Synergy and orientation of "tourist wtp - wta community" in the dimension of conservation economic growth of tourist destination resources

by Paulus Adrian Pangemanan 3

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Paulus A. Pangemanan[1], Christophil S. Medellu[2], Grace Rumagit[3] and Melsje J.Memah[4]

[1]Jurusan Agribisnis, Fakultas Pertanian, Universitas Sam Ratulangi
[2]Jurusan Fisika FMIPA, Universitas Negeri Manado. Destination Management
[3]Organization, Kementrian Pariwisata
[4]Prodi Agribisnis, Fakultas Pertanian, Universitas Sam Ratulangi

Email: adrian_pangemanan@unsrat.ac.id

Abstract. The concept of ecotourism is a form of management of tourist destinations that prioritizes the preservation of tourism resources, both physical and social culture of the local community. Conservation-oriented activities will guarantee an optimal life cycle and utilization time than oriented towards economic growth. Government and businessmen are the components that play a direct role in controlling the orientation and suitability of the Tourism Willingness to Pay (WTP) with the community's Willingness to Accept (WTA). The analytical instruments models to synergize and orient travelers WTPs and WTA communities, with the support of government and business actors. This instrument includes the acquisition of data on tourists, the local community, the government and businessmen. The data is formulated in the form of WTP and WTA vectors in the conservation-economic growth coordinate system. The activity orientation tendency is determined by the angle between the WTP and WTA vectors against abscissa (conservation axis) and ordinate (axis of economic growth). Input WTP and WTA vector data into the life cycle of a tourist destination will determine the time to achieve optimal utilization of destination resources. This instrument was developed for the analysis and control of the management of tourist destinations. It can be adapted for the management of other resources that confront the interests of certain parties (such as entrepreneurs) with the local community.

1. Introduction

Sustainability development is a management system that simultaneously and comprehensively emphasizes three aspects of development economic, social and environmental [1,2]. These three elements are guaranteeing long-term utilization for the benefit of local communities. The use of natural resources often leads to conflicts of interest-oriented to two pillars of orientation, economic benefits, and the preservation of natural resources. Ecotourism is a tool of sustainable development that brings together economic growth with the conservation of natural [3–5] It becomes a solution to conflicts of interest in the preservation of natural, economic, and social resources [6]. The International Ecotourism Society defines ecotourism as a travel in nature that preserves the environment and maintains the existence of local communities [7–9]. This understanding points out

that ecotourism not only promotes the importance of environmental preservation but also considers the sustainability and strengthening of the social and cultural life of the local community [4,5]. In line with this, Scheyvens [10], argues that ecotourism integrates the objects and activities of nature and cultural tourism to provide maximum benefits to local communities. Ecotourism activities, production and services can cause physical and socio-cultural environmental impacts [11]. Travel, production and service activities must synergize to ensure a balance of economic benefits with the preservation of ecological/cultural values [3].

Components that play a direct role in tourism development are tourists, local communities, the government, and tourism businesses [5,12]. The synergy of needs, interests, and roles of these components determines economic productivity and guarantees the preservation of natural, social and cultural resources of local communities. Koens et al. [1] and Barkin [2] suggested that the role of local communities guarantees economic benefits as well as the preservation of resources. Barkin [2], Wunder [13], and Scheyvens [10], suggested that the role of local communities in managing tourist destinations ensures economic growth and the preservation of natural resources. Match between willingness to pay for products and services (WTP) by tourists with a willingness to provide products and services (WTA) by local people, determine the level of productivity and ensure the sustainable use of tourist destinations [5]. The interaction between tourists and local people can be direct or indirect. Ferraro and Simpson [14] and Ferraro and Kiss [15] suggest that the effectiveness and efficiency of the direct and indirect payment approaches are the same in ensuring the sustainability of resources [14]; Ferraro and Kiss, [15]. According to Kiss [8], direct and indirect payment approaches in the context of conservation can be combined, so that the interaction of tourists with local communities can be developed flexibly to ensure the suitability and orientation of these interactions [5].

