Study on the Factors Affecting the Environmental Behaviors of the Community Residents in Leisure Agriculture Tourism Destinations

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Abstract—The environmental behaviors of the community residents, as the demonstrators, supervisors and beneficiaries of the leisure agriculture tourism destinations play an effect on the ecological environment of the leisure agriculture tourism destinations to a certain extent. In this study, the environmental behaviors of the community residents as well as affecting factors were measured through factor analysis, descriptive statistics, correlation analysis and regression analysis by taking Baishawan Ecological Farm Village for example and using 9 environmental behavior indexes and 20 affecting factor indexes. The results showed that the environmental values and knowledge had a remarkable effect on the environmental propaganda and education behaviors and citizenship behaviors; a sense of responsibility for environment, the environmental management level, and the external environment standards had a significant effect on the environmental management behaviors; other factors played a relatively small effect on the three major environmental behaviors. Finally, the enlightenment to optimizing the environmental behaviors of the community residents in Baishawan Ecological Farm Village is raised.

Keywords-Leisure Agriculture; Community Residents; Environmental Behaviors; Affecting Factors

1. Introduction

Leisure agriculture tourism destinations have attracted many tourists because of fresh natural environment and unique regional cultures. There are many results of studying the environmental behaviors of residences at home and abroad, but most of them focused on the daily environmental behaviors of urban residences and peasants [1-9]. In the study of the factors affecting the environmental behaviors, the affecting factor focused by the academic circles at the earliest was environmental attitude [10]. The study of the factors affecting the environmental behaviors has been gradually expanded to the intrinsic factors such as the sense of responsibility for environment, sensitivity to environment, environmental knowledge and environmental values, and the extrinsic factors such as the demographic situation, government policies, social norms, social structure, and industrial conditions [11-15]. Seen from the present studies, there are many studies on the one or several affecting factors; systematic studies are few. Therefore, the environmental behaviors of different groups are necessarily studied in a specialized way, in order to improve the environmental behavior study system.

2. Study design

2.1 The selection of the study area

As a "demonstration pilot project of leisure agriculture in Fujian province", "three-star rural

tourism business unit in Fujian province", and "typical destination of the national leisure agriculture and rural tourism in Minhou County", Baishawan Ecological Farm Village has attracted the masses of tourists because of its farming culture and leisure entertainment projects such as flowers and plants sightseeing, fruit picking, plant maze, delicious rural food, horse riding and archery, and dragon and lion dance. Therefore, Baishawan Ecological Farm Village, chosen as a case, is typical and representative.

2.2 Questionnaire design and data collection

The questionnaire used in this study included five parts: (1) individuality and cognitive factors, including 14 items; (2) situational factors, including 6 items; (3) environmental behaviors, including 9 items; (4) the community residence information, including 6 items. For parts I and II, Likert Scale was applied: 1—"strongly disagree"; 2—"disagree"; 3—"neutral"; 4—"agree"; 5—"strongly agree". For part III, Likert Scale was applied: 1—"never"; 2—"preciously little"; 3—"little"; 4—"sometimes"; 5—"always".

A total of 150 questionnaires were issued, of which 139 were returned. But 127 returned questionnaires were valid. The Cornbach's α coefficient of the data was calculated with SPSS16.0 software, thus the total reliability of the scale was $\alpha = 0.819$; the reliability of the individuality and cognitive factors scale was $\alpha = 0.775$; the reliability of the situational factors

scale was $\alpha = 0.744$; the reliability of the environment behavior scale was $\alpha = 0.716$.

3. Empirical results and data analysis

3.1 Factor analysis and descriptive statistics analysis

KMO and Bartlett's spherical test was made for the individuality and cognitive factors scale, the situational factors scale, and the environment behavior scale. After the test, the KMO values of the three scales were 0.759, 0.718, and 0.693 respectively, and passed the Bartlett's spherical test ($\text{Sig} = 0.000$).

