent and create new products for economic benefit. It consists of three main elements: (1) newness, (2) economic benefits, and (3) creative ideas (ThaiFranchise Center, 2025). For example, wildlife tourism (WT) innovation can be used to promote rare or significant wildlife species (newness) and lesser-known or unpopular wildlife sites along WT routes (creative ideas) to boost tourism (economic benefit) in PKN through accessible online media.

Methodology

This research project is focused on R&D, specifically on creating WT innovations. It begins with a survey and data analysis of information related to WT in PKN. The WT innovation was developed by participatory approach, utilizing data from the survey and knowledge management processes. Following this, the innovation

was trialed by an experimental group of tourists, who evaluated the benefits of using the innovation.

Participants

Eighteen key individuals, including officers from protected areas and local community members involved with wildlife, were purposively selected to provide information related to wildlife. Additional key participants were identified through snowball sampling during the survey. Five key representatives from tour agencies in PKN were also purposively selected to offer suggestions on WT. A total of 400 tourists were surveyed to assess their needs regarding WT. Ten participants, comprising community leaders, scholars and villagers were voluntarily selected from each of the nine communities to participate in a knowledge management session. Furthermore, five tourism experts and five representatives from local tour agencies were randomly selected. Five villagers from the target area were also voluntarily chosen, bringing the total to 15 participants involved in WT innovations and tour itinerary design. An additional 15 voluntary participants were selected from the same group, though not the same individuals, to evaluate the suitability of WT innovations and tour itineraries. Thirty tourists were voluntarily selected to participate in the complementary tour using WT innovation. The first group of fifteen volunteers consisted of tourist experienced in ecotourism, while the other fifteen were general tourists, chosen to demonstrate that WT innovations could be easily utilized by anyone. During the tour, the satisfaction of these tourists with the tour operations and the use of innovations was evaluated. Finally, 30 volunteers comprising representatives from academic institutions, tourism businesses, experimental tourists, conservation areas personnel, and local residents were selected to assess the benefits of using WT innovations.

Data Collection

The wildlife target areas were designated based on secondary data searches, participatory observations, and informal interviews, which helped identify attractions featuring interesting wild animals. Forty attractions in PKN were surveyed, resulting in the selection of 22 target areas that host 23 significant wild animal species for further study. Target areas were chosen based on the presence of established wildlife-related tourism management, while other areas remained uncharted. The potential of 14 additional target areas was also assessed. A questionnaire was developed to collect information

on the needs related to WT from 400 tourists traveling in PKN from March to June 2024. The questionnaire was peer-reviewed by research consultants before being administered to gather data for the development of WT innovation. Knowledge management sessions were conducted to explore wildlife-related knowledge and details regarding WT innovation. Subsequently, the WT innovations and tour itineraries were designed and evaluated for suitability by experts. Following this, an experimental tours were conducted for voluntary tourists incorporating the WT innovations; their satisfaction with the tours and its innovations was assessed after each tour. Lastly, the benefits of utilizing WT innovation were also evaluated.

Data Analysis

Content analysis was employed to interpret qualitative information, while quantitative data were analyzed using statistical methods appropriate for social science research. The collected data were organized and analyzed descriptively, with frequency distribution and displayed as a percentage, mean, standard deviation, minimum and maximum values using the Likert scale. (Figure 1)

Results

This research project develops WT innovations aimed at promoting nature and environmental conservation, resolving conflict between humans and wildlife, and generating additional income for local communities.

Survey of Knowledge Required for WT Innovation Development

The project identified 22 target areas in PKN as WT destinations from the 40 surveyed sites, most of which were national parks and forest parks featuring various geographical landforms, from mountaintops to underwater ecosystems. Additionally, 23 important and interesting wild animals were identified to promote tourism, showcasing diverse species, including mammals, reptiles, amphibians, birds, and aquatic and marine animals, thereby demonstrating the biodiversity of wildlife in PKN (Table 1).

The identified 23 wild animals reflect the biodiversity of wildlife, which includes reptiles, birds, amphibians, mammals, freshwater animals, marine animals, and insects distributed throughout the province. The 22 target areas also exhibit a diversity of geographic features, ranging from mountain summits to underwater ecosystems.

