Compliance of Ecotourism and Recreational Facilities on Environmental Policies in Camarines Norte: Its Impact to Sustainable Development

Engr. Jasmin V. Rieza, Maria Cristina C. Azuelo

EMB Regional Office V / Camarines Norte State College, Philippines

DOI: https://dx.doi.org/10.47772/IJRISS.2025.90500033

Received: 16 April 2025; Accepted: 21 April 2025; Published: 28 May 2025

ABSTRACT

This study assessed the compliance of ecotourism and recreational facilities on environmental policies in Camarines Norte; and its impact to sustainable development. The study employed a descriptive-correlational method of research with 51 respondents of ecotourism and recreational facilities. This study utilized a survey questionnaire as an instrument in gathering the data. Findings showed that the majority of the ecotourism and recreational facilities in Camarines Norte are somewhat compliant with environmental laws and policies in terms of environmental quality, economic prosperity and social equity. It also concluded that although ecotourism and recreational facilities' compliance to environmental policies is not significantly related to its impact on sustainable development, there are some indicators that exhibit relationships particularly for economic and social indicators.

This study also proposes a sustainability model in order to ensure better compliance to environmental policies for ecotourism and recreational facilities. It also recommends for National Government Agencies (NGA) to spearhead information dissemination and capacity building particularly on environmental awareness and preservation of the natural resources and compliance to environmental laws; for LGUs to implement existing national laws and/or ensure compliance by enacting local ordinance to require Environmental Compliance Certificate (ECC) /Certificate of Non-Coverage (CNC) and other environmental permits prior to business clearance/permits issuance and for Local Government Units (LGU) to establish a Municipal Environment and Natural Resources Office among others.

Keywords: Ecotourism, environment, sustainable development, triple bottom line, normative theory, Camarines Norte

INTRODUCTION

The tourism industry is the country's opportunity for environmental conservation or environmental destruction. Tourism is one of the fastest-growing and largest economic sectors in the world. According to World Travel and Tourism Council, it has contributed around USD 9 trillion in 2019 to the world economy or about 10.4 percent of the global Gross Domestic Product (GDP). Records showed that it has supported millions of direct and indirect jobs all over the world and it also represented a major source of revenue for many countries worldwide. Technological advances particularly the internet, social media, and mobile devices have also contributed to the expansion of tourism. In 2019, after a decade of uninterrupted growth, international tourist arrivals reached 1.5 billion worldwide. That is an average of 5 percent increase per year from 2009 to 2019 (UNWTO, 2021). Tourism has also become one of the world's major trade categories reaching USD 1.7 trillion in export revenues in 2019. That is 28 percent of the world's trade services and about 7 percent of overall exports of goods and services.

The Philippines with over 7,000 islands has the natural resource base for ecotourism consisting of a diverse array of wetlands, mountains, volcanoes, rugged cliffs, seascapes, coasts, beaches, lakes, rivers, forests, caves, fields, and a rich variety of plants and animals. With that, the national government has always seen that tourism is a

road to alleviating poverty in the nation and the fulfillment of the United Nations Millennium Development goals. On the national scale, the travel and tourism contribution to GDP accounts for about 22.5 percent of the national economy or about USD 90 billion according to World Travel and Tourism Council. Philippine tourism accounts for 10.4 percent (USD 9, 170 BN) of global GDP.

The state of national tourism does not differ much from the global setting when it comes to the challenges encountered. On April 4, 2018, former President of the Philippines, Rodrigo Duterte ordered the six (6)-month-long closure of Boracay beginning April 26, 2018. The DOT-DENR-DILG were the agencies at the forefront of the implementation of this closure. Part of the closure activity is the creation of the Boracay Task Force and validation of existing establishments like resorts if they are complying with environmental rules and regulations. The case of the Boracay island shutdown has set a clear example of how tourism has a significant effect on the economy, environment, and society.

In Camarines Norte, the Environmental Management Bureau V - Provincial Environmental Management Unit of Camarines Norte has more than 500 listed firms subject to monitoring for compliance with the existing Philippine environmental laws and policies annually. There is a diverse industry in Camarines Norte that relies on the very rich resources of the province. Moreover, under the Expanded National Integrated Protected Area Systems (ENIPAS) Act of 2018 (RA 11038), Camarines Norte also has a declared protected areas, Abasig-Matogdon-Mananap Natural Biotic Area and Bicol Natural Pak. The administration and management of NIPAS were placed under the control of the Department of Environment and Natural Resources. This is evident of how rich the natural resources are in Camarines Norte. Moreover, there are also these different industries including mining and mountain extraction for metallic and non-metallic minerals; sand and gravel and aggregate processing, mineral processing plants, airport and transport facilities, commercial establishments, malls, supermarkets, motels, and other similar facilities, land development projects, gasoline stations, and tourism projects.

The objective of the study is to assess the compliance to environmental policies of ecotourism and recreational facilities in the province of Camarines Norte and its impact on sustainable development in terms of environmental quality, economic prosperity and social equity covering the period of October 2021 to April 2022. The study also aims to determine the correlation between the compliance to environmental policies of ecotourism and recreational facilities and their profile; as well as the correlation between the compliance to environmental policies and the impact of ecotourism and recreational facilities in Camarines Norte to sustainable development in terms of environmental quality, economic prosperity and social equity. The study also aims to determine the issues and challenges to compliance encountered by the respondents that influenced their compliance.

The study utilized a total enumeration sampling with the initial acquired list of ecotourism and recreational facilities including resorts in the data base of EMB PEMU Camarines Norte being covered by regular monitoring that includes 43 facilities, however prior to the actual conduct of final survey the data base of ecotourism was almost doubled. Seventy-six questionnaires were sent out but only 67 percent or 51 respondents answered the questionnaires. The turnout of the responses was affected by the pandemic since most of the ecotourism and recreational facilities had not yet resumed or fully resumed operation at the time of the study. Internet connectivity was also a factor since most of the questionnaires were sent thru email and social media accounts.

There is a need for establishments to go beyond being compelled to comply or rather to feel obligated because they are being monitored. There is a need to step up in the manner that they operate their business in such a way that there is a due and equal consideration for the environment, their profit, and the community they are in. The streamlining of requirements will also be beneficial for the operation of businesses in order to easily comply with the requirements of all existing environmental laws and policies implemented by different national agencies. The LGUs should also consider going beyond the usual permitting and business permit issuance and take into consideration other requirements of the national laws on the environment and/or to change their perspective on how they view development, environmental protections or conservations, and pollution management. LGUs should seriously incorporate sustainable development to ensure the future of the younger generations.

The researcher for this study has selected the ecotourism and recreational facilities in the Province of Camarines

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

Norte as its study area.

METHODOLOGY

This covers the presentation of the research design, the procedure of data gathering, and the statistical tools used in the analysis of data to answer the specific problems of this study. It also describes the procedures employed in selecting the respondents and the locale of the study

Method of Research

The study used a descriptive-correlational method of research. The descriptive method was used in collecting basic background information from the respondents, to wit: profile of the ecotourism and recreational facilities including the services offered, number of staff, number of training undertaken on environmental awareness, and national/local permits secured. It was also used to interpret the meaning or significance of what has been described on their compliance on environmental policies in terms of environmental quality, economic prosperity, and social equity and the impact of the compliances to environmental policies and sustainable development in terms of the same dimensions. Likewise, descriptive method was also used to determine the effects of the issues and challenges to the compliance on the environmental policies.

Meanwhile, correlational method was used to assess the significant relationship between the compliance of ecotourism and recreational facilities in Camarines Norte with the profile of ecotourism and recreational facilities. It was likewise used to determine if there is a significant relationship between the compliance to environmental policies and impact of ecotourism and recreational facilities in Camarines Norte on sustainable development.

Description of Respondents

The respondents of the study were the ecotourism and recreational facilities in the province of Camarines Norte consisting of the owners, managers, and/or Pollution Control Officers who handle the day-to-day operation of the project and who are the responsible persons in terms of ensuring compliance with environmental laws of all the ecotourism and recreational facilities. Also included as one of the respondents was the Protected Area Superintendent (PASU) in the two protected areas in the province, Bicol Natural Park (BNP) and Abasig - Matogdon Mananap Natural Biotic Area (AMMANABA). Both protected areas or ecotourism areas are being managed by the Protected Area Management Boards and Provincial Environment and Natural Resources Office – Camarines Norte.

Data Gathering Procedure

The respondents of the study were the ecotourism and recreational facilities in the province of Camarines Norte consisting of the owners, managers, and/or Pollution Control Officers who handle the day-to-day operation of the project and who are the responsible persons in terms of ensuring compliance with environmental laws of all the ecotourism and recreational facilities. Also included as one of the respondents was the Protected Area Superintendent (PASU) in the two protected areas in the province, Bicol Natural Park (BNP) and Abasig - Matogdon Mananap Natural Biotic Area (AMMANABA). Both protected areas or ecotourism areas are being managed by the Protected Area Management Boards and Provincial Environment and Natural Resources Office – Camarines Norte.

Statistical Treatment of Data

Responses from the online link were automatically consolidated while the printed questionnaires were directly encoded in the google form link to consolidate with the online data gathered. The data gathered in this study were organized, analyzed, and interpreted using different statistical tools. Percentage and frequency distribution were used to determine the profile of the respondents in terms of their gender and designation and also with the ecotourism and recreational facilities for their profile in terms of services offered, type

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

of management, the number of employees, number of trainings attended on environmental awareness and national and local permits secured.

The data gathered from the checklist questionnaire were treated using descriptive statistical method which included frequency count, percentage, and weighted mean. These responses were initially segregated based on the similarity of the characteristics of the compliance indicators to environmental policies of ecotourism and recreational facilities and the impact of compliance indicators both for the three dimensions of environmental quality, economic prosperity and social equity. Result was then analyzed, tallied, and presented in tabular and graphical forms.