The role of the local government is related to spatial use policies [11], infrastructure and facility development, pollution, and waste management [1], increasing community capacity and mediating partnerships between communities and businesses [8]. Wunder [13] and Barkin [2] suggest that the role of local communities in the sustainable use of tourism resources must be supported by the role of government in creating access. The role of tourism businesses to strengthen the part of local communities in the operation and growth of tourism, including building infrastructure, promotion and marketing, business partnerships and conservation [5]. Slinger-Friedman [11], through an ecotourism study in Jamaica, proves that businesses view the preservation of natural resources as a priority. Supports of business actors include the provision of capital, marketing and efforts to find out the needs of tourists [8]. The government and business actors play an interactive role in developing and enhancing alternative tourism products and activities and strengthening the access and capacity of local communities in providing tourist needs. The purpose of government and business actors in addition to enhancing the synergy of the PAPs can also direct interactions between tourists and local communities to ensure the sustainable use of tourist destinations.

2. Method

2.1. Analysis models and WTP-WTA instruments

In 2012 the authors formulated an analysis model for optimizing sustainable destination management. This analysis model is polarized in (1) tourists 'willingness to pay for tourism products and services and compensation for conservation, faced with (2) local communities' willingness to provide products, services, and activities to conserve resources (natural, social-cultural) to tourists. The analysis model is shown in Figure 1.

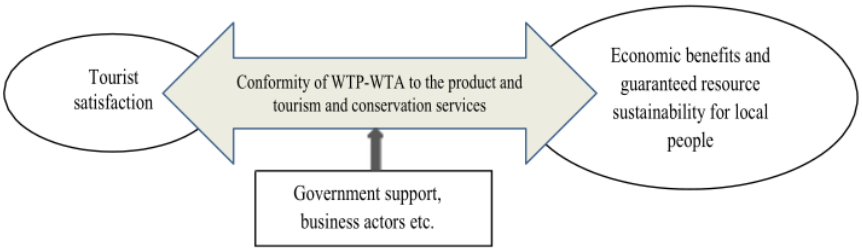

Figure 1. Analysis model of sustainable tourism destination management optimization

This analysis model is consistent with the assumptions put forward by Scheyvens [10], Wunder [13], Barkin [2] that the strength and sustainability of ecotourism are determined primarily by the interaction of tourists with local communities. Furthermore, an instrument is designed to control increasing the suitability of the PAPs and directing tourism products and activities towards economic improvement and conservation of resources (natural and socio-cultural). This instrument includes several potential and realistic indicators according to the characteristics of the destination. Diesendorf [16], Stefanica and Vlavian-Gurmeza [17], and [6] suggested that the components where indicators of sustainable development can be measured include: ecology, economics, and social. Kiss [8] indicates that the best conservation strategy must be realistic and feasible valuation options related to cost-effectiveness, social impact, and sustainability. Environmental indicators can indicate ongoing problems and become a reference for formulating corrective actions for the prevention, control, and conservation of resources. Nghi et al. [18] suggest that sustainable development indicators can be expressed in quantitative or semiquantitative values to measure the level of environmental adaptation, socioeconomic subsystems and tourist needs. The WTP - WTA suitability instrument is built from sustainable destination development indicators, which are projected on the dimensions of economic growth and conservation. Indicators developed are related to ongoing problems and products or activities that have the potential to be prepared for economic growth and resource protection (physical, socio-cultural). Table 1 is the WTP and WTA data collection format for indicators of products and activities that have economic and conservation dimensions.

Table 1. The format of data collection on economic compensation and conservation of PAPs

Respondent: Local people / tourists Date:

Product/activities	Economic value											Conservation value										
	Weight	score										Weight	score									
		1	2	3	4	5	6	7	8	9	10		1	2	3	4	5	6	7	8	9	10
		√											√									
											√											√
						√											√					

Note: score 1: do not agree to pay or accept, score 10: strongly agree to pay or accept. Weight 1: lowest priority, weight 5 highest priority

3. Results and discussions

3.1. Vector mapping of WTP and WTA in the conservation-economic growth coordinates

Average WTP and WTA data (from all indicators and all respondents) obtained from the above format (Table-1), mapped as vector quantities in the conservation-economic growth coordinate system. Figure 2 shows the WTP and WTA vectors in the coordinate system with abscissa resource conservation scores (physical and socio-cultural) and ordinate economic growth scores.

