

## Conference Paper

# The Economic Potential of Tourist Destinations of Pangandaran Beach, West Java Indonesia

Bernard Hasibuan<sup>1</sup>, Ninin Gusdini<sup>2</sup>, Lisa Ratnasari<sup>1</sup>, and T. Titi Widaningsih<sup>3</sup>

<sup>1</sup>Industrial Engineering Program, Faculty of Engineering, Universitas Sahid Jakarta

<sup>2</sup>Environmental Engineering Program, Faculty of Engineering, Universitas Sahid Jakarta

<sup>3</sup>Graduate School, Universitas Sahid Jakarta

## Abstract

Pangandaran Beach Tourist Area (KWPP) has beautiful natural potential to be developed as a famous tourist destination and visited by many tourists. In doing tourism activities, many things are affected, namely economic, ecological and social. The development of a tourist destination aims to obtain maximum economic value without sacrificing the existing ecological and social aspects. On the contrary, efforts to conserve nature or ecology in general and the existing social values should not inhibit the creativity for optimal economic growth. Therefore, a research to determine consumer preferences for Pangandaran Tourism Area by using TCM methods in KWPP needs to be done. Analysis of consumer preference management of KWPP is done using Travel cost method (TCM). Based on the analysis results of consumer preferences with the travel cost method, the value of consumer surplus for each consumer or tourist is obtained, that is Rp. 3.103.960 with economic value of KWPP usage of 26 billion rupiah. This shows that the economic potential of KWPP is still big to be developed.

Corresponding Author:

Bernard Hasibuan

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## 1. Introduction

Tourism is one of the fastest growing development sectors in addition to other development strategic agendas such as energy, food, infrastructure. This can be seen from the increase of several Main Performance Indicators such as tourism sector contribution to national gross domestic product (GDP), tourism contribution to quantity and quality of national workforce, investment in tourism sector, foreign exchange revenue and tourist expenditure in Indonesia, etc.. The contribution of macro tourism in 2016 to the national GDP of 10%, foreign exchange generated reaches US \$ 1 million, and tourism workforce reaches as much as 11.3 million people, while the micro condition of the number of

foreign tourists (tourists) reaches as many as 10.4 million foreign tourists and domestic tourists as many as 255 million trips. (Performance Report of the Ministry of Tourism, 2016)

Sustainable Tourism Development is based on empowerment in economic, social and cultural aspect which is a tourism model that is able to stimulate the economic growth of society, socio-cultural quality, and ensure environmental sustainability. In its implementation it is necessary to take a holistic and balanced approach, it means that there should be no one aspect that develops far but sacrifices other aspects. Indonesia is rich with beautiful natural potential and high value of socio-cultural heritage, it is highly relevant to adopt the concept of sustainable tourism development. Tourist destination is expected to be managed so as to increase the economic value around the area, maintain sustainability and natural beauty as well as actualize and maintain the socio-cultural value.

Pangandaran Beach tourism area (KWPP) is one of nature tourism which has great potential in perspective of sustainable development covering economic, ecological and social functions. The strategic location of KWPP can be accessed by land routes from major cities of Jakarta, Bandung, Yogyakarta, making KWPP attraction high, especially as nature tourism with complete variation. In KWPP there are several economic activities such as lodging services, sales of souvenirs, auction fisheries and others. In an ecological perspective, there are protected forests, white sands, coastal forests, and lowland forests to be conserved. The social life of the KWPP community also plays a role in the existing economic activities either directly or indirectly. The question is: to what extent can KWPP activities advance in all three aspects in a comprehensive way: economic, ecological and social?

## 2. Literature Review

Sustainable tourism as defined by The World Tourism Organization (UNWTO) is tourism that takes full account of current and future economic, social and environmental impacts, addresses the needs of visitors, the tourism industry, the environment and the host community (Ministry of Tourism and Creative Economy, 2014: 29).

The goal of sustainable tourism is to reduce poverty, respect socio-cultural authenticity, and be responsible for the use of environmental resources, and not only encourage but also facilitate and empower communities so that they are able to participate in the production process and receive direct benefits of tourism activities (Ministry of Tourism and Creative Economy, 2012: 33-34).

According to Sharpley (2006: 36), the basic goal of sustainable development is the achievement of a balance between the tourism environment, local needs of the community and the needs of tourists. In other words, the goal of achievement and sustainable development are the goals of development and environmental goals / sustainability.

