The Relationship Between Pro-Environmental Awareness and Behavior of Local People in Developing Community-Based Tourism: A Case in The Mekong Delta, Vietnam

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Abstract - **The objective of the study is to demonstrate the relationship between the local people's pro-environmental awareness and behavior in developing community-based tourism in the Mekong Delta. The data were collected from 210 local people involved in developing community-based tourism in Can Tho City, An Giang Province, Dong Thap Province, and Tien Giang Province. The structural equation modeling (SEM)was applied.The study has proved that environmental education and environmental management positively influence pro-environmental awareness of local people. Also, the study has shown a positive relationship between the pro-environmental awareness and behavior of local people towards the development of community-based tourism in the Mekong Delta.**

Keywords: **awareness, behavior, environmental protection, community-based tourism.**

I. INTRODUCTION

The Mekong Delta has an area of over 40.000 km^2 with a 700km coastline. There areplenty of primeval forests, 3 biosphere reserves, 5 national parks, 3 nature reserves, and 7 habitat conservation areas in the Mekong Delta. It is not only a key food production area but also one of the seven tourist areas of Vietnam. The Mekong Delta is famous for eco-tourism and river tourism. In 2019, the Mekong Delta welcomed 47 million visitors with total revenue from the tourism of VND 30.000 billion. In the last 5 years, localities in the Mekong Delta have focused on tourism development and plans to make tourism become a key economic sector. In particular, developing community-basedtourism is considered very important. This type of tourism has brought economic benefits to local people in rural areas. The main reasons for the success in developing this type of tourism are the cooperation among local communities and the support from local authorities. However, community-based tourism is still facing difficulties and challenges that significantly affect its development in the future. In which, environmental pollution is an urgent issue. Therefore, this study was conducted to point out the relationship between the pro-environmental awareness and behavior of local people in developing community-based tourism in the Mekong Delta.

II. RESEARCH HYPOTHESES

Many studies have shown the relationship between pro-environmental awareness and behavior. A good environmental education base is an essential starting point to raiseawareness of the environment (Hailu, 2016; Kustrová, 2012). Environmental education programs aim to change awareness and behavior by increasing environmental knowledge (Esa, 2010; Onel et al., 2016). Besides, close environmental management helps raise the awareness of environmental protection in the community (Mai Hoang Thinh, 2017). Awareness of environmental protection is closely related to pro-environmental behavior (Bamberg and Möser, 2007; Jovanović et al., 2016).

Based on the literature review, the study used a group discussion (qualitative research) with 8 local people involved in developing community-based tourism in the Mekong Delta. The discussion was used to identify research scales and hypotheses. Thus, the proposed research hypotheses are as follows: *H1: Environmental education has a positive impact on pro-environmental awareness of local people involved in developing community-based tourism; H2: Environmental management positivelyaffects pro-environmental awareness of local people involved in community-based tourism development; H3: Pro-environmental awareness has a positive impact on environmental protection behavior of local people involved in community-based tourism development.*
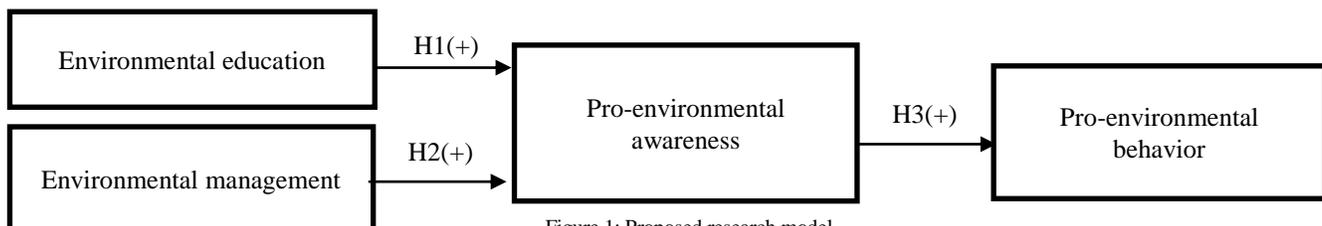

Figure 1: Proposed research model

Table 1: Interpretation of variables in the research model

Factor	Observed variables	Sign	Scale
Environmental education	Understand of environment and pollution.	EE1	Likert 1-5
	Understand the causes of environmental pollution.	EE2	Likert 1-5
	Understand environmental pollution control solutions.	EE3	Likert 1-5
	Participate in many environmental education programs.	EE4	Likert 1-5
Environmental management	Local regulations on environmental protection are clear and detailed.	EM1	Likert 1-5
	Many campaigns and programs on environmental protection are held.	EM2	Likert 1-5
	Inspection and supervision are held regularly.	EM3	Likert 1-5
	The handling of violations is timely.	EM4	Likert 1-5
Pro-environmental awareness	A polluted environment affects human health and life.	PA1	Likert 1-5
	All individuals and organizations are responsible for protecting the environment.	PA2	Likert 1-5
	Protect the environment is to protect health and ensure the quality of life.	PA3	Likert 1-5
	A clean environment makes life better.	PA4	Likert 1-5
Pro-environmental behavior	Always protect the environment in daily activities.	PB1	Likert 1-5
	Actively participate in environmental programs.	PB2	Likert 1-5
	Encourage family members and the community to participate in environmental protection.	PB3	Likert 1-5
	Condemn and denounce activities that cause environmental pollution.	PB4	Likert 1-5

Source: The author's proposal, 2019

III. RESEARCH METHODOLOGY

To test the research hypotheses, quantitative analyses are used as follows: (1) Reliability test by Cronbach's Alpha coefficient; (2) Explore factor analysis (EFA); (3) Confirmatory factor analysis (CFA); and (4) Structural equation modeling (SEM). Thus, the sample size needs to meet the requirements of the SEM method. According to Raykov and Widaman (1995), SEM requires a large sample size because it is based on sampling distribution theory. Also, Hoelter (1983) stated that the sample size limit in the structural equation is 200.