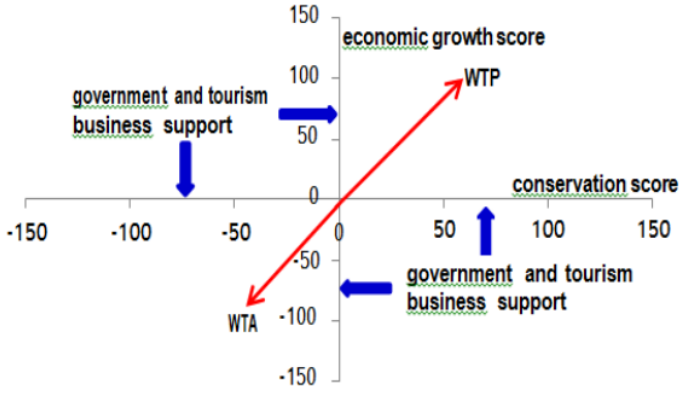

Figure 2. Vector of WTP & WTA in the coordinates of economic growth in conservation.

The WTP and WTA vector rank points are the position conditions of the current life cycle of a tourist destination. The ends of each vector are conservation (average) scores and economic growth obtained using the WTP-WTA data collection format. Describe the existing conditions so that data collection can be done by researchers or other people based on the facts of conservation and economic growth indicators. The instrument can also be used to simulate the impact of conservation and economic growth based on the choice of activities (services and products) desired by tourists (WTP) and received by the local community (WTA), with the support of government and business actors. The government and business support for the PAPs and WTAs is based on the support scores based on the indicators of the WTP-WTA instrument. Government and WTA support scores are multiplied by the results of the multiplication of activity weights and scores of tourist and community choices, to produce a component of conservation and economic growth. The results of this simulation are essential to be used as a reference for planning and controlling activities that ensure the sustainable use of resources.

The level of conformity of tourist WTP with community WTA determines the feasibility of activity choices. The degree of concordance is obtained from the dot product of the WTP vector with WTA. The maximum value of WTP.WTA is -1, indicating the maximum potential for the activities that tourists want and are accepted by the community. A negative sign indicates the two vectors are opposite directions. The WTP vector is located in the first quadrant and the WTA vector in the third quadrant. Collinieritas of the two vectors that point to the potential implementation of activities can be controlled by the role of government and business actors. The tendency of events to strengthen the conservation component or economic growth depends on the direction of the WTP and WTA vectors. If the WTP and WTA vectors are closer to the conservation axis, the activity will further strengthen the conservation component, and vice versa. The direction of the vector can also be controlled by the role of government and business actors.

3.2. Integration of WTP-WTA instrument output in destination life-cycle analysis and prediction.

The tourist destination life cycle model formulated by Butler, includes four phases of discovery, local control, institutional, stagnation / rejuvenation / setback (Figure 3).

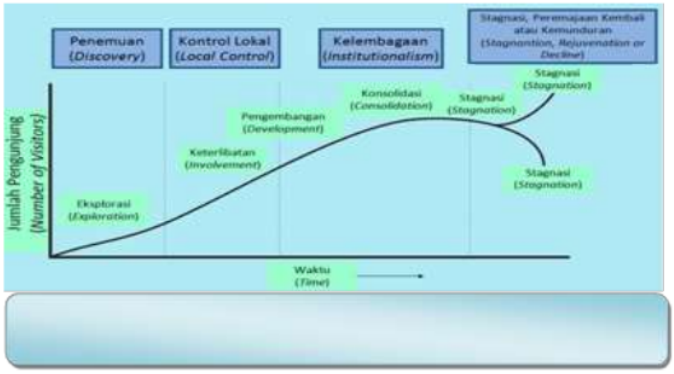

Figure 3. Life Cycle of the tourist area

Source: Director General of Tourism Destination Development

The life cycle model of the tourist area based on an analysis of increasing pressure on the number of visitors to the carrying capacity of the destination. Butler's analysis model is in line with the formulation of Libosada [4] that the carrying capacity of tourist destinations is related to the maximum number of visitors in one space in a specific time. The World Tourism Organization (WTO) formulates carrying capacity as the maximum number of people who can visit tourist destinations without causing physical, economic, and socio-cultural environmental damage [18]. The determination of the carrying capacity varies between tourist destinations. Coccossis and Mexa [19] suggest that for protected areas, carrying capacity is based on the number of tourists, the flow of visits and spatial patterns of visitor distribution or concentration, and the quality of visitor experience.

