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Effect of Environmental Education on Ecotourism: Evidence from Jakarta

Desy Safitri[1,3], Haswan Yunaz[2,4], Umasih[1,5], Arita Marini[1,6], Apri Wahyudi[1,7]
[1]*Universitas Negeri Jakarta, Indonesia*
[2]*Institut Bisnis dan Informatika Kosgoro 1957, Indonesia*
[3]*desysafitri@unj.ac.id,* [4]*hazwan.yunaz@ibi-k57.ac.id,* [5]*umasih@unj.ac.id,*
[6]*aritamarini@unj.ac.id,* [7]*apriwahyudi stitpringsewu@gmail.com*

Abstract

The purpose of this study is to present a model to improve ecotourism through environmental education. This model shows that ecotourism can be increased by satisfying natural curiosity of individuals, enhancing environmental awareness, and strengthening visitor's pro-conservation values. Data were collected from 1077 tourists having visited to Ragunan Zoo in South Jakarta, Setu Babakan in South Jakarta, Jaya Ancol Dreamland in North Jakarta, Suropati Garden in Central Jakarta, Ria-Rio Reservoir City Park in East Jakarta, Muara Karang Mangrove Forest in North Jakarta, Taman Mini Indonesia Indah (TMII) in East Jakarta, Indraloka Park in East Jakarta, and Kalijodo Park in North Jakarta in the province of DKI Jakarta. Data were analyzed using the structural equation model (SEM). Result of this study confirmed a positive association between environmental education and the five dimensions of ecotourism, namely, natural basis, preservation/conservation, sustainability, benefits to locals, and awareness. Findings also confirmed that satisfying natural curiosity of individuals, enhancing environmental awareness, and strengthening visitor's pro-conservation values are positively related to environmental education.

Keywords*: environmental education, ecotourism, preservation/conservation, environmental awareness*

1. Introduction

Jakarta as the capital city of Indonesia has to have competitive advantage as service city in global competitive era through regional tourism. Tourism in Jakarta is an activity having strategic function to move all potencies to be mutual supporting, developing, and contributing in improving economic growth and equity for community welfares. Regional tourism development in Jakarta is multidimensional led to involve and empower human resources, natural and cultural resources usage, science and technology, cross-sector cooperation, empowering small businesses and cooperation between global cities.

In accordance with facing the growth of the tourist number coming to Jakarta, its competitiveness has to be improved by managing tourism resources systematically, responsibly, and sustainably. According to Jakarta Open Data (2018), the number of overseas and Indonesian tourists coming to Jakarta in 2013 reached 2,313,792 and 26,156,467; in 2014 reached 2,319,295 and 26,994,509; in 2015 reached 2,377,226 and 30,512,989; in 2016 reached 2,512,005 and 32,673,965; and in 2017 reached 2,658,055 and 35,464,110, respectively. There were increasing growth of overseas and Indonesiantourists coming to Jakarta from 2013 to 2014 reaching 0.24 % and 3.20 %, from 2014 to 2015 reaching 2.50 % and 13.03 %, from 2015 to 2016 reaching 5.67 % and 7.08 %, from 2016 to 2017 reaching 5.81 % and 8.54 %, respectively. The tourism has to be controlled to maintain local assets being tourism attractiveness and preventnegative impact to local communities.

According to regulation of DKI Jakarta Governor No. 6 in 2015 about Tourism, tourists in Jakarta have to maintain natural environmental conservation, tourism attractiveness, religious norms, customs, culture, values existing in local societies. Tourism in Jakarta has to be conducted based on the principles consisting of upholding religious norm and cultural values to realize relation between human and God, humans, human and environment, upholding cultural variety and local wisdom, maintaining nature and living environment, empowering communities, and obeying tourism ethical codes. Tourists must maintain and conserve tourism

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attractiveness and destination, take care of naturally environmental sustainability and regional culture, help to create safe and clean atmosphere, behave politely, respect religious norms, customs, culture, and values existing in local communities. Tourists are prohibited to destroy tourism attractiveness physically, pollute the environment, and change the color and shape of the environment so that uniqueness, beauty, and authentic values of tourism attractiveness will not be lost.

Accomplishment of ecotourism cannot be done without proper environmental education (Arsenijevic, M. & Bohanec, 2014).Ecotourism is connected with advantages maintained at a certain level to local communities (Donohoe& Needham, 2006; Wang, Zhong, Zhang, & Zhou, 2014; Sarmiento, Romero, Roman, & Martin, 2018). Ecotourism make possible environmental preservation of nature and culture (Safitri, 2017; Safitri & Putra, 2018; Jalani, 2012; Kara, Deniz, Kilicaslan, & Polat, 2011; Sarmiento, Romero, Roman, & Martin, 2018; Yovo, Vodouhe, Assogbadjo, & Sinsin, 2017; Tisca, Istrat, Dumitrescu, & Cornu, 2016).Environmental education may be predicted by satisfying natural curiosity of individuals, enhancing environmental awareness, and strengthening visitor's pro-conservation values (Arsenijevic & Bohanec, 2014; Soykan, 2008). However, there was less detail explanation about sub-aspects of ecotourism.