Guidelines and practices of sustainable tourism development can be applied to all forms of tourism in all types of destinations, and various segments. The principles of sustainability refer to the balance of environmental, economic and socio-cultural aspects (Ministry of Tourism and Creative Economy, 2012: 33).

## **2.1. Community based tourism**

Community Based Tourism aims to create a more sustainable tourism industry that focuses on local communities in terms of planning and maintaining tourism development (Beaton, 2006: 55). If tourism strategy becomes sustainable then community development and empowerment should be developed as the main objective of the partnership itself. Not just in relation to the public, or through public participation, but as a form of development of the surrounding community (Hughes, 1995: 59 in Richards & Hall, 2000: 91).

There are many potential benefits if people living or working in a tourist destination are involved in tourism planning as it improves the legitimacy of community members. This means that community members have greater influence in decision making affecting their lives (Benveniste, 1989 in Richards & Hall, 2000: 26).

## **2.2. Conservation oriented**

The conservation area is a land area and / or sea primarily intended for the protection and maintenance of biological diversity, and its natural resources and cultural resources in the long run are managed through legal means or other effective means (International Union for Conservation of Nature and Natural, 2008: 8). Sustainable tourism is committed to protecting and is responsible for the integrity of the natural and cultural environment by undertaking environmental and socio-cultural planning and management (Genot, 1995 in Weaver, 2006: 113).

Conservation orientation consists of: 1) Conservation of natural environment, ecosystem and biodiversity; 2) Conservation and reduce energy, waste and pollutants; fostering the practice of responsibility; 3) Respect and support local traditions, culture and society.

## 2.3. Carrying capacity

Capacity is the power or capacity of firms to use resources that are integrated with the goal of achieving the desired end goal (Hitt, Ireland & Hoskisson et.al, 2007: 112).

Carrying capacity to anticipate the negative impacts of tourism development is necessary to approach tourism management where the level of visits, activities and activities of tourists in one location is managed with acceptable limits. Not all locations in one area can be treated equally for tourism development. Ecosystem vulnerability factor along with scarcity of flora and fauna, resilience of local culture, and area of tourism area become important measure in determining the limits of fairness of development of facilities and infrastructure, number of visitors, supporting activities, and types of attractions allowed in the implementation of tourism (Ministry of Culture and Tourism & WWF Indonesia, 2009: 7).

Carrying capacity is a concept that measures the level of visitor used to guarantee the sustainability of a destination. Some concepts of carrying capacity that are useful in tourism planning are: Management capacity, Physical capacity, Environmental capacity, Economic capacity, Social capacity, Infrastructure capacity, Perceptual capacity, (Dewi, 2011: 110-112).

## 3. Method

The method used is Travel cost method (TCM), where the travel cost approach is used in estimating the value of a tourist place by using various variables. The analytical method used in this study is multiple linear regression that aims to determine the effect of travel cost variables visitors (transportation, tickets, parking, consumption, documentation, etc.), travel expenses to other attractions, the average monthly family income, distance, the purpose of the visit and the purpose of the visit to the number of visits. The linear regression equation used is as follows:

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8)$$

Information:

$X_1$ : Frequency of visit to Pangandaran Beach

$X_2$ : The cost of travel to the tourist area of Pangandaran Beach

$X_3$ : Distance

$X_4$ : Average family income per month

$X_5$ : Length of visit

$X_5$ : Level of education

$X_6$ : Transportation

$X_7$ : Age

$X_8$ : Number of members

## 4. Results

### 4.1. Factors affecting demand function

In the approach of individual travel costs (ITCM), identification of a recreation place such as KWPP can be collected by collecting travel cost data to tourist sites and socio-economic character. In this study, it is limited to only 8 factors that allegedly affect the frequency of visits to KWPP, ie travel costs, distance, average family income per month, length of visit, education level, transportation, age and number of members. From the results of multiple linear regression, it can be done an interpretation of the coefficient of each variable. If the coefficient sign is negative, then the effect of that variable on the frequency of visits has the opposite direction. This means that the increase in variables will decrease the frequency of tourist visits. Similarly, on the variable that has a positive sign. Increased variables will also result in an increase in the frequency of visits.

### 4.2. Variables that significantly affect the frequency of visits to KWPP

Based on the results of data processing on the table, it can be seen that all variables significantly influence the frequency of visits to KWPP, it can be seen from the significance value that is smaller than 0.05. From 8 (eight) variables there are 4 (four) variables that positively affect the frequency of visits to KWPP and 4 (four) variables that negatively affect the frequency of visits to KWPP.