The author develops the ecotourism life-cycle analysis model in the dimensions of economic growth and resource conservation. Economic growth and resource conservation are directly related to the number of visitors, as shown by the Butler life cycle graph ordinance (Figure 3). This life cycle modification enables the integration of WTP-WTA instrument outputs in the analysis of economic growth and resource conservation. The carrying capacity that is used as a reference for analysis and prediction of life cycle includes three components: ecological, socio-cultural, and economical. This bearing capacity formulation is in line with the formulation of tourism destination management experts, including Nghi et al. [18]. Ecotourism life cycle models in the dimensions of economic growth and conservation (including ecology and socio-culture) are presented in Figure 4.

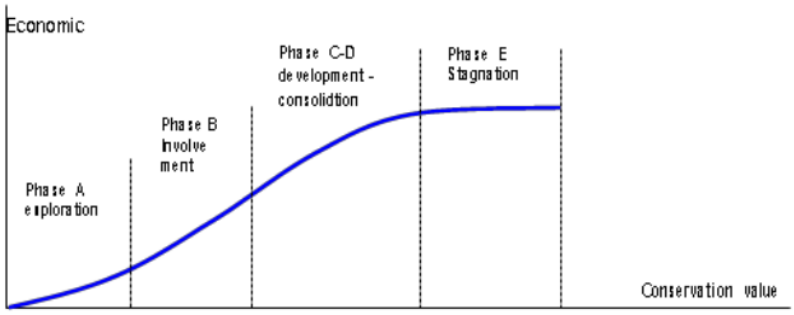

Figure 4. Ecotourism life cycle in the dimensions of economic growth – conservation

The integration of the WTP-WTA instrument output into the life cycle model can control the carrying capacity, in this case, as the limits of change in acceptable destination conditions (restrictions

of acceptable change - LAC). Libosada [4] suggests that LAC is used as a baseline to determine the protection or measure of environmental / resource correction. The indicators of the WTP-WTA instruments are used to analyze problems (on-going problems), corrective actions towards resource conservation, and predictions of achieving optimal utilization limits following the LAC. Columnerity of WTP-WTA vectors shows the synergy of tourist WTP with local community WTA determines the conduct of activities desired by tourists and is accepted by the community with the support of government and tourism businesses. Orientation (vector direction) of WTP and WTA in the resource conservation coordinate system - economic growth will determine the tendency of activities and the impact of events on the sustainable use of resources. Businesses that reinforce resource conservation (physical and socio-cultural) will guarantee the achievement of a more extended optimal utilization period. Even though this instrument was developed for ecotourism, it can be expanded to other resource management by adapting indicators and quantifying their economic value.

3.3. Simulation Results for the Bunaken National Park Destinations

Vector mapping and analysis results of the potential implementation of tourism activities/products. The results of the identification activities that have been carried out and potential to be developed in the Bunaken National Park area relating to conservation and economic improvement include 36 actions (a.l. coral transplantation, cleaning of plastic waste, etc.) The results of the assessment of 24 existing activities describe the existing conditions of WTP and WTA vectors as shown in Figure-5 (red arrows). The simulation results of 36 activities (including 24 existing activities) for which data were obtained from tourists, local residents, government and business actors produced two scenarios. Scenario-1 is shown by the green arrow and blue arrow for scenario-2. The difference between scenario-1 and scenario-2 lies in the factor of government and business actors' support.