This survey was carried out for tourists having come to tourist destinations consisting of Ragunan, Setu Babakan, Jaya Ancol Dreamland, Suropati Garden, Ria-Rio Reservoir City Park, Muara Karang Mangrove Forest, Taman Mini Indonesia Indah (TMII), Indraloka Park, and Kalijodo Park in the province of DKI Jakarta.

Ragunan Zoo as the third oldest Zoo in the world and the second largest zoo in the world with the most diverse animals and plants population is a 140-hectare zoo in Pasar Minggu, South Jakarta, Indonesia. Ragunan Zoo with a total of 3,122 animal specimens has an aviary and primate centre, endangered and threatened animals from all parts of Indonesia and the rest of the world, and rare animals such as crocodile, gorilla, orangutan, tapir, anoa, Sumatran tiger, babirusa, and peacocks.

Setu Babakan with an area of 32 hectaresis located in Srengseng Swawah, Jagakarsa districts, South Jakarta, Indonesia. Setu Babakan called "Betawi Cultural Village" is a heritage area for the tribe Betawi. A variety of Betawi Cultural Arts performance, Cokek dance, Topeng dance, Marawis, Gambus art, Lenong, Tanjidor, Gambang Kromong, Ondel-Ondel, and the procession of Betawi Cultural such as wedding ceremonies, sunat, and silat Betawi as a symbol of Jakarta is presented in this place.

Jaya Ancol Dreamland as Jakarta's largest and most popular recreation park is located in North Jakarta, Indonesia. Jaya Ancol Dreamland built on reclaimed beach land at the Bay of Jakarta has Sea World, Fantasy world, Atlantis Water Advanture, Marina Beach, sea and freshwater aquariums, swimming pools, an artificial lagoon for fishing, boating, a golf course, drive-in theater, art market or "Pasar Seni" with a varied collection of Indonesian handicraft, paintings, and souvenirs.

Suropati Garden surrounded with a busy street, some high and lush trees, and good arrangement of the park is located in Menteng, Central Jakarta, Indonesia. This place is so nice and quite place to do exercise and to enjoy the freshness of the airequipped with stones seats, pigeons, fortune-teller entertainment, yoga attraction, and Wi-Fi facility.

Ria-Rio Reservoir City Park having a view of Ria Rio reservoir with an area of 26 hectares is located in Pedongkelan village, East Jakarta, Indonesia. This place is used to collect rainwater and domestic wastewater, water balance to prevent flood, water and wetland tourism destination.

Muara Angke Mangrove Forest as a protected nature conservation area of 25.02 hectares is located on the north coast of Jakarta. In this place, there are 30 plant species and 11 of them are three species in the mangrove forest including the mangroves, fires, pidada, and the blind wood.

Taman Mini Indonesia Indah (TMII) as a synopsis of Indonesian culture consisting of 26 exclusive replicas of traditional house from Aceh to Kalimantan, Sulawesi, Java, and Papua is located in East Jakarta. In this place, there are pavilions displaying Indonesian vernacular architecture, arts and crafts, traditions of each province, cable cars, museums, Keong Emas Imax cinema, the Theatre of my Homeland, and other recreational facilities leading to TMII as one of the most popular tourist destinations in Indonesia.

Indraloka Park as a beautiful garden with animals like deer, bangau, peacock and many exotic chickens, in door waterpark, semi Olympic pool, mini zoo, and amazing panoramic view is located in East Jakarta.

Kalijodo Park as a newly inaugurated urban park having a land area of 3.4 hectares is located in North Jakarta. In Indonesian, kali means "river" and jodo means "mate" or "soulmate". In this park, there are a green park, a playground, an indoor football court, an amphitheater, an international standard skate park, mosque, and food court.

2. Literature Review

Ecotourism pays particular attention to foster environmental understanding, restoration of the natural environment, and natural ecosystems (Arsenijevic, M. & Bohanec, 2014). This study found that environmental education having to be satisfied in order to accomplish ecotourism and the key step towards the process of knowledgeably aware of the natural ecosystems. Ecotourism cannot be attained without appropriate environmental education. In this research, few detail explanations about sub-dimensions of environmental education and ecotourism existed.

Donohoe& Needham (2006) found that ecotourism is related to natural basis identified by healthy ecosystems, preservation/conservation related to implement it into management plan, sustainable advancement related to keep ecological integrity, sustainable benefits to local communities associated with maximizing short and long term advantages for locals, local contribution in decision making, and awareness connected with ecological principles to make decisions.In this study, there were few detail explanations about indicators of ecotourism.