The principal component extraction method was used for the factor analysis, and the extracted common factors were rotated with the oblique rotation method, as shown in table 1. Two common factors were extracted from the situational factors scale, and the cumulative variance contribution rate was 57.506%, as shown in table 2. Three common factors were extracted from the environmental behavior scale, and the cumulative variance contribution rate was 60.725%, as shown in table 3.

Seen from table 1, the studied objects' sense of responsibility for environment remained to be further improved; the studied objects had correct environmental values, but were weak in the environmental knowledge.

Table 1: Individuality and knowledge factors analysis and descriptive statistical analysis

Factor	Question	MV	SD	Factor loading	Variance contributes (%)
Environmental values	A1: Leisure agriculture tourism environment is vulnerable to damage and needs protection	3.80	0.727	0.769	7.784
	A2: Leisure agriculture tourism environment can be protected as long as the development is moderate	3.06	0.780	0.705	
	A3: The coordination of leisure agriculture project construction with the surroundings is necessarily considered	4.56	0.498	0.707	
Sense of responsibility for environment	A4: The improvement and solution by experts and leadership to the leisure agriculture environment problems can play a key role	3.86	0.626	0.869	12.090
	A5: Human can take measures to actively protect leisure agriculture tourism environment	4.53	0.561	0.691	
	A6: Community residents have the responsibility for protecting leisure agriculture tourism environment	3.26	0.910	0.845	
Personal environment specification	A7: Farming environmental damages make you feel anxious and anger	3.83	0.676	0.862	16.412
	A8: Protecting the farm environment lets you respected by others	4.49	0.602	0.736	
	A9: Destroying the farm environment harms the personal image and quality	3.76	0.771	0.855	
Environmental knowledge	A10: What behaviors do you know to damage the farm environment?	3.85	0.691	0.693	29.741
	A11: What methods do you know to improve the farm environment?	3.09	0.623	0.677	
	A12: Do you acquire environmental knowledge from school?	2.98	0.527	0.798	
	A13: Do you acquire environment knowledge from media?	3.87	0.706	0.750	
	A14: Do you acquire environmental knowledge from the environmental interpretation system?	2.95	0.711	0.712	

Seen from table 2, the studied objects would be more inclined to take positive environmental behaviors if the environmental management level

and the external environment standards and regulations were strengthened.

Table 2: Situational factors analysis and descriptive statistical analysis

Factor	Question	MV	SD	Factor loading	Variance contributes (%)
Environmental management level	B1: Does the environmental education from farm workers play a positive effect on your environment behavior?	4.07	0.593	0.858	19.964
	B2: Do you abide by the instructions on the environmental protection propaganda materials and environmental interpretation boards of the farm village?	3.58	0.684	0.886	
	B3: Village people are condemned because of environmental damage	3.88	0.498	0.603	
External environment standards and regulation	B4: Farm environmental protection needs everyone to participate in	4.60	0.523	0.643	37.542
	B5: Do you actively protect the village environment if there is a clear reward mechanism?	3.29	0.536	0.717	
	B6: Do you actively protect the village environment if there is a clear penalty mechanism?	4.39	0.520	0.783	

Seen from table 3, the overall scores of the environmental behavior of the residences in

Baishawan Ecological Farm Village were not very high.

Table 3: Environmental factors analysis and descriptive statistical analysis

Factor	Question	MV	SD	Factor loading	Variance contributes (%)
Environment management behavior	C1: You plant organic fruits and vegetables in the village	3.49	0.722	0.593	23.176
	C2: You sell agricultural products in the village, but do not bark	3.99	0.636	0.796	
	C3: The vehicle used by you usually does not pollute the village	3.31	0.684	0.755	
	C4: You put the rubbish in the garbage or designated collection points	4.38	0.518	0.625	
Environmental propaganda and education behavior	C5: You guide or encourage others to protect the village environment	3.71	0.798	0.867	16.640
	C6: You participated in the farm environmental propaganda and education activities	2.48	0.805	0.872	
	C7: You donated money to the village or relevant departments for environmental protection	2.26	0.657	-0.862	
Citizenship behavior	C8: You promoted governmental departments to solve the village environmental problems by lobbying, vote, political campaign and other political actions	1.48	0.547	-0.662	20.909
	C9: You complained, accused, or reported the village environmental damage events	2.16	0.672	-0.865	