Based on the above table, the regression equation of visit frequency to KWPP to 8 (eight) variables is obtained as follows

$$Y = 2,55 + (3,7 \times 10^{-7})x_1 - 0,005x_2 + 0,177x_3 + 0,31x_4 - 0,024x_5 - 0,233x_6 + 0,232x_7 - 0,001x_8$$

Where

$Y$ : Frequency of visit to Pangandaran Beach

$x_1$ : The cost of travel to the tourist area Pangandaran Beach

$x_2$ : Distance

TABLE 1: Coefficients (a).

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	2,551	,393		6,490	,000
	Total cost	3,73E-007	,000	,128	1,956	,052
	Distance	-,005	,001	-,300	-4,560	,000
	Income	,177	,082	,148	2,166	,031
	Length of visit	,310	,123	,172	2,532	,012
	Level of education	-,024	,050	-,030	-,470	,639
	Transportation	-,233	,086	-,203	-2,710	,007
	Age	,232	,069	,229	3,374	,001
	Number of members	-,001	,004	-,016	-,214	,831

a Dependent Variable: Frequency of visit

X<sub>3</sub>: Average family income per month

X<sub>4</sub>: Length of visit

X<sub>5</sub>: Level of education

X<sub>6</sub>: Transportation

X<sub>7</sub>: Age

X<sub>8</sub>: Number of members

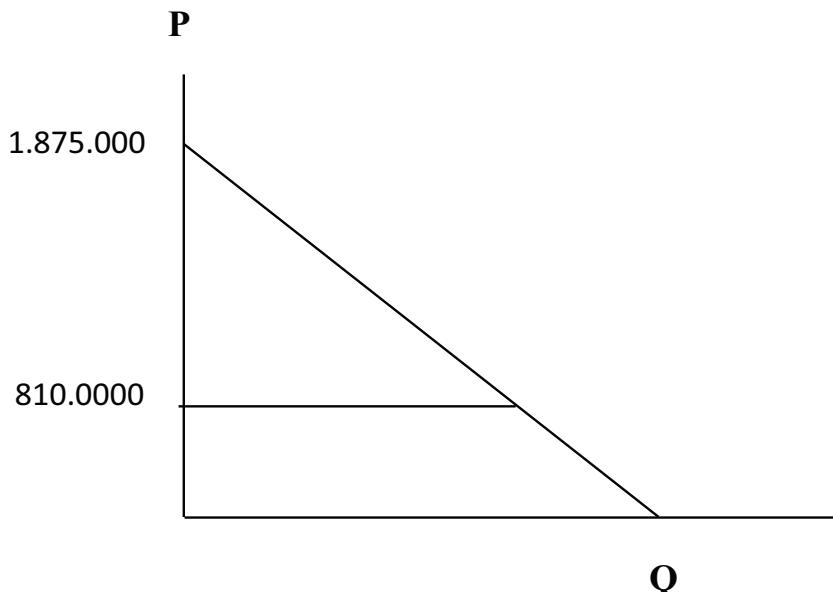
### 4.3. Consumer surplus and economic value of KWPP

In this study the economic value assessed is the value of direct use of KWPP tourist destinations. Economic value is obtained by calculating the large consumer surplus of all visitors or tourists who visit the KWPP. Tourists taken into account in the assessment are visitors who have income, as they relate to the decision to visit KWPP. The regression equation describing the function of the visit request to KWPP is as follows:

$$Y = 2,92 + (3,34 \times 10^{-7}) X_1$$

where Y is the frequency of visits to KWPP and X1 is the cost of travel to KWPP. The maximum cost of the trip is Rp. 1,875,000.00 and average travel cost is Rp.810,000,00.

