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Green Practices in The Hotel Industry: Proposed Implications to The Environmentally Appropriate Programs

Raquel J. Dael, DM
Hospitality Program, Lourdes College, Cagayan de Oro City, Philippines
raquel.dael@lccdo.edu.ph

Raquel A. Saab, DM
Hospitality Program, Lourdes College, Cagayan de Oro City, Philippines
raquel.saab@lccdo.edu.ph

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ABSTRACT: *This study explores the green practices of the hotel industries in one of the cities in Northern Mindanao, Philippines with the intention of utilizing the findings as basis for the implementation of a proposed environmentally appropriate programs. The study gave emphasis on the participant's extent of awareness and participation towards green practices of the hospitality industry in the city in terms of green energy consumption, water and liquid waste management, air quality management, solid waste disposal management and noise control management. The participants consisted of 88 personnel from the different DOT accredited hotels in Cagayan de Oro City. Based on the findings, the participants are much aware on the extent of their awareness on the green practices on water and liquid waste, green energy consumption, air quality management, solid waste disposal and noise pollution control. Among the green practices variables, air quality management has the highest mean. The participants' extent of participation on the green practices was rated great extent. Among the variables, water and liquid and waste management, air quality management, and solid waste disposal and management got the highest mean rating. While noise pollution control got the lowest mean rating. The test of relationship between the participants' awareness and their extent of participation of the green practices in hospitality industry shows that awareness of the green practices is significantly associated with the extent of practice.*

KEYWORDS*: Green practices, hotel industry*

INTRODUCTION

The issues of the tourism industry specifically on the production of a huge amount of waste and other pollution have always been unbecoming. It is in this regard that the prevalence of environmental issues become the interest of many due to the deterioration of the natural physical environment. Piagran (2005) believes that

tourism can certainly contributes to the environmental degradation. Therefore, it is important to ensure that tourism is well managed and performed through green practices.

Green practices otherwise known as environmentally friendly practices have become familiar to consumers. Cognizant to the increasing number of visitors in Cagayan de Oro City and the consumption of natural resources, environmental problems are also arising. As cited by Xie and Bren (2012) awareness of the environmental issues such as global warming, carbon emissions, toxic substance usage and resource scarcity strengthened policy makers and activists to support the going green practices principles, specifically, among the hospitality sectors.

Around the world, the concept of green tourism is adopted. However in the Philippines, specifically in Cagayan de Oro City, such concept is deemed to be unacquainted. Although, the government and other organizations put a lot of efforts to promote green tourism, this concept has yet to be introduced to some hospitality industry in the city. Nonetheless, the concept demands a lot of investments among hospitality sectors. Given this context, the study seeks to find out the extent of awareness and the extent of participation on green practices of the hospitality sectors in the city.

The findings of the study may be utilized to propose an appropriate program for the players of the industry such as hotels, restaurants and tourism organizations in Cagayan de Oro City to undergird the green tourism advocacy.

METHODS

This study used the descriptive-survey method which identifies the situation and event of the actual and present conditions (Rubin *et al.* 2009). In this study, the extent of awareness and participation of the participants on green tourism are, thus, identified.

The participants of the study are the supervisors and entry level employees of the different selected and accredited hotels by the Department of Tourism (DOT) in Cagayan de Oro City. Survey questionnaire using the likert scaling were given personally to participants understudy. The questionnaire were adapted from the Green Practice survey of Sun-Hwa Kim (2005), Hotel sustainability survey instrument of Rathore *et al.* (2009) and from the research questionnaire on Adoption of green practices in hospitality and tourism industry of A.M.A. Fadhil (2015) and the survey questionnaire on green practices of the DOT. All of these instruments were restructured to examine the aspects of green practices in the hospitality industry. The data were retrieved by the researchers and were processed using the appropriate statistical treatments.To ensure the internal consistency of the items in the questionnaires it was subjected to a reliability test. For the said test, the researcher selected 35 participants from a Business hotel in the city. For its internal consistency, the test revealed that the instrument has very high reliability results to which the

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computed values were computed between 0.90 to 0.93 and the most acceptable range for the reliability measure is between 0.70 to 0.99.