Tourism activities were done without environmental destruction based on ecotourism (Safitri, 2017; Safitri & Putra, 2018; Jalani, 2012; Kara, Deniz, Kilicaslan, & Polat, 2011; Sarmiento, Romero, Roman, & Martin, 2018; Yovo, Vodouhe, Assogbadjo, & Sinsin, 2017). In this study, it was discovered that ecotourism enabled environmental conservation of nature and culture, paid particular attention to environmental responsibility, assured sustainability of the ecosystems,promoted a greater recognition of natural habitats, associated with potential uniqueness, and actively encouragedenvironmental, cultural, and economic advantages to local people. Wang, Zhong, Zhang, & Zhou (2014); Sarmiento, Romero, Roman, & Martin (2018) noted that ecotourism merges eagerness for travel with the quality of holding the attention to natural preservation and it is associated with the ideas of sustainability, conservation, and participation of the local community. This study found that in supporting sustainable use of resources and preserving ecotourism environment, it is important to create environmental protection and policies and practices. Tisca, Istrat, Dumitrescu, & Cornu (2016) stated that ecotourism is the most important of sustainable tourism consisting of caring of the environment, conserving Earth's ecosystem, and establishing possibilities for communities to conserve its environment. However, few explanations about sub-aspects of the ecotourism were described.

Environmental education may be estimated by satisfying natural curiosity of individuals, enhancing environmental awareness, and strengthening visitor's pro-conservation values (Arsenijevic & Bohanec, 2014; Soykan, 2008). It was noted that environmental education could improve environmental awareness of participants and better comprehension of environmental problems, and make alternative solution in order to cause a sustainable environment in the future. However, in these studies, there were few explanations about the indicators of the environmental education dimensions.

In achieving the goal of this research, the following hypothesis were tested:

- *H1.* Satisfying natural curiosity of individuals is positively associated with environmental education
- *H2.* Enhancing environmental awareness is positively associated with environmental education
- *H3.* Strengthening visitor's pro-conservation values is positively associated with environmental education
- *H4.* Knowledge improvement of the tourists about nature is positively associated with satisfying natural curiosity of individuals
- *H5.* Positive attitude toward environment is positively associated with satisfying natural curiosity of individuals
- *H6.* Skill improvement about environment is positively associated with satisfying natural curiosity of individuals
- *H7.* Environmental curiosity met is positively associated with satisfying natural curiosity of individuals
- *H8.* Awareness improvement of the tourists to take care the environments well is positively associated with enhancing environmental awareness
- *H9.* Awareness improvement of the tourists not to destroy the environmentsis positively associated with enhancing environmental awareness
- *H10.* Awareness improvement of the tourists not to use the environments excessivelyis positively associated with enhancing environmental awareness
- *H11.* Awareness improvement of the tourists to take care the cleanliness of the environmentsis positively associated with enhancing environmental awareness

H12. Maintaining existing environmental values is positively associated with strengthening visitor's pro-conservation values
H13. Responsibility of environmental management is positively associated with strengthening visitor's pro-conservation values
H14. Managing environment suitable with regulation established is positively associated with strengthening visitor's pro-conservation values
H15. Using environment on the basis of conservation values is positively associated with strengthening visitor's pro-conservation values
H16. Natural basis is positively associated with ecotourism
H17. Preservation/conservation is positively associated with ecotourism
H18. Sustainability is positively associated with ecotourism
H19. Benefits to locals is positively associated with ecotourism
H20. Awareness is positively associated with ecotourism
H21. Tourism activities with environmental horizon is positively associated with natural basis
H22. Tourists coming not destroying environment is positively associated with natural basis
H23. Tourists coming loving the environments is positively associated with natural basis
H24. Tourists coming respecting the environments are positively associated with natural basis
H25. Tourists coming guaranteeing the benefits of flora and faunais positively associated with preservation/conservation
H26. Tourists coming maintaining environmental harmony responsiblyis positively associated with preservation/conservation
H27. Tourists coming using natural environments not excessivelyis preservation/conservation
H28. Tourists coming not writing off tourism placeis positively associated with preservation/conservation
H29. Tourists coming preventing negative impact of their activities in tourism placeis positively associated with living in harmony with sustainability
H30. Tourists coming maintaining environmental balanceis positively associated with living in harmony with friends of sustainability
H31. Tourists coming participating in natural conservation is positively associated with living in harmony with friends of sustainability
H32. Tourists coming maintaining natural sanctuary is positively associated with living in harmony with friends of sustainability
H33. Tourist activities having committed to local society welfare is positively associated with benefits to locals
H34. Tourist activities not destroying local society original culture is positively associated with benefits to locals
H35. Tourist activities giving opportunities for society to get financial benefits is positively associated with benefits to locals
H36. Tourists activities suited with local society characters is positively associated with benefits to locals
H37. Tourist activities diminishing environmental destruction in tourism location is positively associated with awareness
H38. Tourist activities not polluting the environments is positively associated with awareness
H39. Tourist activities not using water excessively is positively associated with awareness
H40. Tourist activities maintaining environmental cleanliness is positively associated with awareness
H41. Environmental education is positively associated with ecotourism

Theoretical framework

This research argues that environmental education is predictive variable for ecotourism.Natural basis, preservation/conservation, sustainability, benefits to locals, and awareness may assist to determine ecotourism (Donohoe& Needham, 2006). Environmental education may be predicted by satisfying natural curiosity of individuals, enhancing environmental awareness, and strengthening visitor's pro-conservation values

(Arsenijevic & Bohanec, 2014). The summary ofrelationships hypothesized is depicted in the form of a model shown in figure 1.

