

Climate Change Adaptation of the Hospitality Establishments in Southern Leyte, Philippines

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ABSTRACT

Knowing the current status of Southern Leyte as a “Provincial Beauty in the Philippines that’s Travel Worthy” and vulnerable to hazards and risks; it is also expected to be on top in championing actions towards climate change adaptation and embracing sustainability. The study focuses on the viability of selected hospitality industry establishments in Southern Leyte towards climate change adaptation. Data collection utilized researcher-made survey questionnaire. Using descriptive-correlational method, managers and owners of 13 Department of Tourism (DOT) identified hospitality industry establishments along the coastlines of Maasin City and Saint Bernard Southern Leyte were surveyed through purposive sampling. The simple percentage, weighted mean, and chi-square were among the statistical tools utilized throughout the study. Most of the provinces in Eastern Visayas were in little risk to geophysical disasters except Southern Leyte and Northern Samar. The establishments were implementing some of the green practices on solid waste management and energy conservation

under the international agreements and national laws. Economically and environmentally, majority of the establishments partially complied with the IEMSD program. Regarding the sustainability of the institutions based on the IEMSD, economically and ecologically, the facilities were slightly sustainable. It indicates that majority of the services calls for more actions to be durable and be able to adapt to climate change.

Keywords — Climate change, hospitality industry, sustainability correlation, Southern Leyte

INTRODUCTION

Tourism and environment closely linked for without an attractive environment, tourism cannot succeed and, in some cases, without tourism, environmental conservation is at risk (Connell & Page, 2009).

The Philippines has come a long way since the great gathering of nations to establish the agenda for action on sustainable development during the 1992 Earth Summit. There were promulgations of various policies and programs that adhere to the principles of sustainable development and climate change. These legislations were the Integrated Environmental Management for Sustainable Development (IEMSD), Republic Act 9003 (Solid Waste Management Act of 2000), Republic Act 9729 (Climate Change Act of 2009), Republic Act 10121 (Philippine Disaster Risk Reduction and Management Act of 2010) and other action plans towards sustainable development.

Super Typhoon Haiyan hardly hit Region VII during the last quarter of 2013. In Eastern Visayas, there were constant incidents of calamities, like the tragic mudslide in the community of Guinsaugon, Saint Bernard, Southern Leyte in 2006. As a result, a state of disaster was declared in almost every part the country due to torrential rains that devastated agriculture, livestock, and properties (Garcia, 2013).

According to Department of Environment and Natural Resources (2011), Southern Leyte is one of the provinces that found to be naturally vulnerable to environmental disasters and one of the provinces that exerted efforts towards sustainable development and climate change adaptation.

Since Southern Leyte is prone to hazards of environmental disasters, the study was undertaken to assess whether or not the selected hospitality industry establishments in these areas are compliant with the provisions of the laws on

environmental protection. The findings were the basis for the development of guidelines for climate-smart services for hospitality industry establishments along the coastal areas.

FRAMEWORK

The study was anchored on the Four Capital Model of Sustainability. As shown in Figure 1, this model put all the four capitals alongside each other and discusses the reality that practical society is impractical to work without keeping up the adjust among these four assets and support of their manageability. There are four different sorts of capital in every general public. They are specific human capital, money related capital, natural capital, and fabricated capital. In consideration with the end goal to make and keep up the supportability in the general public, adjustment of those resources in that society is a necessity. For instance, an excessive amount of consideration regarding human or fabricated capital may influence the natural maintainability. These assets cannot be considered as complementary, i.e. increasing the level of focus on one particular resource does not necessarily contribute to the improvement of other capitals. Nevertheless, there are some crossovers amongst capitals that might have positive implications regarding increasing the effectiveness of efforts focused towards sustainable development. Note that improvement can be marked as supportable if assets don't decrease over the time, or in a perfect world, they increment over the time (Siebert, 2008).

