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### Social perception and importance of the Taal Volcano Protected Landscape to Tagaytay City Tourists and Residents

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#### Abstract

The study assessed the knowledge, attitudes, and perceptions of residents and tourists on the importance of Taal Volcano Protected Landscape (TVPL) in Tagaytay City, Cavite province. A survey was conducted among selected residents and tourists of Tagaytay City. Results of the study showed that tourists, unlike residents, have significantly higher knowledge and awareness levels, and have positive attitudes and perceptions regarding the importance of natural resources, conservation of TVPL, management of the PA, and the coexistence of tourism and conservation of natural resources. These positive perceptions strongly influence favorable attitudes towards conservation and the environmental protection and in turn generate good conservation values. On the other hand, majority of the residents have neutral to negative perceptions of TVPL and its impact and importance to Tagaytay City. A number of local residents, in contrast, also have a good level of knowledge, awareness, and positive perception on TVPL. However, this does not transcend to all sectors of the city. In order to guarantee sustainable use of natural resources and successful conservation of the protected area, knowledge, perceptions, and attitudes of the public must be examined and considered in the development of policies and protected area management schemes.

Keywords: Landscape management, Adaptive and integrated management, Social protection.

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#### Introduction, scope and main objectives

Taal Volcano Protected Landscape (TVPL) was declared as a protected area through Proclamation No. 923, dated November 19, 1996. The beautiful scenic view of TVPL attracts more visitors to Tagaytay City compared to the other nearby communities (Tongson, 2005; Vista & Rosenberger, 2015).

Tagaytay City is recognized as one of the top tourist destinations in Southern Luzon. The cooler climate of the city, together with its natural green landscapes and its proximity to Metro Manila and other neighboring cities and suburban towns, offer numerous opportunities for tourism and outdoor recreation activities. (Bennett, 2016). The increased tourism in Tagaytay City as a direct benefit from the presence of Taal Volcano, directly influences the present and future status of the conservation of TVPL. In this context, it is vital to elicit the support of residents and tourists in Tagaytay City to successfully implement environmental laws and policies relating to the sustainable use of resources, and management of TVPL.

Perception-based studies on TVPL and tourism in Tagaytay City have not yet been extensively explored. Assessment of the public's knowledge, awareness, and perceptions of TVPL, from the standpoint of Tagaytay City's tourists and residents, offer the necessary foundation in distinguishing the fundamentals of successful conservation and natural resource management from a local viewpoint which is the focus of this study.

The development and implementation of effective conservation plans, programs, and strategies to a diverse spectrum of societal needs require the examination of human perceptions (Weladji, Moe, & Vedeld, 2003). The success of present and future conservation programs depends on considering the various consequences

that it brings to the people who are living and interacting with the protected area. Negative perceptions and attitudes of people arise from not considering the short term and long-term effects of restrictions concerning the use of natural resources (Vodouhè et al., 2010).

Mutual understanding of conservation goals and increased collaboration in decision-making can mitigate possible conflicts between protected area management and the people who are directly affected (Faasen & Watts, 2007; McClanahan et al., 2006). These can be attained through better understanding of people's perceptions and attitudes and their inclusion in the development of future environmental laws and policies (Jones et al., 2011). Through the analysis and consideration of people's knowledge, attitudes, and perceptions, environmental policies and management plans can be improved and made more effective.

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## **Methodology/approach**

A self-administered survey questionnaire and an online survey were utilized to gather measurable data. The sustained influx of tourists year-round in Tagaytay City, as a direct benefit of its location and the presence of TVPL, make it the best place to investigate residents' and tourists' knowledge and perception of a protected area's importance and impact; and use it to improve protected area management (Vista & Rosenberger, 2015). Two versions of the questionnaires were designed and implemented for data gathering, one for residents and another for tourists. Knowledge-related questions comprised the first section of the questionnaire and focused mainly on assessing the respondent's existing general knowledge of the protected area, and the awareness of its importance, and the relevant environmental issues. Perception and attitude questions comprised the second section of the questionnaire and focused on the respondent's opinion on certain statements pertaining to conservation, tourism, and TVPL. The Likert scale was used to measure respondents' opinions, perceptions, and attitudes in addition to a few multiple-choice questions. Demographic questions were included in the last section of the survey questionnaire. It was used to categorize and profile residents and tourists. This section elicited respondents' age, sex, income, education, and marital status related questions to name a few.

The target respondents for the study are tourists and residents of Tagaytay City who are at least 18 years old. Locals and tourists were selected by utilizing a combination of convenience sampling and snowball sampling which is the most practical given the circumstances surrounding the study. Respondents are selected based on their accessibility and proximity to the researcher. Additionally, snowball sampling was used to complement convenience sampling.