3. Research Design

Survey research was adopted in this study. The questionnaire gathered data from 1077 tourists having come to Ragunan Zoo, Setu Babakan, Ancol, Suropati garden, Ria-Rio reservoir city park, Muara Karang Mangrove forest, Taman Mini Indonesia Indah (TMII), Indraloka Park, and Kalijodo Park in the province of DKI Jakarta. Data collected were related to environmental education as the exogenous variable and ecotourism as the endogenous variable in this research.

The researcher conducted content analysis of the literature for environmental education based on Arsenijevic & Bohanec (2014) consisting of three aspects ["satisfying natural curiousity of individuals", "enhancing environmental awareness", and "strengthening visitor's pro-conservation values"], and ecotourism based on Donohoe& Needham (2006), which had five dimensions ["natural basis", "preservation/conservation", "sustainability", "benefits to locals", and "awareness"]. The conversion of these ideals was done into the questionnaire distributed to 1077 participants.

The questions regardingenvironmental education consisted of three dimensions: satisfying natural curiosity of individuals, enhancing environmental awareness, and strengthening visitor's pro-conservation values. The satisfying natural curiosity of individualsdimension consists of four indicators (knowledge improvement of the tourists about nature, positive attitude toward environment, skill improvement about environment, and environmental curiosity met). Enhancing environmental awarenessconsists of four indicators (awareness improvement of the tourists to take care the environments well, awareness improvement of the tourists not to destroy the environments, awareness improvement of the tourists not to use the environments excessively, and awareness improvement of the tourists to take care the cleanliness of the environments). The strengthening visitor's pro-conservation valuesdimension consists of four indicators (maintaining existing environmental values, responsibility of environmental management, managing environment suitable with regulation established, and using environment on the basis of conservation values).

The questions regardingecotourism consisted of the following five dimensions:natural basis, preservation/conservation, sustainability, benefits to locals, and awareness.Thenatural basisconsists of four indicators (tourism activities with environmental horizon, tourists coming not destroying environment, tourists coming loving the environments, and tourists coming respecting the environments). The preservation/conservationdimension consists of four indicators (tourists coming guaranteeing the benefits of flora and fauna, tourists coming maintaining environmental harmony responsibly, tourists coming using natural environments not excessively, and tourists coming not writing off tourism place). Thesustainabilitydimension consists of four indicators (tourists coming preventing negative impact of their activities in tourism place, tourists coming maintaining environmental balance, tourists coming participating in natural conservation, and tourists coming maintaining natural sanctuary). The benefits to local dimension consist of four indicators (tourist activities having committed to local society welfare, tourist activities not destroying local society original culture, tourist activities giving opportunities for society to get financial benefits, and tourists activities suited with local society characters). The awareness dimension consists of four indicators (tourist activities diminishing environmental destruction in tourism location, tourist activities not polluting the environments, tourist activities not using water excessively, and tourist activities maintaining environmental cleanliness).

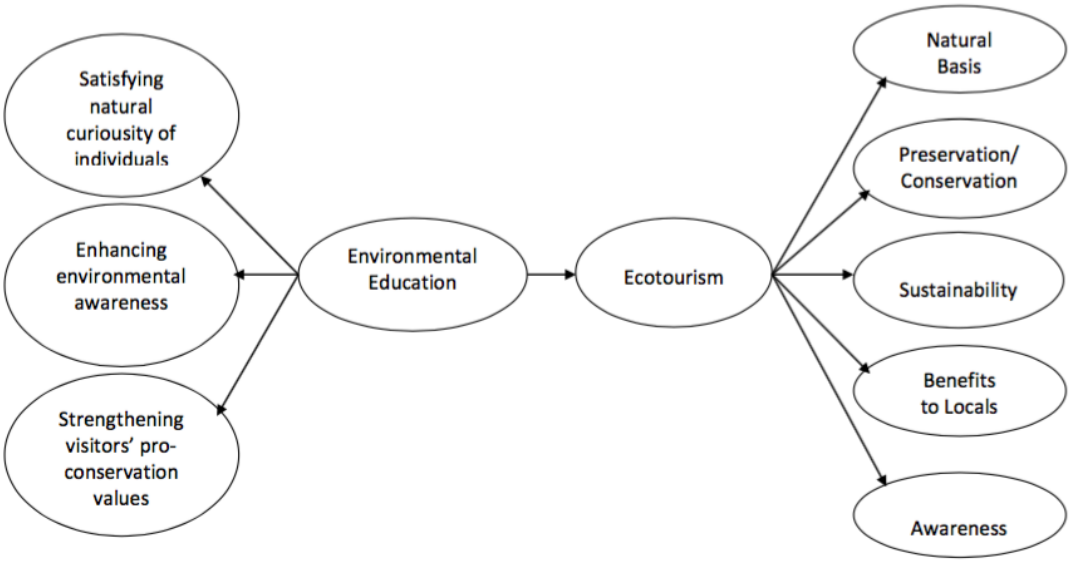

Figure 1. Theoretical framework of the study

Data were analyzed with the structural equation model (SEM) using IBM SPSS Statistics 24 and SPSS AMOS 24 with 2017 Edition. Itwas used to examine the set of relationships between environmental education as the exogenous variable and ecotourism as the endogenous variable. Data input was performed using Excel by entering the scores of each item on the basis of1077 participant responses with "strongly agree", "agree", "neutral", "disagree", and "strongly disagree"(scored 5, 4, 3, 2, and 1,respectively, for positive questions and 1, 2, 3, 4, and 5, respectively, for negative questions).