There are 16 communities engaged in wildlife-related activities, nine of which are involved in WT. Three wildlife species are directly used to promote tourism: Wild Elephants and Gaurs at Kui Buri NP, and Dusky Langurs at Lom Muak Hill in Wing 5 of Royal Thai Air Force. The remaining species are used indirectly. Some target areas are isolated, while others are located within the same protected area, such as Sam Roi Yot Swamp and Khao Deang Viewpoint, both of which are within Khao Sam Roi Yot NP.

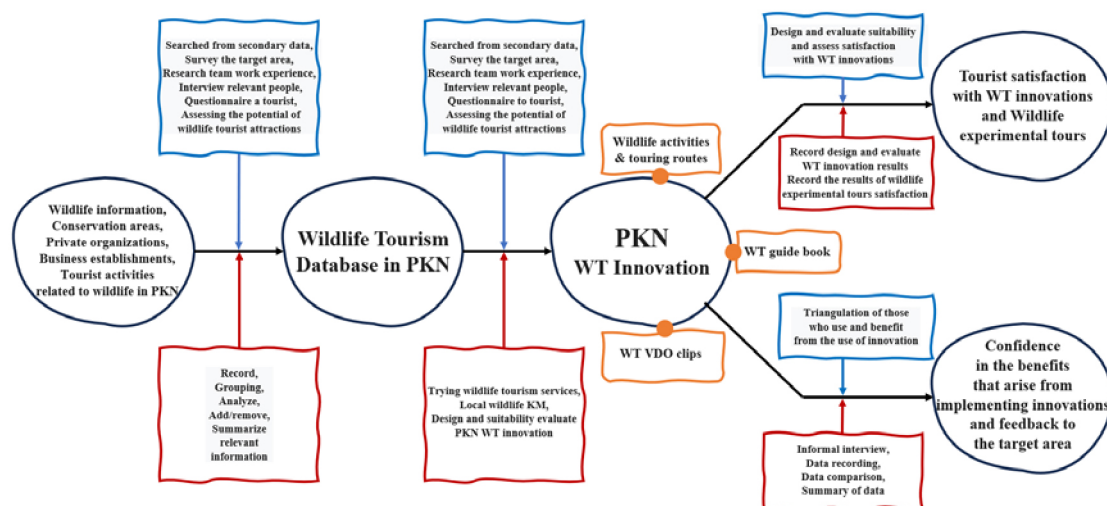


Figure 1 Conceptual framework

Table 1 The attractions in PKN become the wildlife target area

	Target areas	Wild animals seen in the area
1	Lablao Cave Monastery	Cave Dwelling Snake
2	Khao Hub Tao Valley, Kaeng Krachan NP	Wild Elephant
3	Baan Pala-u Noi Village	Brachyura-waterfall Crab
4	Benjapas Hill, Pran Buri Forest Park	Indian Peafowl
5	Sirinart Rajini Learning Center	Common Water Monitor
6	Korum Island, Khao Sam Roi Yot NP	Long-tailed Macaque
7	Bangpu Canal	Fiddler Crab
8	Khao Deang Beach, Khao Sam Roi Yot NP	Malayan Plover
9	Khao Deang Viewpoint, Khao Sam Roi Yot NP	Serow
10	Khao Sam Roi Yot NP. Head Office	White-bellied Sea Eagle
11	Kho Phai Village	Fishing Cat
12	Sam Roi Yot Swamp, Khao Sam Roi Yot NP	Purple Swampphen
13	Kui Buri NP	Wild Elephant Guars
14	Bo Nok Offshore	Bryde's Whale
15	Lom Muak Hill in Wing 5, Royal Thai Air Force	Dusky Langur
16	Khao Luang Summit, Namtok Huay Yang NP	Panda Crab
17	Don Ta Wao Beach	Green Turtle
18	Bo Thonglang Cove	Sea Slug
19	Mae Rampung Hill, Ao Siam NP	Lesser Hornbill
20	Pa Klang Ao Yang Forest, Ao Siam NP	Stingless Bee
21	Pakpid Canal	White-collared Kingfisher
22	Talu Island, Ao Siam NP	Whale Shark

Criteria for assessing WT attractions potential were established using 36 indicators, consisting of 12 indicators for “Areal and Wildlife Resources Potential,” 14 for “Activities, Facilities and Interpretation System Potential,” 6 for “Wildlife Impact Management Potential” and 4 for “Participatory WT Management Potential.” Each indicator has 3 levels, as shown in [Table 2](#).