RESULTS

The results of the study are presented in the tables that follow.

Table 1. Frequency, Percentage, and Mean Distribution of Participants' Extent of Awareness towards Green Practices ("Green" Energy Consumption)

Range	Interpretation	Frequency	%
3.51-4.00	Very Much Aware	16	18.18
2.51-3.50	Much Aware	61	69.32
1.51-2.50	Moderately Aware	9	10.23
1.00-1.50	Not Aware	2	2.27
Total		**88**	**100**
Overall Mean		3.1083	
Interpretation			
SD		0.5341	

	Indicators	Mean	Interpretation	SD
1	Conduct of awareness programs/activities on environmental protection for the staff	3.19	Much Aware	0.81
2	Provision of a policy or a regulation on:			
2.1	encouraging the use of local products such as food (minimum purchase of 20%) and 30 % across all organic suppliers within the region; and	3.00	Much Aware	0.90
2.2	use of environmentally friendly and biodegradable products;	3.07	Much Aware	1.01
3	The use of green seal certified sustainable cleaning products, materials and equipment such as laundry products, micro fiber cloths and dual motor vacuum cleaners	3.16	Much Aware	0.87
4	Regularity of cleaning air conditioning units for twice a year to prevent growth of bacteria	3.10	Much aware	1.03
5	Use of electronic key card in guestrooms	3.11	Much Aware	0.95
6	The use of automatic sensor lighting on property	3.00	Much Aware	1.03
7	The use of energy star rated equipment such as: refrigerator, copier, etc.	3.14	Much Aware	0.79
8	Provision of access to natural light and views of outdoors in regularly occupied spaces including offices, conference rooms, functions rooms, laundry areas, and kitchen.	3.08	Much Aware	0.83
9	Setting of appropriate temperature in back of the house (office, kitchen, etc.)	3.32	Much Aware	0.77
10	Provision of energy-saving friendly reminders in strategic places such as: guest rooms and advertisement boards to encourage clients to save energy	3.14	Much Aware	0.85
11	The use of Compact Fluorescent Lamp (CFL) or Light-Emitting Diode (LED) instead of high wattage incandescent lamps	3.05	Much Aware	0.90
12	The use of solar panels to convert solar energy to useful sources of electrical energy	3.08	Much Aware	0.86
13	Recording of energy consumption both water and electricity for every location	3.17	Much Aware	0.86
14	Recording of environmental activities of the hotel such as: monthly energy saving report, monthly water saving report, monthly information of reducing solid waste quantity	3.02	Much Aware	0.91

Table 1 presents the participant's extent of awareness towards the green energy consumption. The mean rating shows that the participants rated the Green practices on green energy consumption as 3.1083 which is interpreted as much aware. Among the 88 participants 16 or 18.18% rated very much aware, 61 or 69.32 % rated much aware, 9 or 10.23% is moderately aware and 2 or 2.27% in not aware. The lowest mean rating is item 2.1 and 6. It stated that the used of local products are being encourage and the use of automatic sensor lighting in the property. The highest mean rating is item no. 9 which states that they set an appropriate temperature in the hotel with a mean of 3.32.Generally, the area of green energy consumption was rated as much aware among the participants. This would imply that personnel in the selected hotels are aware of these green practices on the green energy consumption. The result of the study is similar to the study conducted by Rusiana (2015) where results show that only the energy efficiency practices were fully implemented by most of the De luxe hotel because of its direct impact in reducing cost and in minimizing environmental destruction.

Table 2 Frequency, Percentage and Mean Distribution of Participants' Extent of Awareness towards Green Practices (Water and Liquid Waste Management)

Range	Interpretation	Frequency	%
3.51-4.00	Very Much Aware	23	26.14
2.51-3.50	Much Aware	42	47.73
1.51-2.50	Moderately Aware	23	26.14
1.00-1.50	Not Aware	0	0.00
Total		**88**	**100**
Overall Mean		3.042	
Interpretation			
SD		0.6603	