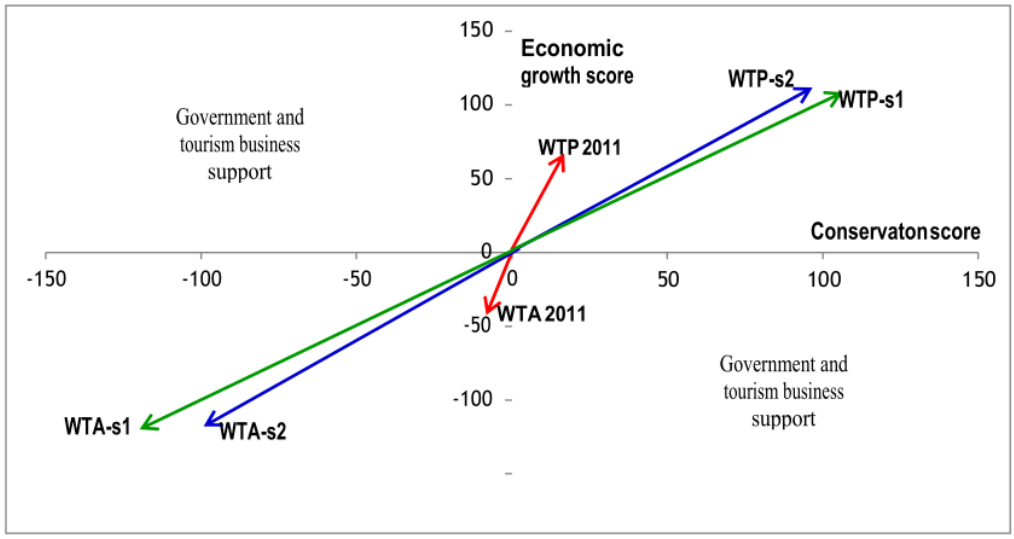

Figure 5. Vector of WTP and WTA in existing conditions, scenario-1, scenario-2

Government and business actors' support for the choice of PAPs activities that provide an increase / strengthen the conservation component is greater in scenario-1 than scenario-2. The results of WTP - WTA vector collinearity testing for existing conditions (2011), scenario-1, and scenario-2 were - 0.89, - 0.94, and -0.96, respectively. The level of WTP-WTA collinear in the existing condition of -0.98 indicates that the interaction of tourists with local communities in the conservation of their resources

and economic growth (local people's income) is good enough, but needs to be improved both through alternative products and activities, as well as support from the government and business actors. The choice of activities desired by tourists and accepted by the community with government and business supported results in a level of correspondence between the PAPs and the WTAs (scenarios 1 and 2), which is higher than the existing conditions. These results indicate that the use of this instrument can increase tourism productivity and guarantee the conservation of natural resources, socio-cultural). The vector mapping results show that scenario-1 is the biggest choice for resource conservation.

Integration of WTP-WTA instrument output into the life cycle of Bunaken National Park. The integration of the WTP-WTP instrument output into the destination life cycle is to determine the position of the destination's existing conditions in the tourist growth phase. Data from observations and evaluations in 2011 showed that the management of Bunaken's goals was in the transition phase C (development) to D (consolidation). In this position, the integration of WTP-WTA data for existing conditions, scenario-1 and scenario-2 results in three life cycle scenarios as in Figure-6

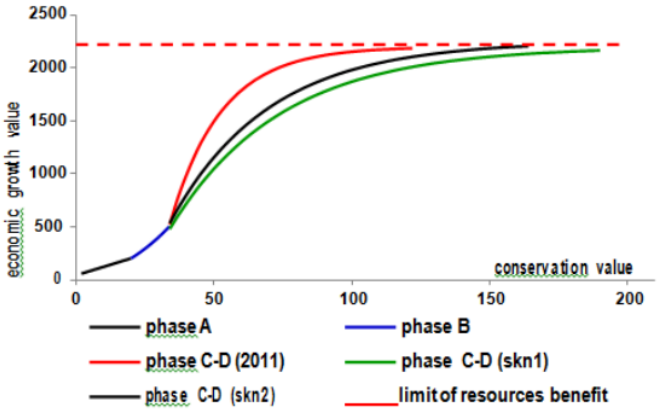

Figure 6. The life cycle of Bunaken National Park in the conservation-economic growth dimension.
Sources: Pangemanan and Medellu