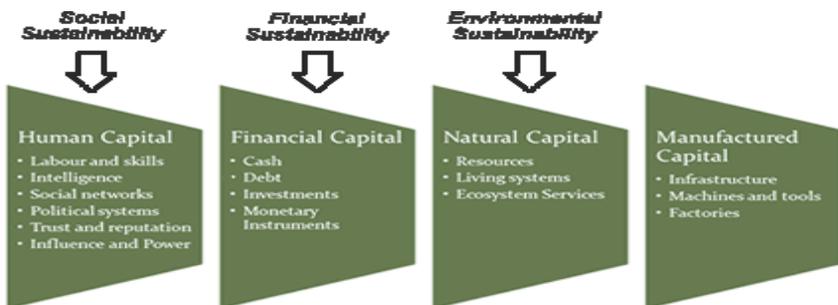


Figure 1. The Four Capital Model

The changes in the climate is usually exemplified in the over sub-continental regions, the extent at which global climate models replicate well the pattern of observed temperature of the earth's surface. Climate change has some effect on

natural resource sectors such as agriculture, forestry, ecosystems, water resources and fisheries, and on human activities and infrastructure. Climate change adaptation is gauged in terms of the society's ability to adjust to the potential impacts of climate change (Barros & Field, 2014).

Tourism is not a new phenomenon. Tourism as per the World Tourism Organization (WTO), is the demonstration of go with the end goal of amusement and business, and the arrangement of administrations for this demo. The tourism industry is a composite of ventures and elements, both private and open, required in the arranging, improvement, advertising, deals, operation and assessment of goals, items and administrations that take into account the necessities of the explorers, both remote and residential (Goeldner & Ritchie, 2006). In the Philippines, the operation of the tour products is primarily the role of the private sectors, while the delivery of tourism services is a joint function of both the government and the private sectors (Claravall, 2000).

The landscape of the Philippine Tourism Industry composed of two areas: public and private sectors. The public sector includes Department of Tourism, Tourism Promotions Board, Tourism Infrastructure and Enterprise Authority, Local Government Units and other national government units who are indirectly helping the industry. The private sector, on the other hand, is composed of the transportation industry, hospitality industry, travel trade, entertainment industry and other private sector entities. Hospitality Industry consists of hotels, restaurants, resorts, bars and other establishments that offer accommodation, food, and beverages.

Operationally, reasonable advancement is an improvement of financially stable, politically engaging, socially just and fair, profoundly freeing, sex touchy, given all encompassing and integrative science, innovatively suitable, expands upon desirable Filipino qualities, history, culture and greatness and rests upon substantial institutional establishments. Securing the privilege of each Filipino to the great life will require a sound and suitable economy, social union, mindful administration, proper efficiency, and biological trustworthiness (Curran, 2004). For Heinberg and Lerch (2010), sustainability is the people's obligation to continue in a way that will maintain the life that will permit the kids, grandchildren and extraordinary grandchildren to live serenely in a friendly, clean, and sound world. In this manner, individuals can take the assumption of the liability for life in every one of its structures and additionally regard human work and goals.

Dimpas, Sy and Gimena (2015) conducted a study to identify the environmentally directed organizational citizenship deeds observed and practiced

by fifteen selected municipalities in Cebu, Philippines. The results revealed that OCBE deeds relative to environmental concerns, organizational commitment, supervisory support for environmental efforts and perceived social performance of the local government units were the most common behaviors exhibited by the local officials and their staff and that the identified OCBE deeds were demonstrated by the municipal government officials and staff to a very great extent.

The IPCC (2014) confirmed by scientific studies that there is an increase in global average of air and ocean temperatures, widespread melting of snow and ice, and rising of global mean sea level. With these, it is already evident that there is a significant change in the world's climate system, known as climate change. Climate change is a fundamental threat to sustainable development and the fight against poverty.

It has been known for some time now that developing countries will be affected the most by the climate change. Reasons shift from lacking assets to adapt and are contrasted with created countries. There is also massive neediness and districts that many building nations are happened to be the ones where extreme climate will hit the most, little island countries zone officially observing ocean level rising, among others.

German Watch distributed the rundown of countries that would be influenced the most by the environmental change in light of extreme climate, for example, storms and surges. Between 1991 and 2010, these were the most affected nations: Bangladesh, Myanmar, Honduras, Nicaragua, Haiti, Vietnam, Dominican Republic, Pakistan, Korea, and the Philippines (Huddleston, 2012). With the news on climate change, there were global responses towards climate change adaptation and sustainability.