The WT potential assessment tool was validated by research advisors before being used to assess 14 sites covering the 22 target areas. This evaluation resulted in 4 WT sites receiving a 5-star potential rating, most of which are protected areas, such as Kui Buri NP ([Table 3](#)).

Opinions from WT site managers, local residents involved in WT, and WT operators were gathered through interviews compared with the lesson learned from WT in Kui Buri NP. Recommendations for WT management are based on two main components and their

subcomponents: (1) Interesting animals which include species that are uncommon, easily observed, and living in nature, forming the “3 Interesting Animals” or “3A”; and (2) Good management, which encompasses clear regulations, quality staff, area zoning, nature-friendly practices, carrying capacity considerations, participatory actions, and benefit allocation, becoming the “7 Good Management” or “7M”. Data were compared and analyzed, leading to development of the WT management model for PKN, termed the “Dusky Langur Model” or “3A7M Wildlife Tourism Management Model”. It is worth noting that Dusky Langur serves as the tourism mascot for PKN ([Figure 2](#)).

The 3A7M Wildlife Tourism Management Model underwent peer review by the research consultant and was then compared to the management practices at 14 WT sites, revealing consistency between the success

Table 2 WT attractions potential criteria

Potential Area	Indicators	Level of each indicator	calculation	Points
Areal and wildlife tourism resources	12	1–3	$[\Sigma D_{1-12}] \times 40/36$	13.33–40
Activities, facilities and interpretation system	14	1–3	$[\Sigma D_{1-14}] \times 20/42$	6.67–20
Wildlife impact management	6	1–3	$[\Sigma D_{1-6}] \times 20/18$	6.67–20
Participatory wildlife tourism management	4	1–3	$[\Sigma D_{1-4}] \times 20/12$	6.67–20
Total	36			33.34–100

Table 3 Potential of WT sites

Wildlife tourism sites		Potential level					
		(A)	(B)	(C)	(D)	Total	Level
1	Khao Sam Roi Yot NP	35.16	17.94	17.41	18.33	88.84	□□□□□
2	Kaeng Krachan NP (South area)	35.92	17.46	16.30	16.67	86.35	□□□□□
3	Sirinart Rajini Learning Center	31.48	18.73	20.00	16.11	86.32	□□□□□
4	Kui Buri NP	29.52	17.51	17.41	16.67	81.11	□□□□□
5	Pran Buri Forest Park	29.26	15.08	16.30	15.00	75.64	□□□□
6	Namtok Huay Yang NP	29.63	15.08	17.04	13.33	75.08	□□□□
7	Ao Siam NP	30.74	14.13	15.16	13.33	73.36	□□□□
8	Pakpid Canal	25.19	11.75	7.78	16.67	61.39	□□□
9	Kho Pai Village	27.04	10.32	7.04	15.00	59.40	□□
10	Wing 5, Royal Thai Air Force	28.52	10.32	11.85	6.67	57.36	□□
11	Don Ta Wao Beach	25.19	7.94	8.52	13.33	54.98	□□
12	Bo Nok Offshore	25.19	9.37	9.63	6.67	50.86	□□
13	Bo Thonglang Cove	21.85	9.37	7.04	11.67	50.29	□□
14	Lablae Cave Monastery	25.92	8.41	7.78	6.67	48.78	□

Note: (A) Potential of areas and WT resources (40 points), (B) Potential of activities, facilities and interpretation program (20 points), (C) Potential of sustainable management on WT impact (20 points), (D) Potential of participatory management on WT (20 points). The potential level of WT sites: 5-star (very high level) = 80–100 pt, 4-star (high level) = 70–79.99 pt, 3-star (moderate level) = 60–69.99 pt, 2-star (low level) = 50–59.99 pt, 1-star (very low level) < 50 pt.

factors and the potential of WT sites. If sites feature typical wildlife and additional management factors in accordance with the model, they tend to demonstrate higher potential. For instance, Kui Buri NP exhibits very high potential at the 5-star level due to its effective management. In contrast, Lablae Cave Monastery lacks many management factors, resulting in low potential at the 1-star level. A comparison of the 3A7M model with the management in “Thailand’s Top Destinations for Wildlife Tourism” (Ranahan, 2021) is shown in Table 4.