Based on the magnitude and direction of the WTP and WTA vectors, the prediction of the time to achieve optimal utilization of resources for existing conditions, scenario-1 and scenario-2, respectively are 20.8 years. 42.4 years, and 38.1 years after 2011 [5]. This time limit may change depending on the planning and implementation of the design of the PAP activities for the following years. The life cycle graph shows that scenario-1 guarantees that the time to reach the optimal resource utilization limit is longer than scenario-2 and the existing conditions. The results of this simulation shown the WTP-WTA instrument can be used as a reference to determine activities oriented towards the preservation of resources (physical and social culture) that tourists want and are accepted by local communities. This instrument can be developed for indicators and can be applied every year to control the sustainable use of resources.

4. Conclusion

The WTP-WTA analysis instruments can produce a selection of activities and tourism products that tourists want and are accepted by the local community with the support of government and business actors. The choice of activities and products can guarantee the sustainable use of resources by strengthening the principle of conservation. This instrument can be adapted for other resource management that confronts economic interests, and environmental and resource sustainability.

References

[1] Koens J F, Dieperink C and Miranda M 2009 Ecotourism as a development strategy: experiences from Costa Rica *Environ. Dev. Sustain.* **11** 1225
[2] Barkin D 2003 Alleviating poverty through ecotourism: Promises and reality in the Monarch Butterfly Reserve of Mexico *Environ. Dev. Sustain.* **5** 371–82
[3] O'Neill A C 2002 What globalization means for ecotourism: Managing globalization's impacts on ecotourism in developing countries *Indiana J. Glob. Leg. Stud.* 501–28
[4] Libosada Jr C M 2009 Business or leisure? Economic development and resource protection—Concepts and practices in sustainable ecotourism *Ocean Coast. Manag.* **52** 390–4
[5] Pangemanan P A and Ch. M 2015 *WTP-WTA instrument for controlling the tourism destination life-cycle. Paper presented at international conference on Mathematics, Natural Sciences and Education, Manado*
[6] Barkauskiene K and Snieska V 2013 Ecotourism As An Integral Part Of Sustainable Tourism Development. *Econ. Manag.* **18**
[7] Honey M 1999 Ecotourism and sustainable development: who owns paradise *J. Travel Res.* **38** 202–3
[8] Kiss A 2004 Is community-based ecotourism a good use of biodiversity conservation funds? *Trends Ecol. Evol.* **19** 232–7
[9] Handriana T and Ambara R 2016 Responsible environmental behavior intention of travelers on ecotourism sites *Tour. Hosp. Manag.* **22** 135–50
[10] Scheyvens R 1999 Ecotourism and the empowerment of local communities *Tour. Manag.* **20** 245–9
[11] Slinger-Friedman V 2009 Ecotourism in Dominica: studying the potential for economic development, environmental protection and cultural conservation *Isl. Stud. J.* **4** 3
[12] Aly M N, Yuliawan R, Noviyanti U D E, Firdaus A A and Prasetyo A 2019 Public policy and rural tourism development in East Java Province, Indonesia *African J. Hosp. Tour. Leis.* **2019** 1–8
[13] Wunder S 2000 Ecotourism and economic incentives—an empirical approach *Ecol. Econ.* **32** 465–79
[14] Ferraro P J and Simpson R D 2002 The cost-effectiveness of conservation payments *Land Econ.* **78** 339–53
[15] Ferraro P J and Kiss A 2002 Direct payments to conserve biodiversity
[16] Diesendorf M 2000 *Sustainability and sustainable development', in Dunphy, D, Benveniste, J, Griffiths, A and Sutton, P (eds) Sustainability: The corporate challenge of the 21st century, Sydney: Allen &Unwin* vol 2
[17] Stefanica M and Vlavian-Gurmeza M 2010 Ecotourism–model of sustainable tourist development *Stud. Sci. Res. Econ. Ed.*
[18] Tran N, Nguyen T L, Nguyen D T, Dang M and Dinh X T 2007 Tourism carrying capacity assessment for Phong Nha-Ke Bang and Dong Hoi, Quang Binh Province
[19] Coccossis H and Mexa A 2002 *Defining, measuring and evaluating carrying capacity in European tourism destination* (University of Aegen, Athen)

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