The figure 1 below shows the Map of the Philippines with Combined Risk to Geophysical Disasters. Most of the provinces in Eastern Visayas were in a little risk to geophysical disasters except Southern Leyte and Northern Samar. Northern Samar was in average risk regarding geophysical hazards while Southern Leyte's status is very high which means the Southern Leyte is very prone to geophysical catastrophes.

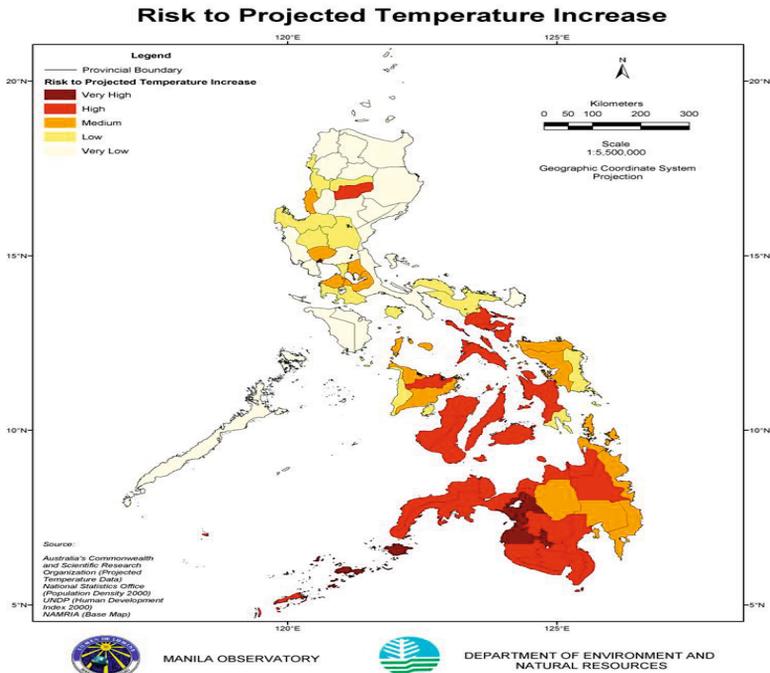


Figure 1. Map of the Philippines with Combined Risk to Geophysical Disasters

According to the Department of Environment and Natural Resources (DENR), the Philippines is very vulnerable to typhoons because this country belongs to the Pacific typhoon belt area. The country is also highly susceptible to ground movements and flooding and inundations (DENR Geohazard Mapping and Assessment Program, 2014).

Also, the location of the Eastern Visayas is in warmer latitudes in which according to the United Nations, vulnerability to climate change will be greater in developing countries, located in hotter zones. The Philippines faces natural hazard to environmental disasters (United Nations Environmental Programme Climate Change Report, 2009).

It is very evident that the effects of extreme weather conditions in Southern Leyte were very alarming. Given the fact that from 1985-2010, the estimated monetary losses in infrastructure and agriculture associated with natural hazard-induced disasters reached P316.3 billion. There were 157.94 million people that

were affected by natural hazard-induced disasters from 1985 to 2011—with typhoons accounting for the greatest share—of which 57, 227 people were killed, injured, or missing. Additionally, the two different natural hazard-induced disasters: the Typhoon Haiyan and the 7.2 Magnitude earthquake that hit various parts of Visayas caused lots of damages, where 222 died, 976 injured and eight were missing. A total of 671, 103 families were in 6 provinces in Regions VI and VII. The cost of damages was Php 2,257,337,182.90. The super typhoon Haiyan that hit the country last November 8, 2011 had an estimated total cost of damages of Php 22,659,851,383.76.