	Indicators	Mean	Interpretation	SD
1	Implementation of the towel and linen reuse program in guestrooms	3.16	Much aware	1.04
2	Utilization of minimal water usage for the laundry machines			
3	Utilization of rain water for reuse	3.03	Much aware	0.76
4	The use of native plants for landscaping to minimize water consumption	2.80	Much aware	0.76
5	Installation of "low-flow" (controlled flow) indoor plumbing fixtures in bathrooms (toilets and shower heads) and kitchens (sinks) to reduce water use	2.92	Much aware	1.05
6	Provision for recycling of waste water	2.84	Much aware	1.10
7	Provision of "Save Water" signs in kitchen and back office areas for awareness	2.97	Much aware	1.01
8	Installation of grease trap system in the kitchen, restaurant and grease contaminated area	2.95	Much aware	0.97
9	Provision of waste water treatment system suitable for the size and activities of the hotel	3.01	Much aware	1.01
10	Implementation of the maintenance plan of sanitary ware / water saving equipment, including the checking of leak water area	3.33	Much aware	0.77

11	Conduct of annual cleaning of potable water tanks and monthly testing of water quality to prevent water contamination and reduction of waste water generation through automatic sensor faucets, automatic sensor flush	3.41	Much aware	0.77

Table 2 shows the extent of awareness towards green practices on water and liquid waste management. The overall mean is 3.042 which is interpreted as much aware. Of the 88 participants, 23 or 26.14% is very much aware of the green practices on water and liquid waste management, 42 or 47.73% is much aware,23 or 26.14 is moderately aware and 0% is not aware. Among the items, no. 11 was rated as the highest mean of 3.41 rating implying that the participants are aware of the conduct of annual cleaning of potable water tanks and testing of water quality. However, among the items, item no.2 with a mean rating of 2.80 indicating that the use of native plants for landscaping may minimize water consumption has the lowest rate. This would reinforce the study of Yusof *et al.* (2013) where the use of rain water to minimize water consumption is rarely applied.

Table 3 Frequency, Percentage and Mean Distribution of Participants' Extent of Awareness towards Green Practices (Air Quality Management)

Range	Interpretation	Frequency	%
3.51-4.00	Very Much Aware	31	35.23
2.51-3.50	Much Aware	38	43.18
1.51-2.50	Moderately Aware	18	20.45
1.00-1.50	Not Aware	1	1.14
Total		**88**	**100**
Overall Mean		3.2159	
Interpretation			
SD		0.5571	

	Indicators	Mean	Interpretation	SD
1	Implementation of No-Smoking policy throughout the property for indoor air quality	3.63	Much aware	0.63
2	Placement of green live plants on property for the quality of indoor air	3.20	Much aware	1.01
3	Keeping of relative humidity at certain level to prevent the growth of mold (e.g. 35-60% in FL)	3.00	Much aware	0.86
4	Establishment of measures to reduce carbon emissions from air conditioning units, exhaust fans, refrigerators, cooking equipment and the like	3.08	Much aware	0.78
5	The use of low-emitting carpets and adhesives to minimize harmful toxins in its indoor air	2.93	Much aware	0.98
6	The use of biodegradable cleaning products	3.02	Much aware	1.12
7	Installation of air purifiers in guest rooms, banquet halls and restaurants to ensure guests and staff are exposed to clean air	3.25	Much aware	0.65
8	Provision of building design that allows passage of natural air and ventilation	3.26	Much aware	0.58
9	Regular monitoring and maintenance of equipment and hotel facilities such as: generators and air conditioning systems, to ensure air quality	3.50	Much aware	0.69
10	Conduct of daily dusting and vacuuming of all soft furnishings	3.28	Much aware	0.91

Table 3 presents the frequency, percentage and mean distribution of participant's extent of awareness towards green practices on the air quality management. The overall mean indicated a mean of 3.2159 which is interpreted as much aware. From the items, the highest mean is 3.63 which indicated the implementation of no-smoking policy throughout the property for indoor air quality. This would imply that the participants are aware of the Republic Act on no smoking policy of the country and the R.A. Act 8749 Clean Air Act. The lowest mean is item no. 5 with a mean rating of 2.93 which stated the use of low-emitting carpets and adhesives to minimize harmful toxins in its indoor air.