The behavior and needs of tourists, along with the

opinions of WT site managers, local residents involved in WT, and WT operators were analyzed, resulting in joint demand data that serve as a foundation for developing WT innovation (Figure 3).

Innovations Design and Development

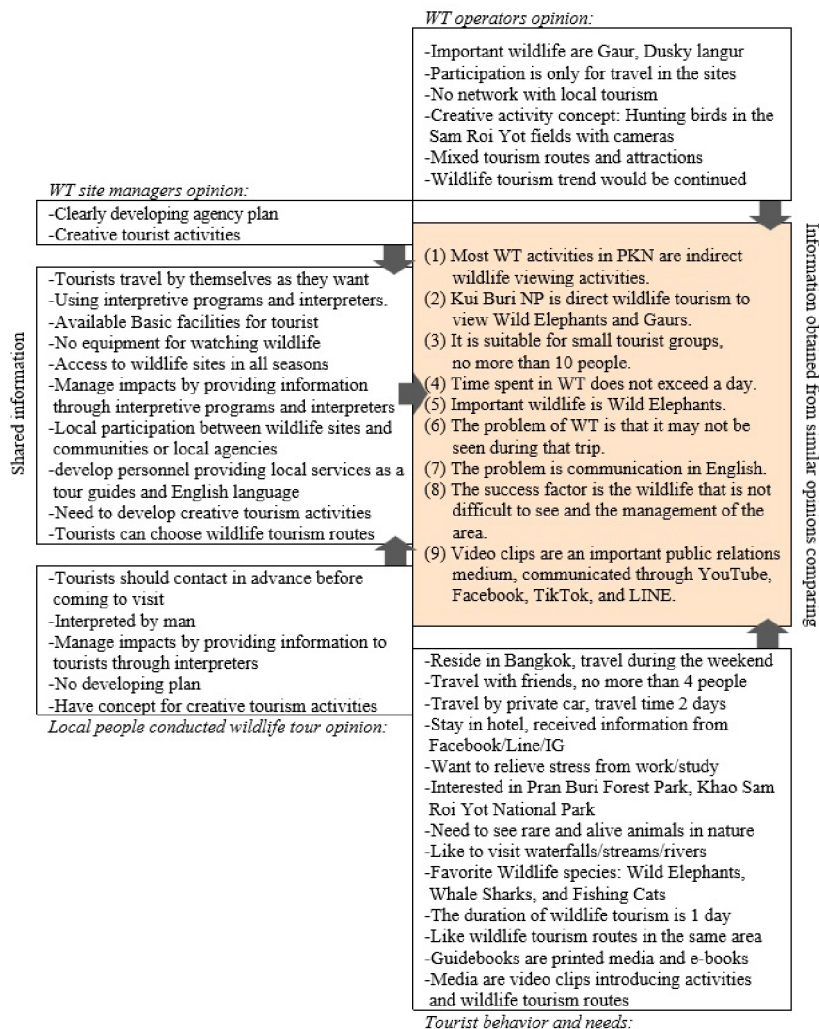
The project involved analyzing information obtained from the survey through a wildlife knowledge management process in the target areas. Subsequently, participatory design and evaluation of WT innovations

**Figure 2** Dusky Langur model or 3A7M wildlife tourism management model

Table 4 Comparing 3A7M model with Thailand's top destinations for WT

3A7M Wildlife Tourism Management Model		WT destinations				
		(A)	(B)	(C)	(D)	(E)
3A	Animal which is uncommon species	☐	☐	☐	☐	☐
	Animal which is easily seen	☐	☐	-	-	-
	Animal which is alive in nature	☐	☐	☐	☐	☐
7M	Manage with clear regulations	☐	☐	☐	☐	☐
	Manage with quality staff	☐	☐	☐	☐	☐
	Manage with area zoning	☐	☐	☐	☐	☐
	Manage with nature friendly	☐	☐	☐	☐	☐
	Manage with carrying capacity	☐	☐	☐	☐	-
	Manage with participatory action	☐	-	☐	☐	☐
	Manage with benefit allocation	☐	-	☐	☐	☐

Note: (A) Kui Buri NP in Prachuap Khiri Khan province (B) Huai Kha Khaeng Wildlife Sanctuary in Uthai Thani province (C) Surin Islands in Phang Nga province (D) Khao Sok NP in Surat Thani province (E) Koh Lipe in Satun province

**Figure 3** Information obtained from comparing similar opinions

were conducted, resulting in a set of appropriate innovations that could be practically applied to WT in PKN.