Findings

It can be seen the goodness-of-fit statistical analysis results in Table I. The root mean square error of approximation (RMSEA) as an indicator of the informative fit of the model shown in Table 1 was 0.046.

Table I. Model Fit Summary

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	0.046	0.043	0.049	0.994
Independence model	0.127	0.125	0.129	0.000

Table II showeda measurement model test of the observed variables that the correlation coefficients between satisfying natural curiosity of individuals, enhancing environmental awareness, strengthening visitor's pro-conservation values and environmental education were 0.616, 0.921, and 0.754, respectively. These values weresignificant at the 0.05 levels according to the *t* statistics. Knowledge improvement of the tourists about nature, positive attitude toward environment, skill improvement about environment, and environmental curiosity met as observed variableshad correlation coefficientswith satisfying natural curiosity of individualsof 0.622, 0.542, 0.702, and 0.542, respectively. These values were significant at the 0.05 level on the basis ofthe *t* statistics. Awareness improvement of the tourists to take care the environments well, awareness improvement of the tourists not to destroy the environments, awareness improvement of the tourists not to use the environments excessively, and awareness improvement of the tourists to take care the cleanliness of the environments as observed variables had correlation coefficients with enhancing environmental awareness of 0.633, 0.698, 0,646, and 0.699, respectively. These values were significant at the 0.05 level based on the *t* statistics. Maintaining existing environmental values, responsibility of environmental management, managing environment suitable with regulation established, and using environment on the basis of conservation values as observed variables had correlation coefficients with strengthening visitor's pro-conservation values of 0.641, 0.664, 0.705, and 0.612, respectively.These values were significant at the 0.05 level based on the *t* statistics.

It can ben seen in Table IIthat natural basis, preservation/conservation, sustainability, benefits to locals, and awareness as observed variables were correlated with ecotourism with coefficientsof 0.773, 0.957, 0.944, 0.600, and 0.778, respectively. These values were significant at the 0.05 level based on the *t* statistics.Tourism activities with environmental horizon, tourists coming not destroying environment, tourists coming loving the environments, and tourists coming respecting the environmentshad a relationship with natural basis with significant correlation coefficients of 0.236, 0.678, 0.807, and 0.801, respectively, at the 0.05 significance level. Tourists coming guaranteeing the benefits of flora and fauna, tourists coming maintaining environmental harmony responsibly, tourists coming using natural environments not excessively, and tourists coming not writing off tourism placehad correlations with preservation/conservation with significant coefficients of 0.521, 0.631, 0.332, and 0.525, respectively, at the 0.05 significance level. Tourists coming preventing negative impact of their activities in tourism place, tourists coming maintaining environmental balance, tourists coming participating in natural conservation, and tourists coming maintaining natural sanctuary as observed variables was positively associated with sustainability with significant coefficients of 0.527, 0.681, 0.672, and 0.493, respectively, at the 0.05 significance level. Tourist activities having committed to local society welfare, tourist activities not destroying local society original culture, tourist activities giving opportunities for society to get financial benefits, and tourists activities suited with local society characters as observed variables was positively correlated with benefits to locals with coefficients of 0.543, 0.522, 0.336, and 0.431, respectively, at the 0.05 significance level. Tourist activities diminishing environmental destruction in tourism, tourist activities not polluting the environments, tourist activities not using water excessively, and tourist activities maintaining environmental cleanliness as observed variables was correlated positively with awareness with coefficient of 0.527, 0.762, 0.581, and 0.704, respectively, at the 0.05 significance level. It can be seen the structural model test in Table II showing a direct effect of environmental education on ecotourism with a coefficient of 0.322, which issignificant at the 0.05 levels. It can be seen the structural model in Figure 2.