The local resident questionnaire was administered to residents of Barangays Maitim II West, Maitim II Central, and Maitim II East in coordination with the tourism office and the local leaders of Tagaytay City. These areas were chosen due to the relatively high population density and its proximity to the scenic views of Taal Volcano and Taal Lake.

The survey of tourists in Tagaytay City was implemented online using a free platform. The advantages of carrying out an online survey for the tourist respondents aided in rapidly disseminating the questionnaires, increasing response rates, and automating data input and processing. The limitation of the online survey was it excluded possible respondents who do not have access to the Internet and those who are not into social media. The time and date of response submission of each survey was recorded in the form along with other demographic information in the survey such as municipality and province of their hometown.

Survey data was summarized, and data analysis was conducted using the Statistical Package for the Social Sciences (SPSS ver. 21). Descriptive statistics such as frequency distributions were used to categorize characteristics of residents and tourists and create demographic profiles individually for both sample groups. Lastly, Mann-Whitney U test was used to compare knowledge and attitudes, and perceptions of residents and tourists on the Likert scale statements.

## Results and Discussion

### Respondent Demographics

There were 800 survey respondents representing residents and tourists with a 50-50 proportion. The resulting dominant age range of 21-40 years old for the tourists and residents were expected as this represented the working population. Varying educational levels had also been observed in both respondents. Age and educational attainment differences observed in tourists and residents would heavily affect income range distribution. The results showed that half of the tourist sample (50.5%) fell in the middle class as evidenced by the dominant income range of PHP 16,000 to 51,000 per month. Moreover, a large proportion of bachelor's degree holders in both tourists (61%) and local residents (55.5%) could be associated with the dominant middle-class profile in the Philippines.

The typical profile of a tourists in Tagaytay is viewed as someone who is between 21-40 years of age, with at least a bachelor's degree earning an average of PHP 16,000 to 51,000 per month which is similar to the profile of residents. However, survey data showed significant differences in educational attainment, employment, and income. There were more high school degree holders (30%), and self-employed people (26.8%) from the residents. Also, there were significantly more residents who earned an average of PHP 51,000 to 151,000 a month (29%) compared to tourists (19%).

### Knowledge and Awareness

The results demonstrated slightly higher awareness levels for locals in terms of familiarity with TVPL environmental issues in comparison with tourists. Through the years, the proximity and length of residence of in Tagaytay City to TVPL exposed them to the environmental issues, thereby increasing their familiarity with various problems connected to the protected area. However, significant differences between locals and tourists in the areas of general knowledge about the protected area and natural resources Tables 1 and 2. Taken altogether, the tourists rank as the group with the higher level of knowledge and awareness.

**Table 1.** Tourists' and residents' awareness of the protected landscape status of TVPL

RESPONSE	TOURISTS		RESIDENTS	
	Frequency	Percent	Frequency	Percent
<b>No</b>	231	57.8	349	87.3
<b>Yes</b>	169	42.3	51	12.8
<b>Total</b>	400	100.0	400	100.0

**Table 2.** Tourists' and residents' idea of the protected landscape

RESPONSE	TOURISTS		RESIDENTS	
	Frequency	Percent	Frequency	Percent
<b>Areas for public enjoyment through recreation and tourism</b>	64	16.0	38	9.5
<b>Areas of national significance characterized by the harmonious interaction of man and land</b>	177	44.3	148	37.0

<b>All of the above</b>	159	39.8	214	53.5
<b>Total</b>	400	100.0	400	100.0

Based on the survey, residents and tourists recognized the ‘scenic value’ of TVPL especially when it comes to tourism in Tagaytay City. However, it must be further examined in detail if they understood the importance of TVPL from an ecosystem or ecological viewpoint and its importance in conserving the environment and natural resources.

**Table 3.** Distribution of responses on the biggest environmental threat affecting TVPL

ENVIRONMENTAL ISSUE	TOURISTS		RESIDENTS	
	Frequency	Percent	Frequency	Percent
<b>Unregulated fishing / Uncontrolled Aquaculture</b>	62	15.5	47	11.8
<b>Land conversion (for real-estate or agriculture)</b>	122	30.5	185	46.3
<b>Pollution from improper solid waste disposal</b>	112	28.0	45	11.3
<b>Soil Erosion and Flooding</b>	43	10.8	27	6.8
<b>Tourism</b>	61	15.3	96	24.0
<b>Total</b>	400	100.0	400	100.0

## Perception and Attitude

The results of the survey shown in Table 4 suggests that, unlike the residents, majority of tourists have positive perceptions and attitudes toward the protected area, park management strategies, conservation efforts, and tourism. The negative outlook of the residents can be traced to several factors.