3.2 Correlation and regression analysis

All kinds of environmental behavior and affecting factors in the leisure agriculture tourism

communities were correlatively analyzed, in order to know well the internal structure and relationship.

Table 4: The correlation coefficient matrix of various environmental behaviors and affecting factors

	1	2	3	4	5	6	7	8	9
1. Environmental management level	1								
2. Environmental propaganda and education behavior	0.064	1							
3. Citizenship behavior	0.089	0.088	1						
4. Environmental values	0.125	0.191*	0.667**	1					
5. Sense of responsibility for environment	0.485**	0.121	0.017	0.079	1				
6. Personal environment specification	0.101	0.012	0.023	0.040	0.114	1			
7. Environmental knowledge	0.150	0.136	0.602**	0.288**	0.079	0.016	1		
8. Environmental management level	0.493**	0.033	0.027	0.006	0.222*	0.018	0.097	1	
9. Environment standard and regulation	0.477**	0.049	0.083	0.068	0.468**	0.159	0.030	0.275**	1

Note: **—the significant level (<0.01) (two-tailed test); *—the significant level (<0.05) (two-tailed test)

Linear regression analysis was conducted on all kinds of environmental behaviors using a stepwise regression method. Seen from the standardized regression coefficients, the major effect variables of the environmental management behavior were in turn the environmental management level, the sense of

responsibility for environment, and the external environment standard and regulation; the environmental propaganda and education behavior and citizenship behavior were mainly affected by environmental values and environmental knowledge, and their affecting degrees were different.

Table 5: A regression analysis of environmental management behavior

Independent variable	Standardized coefficients	regression t value	Sig.
Environmental management level	0.362	5.099	0.000
Sense of responsibility for environment	0.292	3.783	0.000
Environment standard and regulation	0.240	3.066	0.003
Adjusted R ² =0.420; DW value=1.699; F value=31.436			

Table 6: A regression analysis of environmental propaganda and education behavior

Independent variable	Standardized coefficients	regression t value	Sig.
Environmental values	0.250	2.778	0.006
Environmental knowledge	0.208	2.307	0.023
Adjusted R ² =0.461; DW value=1.938; F value=35.098			

Table 7: A regression analysis of citizenship behavior

Independent variable	Standardized regression coefficients	t value	Sig.
Environmental values	0.538	9.412	0.000
Environmental knowledge	0.447	7.811	0.000
Adjusted R ² =0.622; DW value=1.894; F value=104.636			

4. Conclusion

From the above analysis, a conclusion as follows is drawn up. First, environmental behavior was divided into three types: environmental management behavior, environmental propaganda and education behavior, and citizenship behavior; the affecting factors included the individuality and knowledge factors and situational factors. Second, the environmental behaviors of the residences in Baishawan Ecological Farm Village were mostly focused on the environmental management level; the environmental propaganda and education behavior and citizenship behavior were performed not much, and the overall level remained to be further optimized. Third, environmental values and environmental knowledge played a significant effect on the environmental propaganda and education behavioral and citizenship behavior, but a very

common effect on the environmental management behavior.

Therefore, the concrete enlightenment from this study can be summarized from two points. First, the environmental education is promoted through multiple channels and methods, so that the people can set up correct environmental values and are guided to positively treat the environment. Second, it is necessary to give full play to the role of social public opinion and public standards, make a straightforward reward and punishment mechanism, and establish a good platform for supporting and guaranteeing the environmental behaviors of the residences through the constraining force of external factors.

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