Table II. Measurement model test

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
ECT	<---	EED	0.453	0.070	6.498	***	
EEA	<---	EED	2.019	0.204	9.905	***	
SNCI	<---	EED	1.000				
SVPV	<---	EED	1.375	0.140	9.854	***	
PC	<---	ECT	1.159	0.101	11.421	***	
ST	<---	ECT	1.094	0.096	11.454	***	
BL	<---	ECT	0.747	0.082	9.095	***	
AW	<---	ECT	1.000				
NB	<---	ECT	0.415	0.064	6.458	***	
EC1	<---	NB	1.000				
EC2	<---	NB	3.180	0.451	7.055	***	
EC3	<---	NB	3.255	0.454	7.170	***	
EC4	<---	NB	3.205	0.447	7.166	***	
EC5	<---	PC	1.000				
EC6	<---	PC	1.128	0.081	14.001	***	
EC7	<---	PC	0.604	0.068	8.904	***	
EC8	<---	PC	1.099	0.088	12.537	***	
EC9	<---	ST	1.000				
EC10	<---	ST	1.260	0.084	14.915	***	
EC11	<---	ST	1.306	0.088	14.808	***	
EC12	<---	ST	0.972	0.079	12.240	***	
EC13	<---	BL	1.000				
EC14	<---	BL	1.065	0.110	9.663	***	

			Estimate	S.E.	C.R.	P	Label
EC15	<---	BL	0.647	0.087	7.468	***	
EC16	<---	BL	0.819	0.093	8.809	***	
EC17	<---	AW	1.000				
EC18	<---	AW	1.428	0.093	15.428	***	
EC19	<---	AW	1.029	0.076	13.473	***	
EC20	<---	AW	1.359	0.091	14.943	***	
EE8	<---	EEA	1.000				
EE7	<---	EEA	0.884	0.050	17.722	***	
EE6	<---	EEA	1.008	0.054	18.839	***	
EE5	<---	EEA	0.887	0.051	17.444	***	
EE4	<---	SNCI	1.000				
EE3	<---	SNCI	1.291	0.094	13.754	***	
EE2	<---	SNCI	0.994	0.082	12.196	***	
EE1	<---	SNCI	1.160	0.088	13.158	***	
EE12	<---	SVPV	1.000				
EE11	<---	SVPV	1.225	0.074	16.597	***	
EE10	<---	SVPV	1.152	0.072	16.032	***	
EE9	<---	SVPV	1.046	0.067	15.686	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
ECT	<---	EED	0.322
EEA	<---	EED	0.921
SNCI	<---	EED	0.616
SVPV	<---	EED	0.754
PC	<---	ECT	0.957
ST	<---	ECT	0.944
BL	<---	ECT	0.600
AW	<---	ECT	0.778
NB	<---	ECT	0.773
EC1	<---	NB	0.236
EC2	<---	NB	0.678
EC3	<---	NB	0.807
EC4	<---	NB	0.801
EC5	<---	PC	0.521
EC6	<---	PC	0.631
EC7	<---	PC	0.332
EC8	<---	PC	0.525
EC9	<---	ST	0.527
EC10	<---	ST	0.681
EC11	<---	ST	0.672
EC12	<---	ST	0.493
EC13	<---	BL	0.543
EC14	<---	BL	0.522
EC15	<---	BL	0.336
EC16	<---	BL	0.431
EC17	<---	AW	0.527

			Estimate
EC18	<---	AW	0.762
EC19	<---	AW	0.581
EC20	<---	AW	0.704
EE8	<---	EEA	0.699
EE7	<---	EEA	0.646
EE6	<---	EEA	0.698
EE5	<---	EEA	0.633
EE4	<---	SNCI	0.542
EE3	<---	SNCI	0.702
EE2	<---	SNCI	0.542
EE1	<---	SNCI	0.622
EE12	<---	SVPV	0.612
EE11	<---	SVPV	0.705
EE10	<---	SVPV	0.664
EE9	<---	SVPV	0.641

Notes:
EED = Environmental education
ECT = Ecotourism
SNCI = Satisfying natural curiosity of individuals
EEA = Enhancing environmental awareness
SVPV = Strengthening visitor's pro-conservation values
NB = Natural basis
PC = Preservation/conservation
ST = Sustainability
BL = Benefits to locals
AW = Environmental awareness
EE1 = Knowledge improvement of the tourists about nature
EE2 = Positive attitude toward environment
EE3 = Skill improvement about environment
EE4 = Environmental curiosity met
EE5 = Awareness improvement of the tourists to take care the environments well
EE6 = Awareness improvement of the tourists not to destroy the environments
EE7 = Awareness improvement of the tourists not to use the environments excessively
EE8 = Awareness improvement of the tourists to take care the cleanliness of the environments
EE9 = Maintaining existing environmental values
EE10 = Responsibility of environmental management
EE11 = Managing environment suitable with regulation established
EE12 = Using environment on the basis of conservation values
EC1 = Tourism activities with environmental horizon
EC2 = Tourists coming not destroying environment
EC3 = Tourists coming loving the environments
EC4 = Tourists coming respecting the environments
EC5 = Tourists coming guaranteeing the benefits of flora and fauna
EC6 = Tourists coming maintaining environmental harmony responsibly
EC7 = Tourists coming using natural environments not excessively
EC8 = Tourists coming not writing off tourism place
EC9 = Tourists coming preventing negative impact of their activities
EC10 = Tourists coming maintaining environmental balance
EC11 = Tourists coming participating in natural conservation
EC12 = Tourists coming maintaining natural sanctuary