In this study, quota sampling was applied to collect the data. Survey subjects are local people involved in developing community-based tourism in provinces and cities in the Mekong Delta (including Can Tho, An Giang, Dong Thap, and Tien Giang). The study collected 210 observations through direct interviews. Hence, the sample size meets the requirement and ensures reliability.

IV. RESEARCH RESULTS AND DISCUSSIONS

Evaluate the reliability of scales

Cronbach's Alpha coefficient

Cronbach's Alpha coefficient is used to test the reliability of research scales. According to Table 2, the Cronbach's Alpha results of all scales are greater than 0.6. The item-total correlation of observed variables is all greater than 0.3, so no variable is excluded from the research model (Nunnally, 1978; Peterson, 1994; Slater, 1995). Therefore, all observed variables meet the reliability requirements.

Table 2: Reliability test result

Factor	Number of variables	Cronbach's Alpha	Minimum item-total correlation
Environmental education (EE)	4	0.821	0.586
Environmental management (EM)	4	0.805	0.592
Pro-environmental awareness (PA)	4	0.853	0.648
Pro-environmental behavior (PB)	4	0.833	0.601

Source: Survey data, 2019

Exploratory Factor Analysis(EFA)

According to the EFA analysis, the result isguaranteed: (1) Reliability of observed variables with the Factor loading> 0.5; (2) Suitability of the model with $0.5 < KMO = 0.881 < 1.0$; (3) Bartlett test of the correlation among observations with Sig coefficient. $= 0.00 < 0.05$; (4) Cumulative variance test $= 67.05\% > 50\%$. This shows that the research data is satisfactory (Anderson and Gerbing, 1988). The EFA stage has formed 4 factors with Eigenvalue value $= 1.208$. There is no disturbance among observations, so the names of factors remain the same.

Table 3: Factors formed from the exploratory factor analysis (EFA)

Scale	Observed variables	Factor			
		F1	F2	F3	F4
Environmental education (EE)	EE1	0.851			
	EE2	0.722			
	EE3	0.684			
	EE4	0.588			
Environmental management (EM)	EM1		0.826		
	EM2		0.753		
	EM3		0.615		
	EM4		0.567		
Pro-environmental awareness (PA)	PA1			0.882	
	PA2			0.775	
	PA3			0.704	
	PA4			0.634	
Pro-environmental behavior (PB)	PB1				0.801
	PB2				0.786
	PB3				0.753
	PB4				0.627

Source: Survey data, 2019

Confirmatory factor analysis (CFA)

The CFA result shows that the model is suitable for market data because the values are guaranteed: Chi-square = 145.002, P-value = 0.00 with 96 degrees of freedom, and Chi-square follows the degree of freedom CMIN/df = 1.510 < 2 (Carmines and McIver, 1981). The TLI = 0.959 and CFI = 0.968 are greater than 0.9; RMSEA = 0.044 ≤ 0.08 (Bentler and Bonett, 1980). In addition to this, the correlation amongerrors is all less than 1 so the model achieves unidimensionality.The standardized regression weights are greater than 0.5 and the unstandardized regression weights are statistically significant, so the model reaches convergent

validity. Besides, the correlation coefficientandthe standard deviation are <0.9, so the model reaches discriminant validity. The composite reliability (Pc) and the average variance extracted (Pvc) are all satisfied (> 0.5) (Jöreskog, 1971; Fornell and Larcker, 1981). Hence, all factors in the research model meet the requirements of reliability.

4.2 Test the research hypotheses

The structural equation modeling (SEM) was used to test the research hypotheses. The analytical result is presented in Table 4 as follows:

Table 4: The testing result of the relationship between factors

Relationships			Unstandardized			Standardized Estimated value	P-value	Hypothesis
			Estimated value	Standard Error S.E.	Critical Ratio C.R.			
PA	<--	EE	0.333	0.083	4.019	0.363	***	H1: accepted
PA	<--	EM	0.661	0.143	4.633	0.522	***	H2: accepted
PB	<--	PA	0.555	0.090	6.177	0.553	***	H3: accepted

*Source: Survey data, 2019   Note: ***: Statistically significant at 1%*

According to Table 4, environmental education and environmental management positively impact the pro-environmental awareness of local people in developing community-based tourism in the Mekong Delta. This proves that improving environmental education programs and diversifying forms of these programs may help arise the pro-environmental awareness of local people in the development

of community-based tourism. Moreover, environmental protection propaganda, inspection and supervision activities, and punishments onbehaviors that cause environmental pollution will contribute to raising pro-environmental awareness of local community-based tourism development. Also, the result demonstrates a positive relationship between local pro-environmental awareness and behavior in developing

community-based tourism in the Mekong Delta. This can be concluded that, if local people have a good awareness of environmental protection, they will be motivated to take practical actions to protect the environment, thereby develop the community-based tourism sector in the Mekong Delta towards sustainability.

V. CONCLUSION

The study has achieved the research goals to indicate that environmental education and environmental management positively influence pro-environmental awareness of local people in improving community-based tourism in the Mekong Delta. Most importantly, the study has shown the positive impact of pro-environmental awareness on the environmental protection behavior of people. As a result, several recommendations are proposed to enhance pro-environmental awareness and behavior of local people as follows: Firstly, increasing propaganda programs and environmental education knowledge; Secondly, diversifying forms of propaganda and education programs of environmental knowledge to be suitable for working conditions of the local people; Thirdly, regulations on environmental protection need to be clear and strict. Inspection and supervision activities should beexpanded. Acts that destroy the environment at tourist sites must be handled as soon as possible.

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