



---

## Safe and Sustainable Travel after COVID-19: The Case Study of Mueang Nan and Bang Saen Beach, Thailand

Monthien Satimanon<sup>1</sup>, Nada Chunsom<sup>2</sup>, and Thasanee Satimanon<sup>3</sup>

---

Received: August 31, 2024

Revised: December 22, 2024

Accepted: December 27, 2024

### ABSTRACT

This study employs the open-ended Contingent Valuation Method (CVM) to assess willingness to pay (WTP) for a travel safety zone in Nan Old Town and Bang Saen Beach, Thailand, selected by the Department of Tourism, the Ministry of Tourism and Sport. The study consists of 406 samples using the convenience sampling method. Results reveal an average WTP of 200 baht (approximately 6 U.S. dollars), influenced by income, education, and travel expenses. The hypothetical aggregate WTP supports the potential extension of the program to other sites in Thailand. Despite the absence of entry fees, the program's private benefits surpass its costs, with an aggregate WTP of 79 million baht compared to program costs of 15 million baht. The study suggests a favorable scenario for governmental investment in social benefits. Enhanced site quality and safety promises increased visitation, aiding sustainable tourism development. The program, crucial during crises like COVID-19, should remain adaptable for future challenges, fostering resilience through partnerships and community involvement. Promoting capacity building and operational sustainability aids long-term risk management in the tourism sector.

*Keywords: sustainable travel, contingent valuation method, willingness to pay, safety zone*

---

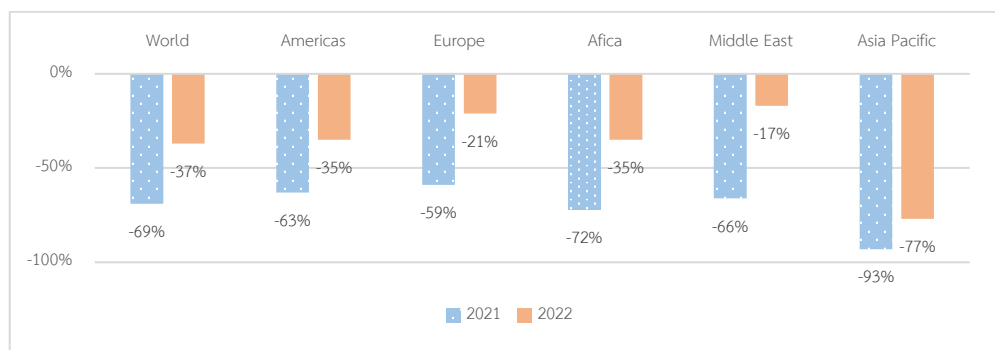
<sup>1</sup> Assistant Professor, Faculty of Economics, Thammasat University. E-mail: monthien@econ.tu.ac.th

<sup>2</sup> Associate Professor, School of Development Economics, National Institute of Development Administration.  
E-mail: nada@nida.ac.th

<sup>3</sup> Assistant Professor, School of Development Economics, National Institute of Development Administration.  
E-mail: thasanee.s@nida.ac.th

### Background and Significance of the Research Problem

Before the coronavirus disease of 2019 (COVID-19), the travel and tourism sector had become one of Thailand's most important economic sectors. Since the travel and tourism sector is a contact-intensive service, it disproportionately suffered during the pandemic, struggling until people felt safe to travel again. In 2019, before the pandemic, the travel and tourism sector accounted for 10.3% of all global jobs and 10.4% of global GDP. However, the industry has gradually recovered; its GDP contribution in 2022 increased by 22% from 2021 and was only 23% below 2019 levels (Travel & Tourism Economic Impact, 2023). Although the number of international tourist arrivals was still less than that in 2019, Figure 1 shows improvements across all regions in 2022 compared to 2021. For example, the global decline improved from -69% in 2021 to -37% in 2022. The easing of COVID-19 restrictions, increased vaccination rates, and increased travel demand likely drove this recovery. The recovery progressed at a slow and uneven rate across global regions, influenced by disparities in mobility restrictions, vaccination rates, and levels of traveler confidence (Impact Assessment of the COVID-19 Outbreak on International Tourism, 2023). Regions such as Europe and the Middle East saw the strongest rebounds, with declines narrowing to -21% and -17% in 2022, respectively. The Asia Pacific region experienced the highest reduction in international tourists and slowly recovered from the pandemic compared to the other areas.