The Chi-square test was used to test significant relationship between the profile of ecotourism and recreational facilities along services offered, number of trainings given to the employees, type of management, number of employees and national/local permits/licenses secured and their compliance to environmental policies in terms of environmental quality, economic prosperity and social equity. Meanwhile, the impact of the compliance to environmental policies of ecotourism and recreational facilities to sustainable development in terms of environmental quality, economic prosperity and social equity was tested using Somers' Delta or or Somers' d.

RESULTS AND DISCUSSIONS

This chapter presents the results, analyses and interpretation of data gathered on the ecotourism and recreational facilities in the province of Camarines Norte in tabular and textual presentation.

Profile of the Ecotourism and Recreational Facilities in Camarines Norte

There were 51 respondent, the ecotourism and recreational facilities, in the province of Camarines Norte. Tables 1 to 6 show the profile of the ecotourism and recreational facilities in terms of services offered, number of trainings attended, type of management, number of employees, and environmental clearances/permits.

Services Offered. Table 1 highlights the type of services offered by ecotourism and recreational facilities in the province of Camarines Norte whether most of the services offered are nature-based, man-made or mixed. Sixty-two percent (62%) of the 51 responses are mixed-type structures while 31.4 percent are man-made facilities while 5.9 percent are nature-based facilities.

Table 1 Profile of the Ecotourism and Recreational Facilities as to Services Offered

Services	Frequency	Percentage(%)
1. Nature-Based 2. Man-Made 3. Mixed	3 16 32	5.9 31.4 62.7
Total	51	100

Data implies that ecotourism and recreational facilities in Camarines Norte are mostly a combination of nature-based facilities and man-made facilities with a high score of 62.7 percent. This further implies that owners of ecotourism and recreational facilities combine the man – made facilities like swimming pool, accommodation facilities, etc. with the natural surroundings of the area whether it has natural environment like rivers, forest, seas, etc.

Number of Trainings Attended. Table 2 reveals that out of the 51 respondents for the ecotourism and recreational facilities, 68.6 percent responded that they have about 1-3 trainings on environmental awareness while about 17.8 percent have no basic training at all on environmental awareness. Also, about 5.9 percent of the respondents have 10 and above trainings on environmental awareness and none from the respondents answered for "7-9" number of trainings.

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

Table 2 Profile of the Ecotourism and Recreational Facilities as to Number of Trainings Attended

Number of Trainings	Frequency	Percentage(%)
0	9	17.6
1-3	35	68.6
4-6	4	7.8
7-9	0	0
10 and above	3	5.9
Total	51	100

The highest result shows that the respondents have about 1-3 training attended on environment which implies that there is a very low result in terms of awareness on the need for appropriate training prior to implementation and during the course of operation of such projects like ecotourism and recreational facilities. This further implies that a large number of ecotourism and recreational facilities fail to attend the 40 hour Basic Pollution Control Officer Trainings and/or the 8 hour Managing Head Training.

The lowest result shows that the zero respondents have "7 – 9" trainings on environmental management pertaining to ecotourism and recreational facilities while there are 5.9 percent with about "10 or more" trainings. The low score implies that there is a large gap in terms of ecotourism and recreational facilities that have already undergone training such as the basic PCO training and those that have not. It also highlights that the LGUs are not requiring the industry to comply with environmental laws and policies before they issue business permits.

Type of Management. Table 3 shows that majority of the ecotourism and recreational facilities in the province of Camarines Norte are managed as private single proprietorships with a result of 84.3 percent of the respondents. Meanwhile, about 9.8 percent of the respondents are managed by corporations and 3.9 percent are managed by the National Government. Likewise, there is also one or two percent that is managed by the Local Government Unit.

The 84.3 percent result shows that the majority of the ecotourism and recreational facilities in Camarines Norte are developed by private single proprietorship. The implication of this high percentage is that there are private entities investing on local tourism in Camarines Norte. This also implies that there is a vast potential for boosting the local economy and promoting environmental conservation and preservation at the community level through ecotourism.

The two percent result among respondents implies that LGUs do not generally engage in ecotourism and recreational facility as project implementors. In this particular case, the two percent is the resort project in Brgy. Pag-asa, Jose Panganiban operated by the barangay LGU. Meanwhile, the 3.9 percent that responded as managed by National Government pertains to the two Protected Areas in Camarines Norte, Bicol Natural Park (BNP) and Abasig-Matogdon Mananap Natural Biotic Area (AMMNBA) as mandated by NIPAS.

Table 3 Profile of the Ecotourism and Recreational Facilities as to Type of Management

Management Type	Frequency	Percentage (%)
1. Local Government Unit	1	2.0
2. Corporation	5	9.8
3. Private Single Proprietorship	43	84.3
4. National Government	2	3.9
Total	51	100

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

Number of Employees. The data in Table 4 show that 60.8 percent of the total respondents of ecotourism and recreational facilities in the province of Camarines Norte have about "4 and below" number of employees during the operation of their ecotourism and recreational facilities. Meanwhile, about 27.5 percent of the total respondents have about "5-10" employees, and 7.8 percent of the total respondents that has about "11-15" employees are employed. Lastly, there are 3.9 percent of respondents that have employees ranging from "16 and above" during the operation of the facility.

The 60.8 percent of the respondents that answered that there are about "4 and below" employees generated by the project only account for those directly hired by the ecotourism and recreational facility. Meanwhile, the 3.9 percent of the respondents that answered that they have about "16 and above" employees implies that only a few of the respondents of ecotourism and recreational facilities can be considered big projects that require a number of employees to operate ecotourism and recreational facility. Regardless of the size of the projects or facility, there is always the significant impact associated with its establishment and operation and the need for compliance with environmental policies.

Table 4 Profile of the Ecotourism and Recreational Facilities as to Number of Employees

Number of Employees	Frequency	Percentage (%)
4 and below	31	60.8
5-10	14	27.5
11-15	4	7.8
16 and above	2	3.9
Total	51	100

Environmental Clearances/Permits. Table 5 shows that out of the 51 respondents, 37.2 percent or 19 are operating with all the required and valid permits and licenses including accreditations from various agencies. On the other hand, 3.9 percent or two of the total respondents are not holders of any national or local permits.

Meanwhile, further distributions among respondents show that there are about 33.3 percent or 17 who are holders of some local permits and licenses and 15.7 percent or eight are holders of some local permits and have all the required accreditation by appropriate agencies. Only 5.9 percent or three of the total respondents are holders of some local permits and have an Environmental Compliance Certificate.

Table 5 Profile of the Ecotourism and Recreational Facilities as to Environmental Clearances/Permits

	Frequency	Percentage (%)
1. Not a holder of any national/local permits	2	3.9
2. Holder of some local permits/licenses	17	33.3
3. Holder of some local permits and with all the required accreditation by appropriate agencies	8	15.7
4. Holder of some local permits with ECC	3	5.9
5. With environmental compliance and certificates	2	3.9
6. With all the required and valid permits and licenses and accreditations from various agencies	19	37.2
Total	51	100

The 37.2 percent or 19 of the respondents of ecotourism and recreational facilities answered that they have all

the required and valid permits and licenses, and accreditations from various agencies. The low percentage of ecotourism and recreational facilities without any national or local permits can be viewed as a positive note, however if to be examined closely with other generated responses there are still 33.3 percent that are holders of some local permits.

Compliance to Environmental Policies of Ecotourism and Recreational Facilities Sustainable Development along Environmental Quality, Economic Prosperity and Social Equity

Tables 6 to 8 show the compliance to environmental policies of ecotourism and recreational facilities to sustainable development in terms of environmental quality, economic prosperity, and social equity.

Environmental Quality. Table 6 shows that among the nine indicators for environmental quality under the column Compliant, the item regarding "the recreational facility/resort project has an accredited Pollution Control Officer for environmental management concerns" which obtained the highest score of 82.3 percent.

The 82.3 percent gathered response from the respondents implies that most of the ecotourism and recreational facilities in Camarines Norte already have an accredited Pollution Control Officer (PCO). Consequently under the column Neither Compliant, there are 37.2 percent who responded that they are neither compliant on the indicator that, "the owner/proponent has undergone Managing Head Training for environmental management." Meanwhile under the column, Non-Compliant, there are 23.5 percent who responded that they are non-compliant on the indicators, "The project has an approved Foreshore Lease Agreement (FLA) / Miscellaneous Lease Agreement (MLA) / Forest Land Use Agreement for Tourism (FLAGt) and the item, "the project has maintained the correct easement from riverbanks, creeks, coasts, salvage zone (whichever is applicable)." Lastly, on the not applicable column, the item, "the recreational facility /resort project is implementing waste segregation at source" garnered a 23.5 percent response.

Table 6 Compliance to Environmental Policies of Ecotourism and Recreational Facilities as to Environmental Quality

Indicators	Compliant		Neither Compliant		Non-Compliant		Not Applicable	
	f	%	f	%	f	%	f	%
1. The project has an approved Foreshore Lease Agreement (FLA) / Miscellaneous Lease Agreement (MLA) / Forest Land Use Agreement for Tourism (FLAGt)	23	45.1	13	25.5	12	23.5	3	5.9
2. The project was issued an Environmental Compliance Certificate	31	60.8	8	15.7	2	3.9	10	19.6
3. The project has maintained the correct easement from riverbanks, creeks, coasts, salvage zone (whichever is applicable)	25	49.0	12	23.5	12	23.5	2	3.9
4. The owner/proponent has undergone Managing Head Training for Environmental Management	21	41.2	19	37.2	8	15.7	3	5.9
5. The recreational facility/resort project has an accredited Pollution Control Officer for environmental management concerns	42	82.3	7	13.7	1	2.0	1	2.0
6. The project has a valid wastewater discharge permit for its septic tank and/or wastewater treatment facility	32	62.7	10	19.6	6	11.8	3	5.9
7. The recreational facility/resort project is	20	39.2	10	19.6	9	17.7	12	23.5

implementing waste segregation at the source								
8. The recreational facility/resort project has a Materials Recovery Facility (MRF)	37	72.2	11	21.6	2	3.9	1	2.0
9. The recreational facility/resort project has a temporary hazardous waste storage facility (TSD)	39	76.5	8	15.7	1	2.0	3	5.9

Economic Prosperity. Table 7 shows among the set of indicators the researcher identified for economic prosperity, under the column Compliant, the item regarding "the ecotourism/ recreational facility/resort project has also attracted local tourists to go to this place and acquire hospitality, and tourism services" obtained the highest rating of 96 percent of the respondents. Meanwhile, the lowest rating of 52.9 percent of the respondents was obtained for the item "recreational facility projects have considered natural hazards (geologic hazards, flood, typhoons, earthquakes) in the establishment of the project."