The following world climate change conferences are United Nations Environmental Programmes, Intergovernmental Panel on Climate Change, Montreal Protocol, Kyoto Protocol, United Nations Framework Convention on Climate Change, Agenda 21, and UN Climate Change Conference in Warsaw. The Philippines being one of the nations that will be influenced by environmental change likewise started the accompanying activities towards environmental change adjustment and sustainable improvement. The aforementioned legal act includes; the 1987 Philippine Constitution proviso; Presidential Decree No. 1151 or Philippine Environmental Policy; Presidential Decree 1152 or Philippine Environmental Code; Philippine Agenda 21, the Philippine Environmental Impact Statement System, Integrated Environmental Management on Sustainable Development, Republic Act No. 9003 or Ecological Solid Waste Management Act of 2000, Republic Act No. 9729 of Climate Change Act of 2009, Republic Act 10121 or Philippine Disaster Risk Reduction and Management Act of 2010, Republic Act No. 9593 or Tourism Act of 2009, National Framework Strategy on Climate Change 2010-2022, National Climate Change Action Plan, and Batas Pambansa Bilang 73.

The areas 16 of Article II and Section 1 of Article XIII are the two critical parts of the 1987 Constitution of the Republic of the Philippines that backs the different activities towards economic improvement. The law states that it should secure and propel the privilege of the general population to an adjusted and empowering environment as per the musicality and amicability of nature, and the Congress should give the most noteworthy need to the sanctioning of measures that ensure and upgrade the privilege of the general population to human pride separately (De Leon, 2002).

The three necessary actions highlighted in the study are the Republic Act No. 9003 or Ecological Solid Waste Management Act of 2000, Batas Pambansa Bilang 73 and the creation of Integrated Environmental Management on

Sustainable Development. Republic Act No. 9003 or otherwise known as the Ecological Solid Waste Management Act of 2000 provides for the ecological solid waste management program, creates the necessary institutional mechanisms and incentives, declares certain acts prohibited and providing penalties, appropriating funds and other purposes. Batas Pambansa Bilang 73 further promoted energy conservation and for other uses.

The Integrated Environmental Management on Sustainable Development was implemented to support efforts in the integration of the environment in decision-making, proper pricing of natural resources, and strengthening of people's participation and constituency-building for environmental policy advocacy. The IEMSD has six (6) sub-programmes, namely: a) Environment and Natural Resources Accounting (ENRA); b) Integration of Environmental and Socio-Economic Development Policies (SEI); c) Environmental Impact Assessment (EIA); d) Sustainable Development Models (SDM); e) Environment and Natural Resource (ENR) Database (DBAS); and f) Programme Management Support System (PMSS).

Under the IEMSD Programme, the following major activities have been undertaken: a) development of a comprehensive operational framework for the Philippine System of Economic and Environmental Accounts; b) formulation of sustainable development indicators; c) incorporation of environmental concerns in the project evaluation process; d) development of an action impact matrix which identifies priority areas of study on environment-economy integration; e) strengthening of the EIA system; f) reformulation of guidelines for the implementation of the Environmental Guarantee Fund; g) preparation of an EIA Procedural Handbook; h) development of environmental risk assessment software; and i) documentation of sustainable development projects (Supetran, 2013).

OBJECTIVES OF THE STUDY

The study looked into the sustainability of hospitality industry establishments in Southern Leyte, Philippines that were accredited by the Department of Tourism (DOT). Specifically, this study described the profile of the facility in terms of its classification, years of operation, and location. The study further assessed the green practices implemented by the institutions in terms of solid waste management and energy conservation; extent of compliance of the establishments to IEMSD; and the sustainability of the facilities based on the IEMSD indicators such as environmental and economic Indicators.

The investigation further measured the significant difference between the sustainability of the hospitality establishments according to its location. Lastly, based on the findings of the study, guidelines for climate-smart services for hospitality industry establishments along the coastal areas were developed.

RESEARCH METHODOLOGY

To assess the sustainability of the DOT-accredited hospitality industry establishments in Southern Leyte towards climate change adaptation, it utilized the descriptive-correlational method using a researcher-designed survey tool that was accomplished by the owners and managers of the hotels and resorts in Southern Leyte.

Research Environment

The Southern Leyte is one of the six provinces of Region VIII. Maasin City is the capital of Southern Leyte. There were thirteen (13) hospitality industry establishments identified and accredited by the DOT in Southern Leyte, comprising of seven from Saint Bernard and six from Maasin City.