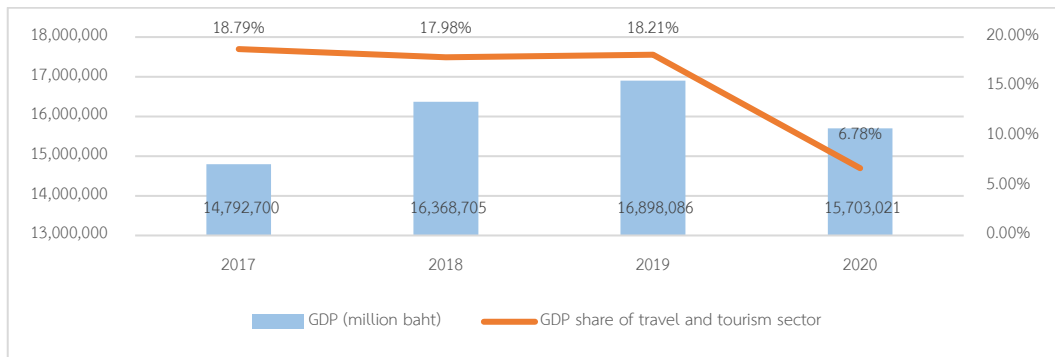


**Figure 1** International Tourist Arrivals by Region (% Change vs. 2019)

Source: Impact Assessment of the COVID-19 Outbreak on International Tourism (2023)

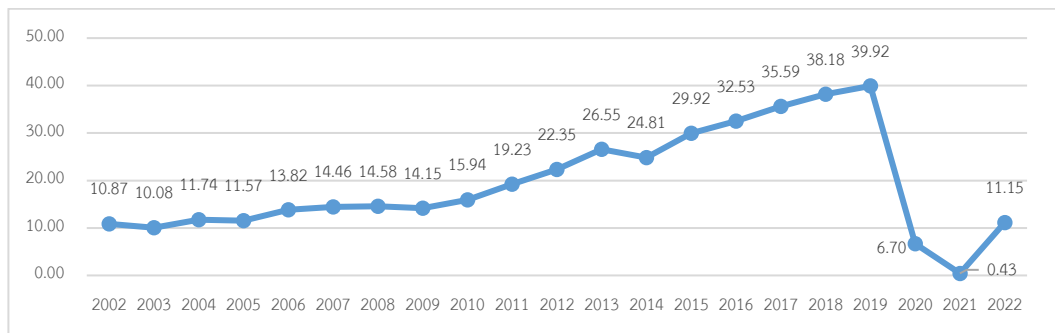
Thailand, a tourism-dependent country, was severely affected by the pandemic. The travel and tourism sector's contribution to Thailand's GDP was 18.21% in 2019. However, this share dropped to only 6.78% in 2020, as in Figure 2. Moreover, the number of international

tourists visiting Thailand declined due to the COVID-19 pandemic, from 39.92 million in 2019 to 6.70 million and 0.43 million in 2020 and 2021, respectively. Although the number of international tourists increased to 11.15 million in 2022, it was still significantly lower than that of international tourists in 2019 by 72.07%, as in Figure 3.



**Figure 2** Thailand's GDP (million baht) and Share of Travel and Tourism Sector to GDP (%)

Source: Travel & Tourism Economic Impact (2023)



**Figure 3** International Tourism to Thailand (Number of Arrivals (Million))

Source: 2002 to 2019 data are from International Tourism, Number of Arrivals - Thailand (2023), and 2020 to 2022 are from Thailand Tourism Statistics (2023)

The Thai tourism industry had to prepare and adjust for the future arrivals of both international and local tourists. Under the Ministry of Tourism and Sport, the Department of Tourism set a vision for tourism promotion that emphasized tourist safety in terms of service quality, infrastructure, convenience, and management to facilitate the rapid recovery of the tourism industry. The Department proposed the "Safety Zone" project to enhance Thai tourism's image and boost tourists' confidence (Five Attractions Named Safety Zone in New Tourism Campaign, 2021).

The newly introduced 'New Normal' tourism concept emphasizes quality tourism with heightened safety, hygiene, and health standards. Safety, health, and fairness were the three main principles of the Safety Zone campaign, which aimed to ensure the health and safety of visitors. Attractions participating in this campaign were required to have a risk management plan to handle emergencies or unexpected situations, such as medical emergencies and natural disasters. Vendors, surrounding communities, and related agencies received training in the New Normal approach to tourist services. Practices developed in the five pilot areas would later be reviewed and used as pilot models for other tourism areas in the country.