Information from the survey was reviewed before utilizing local tour services in 22 WT sites, showing that some were ready to accommodate tourists, while others, though accessible, may not have tourist services. This aligns with the potential identified in the 14 WT sites.

Following the completion of knowledge management, information on the 23 wild animals was used to create a WT guidebook in PKN, which is a pocketbook designed as a WT passport checklist for PKN (Figure 4). Additionally, a map of WT sites in PKN was developed,

(Figure 5). Four WT video clips, each not exceeding five minutes in length, were also produced to promote WT in PKN alongside the 4 wildlife tourism routes (Figure 6). Experts assessed the suitability of the WT innovations, resulting in an average suitability score of 85.47 percent.

WT Innovations Usability Testing

Four WT itineraries were developed for 1-day trips, beginning from Hua Hin town, including: (1) Hua Hin-Huai Sat Yai itinerary, (2) Hua Hin-Pran Buri-Sam Roi Yot itinerary, (3) Hua Hin-Sam Roi Yot-Kui Buri itinerary, and (4) Hua Hin-Bang Sapan-Bang Sapan Noi itinerary.

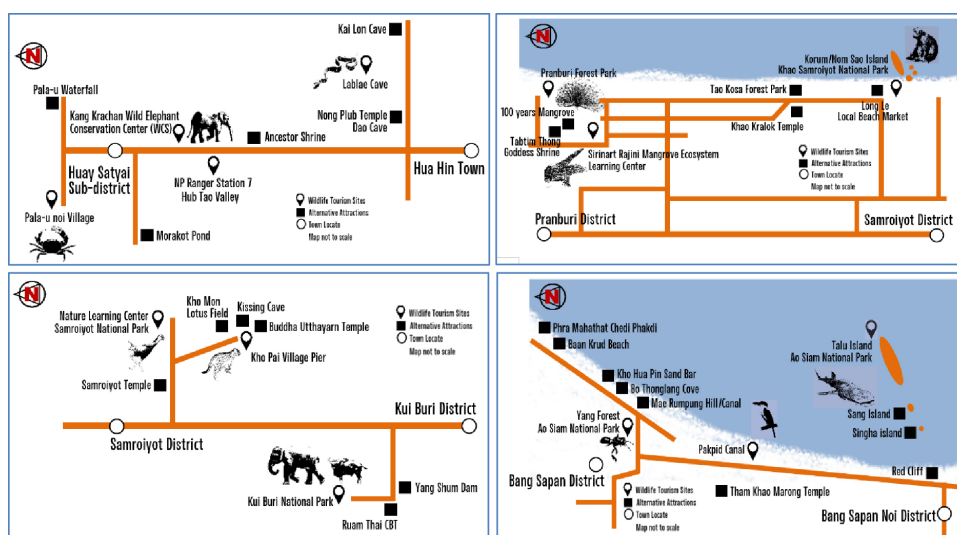


Figure 4 Four WT routes in PKN

dividing the sites into four groups for four WT routes: (1) Hua Hin-Huai Sat Yai route, (2) Hua Hin-Pran Buri-Sam Roi Yot route, (3) Hua Hin-Sam Roi Yot-Kui Buri route, and (4) Hua Hin-Bang Sapan-Bang Sapan Noi route