Research Respondents

The respondents consist mainly of the owners or general managers from selected hospitality industry establishments along the coastlines of Maasin City and Saint Bernard, Southern Leyte. The selection of the facilities applied the purposive sampling technique. The criteria in choosing facilities were the following: establishment should be accredited by the Department of Tourism (DOT) of the Local Government Unit, and situated along the coastlines of the Municipality of Saint Bernard and Maasin City. The DOT has identified about seven hospitality industry establishments along the coastlines in Saint Bernard and six institutions in Maasin City, Southern Leyte.

Research Instrument

This study utilized a researcher-made questionnaire based on the provisions of the following: Integrated Environmental Management for Sustainable Development, Republic Act 9003 and Batas Pambansa Bilang 73. The questionnaire consists of four parts: profile of the establishment; the green practices implementation specifically on solid waste management and energy conservation; the extent of compliance of IEMSD program; the last part contains

the questions regarding the assessment of the sustainability of establishments based on the IEMSD indicators. The tool was also reviewed by experts in the field. A dry-run procedure was also conducted to test the reliability of the self-made tool. The incidence of non-response was noted before it was finalized for administration to the respondents in the actual survey.

Research Procedure

Before the undertaking of the study, the researcher sought permission to conduct the study from the Municipal Mayor through the tourism officers. After the grant of the approval, the proponent conducted the study. The researcher assisted the respondents in answering the questions through elucidating the items stated in the questionnaire. After retrieval, results were tallied, analyzed and interpreted in the light of the theory.

Statistical Treatment

Simple percentage determines the profile of establishment and the green practices implemented; weighted mean utilized to determine the extent of compliance of IEMSD programs, and to establish the sustainability of facilities based on the IEMSD indicators. Finally, chi-square was employed to create the significant difference between the viability of the establishments according to location.

RESULTS AND DISCUSSION

This section reveals the data on the profile of the facility as to classification; years of operation; and location; the vulnerability to hazards and risks of Eastern Visayas; the green practices implemented by the institutions in terms of solid waste management and energy conservation; effects of the extreme weather conditions in Southern Leyte; extent of compliance of the establishments to IEMSD; and sustainability of the facilities based on the IEMSD indicators such as environmental Indicators an economic Indicators.

Table 1. Profile of the Facility (n=13)

Classification of Hospitality Industry Establishment	F	%
Hotel	6	46
Restaurant	3	23
Resort	4	31
Years/s of Operations		
13 -16	2	15
9 -12	3	23
5 – 8	4	31
1 – 4	3	23
Less than a year	1	8
Location		
Saint Bernard	7	54
Maasin City	6	46

Table 1 displays the profile of the facility, based on the information given by the representative of the establishment. Of the thirteen (13) establishments being covered in this study, 46% were hotels; 23% were resorts; and 31 % were restaurants. Moreover, most of the hospitality establishments had been in the business for 5-8 years already. Lastly, the establishments were located along the coastlines of Saint Bernard, Southern Leyte and are recognized by the DOT Office.

Greening the organizations is not only limited to the formulation of formal management systems in the organization. Those people who manifest concern towards the environment exhibits extra efforts beyond the call of duty who focus on undertaking green initiatives within the organization set up (Daily, Bishop & Govindarajulu, 2009).

Green Practices Implemented by the Selected Hospitality Establishments

Table 2 shows the green practices of the hospitality establishments. Regarding Solid Waste Management, the establishments in Southern Leyte were active in the implementation of the provision of the Republic Act 9003. All offices completely actualizing the following activities such as: guarantee the cleanliness

of the foundation and five (5) meters from the closest mass of the foundation, keep up the sterile state of all repositories at all circumstances, utilization of legitimate sort of waste repository or holder, guarantee the correct stockpiling and treatment of intense squanders, and ultimately, ensure the best possible isolation and transfer of active wastes.