Consequently, under the column Neither Compliant, the item, "The recreational facility/resort project considered natural hazards *(geologic hazards, flood, typhoons, earthquakes)* in the establishment of the project" garnered 23.5 percent responses from the respondents. Meanwhile, under the column non-compliant, the item, "The recreational facility/resort project's facilities are accredited per provisions of rules and regulations", garnered about 5.9 percent responses from the respondents of the survey. There are also 23.5 percent of the respondents that answered, Not Applicable, for the item, "The recreational facility/resort project considered natural hazards *(geologic hazards, flood, typhoons, earthquakes)* in the establishment of the project."

The highest rating obtained for the indicator or item regarding the "ecotourism/recreational facility project has also attracted local tourists to go to this place and acquire hospitality, and tourism services implies that ecotourism is not just about attracting foreign visitors or foreign tourists to visit the tourism spots, but it also implies that local tourism also attracts visitors locally or from the same region to acquire the services of tourism facilities

Table 7Compliance to Environmental Policies of Ecotourism and Recreational Facilities as to Economic Prosperity

Indicators	Compliant		Neither Compliant		Non-Compliant		Not Applicable	
	f	%	f	%	f	%	f	%
1. The recreational facility/resort project conforms with the tourism development plan of DOT and/or its Local Government Unit	37	72.5	11	21.6	2	3.9	1	2.0
2. National/local permits and licenses were secured and up to date by the ecotourism/ recreational facility/resort project	39	76.5	8	15.7	1	2.0	3	5.9
3. The recreational facility/resort project considered natural hazards *(geologic hazards, flood, typhoons, earthquakes* in the establishment of the project	27	52.9	12	23.5	0	0	12	23.5
4. Ecotourism/ recreational facility/resort project contributes additional revenues such as taxes for the government	47	92.1	3	5.9	1	2.0	0	0
5. The recreational facility/resort project has created job opportunities among the residents	45	88.2	5	9.8	1	2.0	0	0

of the host community								
6. The recreational facility/resort project has improved the socio-economic of the residents in the community	45	88.2	6	11.8	0	0	0	0
7. The ecotourism/ recreational facility/resort project has also attracted local tourists to go to this place and acquire hospitality, and tourism services	49	96.0	2	3.9	0	0	0	0
8. The recreational facility/resort project conforms to the applicable standards for infrastructure	42	82.3	8	15.7	1	2.0	0	0
9. The recreational facility/resort project's facilities are accredited per provisions of rules and regulations	38	74.5	7	13.7	3	5.9	3	5.9
10. The recreational facility/resort project has paid the applicable taxes, dues, and obligations before the implementation of the project	44	86.3	4	7.8	1	2.0	2	3.9
11. The ecotourism /recreational facility/resort project's fee system extends to conservation, preservation, and enhancement of the environment	41	80.4	7	13.7	1	2.0	2	3.9

Meanwhile, the lowest rating derived under the Compliant column for the indicator regarding "the recreational facility/resort project considered natural hazards (geologic hazards, flood, typhoons, earthquakes) in the establishment of the project" implies that at least more than half of the respondents are taking into consideration the natural hazards establishing their projects.

Social Equity. Table 8 shows that 92.2 percent of the 51 respondents answered that among the 11 indicators for social equity, the item regarding "recreational facility/resort projects utilized local labor in establishing or constructing the project" gained the highest rating for compliance. Meanwhile, the lowest rating gathered 27.4 percent of the respondents answered or compliant for the item regarding "the recreational facility/resort projects providing any information on the cultural value of sites or communities or of important species and the critical habitat in the locality."

Table 8 Compliance to Environmental Policies of Ecotourism and Recreational Facilities as to Social Equity

Indicators	Compliant		Neither Compliant		Non-Compliant		Not Applicable	
	f	%	f	%	f	%	f	%
1. The recreational facility/resort project has implemented any information, education, and communication campaign on environmental awareness and conservation. *(e.g. waste segregation, water, energy conservation, etc.)*	21	41.2	27	52.9	2	3.9	1	2.0
2. The recreational facility/resort project provides any information on the cultural value of sites or communities or of important species and the critical habitat in the locality	14	27.4	29	56.9	2	3.9	0	0

3. The recreational facility/resort project utilized local labor in establishing or constructing the project	47	92.2	4	7.8	0	0	0	0
4. The recreational facility/resort project utilized local materials in establishing or constructing the project	45	88.2	0	0	0	0	0	0
5. The recreational facility/resort project trained guides and/or frontline staff to minimize impacts on local cultures	34	66.7	15	29.4	2	3.9	0	0
6. Local authorities are well informed about the recreational facility/resort project before the implementation	43	84.3	7	13.7	1	2.0	0	0
7. The staff are properly trained by DENR, DOT, and other certified training providers to fulfill/apply ecotourism activities	19	37.2	23	45.1	6	11.8	3	5.9
8. The recreational facility/resort project is gender responsive	41	80.4	9	17.6	1	2.0	0	0
9. The recreational facility/resort project does not affect any archeological and/or culturally sensitive area near the project	37	72.5	6	11.8	8	15.7	0	0
10. The recreational facility/resort project has considered the Indigenous People (IP) in the implementation of the project	19	37.2	13	25.5	0	0	19	37.2
11. The recreational facility/resort project has a feedback mechanism being implemented	26	51.0	15	29.4	5	9.8	5	9.8

Meanwhile, for the column Neither Compliant, the item about "The recreational facility/resort project provides any information on the cultural value of sites or communities or of important species and the critical habitat in the locality" garnered the highest response of 56.9 percent. Under the Non-Compliant column, the item, "The recreational facility/resort project does not affect any archeological and/or culturally sensitive area near the project" garnered the highest response of 15.7 percent, while under the Not Applicable column, there are 37.2 percent responses for the item "The recreational facility/resort project has considered the Indigenous People (IP) in the implementation of the project."

The high score garnered for the Neither Compliant for the item "The recreational facility/resort project provides any information on the cultural value of sites or communities or of important species and the critical habitat in the locality" and the high result under Non Compliant for item, " The recreational facility/resort project does not affect any archeological and/or culturally sensitive area near the project" imply that there is a need for a strong partnership between the government agencies, whether it is national agencies or local government units and recreational facilities in order to improve tourism industry and/or local tourism that could bring about a more positive appreciation of the local culture or of natural resources.

Meanwhile, the high result under Not Applicable for item, "The recreational facility/resort project has considered the Indigenous People (IP) in the implementation of the project" implies that most of the development for ecotourism and recreational facilities are more concentrated near urban centers, hence they are not most likely to contribute significant changes to the indigenous peoples communities.

Test for Significant Relationship between the Profile and Compliance to the Environmental Policies of Ecotourism and Recreational Facilities

The study also tested if there is a significant relationship that exists between the profile of the ecotourism and recreational facilities and their compliance to the environmental policies in terms of environmental quality,

economic prosperity and social equity as shown in Tables 9-11. Generally, the profile has no significant relationship to the compliance on environmental policies of ecotourism and recreational facilities. Thus, the null hypothesis is not rejected. However, by looking closely along the indicators of each parameter, a significant relationship exists.

Environmental Quality. Table 9 highlights the significant relationship between the profile and the compliance to environmental policies of ecotourism and recreational facilities in terms of environmental quality. It can be noted that in terms of environmental quality, it is only through offered services (17.394, ρ-value=.008) where "the project has an approved Foreshore Lease Agreement (FLA)/Miscellaneous Lease Agreement (MLA)/ Forest Land Use Agreement for Tourism (FLAGt)" that it obtains significant relationship.Such is also observed along the profile national/local permits/certificates issuances (44.442, ρ-value=.000) and the indicator on "project has an issued Environmental Compliance Certificate." Lastly on environmental quality, the indicator that "the recreational resort/facility has a Materials Recovery Facility (MRF)" also obtained a significant relationship along type of management (19.991, ρ-value=0.024). The rest of the indicators on its corresponding parameters obtain non-significant relationship.

The significant relationship between the profile and the indicator, "The project has an approved Foreshore Lease Agreement (FLA) / Miscellaneous Lease Agreement (MLA) / Forest Land Use Agreement for Tourism (FLAGt)" implies that there is really a need to secure the right tenurial requirements prior to any project development particularly if it is located in areas such as timberland, protected area or within foreshore areas. It also shows a significant relationship along the National/ Local Permits and the indicator, "The project was issued an Environmental Compliance Certificate."