EC13 = Tourist activities having committed to local society welfare
EC14 = Tourist activities not destroying local society original culture
EC15 = Tourist activities giving opportunities for society to get financial benefits
EC16 = Tourists activities suited with local society characters
EC17 = Tourist activities diminishing environmental destruction in tourism location
EC18 = Tourist activities not polluting the environments
EC19 = Tourist activities not using water excessively
EC20 = Tourist activities maintaining environmental cleanliness

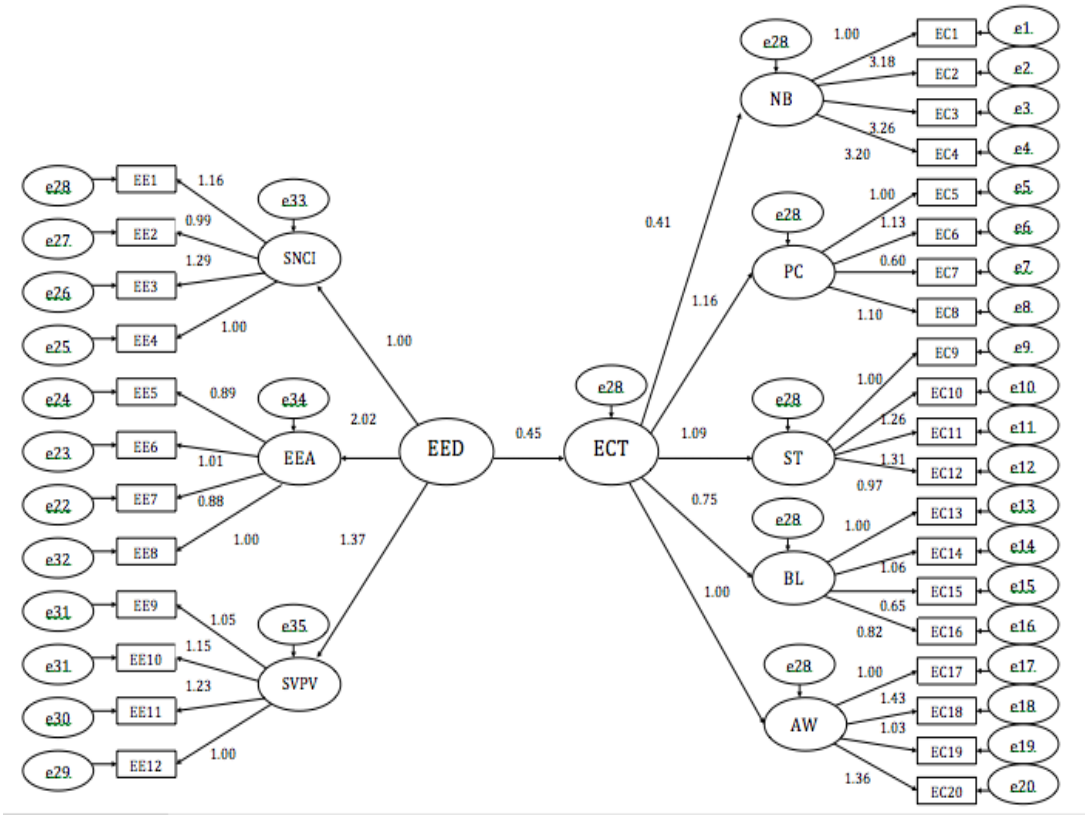

Figure 2. The structural model

Discussions

It can be seen in Table 1 that the value of RMSEAreached 0.046, which was less than 0.08. The valueof RMSEA indicated that the model hypothesized was a good fit for the data of this study.

Table II showed that satisfying natural curiosity of individuals, enhancing environmental awareness, and strengthening visitor's pro-conservation valueshad a positive relationship with environmental educationas exogenous variableswith correlation coefficients of0.616, 0.921, and 0.754, respectively, which were significant at the 0.05 levels according to the *t* statistics. Enhancing environmental awareness was most strongly correlated with environmental education, whereas satisfying natural curiosity of individuals had the weakest positive association with environmental education. This result is similar to that ofthe study of Arsenijevic & Bohanec (2014), which claimed that satisfying natural curiosity of individuals, enhancing environmental awareness, and strengthening visitor's pro-conservation valuespredicted environmental education.

Knowledge improvement of the tourists about nature, positive attitude toward environment, skill improvement about environment, and environmental curiosity met as observed variableshad a positive relationship with satisfying natural curiosity of individualswith correlation coefficients of 0.622, 0.542, 0.702, and 0.542, respectively, which were significant at the 0.05 level according to the*t* statistics.Awareness improvement of the tourists to take care the environments well, awareness improvement of the tourists not to destroy the environments, awareness improvement of the tourists not to use the environments excessively, awareness improvement of the tourists to take care the cleanliness of the environments as observed variables were positively associated with enhancing environmental awareness of 0.633, 0.698, 0,646, and 0.699,

respectively, which were significant at the 0.05 level based on the *t* statistics. Maintaining existing environmental values, responsibility of environmental management, Managing environment suitable with regulation established, and using environment on the basis of conservation values as observed variables were positively associated with strengthening visitor's pro-conservation values of 0.641, 0.664, 0.705, and 0.612, respectively, which were significant at the 0.05 level based on the *t* statistics.In line with the study of Arsenijevic & Bohanec (2014), environmental education is related to raise the environmental awareness and educate public to manage their behavior and ecosystems in the purpose of sustainable living.