Table 2. The Green Practices Implemented by the Selected Establishments in Terms of Solid Waste Management

Rank	Green Practices	Yes (f)	%	No (f)	%
1	Ensure the cleanliness of the establishment and five (5) meters from the nearest wall of the establishment.	13	100	0	0
2	Maintain the sanitary condition of all receptacles at all times.	13	100	0	0
3	Use of proper type of waste receptacle or container.	13	100	0	0
4	Ensure the proper storage and treatment of solid wastes.	13	100	0	0
5	Ensure the proper segregation and disposal of solid wastes.	13	100	0	0
6	Coordinate with the public service managers for the wastes to be regularly collected and properly disposed.	12	92	1	8
7	Pay the garbage fee properly.	12	92	1	8
8	Prohibition of spitting, urinating and defecating on sidewalks, pathways, park and any other public places.	12	92	1	8
9	Provision of Material Recovery Facility (MRF)	12	92	1	8
10	Provision of separate receptacle or trash can for each type of waste from all sources.	10	78	3	23
11	All receptacles are placed in a location that is easily accessible but not obtrusive to the pedestrians.	10	78	3	23
12	Use of appropriate size of receptacle or container to prevent spillages.	10	78	3	23
13	Encourage resource conservation and recovery through re-use and recovery of wastes.	9	69	4	31
14	Faithfully and religiously participate in the regular schedule of garbage collection in your zone	8	62	5	38
15	Set guidelines and targets for solid waste volume reduction through composting, recycling and others.	4	31	9	69

Then again, the institutions ought to fortify their usage of the three less executed green practices as far as reliable waste administration such as setting of rules and focus on the substantial waste volume decrease through treating the soil, reusing and others, dependable and religiously take an interest in the

consistent timetable of rubbish accumulation in your zone, and energize asset protection and recuperation through recycling and recuperation of squanders. These apparent compliance of the hospitality firms in Southern Leyte indicates the commitment of these establishments to exhibit discretionary contribution to be sustainable in the context of mitigating environmental damage and hazards of climate change.

In relation to the study of Heinberg & Lerch, (2010) most of the facilities were implementing a majority of the green practices concerning solid waste management. These data denote that the establishments take the responsibility to proceed in a way that will sustain life that will allow people to live comfortably in a friendly, clean, and healthy world.

Green Practices Implemented by the Selected Restaurants regarding Energy Conservation

Table 3 shows the green practices implemented by the establishments regarding energy conservation. The results reveal that most of the establishments were not that active in implementing the green practices. The single green practice on energy conservation by all entities relates to the lack of adequate knowledge and resources of the owners and staff of the establishments on energy conservation.

Table 3. The Green Practices Implemented by the Selected Restaurants concerning Energy Conservation (n=13)

Rank	Indicator	Yes (f)	%	No (f)	%
1	Regulate the use of air-conditioners in the establishment, including but not limited to using and setting of thermostat to certain temperatures that will conserve energy but still assure reasonable convenience to the users thereof.	13	100	0	0
2	Set standards and proper monitoring of energy consumption for oil-powered or electric-driven machinery, equipment, appliances, devices, and vehicles.	12	92	1	8
3	Stagger the number of working days per week in your establishment for the purpose of conserving energy and relieving traffic congestion: Provided, however, That no diminution in the pay of the employees or workers affect shall result thereby.	10	78	3	23
4	Set standards in accordance with accepted engineering principles and practices in the use of building materials and the designs for facilities, which will promote the ends of energy conservation.	10	78	3	23

5	Use of energy efficient technologies or green technologies.	10	78	3	23
6	Prohibition of the use of neon lights and electric lights for commercial advertising earlier than 6:00 o'clock PM. and beyond 9:00 o'clock PM.	9	69	4	31
7	Prohibition of the deliberate use of unnecessary and excessive lighting in your establishment.	9	69	4	31
8	Conduct energy management education program/ seminar in your establishment.	6	46	7	54
9	Regulate the use of motor vehicles so as to conserve fuel and relieve traffic congestion or adopt the use of environmentally sustainable transportation vehicles.	5	38	8	62
10	Limit and fix the operating hours of your establishment.	3	23	10	78

All of the institutions regulate the use of air-conditioners, including but not limited to using and setting of thermostat to certain temperatures that will conserve energy but still assure reasonable convenience to the users. Unfortunately, a majority of the establishments did not limit and fix the operating hours of their facilities and can be inferred that they do not contribute to energy conservation.