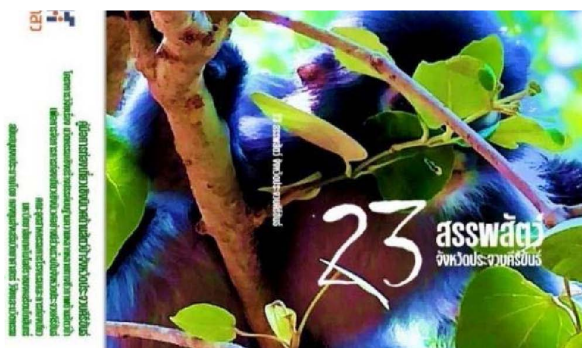


Figure 5 Cover page of WT guidebook



Figure 6 Introduction scene of WT VDO clip

Note: (1) WT routes in PKN link: <https://online.fliphtml5.com/tddff/hxeh/#p=1> (2) WT guidebook link: <https://fliphtml5.com/tddff/krup/#p=1> (3) Four WT VDO clips link: (3.1) <https://www.youtube.com/watch?v=2QghKHrHM3c> (3.2) <https://www.youtube.com/watch?v=bCeXOIKnYX8&t> (3.3) <https://www.youtube.com/watch?v=JqcESOY7DQ&t> (3.4) <https://www.youtube.com/watch?v=LtbQYRH227g> (all WT innovations are in Thai version)

Noi itinerary. Experts then evaluated the suitability of these itineraries, leading to an average evaluation score of 84.17 percent. Following this, four WT tours were conducted for a group of experimental tourists, allowing them to utilize the innovations during their tours. Satisfaction regarding the use of the three types of WT innovations was subsequently assessed, revealing that tourists were 84.33 percent satisfied with the WT innovations and 85.66 percent satisfied with the tour arrangements (Table 5).

Assessment of Benefits from Innovation Use

Thirty individuals from three groups of WT innovations users academics, community representatives, and experimental tourists were interviewed. The results indicated that the average opinion value across all groups was positive. Participants believed that WT innovation benefited users by promoting nature and environmental conservation. However, there were concerns about whether WT innovations would effectively reduce conflicts between humans and wildlife, particularly in Keang Krachan NP and its surrounding communities,

due to the geographical characteristics of the area and the distance between the forest border and villages, which differ from those in Kui Buri NP. Additionally, there were doubts about whether WT innovations would generate sustainable additional income for local residents, as tourism is already established in all target areas, making the prospect of additional income seem uncertain (Table 6).

Discussion

In addition to the 23 species of wildlife that are the focus of this research project, many other wildlife species that were not targeted during the survey have yet to be studied or lack data. These species naturally inhabit and feed within the diverse ecosystems of PKN, contributing to the overall diversity of wildlife. This highlights the biodiversity of wildlife in PKN, which can create numerous opportunities for study, research, learning, and tourism. For instance, exploring many caves revealed numerous bats, but classifying the species based on tourism knowledge proved challenging. Banteng, an important

Table 5 Tourist satisfaction with WT innovations and tour arrangement

Tourist satisfaction		Percentage
with WT innovations		
1	Four PKN WT routes (12 issues)	86.58
2	PKN WT guidebook (7 issues)	84.14
3	Four PKN WT VDO clips (7 issues)	82.23
Average percentage		84.33
with Tour arrangement		
1	PKN WT itinerary 1 (Hua Hin-Huai Sat Yai route)	86.29
2	PKN WT itinerary 2 (Hua Hin-Pran Buri-Sam Roi Yot route)	85.60
3	PKN WT itinerary 3 (Hua Hin-Sam Roi Yot-Kui Buri route)	87.71
4	PKN WT itinerary 4 (Hua Hin-Bang Saphan-Bang Saphan Noi route)	82.89
Average percentage		85.66

Table 6 Opinion value of those involved with PKN WT innovations

Opinion value ($n = 30$)	WT routes	WT guide-book	WT VDO clips	Average point	
WT innovations are beneficial to users	+9.00	+9.67	+9.67	+9.45	
WT innovations are beneficial to WT destinations	+9.33	+9.33	+9.00	+9.22	
WT innovations are interesting	+8.67	+9.33	+8.00	+8.67	+8.40
WT innovations create awareness of nature conservation	+8.33	+8.67	+6.33	+7.78	
WT innovations are beneficial to PKN tourism	+7.33	+7.33	+7.33	+7.33	
WT innovations create sustainable income for community	+2.67	+2.67	+2.67	+2.67	+2.39
WT innovations help reduce humans and wildlife conflicts	+2.00	+2.00	+2.33	+2.11	