This study focused on Nan Old Town in Nan and Bang Saen Beach in Chonburi. Nan Old Town served as an exemplary representation of local tourism, aiming to preserve traditional ways of life while welcoming global tourism. The projects in Old Town emphasized cultural tourism and the preservation of natural resources, involving various stakeholders, including corporations, community enterprises, farmers, and residents. On the other hand, Bang Saen Beach in Chonburi represented the culmination of modern seaside amenities with global influences and a vibrant local street food market. It aspired to become one of the premier local destinations for international and domestic tourists, thereby enhancing tourism competitiveness, increasing income generation, and involving a wide range of stakeholders, from conglomerates to local street vendors. Consequently, Bang Saen Beach could serve as a showcase for the recovery and organic growth of the Thai tourism industry.

The project activities included: 1) developing a management role model for secure tourism areas to ensure tourist safety and providing knowledge about hygiene and safety for tourism enterprises and communities, 2) promoting the travel safety zone to Thai and foreign tourists, and 3) building tourists' confidence. The budget allocated for this project was 15 million baht, and it finished in June 2021. Calculating the value for money of the safety zone program was deemed necessary for policy implications to expand the program to other areas.

Establishing pilot travel safety zones ensured inclusive and sustainable development in various aspects. The program was designed to instill confidence in tourists that the attraction had taken all necessary steps to protect their health and safety, including providing a first-aid kit, arterial defibrillator, alcohol gel, and handwashing faucet. The measures incorporated local stakeholders at the attraction regarding knowledge management about COVID-19 safety protocols and commitment to following them. Consequently, the visitors could sustainably support the local businesses committed to providing their customers with a safe and healthy environment. The certified attractions ensured all visitors' fair treatment, regardless of

nationality, race, religion, or other characteristics. As a result, the benefits of the travel safety zone project were both intangible, such as fostering peace of mind and trust among visitors, and tangible, including economic benefits and sustainable tourism.

To evaluate the benefits of the travel safety zone program, it would be appropriate to use the non-market valuation method since market prices do not fully capture the value of the activities provided by the safety zone program. Market prices only represent the willingness of people to pay for goods and services, but travel safety is a public good, meaning it is non-excludable and non-rivalrous. As a result, market prices do not accurately reflect the total value of the project and its measures.

The use of non-market valuation is to estimate the impacts or preferences in monetary terms. There are two broad groups of non-market valuation methods: revealed-preference and stated-preference methods. Revealed preference methods utilize market information associated with the asset or good being valued or rely on observing stakeholders' behavior in asset use. Stated preference methods use surveys to ask respondents questions that infer their WTP to achieve an outcome or their willingness to make a tradeoff between forgone income and improvement in the quality of safety or reduction of hazards at each travel site.

Three conventional stated preference methods exist: contingent valuation, contingent behavior, and discrete choice experiments. Contingent valuation estimates the value of a project by directly asking individuals how much they would be willing to pay for the travel safety zone program (Rogers et al., 2019). The questionnaire would present the program's situation, indicating that it would implement a change, prevent an adverse effect of COVID-19, or ask whether the respondents would agree to vote for such a program. Contingent behavior is under the same assumption as contingent valuation. Still, instead of directly asking and estimating for WTP, it assesses how other travel demand measures, such as visitation rates, quality, and other related changes. The respondent would either increase the number of trips in response to hypothetical changes in the quantity or quality of the travel site. Lastly, discrete choice experiments estimate how individuals make tradeoffs between different features of an asset, location, or product, including its price or cost. Thus, the discrete choice model would be suitable for designing the travel safety zone with varying features and costs of the program (Parsons, 2017).

However, the Thailand travel safety zone was a pilot project, and the study's objective was to estimate the willingness to pay for the post-approved budget program. Thus, contingent valuation with open-ended questions for willingness to pay would be suitable for the program evaluation. In terms of empirical study, the questionnaire survey was conducted in 2022 after

the pandemic, so it would be more practical to conduct a face-to-face survey that is as compact and concise as possible.

Consequently, this study aimed to measure the program's benefits using non-market techniques for policy implementation regarding safe and sustainable travel. Accordingly, this paper uses the open-ended contingent valuation method (CVM) and regression to investigate the factors affecting the willingness to pay (WTP) for the program.