Table 9 Significant Relationship between the Profile and the Compliance to the Environmental Policies of Ecotourism and Recreational Facilities in terms of Environmental Quality

Indicators	Profile				
	Offered Services	No of Trainings	Type of Management	Number of Employees	Nat'l/ Local/ Permits/ Licenses
Environmental Policy					
1. The project has an approved Foreshore Lease Agreement (FLA) / Miscellaneous Lease Agreement (MLA) / Forest Land Use Agreement for Tourism (FLAGt)	17.394* (.008)	8.364 (.498)	9.060 (.432)	6.972 (.640)	19.217 (.379)
2.The project was issued an Environmental Compliance Certificate.	10.393 (.109)	9.271 (.413)	11.972 (.215)	8.121 (.522)	44.442* (.000)
3. The project has maintained the correct easement from riverbanks, creeks, coasts, salvage zone (whichever is applicable).	3.490 (.745)	8.524 (.462)	9.727 (.373)	10.154 (.338)	14.730 (.680)
4. The owner/proponent has undergone Managing Head Training for Environmental Management.	3.000 (.809)	9.954 (.354)	6.528 (.686)	5.970 (.743)	22.369 (.216)
5. The recreational facility/resort project has an accredited Pollution Control Officer for environmental management concerns.	7.531 (.274)	10.528 (.309)	9.586 (.385)	9.595 (.384)	17.692 (.476)
6. The project has a valid wastewater	4.876	7.048	6.106	5.598	19.152

discharge permit for its septic tank and/or wastewater treatment facility.	(.560)	(.632)	(.729)	(.779)	(.383)
7. The recreational facility/resort project is implementing waste segregation at the source.	5.123 (.528)	6.738 (.664)	2.033 (.991)	7.956 (.575)	21.969 (.233)
8. The recreational facility/resort project has a Materials Recovery Facility (MRF).	5.028 (.540)	14.849 (.095)	19.991* (.024)	11.362 (.252)	19.152 (.383)
9. The recreational facility/resort project has a temporary hazardous waste storage facility (TSD).	.4891 (.558)	8.495 (.485)	10.601 (.304)	12.219 (.201)	21.969 (.233)

*significant @ 0.05 significant level

Economic Prosperity. The indicators in terms of economic prosperity and the profile were also tested using the same statistical tool. Table 10 shows that the indicator "national/local permits and licenses were secured and up to date by the ecotourism/ recreational facility/resort project" has a significant relationship in relation to the number of trainings (23.024, ρ-value=.006), type of management (39.915, ρ-value=.000) and number of employees (22.747, ρ-value=.007). Similarly, the indicator along "ecotourism/ recreational facility/resort project contributes additional revenues such as taxes for the government" and the number of trainings of employees (17.235, ρ-value=.008) has a significant relationship on the variables considered.

Such result is possible if the employees of the recreational resort/facility have enough background or trainings on how to run the business. Further, a relationship exists again when it comes to indicator on "the recreational facility/resort project conforms to the applicable standards for infrastructure" along number of trainings (17.844, ρ-value=.007) and type of management (15.640, ρ-value=.016).

Table 10Significant Relationship between the Profile and the Compliance to the Environmental Policies of Ecotourism and Recreational Facilities in terms of Economic Prosperity

Indicators	Profile				
	Offered Services	Number of Trainings	Type of Management	Number of Employees	National/ Local/ Permits/ Licenses
Economic Prosperity					
1. The recreational facility/resort project conforms with the tourism development plan of DOT and/or its Local Government Unit.	3.875 (.694)	3.081 (.961)	3.590 (.936)	5.045 (.830)	13.143 (.783)
2. National/local permits and licenses were secured and up to date by the ecotourism/ recreational facility/resort project	7.543 (.274)	23.024* (.006)	39.915* (.000)	22.747* (.007)	11.909 (.852)
3. The recreational facility/resort project considered natural hazards (geologic hazards, flood, typhoons, earthquakes) in the establishment of the project	6.532 (.163)	6.930 (.327)	11.847 (.065)	6.237 (.397)	10.590 (.564)

4. Ecotourism/ recreational facility/resort project contributes additional revenues such as taxes for the government.	.814 (.937)	17.235* (.008)	.808 (.992)	3.160 (.788)	5.243 (.949)
5. The recreational facility/resort project has created job opportunities among the residents of the host community.	2.975 (.562)	1.389 (.967)	1.265 (.974)	1.629 (.950)	7.750 (.804)
6. The recreational facility/resort project has improved the socio-economic of the residents in the community.	4.038 (.133)	1.885 (.597)	1.265 (.737)	.924 (.820)	6.063 (.416)
7. The ecotourism/ recreational facility/resort project has also attracted local tourists to go to this place and acquire hospitality, and tourism services.	4.554 (.103)	1.626 (.654)	.387 (.943)	5.501 (.139)	2.429 (.876)
8. The recreational facility/resort project conforms to the applicable standards for infrastructure.	6.061 (.195)	17.844* (.007)	15.640* (.016)	4.487 (.611)	8.746 (.724)
9. The recreational facility/resort project's facilities are accredited per provisions of rules and regulations.	7.176 (.260)	25.468* (.002)	41.039* (.000)	20.476* (.015)	14.412 (.720)
10. The recreational facility/resort project has paid the applicable taxes, dues, and obligations before the implementation of the project.	12.774* (.047)	48.243* (.000)	63.400* (.000)	25.484* (.002)	17.045 (.520)
11. The ecotourism /recreational facility/resort project's fee system extends to conservation, preservation, and enhancement of the environment.	5.895 (.435)	12.849 (.170)	5.334 (.804)	6.753 (.663)	18.149 (.446)

*significant @ 0.05 significant level

The compliance on the indicator on "recreational facility/resort project's facilities are accredited per provisions of rules and regulations" and the profile along number of trainings (25.468, ρ-value=.002) type of management (41.039, ρ-value=.000) and number of employees (20.476, ρ-value=.015) also garnered significant relationships on the mentioned variables. Finally, significant relationship once again exists on the compliance along "recreational facility/resort project has paid the applicable taxes, dues, and obligations before the implementation of the project" as economic prosperity indicator and the profile on offered services (12.774, ρ-value=.047 number of trainings (48.243, ρ-value=.000), type of management (63.400, ρ-value=.000) and number of employees (25.484, ρ-value=.002). Other indicators for economic prosperity and the profile of the recreational resort/facility have no significant relationship.

The significant relationship between the profile and the compliance to environmental policies of ecotourism and recreational facilities in terms of economic prosperity specifically along the profiles, number of trainings, type of management and number of employees and the indicators, "National/local permits and licenses were secured and up to date by the ecotourism/ recreational facility/resort project;" "Ecotourism/ recreational facility/resort project contributes additional revenues such as taxes for the government;" "The recreational facility/resort project conforms to the applicable standards for infrastructure;" "The recreational facility/resort project's facilities are accredited per provisions of rules and regulations."

Social Equity. The indicators in terms of social equity and the profile were also tested using the same

statistical tool. Table 11 shows the result of the significant relationships.

It can be noted in the Table 11 that the indicator on **"**the recreational facility/resort project has implemented any information, education, and communication campaign on environmental awareness and conservation (e.g. waste segregation, water, energy conservation, etc.)" and profile on number of trainings (27.399, ρ-value=.001) and national/local permits/certificates issuances (35.921, ρ-value=.007) have significant relationships. Such is evident since the recreational resorts/facilities are compliant to the requirements set by the appropriate agencies for establishing the business.

Meanwhile, the compliance on the indicator on "recreational facility/resort project provides any information on the cultural value of sites or communities or of important species and the critical habitat in the locality" and number of trainings of employees (17.824, ρ-value=.037), have significant relationship on the mentioned variables. The same relationships are obtained on profile along number of trainings and for the indicators on "recreational facility/resort project does not affect any archeological and/or culturally sensitive area near the project" (22.049, ρ-value=.001) and on: the recreational facility/resort project has considered the Indigenous People (IP) in the implementation of the project" (17.301, ρ-value=.008). Other indicators for social equity have no significant relationship on the profile of the recreational resort/facility.

Table 11 Significant Relationship between the Profile and the Compliance to the Environmental Policies of Ecotourism and Recreational Facilities in terms of Social Equity

Indicators	Profile				
	Offered Services	Number of Trainings	Type of Management	Number of Employees	National/ Local/ Permits/ Licenses
Social Equity					
1. The recreational facility/resort project has implemented any information, education, and communication campaign on environmental awareness and conservation *(e.g. waste segregation, water, energy conservation, etc.)*	5.841 (.441)	27.339* (.001)	4.948 (.839)	6.677 (.671)	35.921* (.007)
2. The recreational facility/resort project provides any information on the cultural value of sites or communities or of important species and the critical habitat in the locality	3.681 (.720)	17.824* (.037)	7.498 (.585)	7.860 (.548)	15.447 (.631)
3. The recreational facility/resort project utilized local labor in establishing or constructing the project.	3.291 (.510)	6.582 (.361)	1.031 (.984)	2.028 (.917)	4.316 (.977)
4. The recreational facility/resort project utilized local labor in establishing or constructing the project.	4.038 (.133)	1.885 (.597)	1.265 (.737)	.924 (.820)	4.541 (.604)
5. The recreational facility/resort project trained guides and/or frontline staff to minimize impacts on local cultures.	5.937 (.430)	7.275 (.609)	14.707 (.099)	7.633 (.572)	21.435 (.258)
6. Local authorities are well informed about the recreational facility/resort project	4.190	5.684	7.093	6.082	5.761

before the implementation.	(.381)	(.459)	(.312)	(.414)	(.928)
7. The staff are properly trained by DENR, DOT, and other certified training providers to fulfill/apply ecotourism activities.	4.127 (.660)	11.131 (.267)	8.688 (.467)	8.133 (.521)	15.884 (.601)
8. The recreational facility/resort project is gender responsive.	2.943 (.567)	10.288 (.113)	10.877 (.092)	6.746 (.345)	6.155 (.908)
9. The recreational facility/resort project does not affect any archeological and/or culturally sensitive area near the project.	2.498 (.645)	22.049* (.001)	2.052 (.915)	4.781 (.572)	7.023 (.856)
10.The recreational facility/resort project has considered the Indigenous People (IP) in the implementation of the project.	2.078 (.721)	17.301* (.008)	8.684 (.192)	5.745 (.452)	10.196 (.599)
11.The recreational facility/resort project has a feedback mechanism being implemented.	2.077 (.912)	10.221 (.333)	7.199 (.616)	7.031 (.634)	8.936 (.961)

*significant @ 0.05 significant level

The significant relationship between the profile and the compliance to environmental policies of ecotourism and recreational facilities in terms of social equity specifically along the profile number of trainings and the indicators, “The recreational facility/resort project does not affect any archeological and/or culturally sensitive area near the project” and “The recreational facility/resort project has considered the Indigenous People (IP) in the implementation of the project” implies that attendance to mandated trainings for ecotourism and recreational facilities provides better understanding for project proponents in the implementation of their projects to be more archeologically and culturally sensitive in their surrounding environment. will ensure the sustainability of protecting and conserving the existing natural resources.