Note: strongly disagree = (−10)–(−6), disagree = (−5)–(−1), unsure = (1–5) and agree = (6–10)

species in Kui Buri NP, was previously frequently seen grazing alongside Gaurs. As a now rare species, they were not spotted during the survey. Birdwatching is a popular activity in the Sam Roi Yot swamp, where the “Dek Rak Thung” local group continues to pass down knowledge from generation to generation. However, the Kui Buri ham-tailed snake was discovered as a new species in Khao Sam Roi Yot NP (Tarzan Chanel, 2023), while research on amphibians and reptiles in Bang Saphan District (Lerdrungroj & Taksintum, 2018) and frogs (Khamkaew et al., 2020) indicated many other frog species in PKN await exploration. In Hua Hin District, an ethnic group uses stream shells to create lime, which they eat with betel nuts. They also incorporate stories of wild birds into songs that reflect the lifestyles of the Karen ethnic group in captivity manner. In Bang Saphan district, kayaking services to explore the mangrove forest in Khlong Pak Pid offer potential for night kayaking experiences, promoting health therapy through nature immersion, which could also include services for visually impaired individuals, fostering “tourism for all.” At the Sirinath Rajini Mangrove Ecosystem Learning Center, an activity involves feeding Common Water Monitor to alleviate disturbances in nearby communities by drawing the monitors away from populated areas; tourists can participate in this initiative. In Kho Phai village, a unique snorkeling activity in the Sam Roi Yot Swamp offers a rare experience that has yet to be replicated in other areas, representing a creative concept with potential for CBT. In Thap Sakae District, the Thap Sakae Conservation Group is advocating for Don Ta Wao Beach to be designated as a protected area for sea turtles to nest. Female Green Turtles return annually to lay their eggs, necessitating monitoring to enhance hatching success and reproductive opportunities. This presents an opportunity to develop volunteer-based tourism activities focused on monitoring Green turtles. These opportunities to enhance WT in PKN can be integrated into local development plans, allowing tour agencies to arrange ecotourism itineraries focusing on wildlife exploration.

Following the experimental tours, tourists expressed the highest satisfaction (87.71%) during the Hua Hin-Sam Roi Yot-Kui Buri itinerary, which included Sam Roi Yot National Park (5-Star), Kui Buri National Park (5-Star), and Kho Phai Village (2-Star). Conversely, the lowest satisfaction (82.89 percent) was noted for the Hua Hin-Bang Sapan-Bang Sapan Noi itinerary, featuring Ao Siam National Park (4-Star), Pak Pid Canal (3-Star), and Bo Thonglang Cove (2-Star), indicating that the potential of WT sites influences tourist satisfaction.

Conclusion and Recommendation

This research project compiled essential information to create WT innovations in PKN, which were tested during tours arranged for experimental tourists to evaluate their satisfaction with the tour management and innovation usage. Interviews were also conducted to assess the benefits of using these innovations. The finding addressed the first research question, “What are the features of WT innovations?” It was determined that the WT innovations in PKN included four tourism routes, a guidebook, and 4 video clips that could support WT in the area. The assessment of the benefits of using the innovations answers the second research question, “Can WT innovation be used to reduce human-wildlife conflicts and wildlife loss?” The results indicated successful applications of tourism to mitigate conflicts between humans and wildlife in Kui Buri NP, while ongoing efforts are needed in Kaeng Krachan NP. Finally, the investigation into the third research question, “Can WT innovations be used to promote environmental conservation and develop a grassroots economic system for the community?” found confidence that innovation could enhance environmental conservation, but uncertainly remained regarding the generation of additional income for locals, as each WT site is already capable of generating income with tourism. Furthermore, WT sites must feature interesting wildlife and effective management consistent with the “3A7M Wildlife Management Model” to succeed, similar to Kui Buri NP. The WT innovations were published on the RMUTR Faculty of Hospitality and Tourism Industry website in the form of an e-book and video clips on YouTube, ensuring accessibility for anyone, anywhere, supporting sustainability and lifelong learning. These WT innovations can be utilized for statistical analysis and monitoring tourist visits to wildlife sites in PKN, serving as instructional media in tourism curricula and providing a foundation for future studies aimed at designing new appropriate innovations.

Conflict of Interest

The authors declare that there is no conflict of interest.