Based on existing literature, the calculated WTP from the CVM method helps value non-market resources. Still, it also helps improve stakeholder decision-making in project impact assessment and evaluation of ongoing and finished projects. Bhandari and Heshmati (2010) used CVM to determine tourists' WTP for biodiversity conservation in Sikkim, India. The key explanatory variables included a combination of socioeconomic and site-specific characteristics of tourists. The significant variables for WTP were education and tourists' income. Among site-specific traits, length of stay and the number of spots were significant determinants of WTP. This empirical research provided valuable insights to identify market segments among tourists and helped generate more revenue for the biodiversity conservation program in Sikkim. Dribek and Voltaire (2017) also employed CVM to study the Tunisia project aimed at combating coastal erosion on Djerba Island; as well as Wang and Jia (2012) used CVM to estimate the WTP for biodiversity conservation and environmental protection at the Dalai Lake protected area.

In addition, CVM helped design environmental improvement programs in cases where stakeholders were unfamiliar with the travel sites. Báez-Montenegro et al. (2022) studied the WTP for wetland conservation programs in China and Chile, respectively. Both studies faced the challenge of stakeholders having a limited perception of the program's benefits. Hu et al. (2022) found that the respondents' perception was the most significant factor influencing WTP for wetland conservation programs. Conversely, Báez-Montenegro et al. (2022) identified age, latent perception variables, and length of stay as essential determinants. The estimated WTP facilitated the design of long-term mechanisms for urban wetland conservation in China and the development and establishment of public participation mechanisms for wetland conservation and damage reduction in Chile. CVM has proven reliable in estimating WTP for environmental improvement and conservation in beach and heritage travel sites. It also aids in designing, implementing, and evaluating programs.

Numerous studies employing the CVM have focused on travel destinations in Thailand, particularly beaches. A significant survey of Israngkura (1998) utilized contingent ranking to estimate the WTP for entry to three northern national parks. The results showed the degree of

substitution of WTP across activities for each site. Also, the study encouraged the change in entrance fees for these three sites. Saengsupavanich et al. (2008) applied CVM to assess the WTP to enhance the quality of Koh Chang and Nam Rim beaches, considering their degradation due to industrial expansion. The WTP for Koh Chang was \$73.36 per household per year, amounting to an aggregate monetary benefit of \$298,774 annually for the local community. In contrast, the WTP for Nam Rin Beach was 867.5 baht (approximately \$ 24.8) per year.

Both studies multiplied the mean individual WTP by the respective populations to determine the benefit from construction and maintenance costs of beach protection and related measures. Additionally, they aimed to extend their research to cover beach quality improvements. Asafu-Adjaye and Tapsuwan (2008) and Horiuchi (2020) used CVM to evaluate improvements in Similan scuba diving and Koh Larn waste management, respectively, indicating that only a few studies have employed CVM to assess government policies.

For Thai heritage site studies, Sakonnakon et al. (2012) and Lakkhanaadisorn (2014) studied the intrinsic values of the Historic City of Ayutthaya using CVM to estimate the appropriate donations and entrance fees, respectively. The estimated WTPs contributed to developing resources and sustainable strategies for maintaining and protecting these historical sites against natural hazards like floods. However, these two studies did not relate to any specific government programs. Additionally, Sanyakamdhorn (2017) and Lekagul (2018) focused on the WTP to further develop and maintain two old towns in northern Thailand: Chiang Saen and Chiang Mai.

To conclude, the review of existing literature highlights a diverse range of factors influencing consumer willingness to pay, including socioeconomic status, perceived improving site quality, and environmental consciousness. Despite extensive studies on WTP, there remains a gap in understanding the WTP for travel safety zone programs. Therefore, this study includes both statistically significant and insignificant variables from previous studies, travel cost, length of stay, and travel expenditure, to provide a robust measure of WTP.

## Research Objective

The study's objective is to assess the value of the Safety Zone program through a questionnaire survey conducted in Nan Old Town and Bang Saen Beach. A contingent valuation method (CVM), precisely a willingness to pay (WTP), will quantify the program's benefits. The findings will inform whether the Thai government should consider expanding the Safety Zone program to additional areas to sustainably enhance income from travel and tourism in alignment with Sustainable Development Goal 8 (SDG 8).

## Scope of Research

Under the Ministry of Tourism and Sport, the Department of Tourism, five attractions were selected for this project: Bang Saen Beach in Chon Buri, nominated as a model natural tourism area; Nan Old Town in Nan as a model urban tourism area; Baan Rai Kong Khing Community in Chiang Mai as a model community-based tourism area; Yaowarat neighborhood in Bangkok as a model shopping district, and Asiatique the Riverfront by Chao Phraya River in Bangkok as a model man-made attraction. This study focused on Nan Old Town in Nan and Bang Saen Beach in Chonburi.