Impact of the Compliance to Environmental Policies of Ecotourism and Recreational Facilities to Sustainable Development

Tables 12 to 16 show the impact of the compliance to environmental policies of ecotourism and recreational facilities to sustainable development in terms of environmental quality, economic prosperity, and social equity.

Environmental Quality. Table 12 shows that among the sets of indicators for the impact of compliance to environmental policies to sustainable development in terms of environmental quality, 52.9 percent of the 51 respondents answered that it is a major impact in terms of “the ecotourism/recreational facility/resort project makes the people realize the importance of environmental conservation due to its sensitivity to environmental change and abuse.” There is also 29.4 percent of the respondents that answered that there is a minor impact in terms of the indicator, “there is an increase in the volume of garbage or solid waste produced and discarded in the environment because of the project.” Meanwhile, 41.2 percent of the respondents perceived that there is no significant impact in terms of “the ecotourism/ recreational facility/resort project has contributed to the increased risk in security and health of the immediate community because of the tourist arrival.”

Table 12Impact of Compliance to Environmental Policies of Ecotourism and Recreational Facilities to Sustainable Development as to Environmental Quality

Indicators	Major		Minor		Not Significant		Not Applicable	
	f	%	f	%	f	%	f	%
1. The ecotourism/ recreational facility/resort project affected and/or alter the area's marine	2	3.9	6	11.8	7	13.7	36	70.6

biodiversity and aquamarine life								
2. The ecotourism/ recreational facility/resort project makes the people realize the importance of environmental conservation due to their sensitivity to environmental change and abuse	27	52.9	14	27.4	6	11.8	4	7.8
3. The ecotourism/ recreational facility/resort project disturbs wildlife and habitats.	3	5.9	3	5.9	18	35.3	27	52.9
4. The ecotourism/recreational resort project has caused disruption and damage to the existing use of natural resources on the site	3	5.9	6	11.8	18	35.3	24	47.0
5. The ecotourism/ recreational facility/resort project has significantly altered the natural landscape of the environment.	6	11.8	9	17.6	19	37.3	17	33.3
6. The ecotourism/ recreational facility/resort project has contributed to the increased risk in security and health of the immediate community because of the tourist arrival.	6	11.8	11	21.6	21	41.2	13	25.5
7. The ecotourism / recreational facility/ resort project has increased the risk of people to exposure to natural hazards (an active volcano, fault line, storm surges, erosion and siltation, landslide areas, etc.)	3	5.9	7	13.7	14	27.4	27	52.9
8. The project has increased the risk of affecting the source of water intended for use (domestic and recreational) in the area.	3	5.9	9	17.6	16	31.4	23	45.1
9. The recreational facility/resort project generates wastewater being discharged to the environment from the operation.	8	15.7	12	23.5	17	33.3	14	27.4
10. There is an increase in the volume of garbage or solid waste produced and discarded in the environment because of the project	3	11.8	15	29.4	19	37.3	11	21.6
11. The living condition of the host community has been altered because of the operation of the ecotourism / recreational facility/ resort project.	5	9.8	13	25.5	19	37.3	14	27.4

Also, under the not applicable column there are 70.6 percent of the respondents that answered that they perceived that the indicator, "the ecotourism/recreational/resort project affected and/or alter the area's marine biodiversity and aquamarine life has a severe or major impact" does not apply to their operation.

The highest result of 52.9 percent responses relative to the major impact in terms of "the ecotourism/recreational facility/resort project makes the people realize the importance of environmental conservation due to their sensitivity to environmental change and abuse" implies that due to ecotourism, people have become more conscious and more aware of the positive and negative impact of tourism.

Meanwhile, the 29.4 percent of the respondents that answered that there is a minor impact in terms of the indicator, "there is an increase in the volume of garbage or solid waste produced and discarded in the environment because of the project" implies that the respondents perceived that the ecotourism and recreational projects cause a minor impact in the environment. Meanwhile, the low score of 3.9 percent that answered that the indicator, "the ecotourism / recreational /resort project affected and/or alter the area's marine biodiversity and aquamarine life" has a major impact which implies that the majority of the ecotourism and recreational facility project is not located in a sensitive area where there is a great risk on biodiversity and aquamarine life.

Economic Prosperity. Table 13 shows that among the sets of indicators for impact of compliance to

environmental policies on sustainable development in terms of economic prosperity, 68.6 percent answered under the column major impact for item, "the recreational facility/resort project has increased the tourism potential of the locality." Meanwhile, there are 56.9 percent of the respondents that answered under the column minor impact for indicator, "recreational facility/resort project allocated funds from their budget for any environmental damages caused by the project" and both 23.5 percent for not significant and not applicable for indicator, "the project resulted in the improvement of e-commerce such as money changing, loading station, atm, and other small- medium enterprises in the area. Meanwhile, there is also a need for ecotourism and recreational facilities to set aside funds for their budget for environmental concerns particularly for environmental damages. There are 56.9 percent of the respondents that answered that it has a minor impact in terms of economic prosperity.

Table 13Impact of the Compliance to Environmental Policies of Ecotourism and Recreational Facilities to Sustainable Development as to Economic Prosperity

Indicators	Major		Minor		Not Significant		Not Applicable	
	f	%	f	%	f	%	f	%
1. The recreational facility/resort project provided income and taxes that can be used for the conservation of the natural environment	24	47.0	22	43.1	4	7.8	1	2.0
2. The recreational facility/resort project allocated funds from their budget for any environmental damages caused by the project.	16	31.4	29	56.9	11	21.6	5	9.8
3. The project resulted in the improvement of e-commerce such as money changing, loading station, atm, and other small-medium enterprises in the area	11	21.6	16	31.4	12	23.5	12	23.5
4. The project resulted in the improvement of e-commerce such as money changing, loading station, atm, and other small-medium enterprises in the area.	19	37.3	24	47.0	5	9.8	3.	5.9
5. The recreational facility/resort project provided an economic benefit to the community such as income and employment	28	54.9	16	31.4	5	9.8	2	3.9
6. The revenue sharing system is in place including payment of taxes.	27	52.9	15	29.4	5	9.8	11	21.6
7. The recreational facility/resort project has increased the tourism potential of the locality.	35	68.6	14	27.4	2	3.9	0	0
8. The ecotourism / recreational facility/resort project has increased the tourism potential of the locality.	35	68.6	14	27.4	2	3.9	0	0
9. The ecotourism / recreational facility/resort project resulted in improved governance of local authorities in terms of health, safety, security, and handling of tourists	28	54.9	6	31.4	7	13.7	0.	0
10. The ecotourism / recreational facility/resort project resulted in improved electrification and communication in the locality.	29	56.9	11	21.6	6	11.8	5	9.8
11. The recreational facility/resort project can manage its waste produced such as solid waste, wastewater, and hazardous waste without much intervention from the outside	29	54.6	17	33.3	5	9.8	0	0

Social Equity. Table 14 shows that the high score of 62.7 percent of the 51 respondents answered major impact on the indicator "the ecotourism / recreational facility/resort project resulted in a more positive perspective in caring for the environment among the local community" on the compliance of ecotourism and recreational facilities to sustainable development in terms of socio-economic dimension.

Meanwhile, the high score of 51 percent was generated for minor impact column for indicator, "there is an uncontrolled influx of population during the peak season because of the ecotourism / recreational facility/resort project" and a high score of 41.2 and 29.4 percent for indicator, "the ecotourism / recreational facility/resort project has activities that pose threat to the natural environment" both for not significant and not applicable columns, respectively in terms of socio-economic dimension.

The high score generated for major impact in terms of the impact to compliance to environmental policies shows, "The ecotourism/recreational facility resort project resulted in a more positive perspective on caring for the environment." among the local community". This is evident on the number of ecotourism and recreational facilities that were sprouting with mixed structures or integrating new construction ideas with the nature-based surroundings. This is also evident on the establishment of the Municipal Environment and Natural Resources Officer or the continuous designation of focal person per municipality as head of the MENRO and more stable collaborations between the LGUs and EMB as well as the Provincial and Municipal LGUs in terms of monitoring ecotourism facilities.

Moreover, the score of 51 percent of the 51 respondents believed that an "uncontrollable influx of population during the peak season" has minor impact in terms of the social dimension when it comes to compliance to environmental policies. Meanwhile, the high score of not significant and not applicable for indicator, "the ecotourism/recreational facility/resort project has activities that pose threat to the natural environment" implies that respondents perceived that the ecotourism and recreational facilities including the services they have to offer to their clients pose no threat to the natural environment. In addition, the case of Boracay has exhibited this kind of implication of how the development and movement of visitors have affected the environment. As mentioned by Mahtani et al. (2018), there was a failure in the implementation of regulations resulting in hotels violating environmental laws such as failing to install wastewater treatment facilities. The issue of widespread corruption in the system of government also affects environmental compliance according to Mahtani et al. (2018).