Table 4 Frequency, Percentage and Mean Distribution of Participants' Extent of Awareness towards Green Practices (Solid Waste Disposal and Management)

Range	Interpretation	Frequency	%
3.51-4.00	Very Much Aware	31	35.23
2.51-3.50	Much Aware	47	53.41
1.51-2.50	Moderately Aware	9	10.23
1.00-1.50	Not Aware	1	1.14
Total		**88**	**100**
Overall Mean		3.21123	
Interpretation			
SD		0.621867	

	Indicators	Mean	Interpretation	SD
1	Encouragement for the involvement of hotel staff in waste reduction, reuse, recycling, waste segregation and composting program	3.16	Much aware	1.02
2	Communication through public announcement or in-house activities to encourage hotel guests in the reuse, recycling, and waste segregation program	3.05	Much aware	0.90
3	Recycling of toiletries such as: soaps, shampoos, conditioners, and toilet papers, if not reused	3.07	Much aware	0.98
4	Segregation of wastes before they are recycled	3.26	Much aware	0.85
5	Provision of adequate recycle bins for waste recycling	3.22	Much aware	0.78
6	Utilization of reusable cloth napkins, glass cups, and ceramic dishes, rather than disposable ones	3.11	Much aware	0.90
7	Recycling of solid waste materials like aluminum cans, card boards, plastics, paper, metals and glass bottles	2.94	Much aware	1.01
8	Implementation of paperless policy including use of electronic software or system such as: Ecopy, email, etc.	3.18	Much aware	0.85
9	The use of eco-friendly alternatives to packaging	3.07	Much aware	0.93
10	Training of staff in the principles of food safety and hygiene hand such as:			
10.1	Hand washing	3.26	Much aware	0.86
10.2	Correct food storage	3.40	Much aware	0.78
10.3	Food handling	3.35	Much aware	0.77
10.4	Service of food items	3.28	Much aware	0.83
11	Implementation of the following to reduce food waste:			
11.1	Proper food storage	3.41	Much aware	0.78
11.2	Food handling	3.31	Much aware	0.82
11.3	Service of food	3.32	Much aware	0.82
12	Implementation of ecologically-based pest control practices to identify and eliminate pests	3.20	Much aware	0.90

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Table 4 shows the frequency, percentage and mean distribution of the participant's extent of awareness towards green practices on solid waste disposal and management. The findings show an overall mean rating of 3.21 which interprets as much aware. It also shows that out of 88 participants, 47 or 53.41% is much aware of the green practices on solid waste.31 or 35.23% is very much aware, 9 or 10.23% is moderately aware and 1 or 1.14 is not aware of the green practices. Among the indicators the highest mean rating is 3.40 which indicates that the participants is much aware of the correct food storage in the hotel. However, the lowest mean rating is 2.94 on the recycling of solid waste materials like aluminum cans, cardboards, plastic paper metals and glass bottles. The result is in consonance with the study of Yusof and Jamaludin (2012) where it stated that some hotels do not use recycled materials and products in their operation because it is expensive and the quality is not good.

Table 5 Frequency, Percentage and Mean Distribution of Participants' Extent of Awareness towards Green Practices (Noise Pollution Control)

Range	Interpretation	Frequency	%
3.51-4.00	Very Much Aware	17	19.32
2.51-3.50	Much Aware	50	56.82
1.51-2.50	Moderately Aware	18	20.45
1.00-1.50	Not Aware	3	3.41
Total		**88**	**100**
Overall Mean		2.9443	
Interpretation			
SD		0.7046	

	Indicators	Mean	Interpretation	SD
1	The use of plants and equipment with quieter motors	2.91	Much aware	1.00
2	Installation of sound absorbing barriers underneath bath taps	2.82	Much aware	0.86
3	Replacement of toilet flush valve with quiet flush tanks	2.83	Much aware	0.96
4	The use of windows with good insulation	2.88	Much aware	0.94
5	Insulation and sound proofing of public areas with music entertainment using acoustic walls, ceiling, and carpets	2.99	Much aware	0.90
6	Installation of sound limiters in the music amplification system	3.02	Much aware	0.96
7	Installation of gaskets, drop seals and automatic door closers on entrance doors to guest rooms and conference rooms	2.89	Much aware	0.92
8	The use of phones other than alarm clocks to wake up guests	2.97	Much aware	1.02
9	The set up of maximum sound levels for telephones, TVs, and music systems in guest rooms	3.01	Much aware	0.84
10	The set up of maximum sound levels for music systems and TVs in public areas	3.14	Much aware	0.90