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References

- Aujirapongpan, S., Vadhanasindhu, P., Chandrachai, A., & Cooparat, P. (2010). Knowledge management capability and innovativeness of innovative entrepreneurs in Thailand. *NIDA Development Journal*, 51(1), 157–199. <https://so04.tci-thaijo.org/index.php/NDJ/article/view/2980/2559>
- Benchachaya, S. (2006). *Ecotourism*. <https://www.dnp.go.th/fca16/file/96qfwxab5harkte.doc>
- Chiang Mai University. (2005). *Management manual: Community tourism and homestay*. Social Research Institute.
- Department of Provincial Administration. (2022). *Announcement of the Central Registration Office, Department of Provincial Administration regarding the number of people throughout the Kingdom, divided into Bangkok and other provinces according to the population registration evidence as of December 31, 2021*. http://stat.bora.dopa.go.th/stat/pk/pk_64.pdf
- Good Hope Volunteers. (2025). *Volunteering with animals*. <https://www.goodhopevolunteers.com/volunteering-with-animals/>
- Kaewsuriya, R. (2001). Ecotourism management is the responsibility of the community. *TAT Journal*, 43, 22–25.
- Khamkaew, A., Taksintham, W., & Ponpan, S. (2020). Species and abundance of amphibians: anurans, at Huai Yang Waterfall National Park, Prachuap Khiri Khan Province. *PKRU SciTech Journal*, 5(1), 1–11. <https://ph01.tci-thaijo.org/index.php/pkruscitech/article/view/241681>
- Khamsuk, W. (2010). Development of ecotourism marketing strategy: A case study of Sai Thong National Park, Nong Bua Rawe District, Chaiyaphum Province. [Unpublished Master's Thesis]. Khon Kaen University.
- Lerdungroj, K., & Taksintum, W. (2018). Species diversity and habitats utilization of herpetofauna in Bang Saphan District, Prachuap Khiri Khan Province. *Journal of Wildlife in Thailand*, 25, 1–20. https://kukr.lib.ku.ac.th/kukr_es/bkn/search_detail/download_digital_file/385406/110578
- Natural World Kenya Safari. (2025). *Kenya safaris & tour*. <https://www.naturaltoursandsafaris.com/kenya-safaris>
- Phanwilai, S., & Chanmaitri, T. (2007). *Potential and needs in planning and managing tourism in communities in Chiang Rai Province*. Mae Fah Luang University.
- Prabphairi, M. (2002). Homestay and ecological management. *Tourism Business Journal*, 15(3), 29.
- Ranahan, J. (2021). *Thailand's top destinations for wildlife tourism*. <https://www.forbes.com/sites/jaredranahan/2021/01/25/thailands-top-destinations-for-wildlife-tourism/>
- Sarobol, S. (2003). *Community-based tourism: Concepts and experiences in the northern region. Tourism and Community Network Research and Development Coordination Project. Office of the Fund Support for Research (NRCT), Office of the Region* (1st ed.). Wanida Press.
- Suansri, P. (2003). *Manual of community-based tourism management*. Travel for Life Project.
- Sustainable Tourism Area Development Administration Organization. (2022). *Creative tourism activities*. <https://tis.dasta.or.th/stisdasta/creative-tourism?page=1>
- Sutharat, W. (2004). *Thoughts and creativity*. Suwiriyan.
- Tarzan Channel. (2023). *The only place in the world! Kui Buri ham-tailed snake*. <https://www.tiktok.com/@tarzan.channel2023/video/7319824495991164161>
- ThaiFranchise Center. (2025). *10 elements of innovation SMEs must know!* <https://www.thaifranchisecenter.com/document/show.php?docID=4592>
- Third Rock Adventures. (2025). *Indian wildlife and cultural tour*. <https://www.thirdrockadventures.com/trip/indian-wildlife-and-cultural-tour>
- Thongma, W. (2008). *Tourism business management on the sufficiency economy philosophy*. Faculty of Tourism Development, Maejo University.
- Van Os Photo Safaris. (2025). *Worldwide photography tours since 1980*. <https://photosafaris.com/about/>
- Worawatanachai, P. (2022). Basic knowledge about creativity. *Kruessart: Journal of Educational Studies*, 16(1), 1–30.
- WWF International. (2001). *Guidelines for community-based ecotourism development*. <https://d2ouvy59p0dg6k.cloudfront.net/downloads/guidelinesen.pdf>