Table 14Impact of the Compliance to Environmental Policies of Ecotourism and Recreational Facilities to Sustainable Development as to Social Equity

Indicators	Major f (%)	Minor f(%)	Not Significant f(%)	Not Applicable f(%)
1. The ecotourism / recreational facility/resort project resulted in a more positive perspective on caring for the environment among the local community.	32 (62.7%)	18 (35.3%)	1 (2.0%)	0 (0%)
2. There is an uncontrolled influx of population during the peak season because of the ecotourism / recreational facility/resort project.	11 (21.6%)	26 (51.0%)	10 (19.6%)	4 (7.8%)
3. The ecotourism / recreational facility/resort project has resulted in the improvement of roads and transportation in the community.	25 (49.0%)	14 (27.4%)	9 (17.6%)	4 (7.8%)
4. The recreational facility/resort project provided different ideas to improve livelihood in the local community.	25 (49.0%)	15 (29.4%)	7 (13.7%)	4 (7.8%)

5. The project has increased the awareness of the local community in protecting the natural resources.	22 (43.1%)	21 (41.2%)	6 (11.8%)	2 (3.9%)
6. The ecotourism / recreational facility/resort project has encouraged the community to promote local products for tourists.	24 (47.1%)	17 (33.3%)	7 (13.7%)	3 (5.9%)
7. The project has increased the number of people employed to manage and protect the environment in the area.	26 (51.0%)	12 (23.5%)	12 (23.5%)	1 (2.0%)
8. The recreational facility/resort project has continuous training provided for the staff about the operation of the project.	16 (31.4%)	23 (45.1%)	7 (13.7%)	5 (9.8%)
9. There is a revenue-generated sharing system in place such as compensation packages, etc., resulting in the operation project.	16 (31.4%)	17 (33.3%)	9 (17.6%)	9 (17.6%)
10. The ecotourism / recreational facility/resort project has activities that pose threat to the natural environment.	7 (13.7%)	7 (13.7%)	21 (41.2%)	15 (29.4%)
11. The basic design of the site has affected the harmony of its existing surroundings including a well-planned visitors' movement and taking into consideration the natural resources environment.	11 (21.6%)	13 (25.5%)	16 (31.4%)	11 (21.6%)

Test for Significant Relationship between the Compliance to Environmental Policies of Ecotourism and Recreational Facilities and its Impact to Sustainable Development

The significant relationship on the compliance of ecotourism and recreational facilities to environmental policies and its impact on sustainable development was tested using Somers' d along the three dimensions, environmental quality, economic prosperity and social equity. Table15 shows that generally, the indicators tested along environmental quality, economic prosperity and social equity obtained no significant relationship at 0.05 significant level. Thus, the null hypothesis is not rejected. The compliance to environmental policies is not significantly related to its impact to sustainable development. However, it can be observed from the table that there are indicators where a significant relationship exists like the first indicator, "the recreational facility/resort project conforms with the tourism development plan of DOT and/or its Local Government Unit" and the impact to sustainable development indicator, "the recreational facility/resort project provided income and taxes that can be used for the conservation of the natural environment" (.391, ρ-value=.008).

Table 15Significant Relationship between the Compliance to Environmental Policies of Ecotourism and Recreational Facilities and Impact to Sustainable Development

Compliance (Environmental Policy, Economic Prosperity, Social Equity) Indicator Number	Impact to Sustainable Development						Conclusion
	Environmental Policy		Economic Prosperity		Social Equity		
	D	ρ-value	d	ρ-value	d	ρ-value	
1	.130	.264	.391*	.008	.101	.421	
2	-.103	.466	.223	.145	-.058	.684	

3	.140	.235	.021	.879	-.393	.065	Generally, not significant
4	.026	.814	-.230	.346	-.052	.809	
5	.050	.711	.305	.226	.320*	.029	
6	.204	.082	.237	.313	.057	.765	
7	.077	.504	.837	.140	.115	.393	
8	-.192	.111	.573*	.002	.210	.257	
9	.107	.632	.297	.060	.062	.724	
10	-.032	.804	.388*	.042	.023	.869	
11	.165	.161	-.136	.435	.161	.214	

*significant @ 0.05 significant level

Similarly, along the eighth indicator for compliance to environmental policies, "the recreational facility/resort project conforms to the applicable standards for infrastructure" and impact to sustainable development eighth indicator "the ecotourism/recreational facility/resort project has increased the tourism potential of the locality", a relationship exists between the variables considered (.573, ρ-value=.002). Further, a significant relationship also exists along the tenth indicator for compliance to environmental policies, "the recreational facility/resort project has paid the applicable taxes, dues and obligations before the implementation of the project" and for impact to sustainable development, "the ecotourism/recreational/resort project resulted in improved electrification and communication in the locality" between the variables considered (.388, ρ-value=.042).

Meanwhile, the indicators in terms of social equity were also tested using the same statistical tool. On the compliance to environmental policies the fifth indicator, "the recreational facility/resort project trained guides and/or frontline staff to minimize impacts on local cultures" and the impact to sustainable development fifth indicator "the project has increased the awareness of the local community in protecting the natural resources", a relationship exists between the variables considered (-.320, ρ-value=.029). Generally, the rest of the indicators have no significant relationship.

The results exhibit that there is a significant relationship between the compliance to environmental laws of ecotourism and recreational facilities and impact to sustainability development in terms of economic dimension. This holds true particularly that the country recognizes the potential of ecotourism industry to alleviate poverty of the country. Tourism development is an integral part of nation-building as it improves the quality of life of Filipinos by providing appropriate support and mechanism for the growth of tourism industry. The sustainability of the tourism industry will hold true if it is culturally sensitive, economically viable and ecologically sustainable.

Effects of the Issues and Challenges of Compliance to Environmental Policies

Table 16 presents the effects of the issues that the ecotourism and recreational facilities perceived that most likely affected or influenced their compliance to environmental policies, rules and regulations. Among the issues identified, "the shift to online permitting requirements by the LGUs and NGAs has made it more difficult for ecotourism and recreational facilities to secure clearances and permits obtained the highest weighted mean score of 2.16.

The identified issue, "the lack of awareness of environmental laws and policies by the LGUs" affected the compliance to environmental policies got a mean score of 2.08. Breaking down other issues identified show that the issue about "the checklist for tourism accreditation does not require the necessary environmental clearances (ECC, WWDP, etc.) before accreditation and operation and the issue that "local government units permitting is anchored more on economic consideration rather than on environmental protection and social equity," both got a weighted mean score of 2.14. As shown in the table all the identified issues moderately

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

affected their compliance with the environmental laws, policies and regulations in one way in one way or another with an average weighted mean score of 2.08

Table 16Effects of the Issues and Challenges of Compliance to Environmental Policies

Indicators	Weighted Mean	Interpretation
Issues:		
1. The checklist for tourism accreditation does not require the necessary environmental clearances (*ECC, WWDP, etc*.) before accreditation and operation.	2.14	Moderate
2. The Local Government Units permitting is anchored more on economic consideration rather than on environmental protection and social equity.	2.14	Moderate
3. The shift to online permitting requirements by the LGUs and NGAs has made it more difficult for ecotourism to secure clearances and permits.	2.16	Moderate
4. There is a lack of awareness of environmental laws and policies by the LGUs.	2.08	Moderate
Average Weighted Mean	2.13	Moderate
Challenges:		
1. Lack of manpower of ecotourism and recreational facilities to comply with the basic requirements of environmental laws and policies.	2.18	Moderate
2. The absence of environmental inspectors that monitor the compliance of ecotourism and recreational facilities.	2.02	Moderate
3. The ecotourism / recreational facility/resort project has been monitored and issued with a Notice of Violation or Notice of Adverse Findings from DENR -EMB before permitting compliance.	2.63	Moderate
4. Implementation of lockdowns or restrictions on travel because of the pandemic.	2.27	Severe
Average Weighted Mean	2.25	Severe

Scale:

1.00 - 1.75 - Not an Issue/Challenge

1.76 - 2.25 -Moderate

2.26 - 3.00 -Severe

Meanwhile, on the challenges the ecotourism and recreational facilities perceived that most likely this indicator affected or influenced their compliance to environmental policies, rules, and regulations, “the implementation of lockdowns and restrictions on travel because of pandemic” with the highest weighted mean score of 2.63. Meanwhile, the challenge, “the ecotourism and recreational facility/resort project has been monitored and issued w ith a Notice of Violation or Notice of Adverse Findings from DENR-EMB before permitting compliance” resulted to a weighted mean of 2.02

The other challenges are “the lack of manpower of ecotourism and recreational facilities to comply with the

basic requirements of environmental laws" and policies with a weighted mean score of 2.25 and "the absence of environmental inspectors that monitor the compliance of ecotourism and recreational facilities" with a weighted mean score of 2.18. With an overall average weighted mean score of 2.27, all the identified challenges severely affected the compliance to environmental laws, policies and regulations of the ecotourism and recreational facilities in Camarines Norte in one way or another.

The benefit of ecotourism and recreational facility in terms of economic prosperity to its host community and to the province as a whole is undeniable as it generates jobs, open new opportunities for investments, and pave way for improvement of infrastructures and other facilities. However, there is a lot that can still be improved. Communication, education, and public awareness by LGUs and and NGAs should give equal emphasis on the environmental management and social aspect.

This will eventually pave way for owners to have a sense of ownership in caring more for the environment and not just for the sake of compliance. Likewise, this also supports the findings of a study that ecotourism has provided economic benefit for local community, however, there are still gaps that needed to be addressed in order to achieve sustainability for this for this industry (Manalo 2017).

Proposed Sustainability Model for Better Compliance of Ecotourism and Recreational Facilities in Camarines Norte to Environmental Laws and Policies