Evidently, the establishments did not practice energy conservation. The implication of these data reflects inability of the firm to conserve the energy would have a direct impact on environmental degradation and would contribute towards rapid climate change due to human's excessive emission of hazardous elements.

Environmental sustainability (ES) has increasingly become important to business research and practice over the past decade as a response to a rapid depletion of natural resources by developed countries and corporate social responsibility (Dao, Langella & Carbo, 2011).

The Extent of Compliance to IEMSD Program

In terms of the extent of compliance of the establishments with IEMSD Program, the findings show that in the aspect of economic and environmental indicators, the establishments partially complied with the IEMSD program. Environmentally, the majority of the establishments partially met with the Integrated Environmental Management for Sustainable Development program. This result indicates that there is a need for more efforts to constrain the hotels, resorts and restaurants in Southern Leyte to be highly compliant with the provisions of IEMSD. This is one of the means in which these firms will be able to

contribute towards the universal plea for climate change adaptation, considering that these establishments would be mostly damaged if there are calamities.

Table 4. The Extent of Compliance to IEMSD Program (n=13)

	Indicators	Mean	Description
Economic Indicators			
1	Facilities that supply services	2.38	Fully Complied
2	Employment opportunities to locals	2.23	Partially Complied
3	Economic gains	2.23	Partially Complied
4	Fishing industry	2.31	Partially Complied
	Grand Mean	2.29	Partially Complied
Environmental Indicators			
5	Environmental mechanisms that reduce air pollution	2.15	Partially Complied
6	Environmental mechanisms that control water pollution	2.46	Fully Complied
7	Areas and ecosystems most vulnerable to natural hazard	2.23	Partially Complied
8	Marine cover	2.38	Fully Complied
9	Waste disposal facilities	2.31	Partially Complied
10	Facilities protecting and preserving species	2.15	Partially Complied
11	Vegetation cover	2.08	Partially Complied
12	Renewable and alternative energy resources	2.15	Partially Complied
13	Water facilities	2.15	Partially Complied
	Grand Mean	2.231	Partially Complied

The emergent literature that concentrates the significance of voluntary and unrewarded green initiatives, its contribution to the greening process are often ignored. Describing the precise nature of these initiatives and its impact on the firm's environmental performance had rarely been explored. The initiatives of the people play significant role in improving the efficacy and efficiency of the environmental practices within the firm (Asis-Dimpas, Sy, & Ferrater, Gimena, 2015).

Sustainability of Selected Hospitality Industry Establishments based on the IEMSD Indicators

Table 5 exhibits the sustainability of the hospitality entity based on IEMSD indicators. Economically and environmentally, the establishments were slightly

sustainable. The result denotes that majority of the hospitality entities should be transformed to be viable and be able to adapt the hazards of climate change. These data support the Four Capital Model of Sustainability wherein it emphasizes that sustainable society is impractical to work without keeping up with the needed adjustments in the four capitals and upkeep of their supportability (Siebert, 2008).

Table 5. Sustainability of Selected Hospitality Industry Establishments based on the IEMSD Indicators (n=13)

	Indicators	Mean	Description
Economic Indicators			
1	Provision of facilities that supply services.	2.23	Slightly Sustainable
2	Provision of sustainable employment opportunities to locals.	2.23	Slightly Sustainable
3	Sustained increase of economic profitability.	1.92	Slightly Sustainable
4	Protection and safeguarding of fishing industry.	2.15	Slightly Sustainable
	Grand Mean	2.13	Slightly Sustainable
Environmental Indicators			
5	Implement environmental mechanisms that reduce air pollution.	2.15	Slightly Sustainable
6	Implement environmental mechanisms that control water pollution.	2.23	Slightly Sustainable
7	Determine areas and ecosystems most vulnerable to natural hazards and establish protection measures to those areas and ecosystems.	2.23	Slightly Sustainable
8	Protection and preservation of marine cover.	2.08	Slightly Sustainable
9	Provision of waste disposal facilities.	2.31	Slightly Sustainable
10	Upgrade facilities to protect species and to anticipate changes in weather.	2.00	Slightly Sustainable
11	Expand vegetation cover.	2.08	Slightly Sustainable
12	Accelerate the use of renewable and alternative energy resources.	2.08	Slightly Sustainable
13	Provision of sustainable water facilities.	2.00	Slightly Sustainable
	Grand Mean	2.13	Slightly Sustainable