Table 5 shows the frequency, percentage and mean distribution of participants' extent of awareness on the green practices on noise pollution control. The overall mean which is 2.9443 which is interpreted as much aware. It also indicated that of the 88 participants 50 or 56.82% is much aware, 18 or 20.45 is moderately aware,17 or 19.32

is very much aware and 3 or 3.41 is not aware of the green practices. Of the indicators, no.10 was rated highest with a mean rating of 3.14 which states that the setup of maximum levels for music systems and televisions in public areas. This implies that the hotels are aware of the importance of noise control in their function rooms to satisfy customers. On the other hand, indicator no. 2 on the installation of sound absorbing barriers underneath bath taps got the lowest mean of 2.82

Table 6 Summary Table of Participants' Extent of Awareness on the Green Practices in the Hospitality Industry

	Mean	Interpretation	SD
Water and Liquid Waste Management	3.04	Much aware	0.66
"Green" Energy Consumption	3.11	Much aware	0.53
Air Quality Management	3.22	Much aware	0.56
Solid Waste Disposal and Management	3.21	Much aware	0.62
Noise Pollution Control	2.94	Much aware	0.70

Table 6 shows the summary of the participant's extent of awareness on the green practices on water and liquid waste, green energy consumption, air quality management, solid waste disposal and noise pollution control. Of all the variables, air quality management was rated highest with a mean of 3.22 which means that the hospitality industry in Cagayan de Oro City is very much conscious on the implementation of the Executive Order no.26 on the smoke -free environment. Among the green practices variables, Noise pollution control has the lowest mean of 2.94 indicating that the participant's awareness is limited in terms of noise pollution control. Another study conducted by Orpia (2016) stated that the accommodation sectors are aware on the implementation of proper waste management policies.

Table 7 Frequency, Percentage and Mean Distribution of Participants' Extent of Participation towards Green Practices ("Green" Energy Consumption)

Range	Interpretation	Frequency	%
3.51-4.00	Very Great Extent	17	19.318
2.51-3.50	Great Extent	51	57.955
1.51-2.50	Some Extent	7	7.9545
1.00-1.50	No Extent	13	14.773
Total		**88**	**100**
Overall Mean		2.8603	
Interpretation			
SD		0.8418	

	Indicators	Mean	Interpretation	SD
1	Conduct of awareness programs/activities on environmental protection for the staff	2.75	Great extent	1.0199
2	Provision of a policy or a regulation on:			
2.1	encouraging the use of local products such as food (minimum purchase of 20%) and 30 % across all organic suppliers within the region; and	2.7841	Great extent	1.0662
2.2	use of environmentally friendly and biodegradable products;	3.1136	Great extent	0.9276
3	The use of green seal certified sustainable cleaning products, materials and equipment such as laundry products, micro fiber cloths and dual motor vacuum cleaners	3.0114	Great extent	1.0227

4	Regularity of cleaning air conditioning units for twice a year to prevent growth of bacteria	2.9195	Great extent	1.0914
5	Use of electronic key card in guestrooms	2.9091	Great extent	1.1207
6	The use of automatic sensor lighting on property	2.6705	Great extent	1.1815
7	The use of energy star rated equipment such as: refrigerator, copier, etc.	2.8864	Great extent	0.9992
8	Provision of access to natural light and views of outdoors in regularly occupied spaces including offices, conference rooms, functions rooms, laundry areas, and kitchen.	2.9091	Great extent	1.0243
9	Setting of appropriate temperature in back of the house (office, kitchen, etc.)	3	Great extent	1.0505
10	Provision of energy-saving friendly reminders in strategic places such as: guest rooms and advertisement boards to encourage clients to save energy	2.9091	Great extent	1.0682
11	The use of Compact Fluorescent Lamp (CFL) or Light-Emitting Diode (LED) instead of high wattage incandescent lamps	2.7841	Great extent	1.0554
12	The use of solar panels to convert solar energy to useful sources of electrical energy	2.8068	Great extent	1.1332
13	Recording of energy consumption both water and electricity for every location	2.75	Great extent	1.096
14	Recording of environmental activities of the hotel such as: monthly energy saving report, monthly water saving report, monthly information of reducing solid waste quantity	2.6932	Great extent	1.0971