It can be seen in Table IInatural basis, preservation/conservation, sustainability, benefits to locals, and awareness were positively correlated with ecotourism with coefficientsof 0.773, 0.957, 0.944, 0.600, and 0.778, respectively, which were significant at the 0.05 level based on the *t* statistics.Preservation/conservation had the strongest positive correlation with ecotourism. Benefits to locals had the weakest positive correlation with ecotourism. Similarly, Donohoe& Needham (2006) stated that natural basis, preservation/conservation, sustainability, benefits to locals, and awareness may promote ecotourism.

Tourism activities with environmental horizon, tourists coming not destroying environment, tourists coming loving the environments, and tourists coming respecting the environmentshad positive relationships with natural basis with coefficients of 0.236, 0.678, 0.807, and 0.801, respectively, at the 0.05 significance level. Tourists coming guaranteeing the benefits of flora and fauna, tourists coming maintaining environmental harmony responsibly, tourists coming using natural environments not excessively, and tourists coming not writing off tourism placehad positive correlations with preservation/conservation with coefficients of 0.521, 0.631, 0.332, and 0.525, respectively, at the 0.05 significance level. Tourists coming preventing negative impact of their activities in tourism place, tourists coming maintaining environmental balance, tourists coming participating in natural conservation, and tourists coming maintaining natural sanctuaryhad positive correlations with sustainability with coefficients of 0.527, 0.681, 0.672, and 0.493, respectively, at the 0.05 significance level. Tourist activities having committed to local society welfare, tourist activities not destroying local society original culture, tourist activities giving opportunities for society to get financial benefits, and tourists activities suited with local society characters had positive correlations with benefits to locals with coefficients of 0.543, 0.522, 0.336, and 0.431, respectively, at the 0.05 significance level. Tourist activities diminishing environmental destruction in tourism, tourist activities not polluting the environments, tourist activities not using water excessively, and tourist activities maintaining environmental cleanliness as observed variables had positive correlations with awareness with coefficient of 0.527, 0.762, 0.581, and 0.704, respectively, at the 0.05 significance levels.This finding is similar to the finding of the study of Arsenijevic, & Bohanec (2014) concluding that ecotourism pays attention to undergo natural areas stimulating environmental and cultural understanding, consciousness, preservation, and make tourism more environmental hospitable.Similarly, Donohoe& Needham (2006) found that natural basis is associated with activity happening mainly in nature, preservation/conservation connected with maintaining and enhancing the ecosystems, sustainability has reference to integrate conservation, benefits to locals are concerned with developing the level of life quality for local people, and awareness has connections with considering the importance of ethics on the basis of business and action.

A direct effect of environmental education on ecotourismwas found with a coefficient 0.478 and significance at the 0.05 levels. This result was in line with the findings of the study of Arsenijevic, & Bohanec (2014),which stated that proper environmental education could influence the ecotourism quality achieved.

4. Conclusion

An evidence-based model for the growth of ecotourism is offered by this research. Environmental education can influenceecotourism. Satisfying natural curiosity of individuals, enhancing environmental awareness, and strengthening visitor's pro-conservation values stimulate environmental education. Satisfying natural curiosity of individuals can be encouraged by knowledge improvement of the tourists about nature, positive attitude toward environment, skill improvement about environment, and environmental curiosity. Awareness improvement of the tourists to take care the environments well, awareness improvement of the tourists not to destroy the environments, awareness improvement of the tourists not to use the environments excessively, and awareness improvement of the tourists to take care the cleanliness of the environmentscan measure enhancing environmental awareness. Maintaining existing environmental values, responsibility of environmental management, managing environment suitable with regulation established, and using environment on the basis of conservation valuescontribute to strengthening visitor's pro-conservation values

Natural basis, preservation/conservation, sustainability, benefits to locals, and awareness reinforceecotourism. Natural basis is determined by tourism activities with environmental horizon, tourists coming not destroying environment, tourists coming loving the environments, and tourists coming respecting the environments. Preservation/conservation is encouraged by tourists coming guaranteeing the benefits of flora and fauna, tourists coming maintaining environmental harmony responsibly, tourists coming using natural environments not excessively, and tourists coming not writing off tourism place. Tourists coming preventing negative impact of their activities in tourism place, tourists coming maintaining environmental balance, tourists coming participating in natural conservation, and tourists coming maintaining natural sanctuaryinfluence sustainability. Tourist activities having committed to local society welfare, tourist activities not destroying local society original culture, tourist activities giving opportunities for society to get financial benefits, and tourist activities suited with local society characters affectbenefits to locals. Tourist activities diminishing environmental destruction in tourism, tourist activities not polluting the environments, tourist activities not using water excessively, and tourist activities maintaining environmental cleanliness stimulateawareness.

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