If plotted in the graph then the demand curve for travel costs to KWPP is as follows:



**Figure 1:** Function of visit request to KWPP.

The Consumer Surplus or more users obtained in this study are:

$$\begin{aligned}
 Y &= 2,92 + (3,34 \times 10^{-7}) \\
 &= \int_{810000}^{1875000} (2,92 + 3,34 \times 10^{-7}) \\
 &= 2,92 + (3,34 \times 10^{-7}) \Big|_{810.000}^{1875000} \\
 &= \{2,92 + (3,34 \times 10^{-7}) \times 1875000\} - \{2,92 + (3,34 \times 10^{-7}) \times 810.000\} \\
 &= 3.109.800,00
 \end{aligned}$$

## 5. Discussion

Variables that positively affect the frequency of visits to KWPP are 4 (four) variables, it can be explained as follows:

1. Total travel cost. Travel expenses can be interpreted as a cost incurred by every visitor in a single tour. Travel expenses include transportation costs, documentation, consumption during recreation, parking, souvenir purchases and other charges without entrance ticket for tourist sites. Travel cost variables are significant. This can be due to the variable cost that can not be separated by the frequency of one's

visit. The value of regression coefficients of the travel cost variables in the model is positive, it means that the greater the cost of travel will increase the frequency of individual visits to the recreation site. This is not in accordance with economic theory, where if the price increases then the consumer will reduce the amount of goods consumed.

2. Total income. This variable is significant and positive, it can be caused by income as an important thing related to economic activity as well as recreation activities then it requires money or funds derived from income. The coefficient of this variable has a positive sign, it is in accordance with economic theory which says that the higher the income of a person, the higher the consumption will be. So, if a person's income level is high then they tend to increase the average frequency of his visits to a recreation place. The magnitude of the variable coefficients will result in the average chance of visit frequency increase greatly due to the increase of income. Thus, respondents who have higher incomes allow them to have higher recreation opportunities than low-income respondents.
3. Length of visit. Time spent at the site is one of the factors affecting the frequency of tourist visits. The variable is positive value which means the longer time spent by tourists in the recreation location hence increases the chance of the average tourist to visit to KWPP. This can be due to recreational facilities that are perceived so that visitors spend a long time in the location.
4. Age. The age variable in the model influences significantly by having a positive sign. Therefore in this case age has a direct influence with the frequency of visits. This means that the more mature one's age will increase the chance of the average frequency of visits. This can be due to a more mature person with a variety of activities takes time for recreation, considering the purpose of recreation is to return to the creative.

Based on the demand function  $Y = 2,92 + (3,34 \times 10^{-7}) x_1$  with a market price of 810,000 and a maximum price of 1.875.000,00 a large consumer surplus of Rp. 3.109.800,00 is obtained, it means that consumers have over 3.1 million rupiahs in enjoying KWPP. In general, tourists who come to KWPP still have the ability to economically spend an average amount of money of 3.1 million rupiah to get satisfaction in the tour. It can also be said that the value of existing prices on some attractions in KWPP is still under the condition of the value of the market value.

With a large consumer surplus of about 3.1 million rupiah and the population of 8,500, the economic value of KWPP of Rp 26 billion is obtained. This means that KWPP has an economic potential of 26 billion rupiahs if managed properly.

## 6. Conclusion

Based on the results of data processing, obtained:

1. Factors that have significant and positive impact on tourist visit to KWPP are total cost ( $X_1$ ), income ( $X_3$ ), length of visit ( $X_4$ ) and age ( $X_7$ ), while the negative is the distance ( $X_2$ ), level of education ( $X_5$ ), transportation ( $X_6$ ) and number of members ( $X_8$ ).
2. Consumers have a surplus (consumer surplus) of Rp. 3.109.800,00 with potential economic value owned by KWPP within a year is Rp.26 billion.
3. Consumer preferences show that KWPP is a viable tourism destination developed because it has consumer surplus and high economic value.

## References

- [1] Adams, C., Motta, R.S., Ortiz, R.A., Reid, J., Aznar, C.E., Antonio, P. 2008 The use of contingent valuation for evaluating protected areas in the developing world: Economic valuation of Morro do Diabo State Park, Atlantic Rainforest, Sao Paulo State (Brazil). *Ecological Economics*, **66**: 359-370.
- [2] Bernard Hasibuan, Lisa Ratnasari, Ninin Gusdini. 2016. Consumer Preferences Analysis of Kawasan Kota Tua, Jakarta, *British Journal of Applied Science & Technology*, 15(4);1-7
- [3] Alpizar, F. 2005. The pricing of protected areas in nature-based tourism: A local perspective. *Ecological Economics* 56: 294-307.
- [4] Chen, W., Hong, H., Liu, Y., Zhang, L., Hou, X., Raymond M. 2004. Recreation demand and economic value: An application of travel cost method for Xiamen Island. *China Economic Review* **15**: 398-406.
- [5] Dwyer, Larry, Alison Gill dan Neelu Seetaram. 2014. *Handbook of Research Methods in Tourism: Quantitative and Qualitative Approaches*. Chetemah Glos: Edwar Elgar Publishing Ltd.
- [6] Lordkipanidze, M. Brezet, H. Backman, M. 2005. The entrepreneurship factor in sustainable tourism. *Journal of Cleaner Production* **13**: 787-798.