Table 7 shows the result on the frequency, percentage and mean distribution of participants' extent of participation towards green practices on green energy consumption. The overall mean is 2.8603 which is interpreted as great extent. Among the indicators, the highest mean is item no. 2.2 indicating the use of environmentally friendly and biodegradable products. This implies that hotels are using biodegradable and friendly products such as prohibiting the use of plastic bags and the use of styrofore or styrofoam on food. The lowest mean rating among the indicators is 2.6705 on the use of automatic sensor lighting on the property.

Table 8 Frequency, Percentage and Mean Distribution of Participants' Extent of Participation towards Green Practices (Water and Liquid Waste Management)

Range	**Interpretation**	**Frequency**	**%**
3.51-4.00	Very Great Extent	22	25
2.51-3.50	Great Extent	43	48.864
1.51-2.50	Some Extent	21	23.864
1.00-1.50	No Extent	2	2.2727
Total		**88**	**100**
Overall Mean		2.9181818	
Interpretation			
SD		0.7479544	

	Indicators	**Mean**	**Interpretation**	**SD**
1	Implementation of the towel and linen reuse program in guestrooms	3.0909	Great extent	1.0574
2	Utilization of minimal water usage for the laundry machines			
3	Utilization of rain water for reuse	2.9091	Great extent	0.9665

4	The use of native plants for landscaping to minimize water consumption	2.6023	Great extent	0.9534
5	Installation of "low-flow" (controlled flow) indoor plumbing fixtures in bathrooms (toilets and showerheads) and kitchens (sinks) to reduce water use	2.7614	Great extent	1.0504
6	Provision for recycling of waste water	2.7045	Great extent	1.0522
7	Provision of "Save Water" signs in kitchen and back office areas for awareness	3.1023	Great extent	0.9351
8	Installation of grease trap system in the kitchen, restaurant and grease contaminated area	3.125	Great extent	0.8816
9	Provision of waste water treatment system suitable for the size and activities of the hotel	2.9432	Great extent	1.0652
10	Implementation of the maintenance plan of sanitary ware / water saving equipment, including the checking of leak water area	2.875	Great extent	1.0808
11	Conduct of annual cleaning of potable water tanks and monthly testing of water quality to prevent water contamination and reduction of waste water generation through automatic sensor faucets, automatic sensor flush	3.0682	Great extent	1.0699

Table 8 shows the results of the frequency, percentage and mean distribution of the participants' extent of participation towards green practices on water and liquid waste management. Of the 88 participants 22 or 25% rated as very great extent, 43 or 48.86% rated as great extent, 21 or 23.86% rated some extent and 2 or 2.27 was rated no extent. The overall mean of 2.918 is interpreted as great extent. Of the indicators no.7 got the highest mean rating of 3.1023 which is interpreted as great extent indicating the provision of "save water" signs in kitchen and back office areas for awareness. Implying that important signage are being strategically located in the hotel. The lowest mean rating among the indicators is item no.4 indicating the use of native plants for landscaping to minimize water consumption. This is in consonance with the result in Table 2 on the extent of awareness on water and liquid waste management where it also got the lowest rating.This would imply that the extent of awareness could be a motivating factor to influence the behavior of the participant.