These data on the slight sustainability of the hospitality establishments signify that the establishments had not addressed the main issue on practices and actions that would mitigate environmental damage and climatic hazards.

Table 6. Results of the Test of Significant Difference between the Sustainability of the Hospitality Establishments According to Location

Variables	Computed Chi	P value	Level of Significance	Decision	Interpretation
Sustainability and Location	0.1238	0.724939	5%	Accept Ho	Not significant

Sustainability of the establishments in Saint Bernard and Maasin City, Southern Leyte shows no significant difference between the viability of the hospitality facilities when grouped according to location. The actions that lead towards the sustainability of the hospitality establishments in Southern Leyte should be geared to strengthen the implementation of the various legal initiatives and policies and adaptation of the climate change.

Climate change is a worldwide dilemma for the international leader. Thereby, they should initiate appropriate action to prevent catastrophe that would be brought by this circumstance (Garcia, 2013). There had been different endeavors on researching the motivation behind why the organizations react to the ecological issues, regardless of whether consolidating natural practices into their business exercises can prompt to expanded execution, and assuming this is the case, what procedures are expected to accomplish the objectives (Melville, 2010).

CONCLUSION

Regarding the sustainability of the establishments based on the Integrated Environmental Management for Sustainable Development (IEMSD), economically and environmentally, the facilities were slightly sustainable. The current condition on the slight sustainability of the establishments in the context of engaging actions that alleviate havoc to the environment clearly indicates that it necessitates more intensified efforts to strengthen the implementation of the provisions of the laws and legal initiatives so that the firms that are located to hazard prone areas to natural-induced calamities would be forced to follow. Although, these establishments had undertaken some efforts in mitigating the hazardous effect of climate change by adopting and complying the provisions of the various legislative requirements that aimed to conserve and protect the Mother Nature but not to the highest and desirable extent.

ECONOMIC AND ENVIRONMENTAL IMPLICATIONS

Consistent with the international agreements and the Philippines' national laws, the Local Government Units, the Department of Tourism in Southern Leyte and owners should spearhead in realizing the following guidelines for climate-smart services for the hospitality industry establishments along the coastal areas:

1. Southern Leyte should have Vulnerability Assessment (VA) toolkit that gives a quick assessment of various parts of the beach front framework to different potential effects brought by changing the atmosphere. By enhancing their ability to evaluate their range's helplessness to environmental change, nearby governments will have the capacity to arrange and refine existing administration intercessions, improve comprehension of environmental change issues, and enhance their groups' versatility to environmental change.
2. Joining in all accommodation industry foundations' Corporate Social Responsibility (CSR), marketable strategies and arrangements the advancement of atmosphere brilliant businesses and administrations which are atmosphere versatile, eco-proficient and environment-accommodating ventures and management created, advanced and managed.
3. Creation of green jobs or sustainable and decent employment in the hospitality industry for locals which help in the protection of the environment, ensure a shift to a low carbon development and adapt to the effects of climate change.
4. Conduct of capacity building programs and knowledge for promoting climate-smart industries and services.
5. Climate-proofing of infrastructures including emergency facilities and equipment such as lifeboats, life jackets, and emergency kit.
6. There is full implementation of Republic Act 9003 and Batas Pambansa Bilang 73.
7. Provide free seminars, workshops, and resources on reducing the wastes and lessen down the energy use of the establishments.
8. Department of Tourism should develop a monitoring and reporting system for hospitality industry establishments.
9. Recognize and give incentives (tax holidays, plaques, etc.) to those hospitality industry establishments who will be able to implement successfully and live with the green practices.

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