## Research Methodology

The contingent valuation method (CVM) is suitable for this study since it is comprehensive and more manageable during the pandemic. Contingent valuation estimates the value of a project by directly asking individuals how much they would be willing to pay for the travel safety zone program (Rogers et al., 2019). The questionnaire would outline the program's focus on safety, health, and fairness, highlighting its aim to implement changes, mitigate the adverse effects of COVID-19, and assess whether respondents would agree to support such a program.

From the linear random utility function, the study sets up the dependent variable as the WTP of individual  $i$  for the safety zone, denoted as  $WTP_i$ . Thus, the sample mean WTP is calculated as  $\sum_{i=1}^N (WTP_i) / N$ , where  $N$  is the number of respondents, thus, the study employs the regression analysis to estimate the model as follows:

$$WTP_i = f(z_i, \epsilon_i) \quad (1)$$

The covariates, denoted as  $Z_i$ , represent the vector of individual characteristics and factors while  $\epsilon_i$  is the random error term. The appropriate econometric model for this study could be either a model for continuous dependent variables or a censored variable model,



considering  $WTP_i \geq 0$ . Explanatory variables, such as experience and travel cost, help correct the disproportionate sample.

From equation (2), the WTP for the travel safety zone is a function of socioeconomic variables and travel characteristic variables. The socioeconomic variables include gender, age, education, and income. The gender variable (male) is a dummy variable set to one for males and zero for other genders. The age variable (age) is continuous, representing the respondents' ages. Regarding education, edu\_ub is a dummy variable that takes a value of one if respondents have a bachelor's degree or higher and zero for those with lower educational levels. There are five categorical income variables, with the baseline being an income of 10,000 baht per month or less. The variable inc12 represents an income range of 10,001 to 20,000 baht per month, while inc23, inc34 and inc45 represent income ranges of 20,001 and 30,000, 30,001 to 40,000, and 40,001 to 50,000 baht per month, respectively. Lastly, inc5up applies to respondents over 50,000 baht.

$$WTP = \beta_0 + \beta_1 \text{male} + \beta_2 \text{age} + \beta_3 \text{edu\_ub} + \beta_4 \text{inc12} + \beta_5 \text{inc23} + \beta_6 \text{inc34} + \beta_7 \text{inc45} + \beta_8 \text{inc5up} + \beta_9 \text{exp\_ptravel} + \beta_{10} \text{p\_day} + \beta_{11} \text{p\_timeever} + \beta_{12} \text{exp\_ptotal} + \epsilon \quad (2)$$

For the travel characteristic variable, exp\_ptravel is the continuous variable representing the cost of traveling to the sites per person. The variable for the number of days spent at the site (p\_day) is discrete, similar to the variable p\_timeever, which indicates the number of times respondents have visited the sites. The final variable in the regression, exp\_ptotal, encompasses the total expenditure for the current visit to the site per person. Lastly, the variable  $\epsilon$  represents the error term.

Thailand travel safety zone was a pilot project, and the study's objective was to estimate the WTP for the post-approved budget program. Thus, contingent valuation with open-ended questions for WTP would be theoretically suitable for the program evaluation. In terms of empirical study, the questionnaire survey was conducted in 2022 after the pandemic, so it would be more practical to conduct a face-to-face survey that is as compact and concise as possible.

The study employed a semi-structured questionnaire for data collection, which underwent a pre-test under the guidance of experts in economics. The pre-testing process was crucial to enhancing the plausibility and understandability of the questionnaire's content, particularly regarding the open-ended questions about WTP and travel costs. For the survey,

convenience sampling was aimed at interviewing as many tourists as possible, adhering to COVID-19 precautionary measures. Concluded in September 2022, the survey gathered data across various tourist categories, focusing on demographics, perceptions of safety, fairness, and sanitation. The diversity in explanatory variables was intended to reveal the differing magnitudes of individual WTP among the respondents.

The cover letter of the questionnaire informed respondents that the study was solely for academic purposes and assured them that the research would adhere to the Thailand Personal Data Protection Act (PDPA) guidelines and that it had received approval from the Institutional Review Board. These actions would ameliorate the possibility of strategic bias, which could occur if the respondents perceived that their answers would influence the pricing policy of the beach and old town.

The questionnaire utilized open-ended rather than dichotomous questions to explore the potential consumer surplus between no payment and improvements at the travel site. Arrow et al. (1993) stated that "open-ended questions lack realism since respondents are not usually asked to attach a monetary value to their goods." However, in the case of Bang Saen and Nan, the situation was different because the visitors did not need to pay for the visit. Still, safety, sanitation, and fairness improvements would change WTP when planning the trip. Then, to estimate WTP, the study employed robust ordinary least squares to estimate parameters from equation (2).