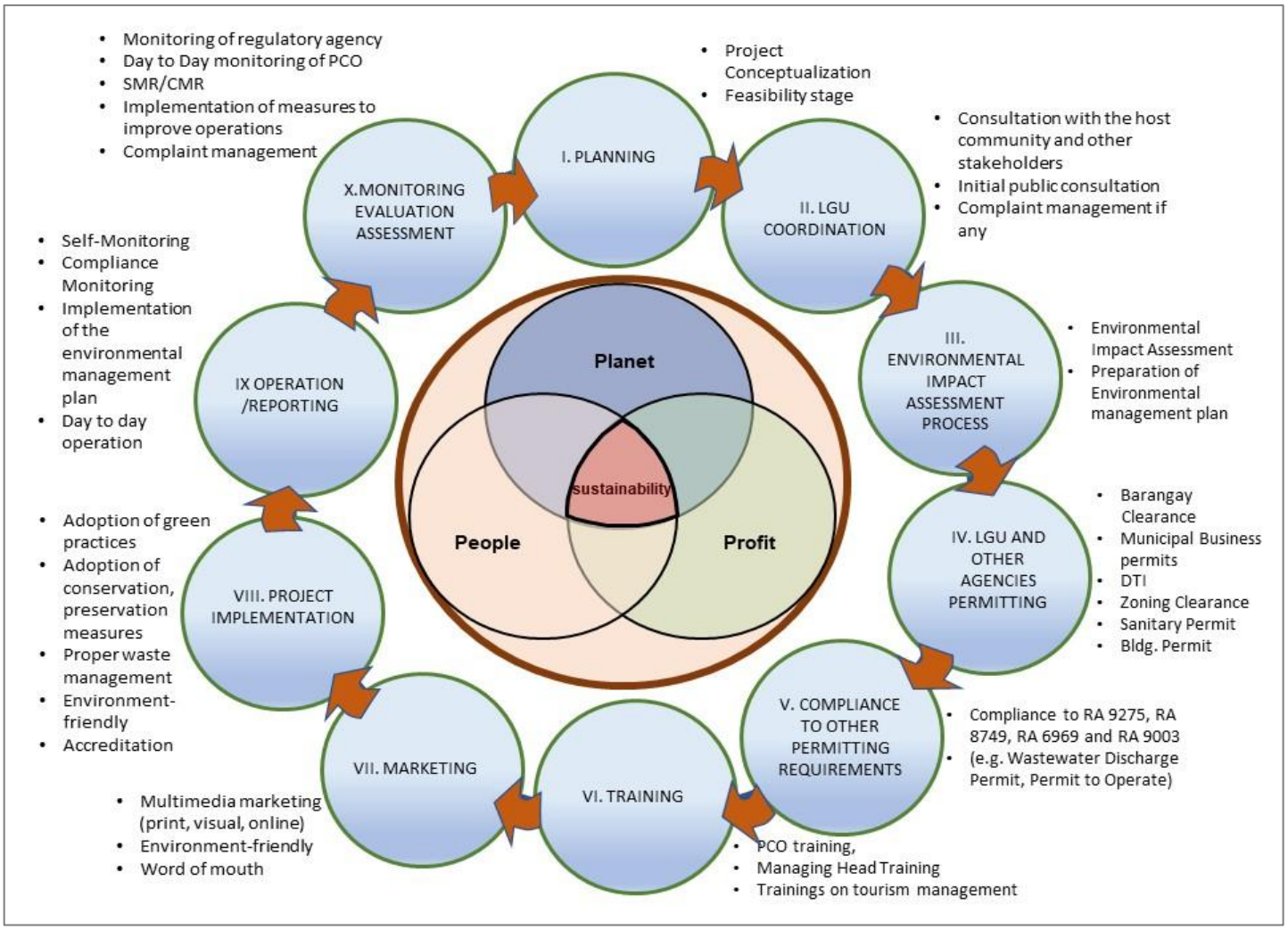
The study found out that in order to ensure sustainability in the tourism industry including the ecotourism and recreational facilities, there is a need to increase the awareness of all the concerned stakeholders, owners of ecotourism and recreational facilities, local government units, academe, people's organizations and all those who have a stake in the tourism industry in terms of what needs to be complied to ensure compliance to existing laws and regulations on environment. It is also beneficial to government agencies like the DENR and DOT as they can work hand in hand in the delivery of services that is most needed to boost local economy and foster balance between development and preservation of the natural resources of the local communities.

This sustainability model will also be beneficial not only to the ecotourism and recreational facilities but also to local authorities in understanding compliances in relation to existing environmental laws and policies. By understanding the cycle, the LGUs could possibly craft measures to support the existing laws.

The sustainability model for better compliance to environmental policies for ecotourism and recreational facilities is designed to be a cycle that the facility would need to undergo for the life of its project. It starts with the planning stage where the project is being conceptualized. In this stage, the proponent of the project can already make use of the ETT for the screening of their proposed project viz-a-viz the necessary requirements by the government for their type of project. In the case of an ecotourism project, the proponent can already use the 62 structured questions that are grouped into eight parameters of ecotourism such as policies, operations and management, socio-cultural, ecotourism products and services, economic benefits, financing/enterprise building, biological and facilities.

The second stage of the model is the coordination with the LGU which is also for the purpose of consultation with the host LGU. In a way, this is to invite public participation to ensure that the project will take off right. These activities can be done while the proponent is still in the planning stage. Similarly at this stage, the proponent can now undergo the Environmental Impact Assessment (EIA) process. In this stage the proponent will also identify measures on how to address the impact of the project. After completing the requirements and once the project is issued with the applicable certification (ECC or CNC), the proponent can now proceed to the next stage.

The fourth stage of the sustainability model is LGU and Other Agencies Permitting. This stage includes the securing of the different permits, clearances from other agencies like barangay and municipal LGUs. The issuance of ECC does not preclude the proponent to secure other permits and clearances from other agencies. The issuance of ECC on the other hand can help the LGUs to ensure that environmental safeguards are established by the project proponent prior to the issuance of business clearances.



Sustainability Model for Better Compliance to Environmental Policies for Ecotourism and Recreational Facilities

The fifth stage is the Compliance to Other Permitting Requirements. This stage ensures the compliance of project proponent with the conditions of other environmental laws. The sixth stage of the model is the Training. Although there are trainings necessary prior to application of necessary permits, this is something that the proponent will continue to undertake in their operation. Aside from the 40 hours Basic Pollution Control Officer Training and Managing Head Training being required, there are also varied trainings an ecotourism and the recreational facility has to undertake prior to its operation. The seventh stage of the sustainability model includes the Marketing. This involves how the ecotourism and recreational facilities market their business. Marketing can be done thru print, online and visual. Ecotourism and recreational facilities should also continually improve their presence online as well as improve their accessibility in terms of answering queries to potential clients.

The eight stage of the model is the Project Implementation Stage. This stage is the project operation wherein the proponent ensures the compliance to all the existing environmental laws including conditions stipulated in their issued permits. The ninth stage is the Operation and Reporting. Although this is also included in the Project Implementation, the researcher created another stage for emphasis. This is the stage wherein the ecotourism and recreational facilities undertake self-monitoring of their day-to-day operation as well as submit necessary monitoring reports such as Quarterly Self-Monitoring Reports and semi-annual Compliance Monitoring Reports. The tenth stage is the Monitoring, Evaluation, Assessment stage. All throughout the project life, the establishment will conduct its self-assessment and monitoring. Likewise, EMB and other agencies and also the LGU concerned can also conduct monitoring on site with respect to compliance.

To complete the whole cycle, the ecotourism and recreational facility can just renew its permits and clearances and the process continues again in a cycle. Otherwise, in case there is a change in the operation whether there is an expansion, change in operation, change in ownership or abandonment of the project, the ecotourism and

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

recreational facility would again go back to the planning stage as reflected in the model. The sustainability model will give the Local Government Units as well as the ecotourism and recreational facilities a guide of what to prepare and where to apply.

The foundation of the sustainable model is still anchored on TBL for its is believed that there should be a balance between planet, people and profit. It relates to the concept of sustainable development that meets the need of the current generation while maintaining conditions and opportunities for future generations through implementation of existing policies related to ecotourism, recreational facilities.

FINDINGS

The study was able to arrive at the following findings:

The profile of the ecotourism and recreational facilities in Camarines Norte in terms of the following services offered, training attended, type of management, number of employees, and environmental clearances/permits shows that:

The type of services offered by ecotourism and recreational facilities in the province of Camarines Norte shows that 62 percent of the 51 responses are "mixed-type structures" while 5.9 percent are "nature-based" and 31.4 percent are "man-made facilities." Information regarding trainings of personnel on environmental management of the 51 respondents for the ecotourism and recreational facilities shows that 68.6 percent have "1-3 trainings on environmental awareness," 5.9 percent have " 10 and trainings" and about 17.8 percent have "no basic training at all on environmental awareness."

1. Majority of the ecotourism and recreational facilities in the province of Camarines Norte are managed as "private single proprietorship" with a result of 84.3 percent of the 51 respondents. There is also 2.0 percent that is managed by the Local Government Unit and 9.8 percent of the respondents are managed by corporations and the remaining 3.9 percent are managed by the National Government.

Sixty point eight (60.8) percent of the total respondents of ecotourism and recreational facilities in the province of Camarines Norte have "4 and below" number of employees during the operation of their ecotourism and recreational facilities. While there is 3.9 percent of respondents who answered that they have employees ranging from "16 and above" during the operation of the facility. Also, there are 27.5 percent of the respondents that answered that they have "5-10" employees and there are 7.8 percent of the total respondents with "11-15" employees employed.

Thirty-seven point two (37.2) percent of the 51 respondents are operating "with all the required and valid permits and licenses including accreditations from various agencies." There is also 3.9 percent of the total respondents "who are not holders of any national or local permits."

2. As to the compliance to environmental policies of ecotourism and recreational facilities to sustainable development along the environmental quality, economic prosperity and social equity, results show that for the set of indicators for environmental quality, the item regarding the "recreational facility/resort project has an accredited Pollution Control Officer for environmental management concerns" obtained the highest score of 82.3 percent. For economic prosperity indicators, the item regarding the "ecotourism/ recreational facility/resort project has also attracted local tourists to go to this place and acquire hospitality, and tourism services" obtained the highest rating of 96 percent of the respondents. Meanwhile, the lowest rating of 52.9 percent of the respondents who answered was obtained for the indicator regarding "recreational facility project have considered natural hazards (geologic hazards, flood, typhoons, earthquakes)" in the establishment of the project.

Meanwhile, for the set of indicators for social equity, there are 92.2 percent of the 51 respondents that answered that, the item regarding "recreational facility/resort projects utilized local labor in establishing or constructing the project" gained the highest rating for compliance. Meanwhile, for the lowest rating gathered, 27.4 percent of the respondents answered compliant for the item regarding "the recreational facility/resort projects providing any information on the cultural value of sites or communities or of important species and the critical habitat in the locality."

3. The test for significant relationship between the profile and compliance to environmental policies of ecotourism and recreational facilities shows that generally, the profile has no significant relationship to the compliance on environmental policies of ecotourism and recreational facilities. Thus, the null hypothesis is not rejected. However, by closely looking into the indicators along each parameter, a significant relationship exists.