- [6] Hasibuan, Bernard. 2014. Valuasi Ekonomi Lingkungan Nilai Gunaan Langsung dan Tidak Langsung Komoditas Ekonomi. *Jurnal Ilmu Ekonomi Signifikan*. Vol. 3 No. 2: 122-138
- [7] International Union for Conservation of Nature and Natural. 2008. *Guidelines for Applying Protected Area Management Categories*. Switzerland: International Union for Conservation of Nature and Natural.
- Lim, C., McAleer, M. 2004 *Ecologically sustainable tourism management Environmental Modelling & Software*. Queensland Australia.
- [8] Kementerian Pariwisata dan Ekonomi Kreatif Republik Indonesia. 2014. *Rencana Strategis Pariwisata Berkelanjutan dan Green Jobs untuk Indonesia*. Jakarta: Kementerian Pariwisata dan Ekonomi Kreatif Republik Indonesia bekerjasama dengan International Labour Organization.
- [9] Mowforth, Martin dan Ian Mun. 2003. *Tourism Sustainability: New tourism in the Third World*. London: Routledge.
- [10] Mohammadi Limaei S, Ghesmati H, Rashidi R, Yamini. Economic Evaluation of Natural Forest Park Using the travel cost Method (case study; Masouleh forest park, North of Iran. *Journal of Forest Science*.2014; 60 (6):254-261.
- [11] National Marine Park. Proceeding. The 14th International Conference on QIR (Quality in Research). 10-13 August 2015. Lombok. Sian, Lim Tau, et.al. 2009. *Fundamentals of Hospitality and Tourism Management*. Selangor: Open University Malaysia.
- [12] Ninin Gusdini, Bernard Hasibuan, Lisa Ratnasari. 2017. Constraints and Expected Changes of Kota Tua Tourism Area Development; *British Journal of Applied Science & Technology*; 19(3); 1-8.
- [13] Richards, Greg dan Derek Hall. 2000. *Tourism and Sustainable Community Development*. London: Routledge.
- [14] Ritchie, Brent W, Peter M Burns, dan Catherine A Palmer. 2005. *Tourism Research Methods: Integrating Theory with Practice*. Oxfordshire: CABI Publishing.
- [15] Scott, D., Jones, B., Kanopek, J. 2006. *Implications of climate and environmental change for nature-based tourism in the Canadian Rocky Mountains: A case study of Waterton Lakes National Park*, Tourism Management. Waterloo.
- [16] Schiffman, Leon G dan Leslie Lazar Kanuk kolaborasi Joseph Wisenblit. 2010. *Consumers Behavior*. Edisi Kesepuluh. New Jersey: Prentice Hall. Inc.
- [17] Sharpley, Richard. 2009. *Tourism Development and the Environment: Beyond Sustainability?* London: Earthscan Dunstan House.
- [18] Sharpley, Richard. 2006. *Travel and Tourism*. London: SAGE Publications. *Tourism Management International*. 2015. <http://www.Destination Management>

- international.com/tourism-development-consulting/ Solimarin (Diakses pada tanggal 23 Juni 2015).Tsaur, S.H., Lin, Y.C., Lin, J.H. 2006. Evaluating ecotourism sustainability from the integrated perspective of resource, community and tourism. *Tourism Management* **27**: 640-653.
- [19] Van der Duim, R., Caalders, J. 2002. Biodiversity and Tourism, Impacts and Interventions. *Annal of Tourism Research*. **29**: 743-761
- [20] Turban, Efraim, Linda Volonino. 2010. *Information Technology for Anagement - Improving strategic and Operational Performance*. Eighth Edition. Hoboken: John Wiley & Sons, Inc.
- [21] United Nations. 2007. *Indicators of Sustainable Development: Guidelines and Methodologies*. Third Edition. New York: United Nations.
- [22] Weaver, David. 2006. *Sustainable Tourism: Theory and Practice*. Oxford: Elsevier Butterworth-Heinemann