## **Data**

The descriptive statistics for each variable can be found in Appendix Table A1. The survey included 406 respondents who had traveled to Nan Old Town and Bang Saen Beach. The average age of the respondents was approximately 36 years. Males constituted 34 percent of the total sample, while respondents with a bachelor's degree or higher education comprised about 15 percent. Around 60 percent of the respondents had a monthly income ranging from 10,001 to 30,000 baht, with the bin's average income being about 30,000 baht per month.

Regarding travel characteristics, the average number of visits to Bang Saen Beach was about four trips, compared to approximately two trips for Nan Old Town. The average length of stay in Nan was about 2.25 days, while for Bang Saen Beach, it was 1.14 days. The average travel expenditure per person for Nan Old Town was 1,513 baht, compared to around 264 baht for Bang Saen Beach. Similarly, the average total spending per person for a trip to Nan Old Town was 6,000 baht, compared to 1,200 baht for Bang Saen Beach. Lastly, the average WTP among

the 406 respondents was 198.40 baht, with only 175 respondents, or 43 percent, willing to pay for the safety zone program.

## **Results**

The study incorporated four specifications (models 1 to 4) for estimating WTP, aiming to identify significant variables related to WTP to guide the discussion and inform policy recommendations. The estimated results are presented in Table 1. All demographic variables, including gender and age, were not statistically significant in determining WTP. However, education level emerged as a positive and significant variable. According to the estimation, on average, respondents with a bachelor's degree or higher education were willing to pay approximately 106 baht, or about \$3, more for the safety zone than respondents with a lower level of education were willing to pay. This finding highlights the influence of educational attainment on WTP and can be an essential consideration in policy formulation.

Additionally, income variables show a positive and significant coefficient. On average, respondents with incomes between 20,000 and 30,000 baht per month were willing to pay more for the safety zone program, between 76 and 84 baht, compared to the base case of incomes lower than 10,000 baht per month. Moreover, the respondents with incomes over 50,000 baht per month significantly affected WTP. This group would pay at least 256 baht more to support the safety zone program. Lastly, travel cost or travel expense per person is the only positive and significant variable in the first model. On average, if the travel expense per person increases by 1,000 baht, the WTP would increase by 38 baht or approximately \$1. However, from the second to fourth model, travel expenses were insignificant when regression considered the number of days, past visits, and total trip expenditure per head.

Thus, the visitor's income level is the crucial determinant of the WTP for the travel safety zone. Moreover, the WTP is positively related to the travel expenditure for the travel cost variable, implying that visitors prefer better sanitation and safety when the trip cost is high. In addition, the results are consistent with the previous study by Lamsal et al. (2016), which found that visitors will revisit a natural area if the natural environment is conserved. The basic infrastructure is improved to meet their expectations.

**Table 1** Willingness to Pay for the Travel Safety Zone

Variables	Coefficients (Standard Deviation)			
	Model 1	Model 2	Model 3	Model 4
male	14.03 (38.40)	16.87 (38.72)	18.06 (38.74)	18.22 (38.55)
age	2.243 (1.867)	2.133 (1.873)	2.225 (1.911)	2.266 (1.896)
edu_ub	106.6* (60.86)	106.8* (61.24)	106.3* (61.37)	106.4* (61.47)
inc12	40.77 (41.00)	51.84 (42.40)	52.55 (42.68)	52.62 (42.79)
inc23	76.09* (43.47)	83.04* (43.77)	83.64* (43.91)	82.91* (43.28)
inc34	59.24 (67.13)	67.29 (67.74)	67.98 (67.85)	67.70 (67.93)
inc45	132.3 (85.95)	131.9 (87.23)	130.8 (87.27)	131.0 (87.52)
inc5up	263.0*** (88.85)	257.9*** (87.88)	257.7*** (88.07)	256.2*** (87.64)
exp_ptravel	0.0376* (0.0218)	0.0224 (0.0244)	0.0218 (0.0245)	0.0197 (0.0343)
p_day		30.96 (26.84)	30.53 (26.94)	29.31 (26.77)
p_timeever			-1.023 (1.310)	-1.009 (1.313)
exp_ptotal				0.00104 (0.00755)
Province Fixed Effect	√	√	√	√
Constant	-20.25 (56.74)	-61.56 (68.02)	-61.33 (68.03)	-62.41 (67.71)
Observations	406	406	406	406
R-squared	0.117	0.121	0.121	0.121