In terms of environmental quality, a significant relationship exists between the profile offered services (17.394, ρ-value=.008) where "the project has an approved Foreshore Lease Agreement (FLA)/Miscellaneous Lease Agreement (MLA)/ Forest Land Use Agreement for Tourism (FLAGt)" Similarly, the profile on national/local permits/certificates issuances (44.442, ρ-value=.000) and the indicator on "project has an issued Environmental Compliance Certificate" has a significant relationship including the indicator that "the recreational resort/facility has a Materials Recovery Facility (MRF)" along type of management (19.991, ρ-value=0.024). The rest of the indicators and their corresponding parameters have no significant relationship.

4. In terms of the impact of the compliance to environmental policies of ecotourism and recreational facilities to sustainable development, wherein the result shows that 52.9 percent of the 51 respondents answered that there is a major impact on environmental quality along the indicator," the ecotourism/recreational facility/resort project makes the people realize the importance of environmental conservation due to their sensitivity to environmental change and abuse." Meanwhile, only 3.9 percent answered that the indicator, "the ecotourism / recreational / resort project affected and/or alter the area's marine biodiversity and aquamarine life" has a major impact.

For economic prosperity, 68.6 percent answered that the impact of the compliance to environmental policies on sustainable development has a major impact on the indicator, "the recreational facility/resort project has increased the tourism potential of the locality." Only 21.6 percent said that "ecotourism and recreational facilities have resulted to the improvement of e-commerce within the host community such as money changing, loading stations, atm and other small-medium enterprises" has a major impact.

For social equity dimension, 62.7 percent of the 51 respondents answered major impact on the indicator, 'the ecotourism / recreational facility/resort project resulted in a more positive perspective in caring for the environment among the local community" as to the compliance of ecotourism and recreational facilities to sustainable development. Meanwhile, a low score of 13.7 percent of the respondents answered that along the indicator,"the ecotourism/ recreational facility/resort project has activities that pose threat to the natural environment " a major impact was likewise observed.

5. In the test for significant relationship between the compliance to environmental policies of ecotourism and recreational facilities and its impact to sustainable development, responses gathered show that generally the indicators tested along environmental quality, economic prosperity, and social equity obtained no significant relationship at 0.05 significant level. Thus, the null hypothesis is not rejected. The compliance with environmental policies is not significantly related to its impact on sustainable development. However, it can be observed that there are indicators where a significant relationship exists between the compliance to environmental policies and its impact to sustainable development particularly on parameters for economic prosperity and social equity.

6. On the effects of issues and challenges that most likely affected or influenced the compliance to environmental policies, "the shift to online permitting requirements by the LGUs and NGAs has made it more difficult for ecotourism and recreational facilities to secure clearances and permits" topped the identified issues obtained with the highest weighted mean score of 2.16. Meanwhile, on the effect of the challenges to compliance to environmental policies, ecotourism and recreational facilities perceived that the challenge that "the implementation of lockdowns and restrictions on travel because of pandemic" ranked the highest among the challenges that affected or influenced the compliance to environmental policies with a weighted mean score of 2.63.

7. Findings of this study also show that the majority of the ecotourism and recreational facilities in Camarines Norte are somewhat compliant with environmental laws but only as far as what is being required by the local authorities. A sustainability model was proposed in order to ensure better compliance to environmental policies

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

for ecotourism and recreational facilities.

CONCLUSIONS

Based on the findings of the study the following conclusions were drawn:

The overall responses from the respondents show that in terms of environmental quality, economic prosperity, and social equity, ecotourism and recreational facilities somewhat exhibited compliances in one way or another. It also concluded that about 96 percent of the respondents showed that ecotourism and recreational facilities have also attracted tourists to the province to experience what the facilities are offering like hospitality and other tourism services. Meanwhile, a low rating of 52.9 percent showed that ecotourism and recreational facilities adhered to the requirements of considering natural hazards such as geologic, flood, typhoons, earthquakes in their establishments, thus compliant in terms of providing local employment in the construction and operation of the facilities

Generally, the profile such as services offered, number of employees, type of management, number of trainings, and national/local permits secured has no significant relationship to the compliance with environmental policies of ecotourism and recreational facilities. Thus, the null hypothesis is not rejected. However, by a closer look into the individual indicators from each parameter it can be observed that it exhibited a significant relationship along the five indicators on environmental quality parameters; five indicators on economic prosperity parameters; and four indicators on social equity.

In terms of environmental quality, a significant relationship exists between the profile offered services (17.394, ρ-value=.008) where "the project has an approved Foreshore Lease Agreement (FLA)/Miscellaneous Lease Agreement (MLA)/ Forest Land Use Agreement for Tourism (FLAGt)" Similarly, the profile on national/local permits/certificates issuances (44.442, ρ-value=.000) and the indicator on "project has an issued Environmental Compliance Certificate" has a significant relationship including the indicator that "the recreational resort/facility has a Materials Recovery Facility (MRF)" along type of management (19.991, ρ-value=0.024). The rest of the indicators and their corresponding parameters have no significant relationship

It can be concluded that the result of the study on the significant relationship between the compliance to environmental policies and the impact to sustainable development shows that generally, the indicators along with environmental quality, economic prosperity, and social equity obtained no significant relationship at 0.05 significant level. Thus, the null hypothesis is not rejected. The compliance to environmental policies is not significantly related to its impact on sustainable development. However, it can be concluded that there are indicators where a significant relationship exists between the compliance to environmental policies and its impact on sustainable development along the parameters of economic prosperity and social equity. At least three indicators for economic prosperity were observed and at least one (1) indicator for social equity.

With an average weighted mean of 2.13, it can be concluded that the issues moderately affected or influenced the compliance to environmental policies of ecotourism and recreational facilities. Meanwhile, with an average weighted mean of 2.27, it can be concluded that the identified challenges severely influenced the compliance to environmental policies of ecotourism and recreational facilities. "The implementation of lockdowns and restrictions on travel because of pandemic" challenge ranked the highest among the challenges that affected or influences the compliance of ecotourism and recreational facilities with a weighted mean score of 2.63

The sustainability model was proposed in order to ensure better compliance to environmental policies of ecotourism and recreational facilities. It is also proposed for the implementation of LGUs to narrow the gap between implementation and compliance of the growing industry of tourism.

RECOMMENDATIONS

Based on the findings and conclusions, the following recommendations are offered by the researcher for short-term and long-term strategies.

Short-term:

Capacitating the local government units and providing technical assistance/support from, NGAs like DENR, EMB, and DOT may be extended particularly on planning, and management workshops, environmental impact assessment, monitoring, communication, education, and public awareness.

Conduct of joint training for assessment and monitoring of ecotourism and recreational facilities may be undertaken by DENR, EMB, LGUs, and the Provincial Tourism Operations Office (PTOO) to have a holistic approach to ecotourism monitoring.

Continuous information dissemination and capacity building, particularly on environmental awareness, preservation, and conservation of the natural resources and environmental compliance in relation to the specific mandates of NGAs like DENR, EMB and DOT. It shall also include assessment, and evaluation of potential ecotourism areas; planning and management of potential areas; management and monitoring of areas with tourism potential.

Long-Term

LGUs may implement existing national laws and/or ensure compliance by enacting local ordinances or to require ECC/CNC and other environmental permits prior to business clearance/permits issuance. This will ensure the public participation of the community including access to right information on the likely impact of the project to them and to their community as well as the participation of the local government unit concerned.

Regulatory agency like EMB may also give emphasis on research-based approach studies to further improve the delivery of services in the conduct of monitoring and inspection, promotion of environmental awareness or to further improve the efficiency and effectiveness of environmental monitoring and compliance.

LGUs and NGAs to revisit strategic plans or tourism development plans and step up on measures to improve environmental compliance. LGUs also need to revisit their existing processes and checklist prior to permitting.

Establishment of a Municipal Environment and Natural Resources Office in every LGU that will ensure compliance of LGUs to environmental laws as well as ensure compliance of all sectors within the community.

For LGUs and NGAs to come up with strategies to encourage voluntary compliance and adoption of environmentally friendly practices that can be replicated either thru recognitions, rewards and/or incentives.

Lastly, it is recommended for LGUs to adopt the sustainability model or to improve their tourism plans in consideration of the sustainability model presented.

Further studies may be conducted in terms of exploring what effective strategies could be proposed for LGUs and NGAS to increase compliance with ecotourism and recreational facilities and/or to conduct a comparative study on those establishments that are environmentally compliant and those that are not in terms of environmental, economic, and social dimension. Lastly, a study on the effectiveness of having a Municipal Environment and Natural Officer (MENRO) in the local government unit as compared to none in terms of environmental compliance may be conducted.

LITERATURE CITED

1. World Tourism Organization (2020). International tourism growth continues to outpace the global economy. https://www.unwto.org/international-tourism-growth-continues-to-outpace-the-economy
2. Haynes, S., (2018) Boracay islanders feel the pinch after the Philippines shuts down a top tourist destination. https://time.com/5262455/boracay-island-philippines-tourists-closure-duterte/
3. Ranada, P. (2018). Inside story: How Duterte decided on Boracay. Rappler. https://www.rappler.com/newsbreak/in-depth/200075-duterte-decision-boracay-closure/
4. Reyes, C., Albert, J. R., Quimba, F.M., Ortiz, M.K & Asis, R.D. The Boracay closure: socioeconomic consequence and resilience management. Dissertation paper Series No. 2018-37

https://pidswebs.pids.gov.ph/CDN/ PUBLICATIONS/pidsdps1837.pdf

5. DENR Administrative Order No 2014-02 Pollution Control Officer (PCO)
6. National Ecotourism Steering Committee. National ecotourism strategy & action plan 2013-2022. http://extwprlegs1.fao.org/docs/pdf/phi179040.Pdf
7. Presidential Decree1586. Philippine environmental impact statement system
8. Republic Act 11038. Expanded national integrated protected area systems (eNIPAS) Act of 2018
9. Republic Act No 9593. The Philippines tourism act of 2009. https://www.officialgazette.gov .ph/2009/05/12/republic-act-no-9593-s-2009/
10. Website of World Tourism Organization. International tourism growth continues to outpace the global economy. https://www.unwto.org/international-tourism-growth-continues-to-outpace-the-economy