**Table 4.** Summary of statements and mean rank results of residents and tourists

STATEMENTS	TOURISTS	RESIDENTS
	Mean Rank	Mean Rank
<b>1. In general, how important are natural resources to your quality of life and enjoyment?</b>	542.2	258.8
<b>2. I agree that the tourism activities of the visitors within Tagaytay City should be controlled and guided by restrictions.</b>	554.7	246.3
<b>3. I believe that the increased tourism in Tagaytay City is due to the presence of Taal Volcano Protected Landscape (TVPL).</b>	433.5	367.5
<b>4. I am convinced that businesses in Tagaytay City benefit from the presence of TVPL.</b>	426.4	374.6
<b>5. I believe that the local government of Tagaytay City takes full advantage of the areas’ economic activities in relation to tourism.</b>	527.1	273.9
<b>6. I believe that the conservation of Taal Volcano Protected Landscape is important long before the tourism boom in Tagaytay City.</b>	503.8	297.2

<b>7. The role of government institutions like DENR and BFAR, and other environmental advocacy groups are critical in the overall conservation and protection of TVPL.</b>	508.3	292.7
<b>8. The local government of Tagaytay City should contribute financially to the cost of protection and conservation of TVPL.</b>	546.7	254.3
<b>9. Enough is being done to conserve the natural environment in TVPL.</b>	403.3	397.7
<b>10. Individual efforts are important towards conserving the natural environment for tourism in TVPL.</b>	537.6	263.4
<b>11. I will support tourism development in TVPL.</b>	517.1	283.9
<b>12. I believe that tourism and environmental protection can co-exist in TVPL.</b>	534.6	266.4
<b>13. In the future, I will recommend Tagaytay City to my friends and relatives as a tourist destination worth visiting.</b>	489.1	311.9

Majority of residents were against the implementation of controls and restrictions related to tourism in the city. This was evidenced by the 21.75% of residents who were self-employed and with businesses that are based in Tagaytay City. Tourists, on the other hand, exhibited support for the need to control and restrict tourist activities in the city. Tourists' feedback indicated that their satisfaction levels were affected especially when they visited Tagaytay City on peak periods.

The Table 4 results and distribution of responses indicate that majority of tourists agree that TVPL greatly benefits Tagaytay City. The residents mostly answered in the range of neutral to negative responses. The residents also exhibited a low level of satisfaction with how their local government handles Tagaytay City's advantages or strengths when it comes to tourism and business. The opposite was shown by tourists as they had a positive perception in the way the city government handled economic activities in relation to tourism. The outlook and perception of residents are largely affected by local laws and regulations and how their city government runs the city. Additionally, the influence of TVPL to Tagaytay City businesses are supported by more than half of the surveyed residents despite having a lower mean rank compared to tourists.

Moreover, results showed that there was a large significant difference between the attitude and perception of tourists and residents in Tagaytay City as to the strategies needed to aid the overall conservation of TVPL. In this case, financial support from Tagaytay City was not supported by most residents. On the other hand, majority of tourists recognized the benefit of TVPL to Tagaytay City and agreed that a certain level of financial support coming from the city government was necessary to help conserve and protect the natural resources of TVPL.

A positive perception from the public would benefit the current protected area management system and further improve the acceptability of its policies (Bennett & Dearden, 2014). Tagaytay City's support is crucial in the long-term goal of conservation and sustainability in TVPL. Thus, improving the outlook and perception of TVPL of the residents of Tagaytay City and its tourists will generate stronger support for the protected area management and will improve governance processes and conservation outcomes.

Furthermore, it was expected that tourist responses related to support for tourism development rank higher than the residents in Tagaytay City. However, it was observed that there was a large significant difference between the two groups. The views of residents regarding tourism development must be further explored to understand such opposition to supporting tourism development in TVPL. Additionally, belief in the likely

coexistence of tourism and environmental protection in TVPL is supported by tourists with a majority number of the surveyed respondents giving a positive outlook.

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## Conclusions/ wider implications of findings

The Philippine government needs to provide more funding to the protected area system and push for a national awareness campaign about conservation. This could be done through the revision of the NIPAS Law with focus on improved funding and income generation and through the creation of policies and laws. Furthermore, the creation of national policies that will require environmental science and natural resources conservation subjects to be taught in all levels of primary and secondary school across the country can make a huge difference in increasing the awareness of the future generations. In addition to the DENR's campaigns, a strong political backing and political will coming from the higher offices in the government is needed to advocate for environmental protection and sustainability.

Also, it is important to plan a quarterly evaluation and monitoring of existing initiatives in TVPL. This will be spearheaded by the management board and members of the local government units. Key performance indicators of each campaign must be clearly defined and agreed upon. Adjustments for each campaign in specific municipalities in TVPL is expected, as it is best to accept that resolving issues and promoting the management's agenda is not a one-size-fits-all campaign for all the municipalities within the protected area.

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