Note: Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: Authors' Calculation

## Discussion

This average WTP of 200 baht for a safety zone program in Nan Old Town and Bang Saen is lower than that reported by Horiuchi (2020) and Sanyakamdhorn (2017) in their studies of Koh Larn Beach and the heritage site in Chiang Saen, where the WTP for travel sites, conservation admission, and fees were 600 baht and 500 baht, respectively. The difference comes from the difference between travel expenses for each site. However, the significant determinants of WTP are similar: income and education. For extrapolation, the study used the projected number of visitors from pre-COVID-19 domestic tourism data for Nan and Bang Saen provided by the Ministry of Tourism and Sports. It used a payment rate of 45 percent of the total number of visitors. The number of domestic visitors to Nan was 287,203 in 2018, and the number of visitors to Bang Saen was 603,588. Thus, the likely WTP for Nan would be 25 million baht, whereas for Bang Saen, it would be 54 million baht.

## Suggestions

### Application:

This study employs the open-ended CVM to estimate the WTP for the travel safety zone program in Nan Old Town and Bang Saen Beach, Thailand. The estimated average WTP was approximately 200 baht or \$6. Positive and significant determinants were respondents' income, education, and travel expenses. The hypothetical aggregate WTP demonstrated the potential for extending the program to other travel sites in Thailand. Although no entry fee is charged at either travel site, the program's private gains significantly outweigh its costs. The aggregate for WTP is about 79 million baht, while the program costs about 15 million baht. Therefore, the government should consider investing in these social benefits, as improving site quality, safety, sanitation, and fairness could enhance domestic and international visitation and encourage repeat visits. However, the study only included domestic visitors, as there was a limited number of foreign visitors in the aftermath of COVID-19.

### Further Research:

Including broader categories of visitors, such as international ones, could have been more helpful in determining the WTP for safety and sanitation in Nan and Bang Saen. Additionally, this study utilized a short, single-season survey with a small sample size. Conducting multi-season surveys with larger samples could provide more concrete outcomes regarding the worthiness of deploying travel safety zones throughout the country.

## References

- Arrow, K., Solow, R., Portney, P. R., Leamer, E. E., Radner, R., & Schuman, H. (1993). Report of the NOAA panel on contingent valuation. *Federal Register*, 58(10), 4601–4614.
- Asafu-Adjaye, J., & Tapsuwan, S. (2008). A contingent valuation study of scuba diving benefits: Case study in Mu Ko Similan Marine National Park, Thailand. *Tourism Management*, 29(6), 1122–1130.
- Báez-Montenegro, A., Echeverría, R., Sepúlveda, E., & Calcagni, V. (2022). Does an environmental disaster influence the tourists' willingness to pay for a wetland? the case of the Cruces River Wetland in Southern Chile. *Wetlands*, 42(7), 82.
- Bhandari, A. K., & Heshmati, A. (2010). Willingness to pay for biodiversity conservation. *Journal of Travel & Tourism Marketing*, 27(6), 612–623.
- Dribek, A., & Voltaire, L. (2017). Contingent valuation analysis of willingness to pay for beach erosion control through the stabiplage technique: A study in Djerba (Tunisia). *Marine Policy*, 86, 17–23.
- Five attractions named Safety Zone in new tourism campaign. (2021). National News Bureau of Thailand (NNT). Retrieved from <https://thainews.prd.go.th/en/news/detail/TCATG210324211519818>
- Horiuchi, A. (2020). *Analyses of entrance fees on waste problem in Koh Larn, Thailand*. (Master's Thesis). The University of Tokyo, Department of International Studies, Graduate School of Frontier Sciences.
- Hu, C., Wright, A. L., & He, S. (2022). Public Perception and Willingness to Pay for Urban Wetland Ecosystem Services: Evidence from China. *Wetlands*, 42(2), 19. <https://doi.org/10.1007/s13157-022-01538-6>
- Impact Assessment of the COVID-19 Outbreak on International Tourism. (2023). *World Tourism Organization*. Retrieved from <https://www.unwto.org/impact-assessment-of-the-covid-19-outbreak-on-international-tourism>
- International tourism, number of arrivals-Thailand. (2023). *World Bank Open Data*. Retrieved from <https://data.worldbank.org>
- Isangkura, A. (1998). *Environmental Valuation: An Entrance Fee System for National Parks in Thailand*. EEPSEA Research Report, Article rr1998091. Retrieved from <https://ideas.repec.org/p/eep/report/rr1998091.html>

- Lakkhanaadisorn, W. (2014). The Valuation of Heritage Interpretation for Conservation and Sustainable Tourism: A Case Study of the Historic City of Ayutthaya. *NIDA Development Journal*, 54(2), 85–116.
- Lamsal, P., Atreya, K., Pant, K. P., & Kumar, L. (2016). Tourism and wetland conservation: Application of travel cost and willingness to pay an entry fee at Ghodaghodi Lake Complex, Nepal. *Natural Resources Forum*, 40(1–2), 51–61.
- Lekagul, A. (2018). Differences in Patterns and Factors Influencing Preference and Willingness to Pay for Physical Developments of a Streetscape in the Old Town of Chiang Mai, Thailand. *Nakhara: Journal of Environmental Design and Planning*, 14, 79–94.
- Parsons, G. R. (2017). Travel cost models. A Primer on Non-market Valuation, 187–233.
- Rogers, A. A., Dempster, F. L., Hawkins, J. I., Johnston, R. J., Boxall, P. C., Rolfe, J., Kragt, M. E., Burton, M. P., & Pannell, D. J. (2019). Valuing non-market economic impacts from natural hazards. Springer.
- Saengsupavanich, C., Seenprachawong, U., Gallardo, W. G., & Shivakoti, G. P. (2008). Port-induced erosion prediction and valuation of a local recreational beach. *Ecological Economics*, 67(1), 93–103.
- Sakonnakon, S. P. N., Hirunsalee, S., Kanegae, H., & Denpaiboon, C. (2012). Donations for Cultural Heritage Protection against Floods: A Case Study of Ayutthaya World Heritage, Thailand. *Disaster Mitigation of Cultural Heritage and Historic Cities*, 6, 215–222.
- Sanyakamdhorn, P. (2017). Valuing cultural heritage: A contingent valuation study of temples in Chiang Saen.
- Thailand Tourism Statistics. (2023). Ministry of Tourism & Sports. Retrieved from <https://www.mots.go.th/news/category/411>
- Travel & Tourism Economic Impact. (2023). World Travel & Tourism Council (WTTC). Retrieved from <https://wttc.org/research/economic-impact>
- Wang, P.-W., & Jia, J.-B. (2012). Tourists' willingness to pay for biodiversity conservation and environment protection, Dalai Lake protected area: Implications for entrance fee and sustainable management. *Ocean & Coastal Management*, 62, 24–33.

## Appendix A Descriptive Statistics

Table A1 Sample Description

	Nan Old Town in Nan	Bang Saen beach in Chonburi	Both areas
Number of respondents	200	206	406
Age of respondents (age)	37.74	35.09	36.40
Percentage of male, female, and others (male)	29.00%, 68.50%, and 2.50%	39.81%, 60.19%, and 0.00%	34.48%, 64.29%, and 1.23%
No university degree	85.50%	83.98%	84.73%
Bachelor's degree and higher (edu_ub)	14.50%	16.02%	15.27%
Income per month (baht)			
10,000 and lower	11.50%	11.65%	11.58%
10,001 – 20,000 (inc12)	20.50%	44.66%	32.76%
20,001 – 30,000 (inc23)	22.00%	29.13%	25.62%
30,001 – 40,000 (inc34)	9.00%	9.71%	9.36%
40,001 – 50,000 (inc45)	13.00%	2.43%	7.64%
50,000 and higher (inc5up)	24.00%	2.43%	13.05%
Number of visits (p_timeever)	1.61	4.26	2.96
Number of days spent on this trip (t_dtotal)	3.52	1.38	2.43
Number of days spent in Nan Old Town/Bang Saen (p_day)	2.25	1.14	1.69
Number of days spent in Nan Old Town/Bang Saen over Number of days spent for this trip (pt_day)	0.71	0.94	0.83
The average expenditure for this trip (baht per head) (exp_total)	8,730.50	1,402.18	5,012.19
The average expenditure for this trip transportation (baht per head) (exp_travel)	2,125.25	297.96	1,198.103
The average expenditure for Nan Old Town/Bang Saen (baht per head) (exp_ptotal)	5,999.28	1,208.18	3,568.33
The average expenditure for Nan Old Town/Bang Saen (baht per head) (exp_ptravel)	1,512.97	263.71	879.11
Number of respondents who would like to pay for the Safety Zone program (sz_pay)	88	87	175
<b>Average willingness to pay (baht)</b>	<b>273.75</b>	<b>125.24</b>	<b>198.40</b>

Source: Authors' Calculation