Table 9 Frequency, Percentage and Mean Distribution of Participants' Extent of Participation towards Green Practices (Air Quality Management)

Range	Interpretation	Frequency	%
3.51-4.00	Very Great Extent	26	29.54545
2.51-3.50	Great Extent	38	43.18182
1.51-2.50	Some Extent	11	12.5
1.00-1.50	No Extent	13	14.77273
Total		**88**	**100**
Overall Mean		2.922727	
Interpretation			
SD		0.859661	

	Indicators	Mean	Interpretation	SD
1	Implementation of No-Smoking policy throughout the property for indoor air quality	3.0568	Great extent	1.0971
2	Placement of green live plants on property for the quality of indoor air	2.8864	Great extent	1.0767

3	Keeping of relative humidity at certain level to prevent the growth of mold (e.g. 35-60% in FL)	2.6818	Great extent	1.0564
4	Establishment of measures to reduce carbon emissions from air conditioning units, exhaust fans, refrigerators, cooking equipment and the like	2.8523	Great extent	1.0343
5	The use of low-emitting carpets and adhesives to minimize harmful toxins in its indoor air	2.9886	Great extent	0.9884
6	The use of biodegradable cleaning products	2.9205	Great extent	1.1469
7	Installation of air purifiers in guest rooms, banquet halls and restaurants to ensure guests and staff are exposed to clean air	2.8864	Great extent	1.0331
8	Provision of building design that allows passage of natural air and ventilation	2.9545	Great extent	0.9815
9	Regular monitoring and maintenance of equipment and hotel facilities such as: generators and air conditioning systems, to ensure air quality	3.0455	Great extent	1.1132
10	Conduct of daily dusting and vacuuming of all soft furnishings	2.9545	Great extent	1.0818

Table 9 shows the frequency, percentage and mean distribution of participants' extent of participation towards Green Practices on Air Quality Management. The overall mean is 2.922727 rated as great extent.Of the indicators, the highest mean rating is item no.1 with a mean of 3.0568 indicating the implementation of no-smoking policy throughout the property for indoor air quality. Implying the strict implementation of the laws governed by the country on the no smoking policy.The lowest mean rating is 2.6818 indicating that keeping of relative humidity at certain level to prevent growth mold is not that extensively practiced.

Table 10 Frequency, Percentage and Mean Distribution of Participants' Extent of Participation towards Green Practices (Solid Waste Disposal and Management)

Range	Interpretation	Frequency	%
3.51-4.00	Very Great Extent	27	30.682
2.51-3.50	Great Extent	41	46.591
1.51-2.50	Some Extent	8	9.0909
1.00-1.50	No Extent	12	13.636
Total		**88**	**100**
Overall Mean		2.9197861	
Interpretation			
SD		1.0653434	

	Indicators	Mean	Interpretation	SD
1	Encouragement for the involvement of hotel staff in waste reduction, reuse, recycling, waste segregation and composting program	2.94	Great extent	1.04
2	Communication through public announcement or in-house activities to encourage hotel guests in the reuse, recycling, and waste segregation program	2.84	Great extent	0.92
3	Recycling of toiletries such as: soaps, shampoos, conditioners, and toilet papers, if not reused	2.85	Great extent	1.01
4	Segregation of wastes before they are recycled	2.99	Great extent	1.07
5	Provision of adequate recycle bins for waste recycling	2.94	Great extent	1.09
6	Utilization of reusable cloth napkins, glass cups, and	2.84	Great extent	1.07

	ceramic dishes, rather than disposable ones			
7	Recycling of solid waste materials like aluminum cans, card boards, plastics, paper, metals and glass bottles	2.91	Great extent	1.10
8	Implementation of paperless policy including use of electronic software or system such as: Ecopy, email, etc.	2.84	Great extent	1.04
9	The use of eco-friendly alternatives to packaging	2.69	Great extent	1.04
10	Training of staff in the principles of food safety and hygiene hand such as:			
10.1	Hand washing	3.01	Great extent	1.08
10.2	Correct food storage	3.03	Great extent	1.11
10.3	Food handling	2.94	Great extent	1.04
10.4	Service of food items	2.97	Great extent	1.11
11	Implementation of the following to reduce food waste:			
11.1	Proper food storage	3.03	Great extent	1.10
11.2	Food handling	2.92	Great extent	1.13
11.3	Service of food	2.97	Great extent	1.09
12	Implementation of ecologically-based pest control practices to identify and eliminate pests	2.91	Great extent	1.08

Table 10 represents the frequency, percentage and mean distribution of participants' extent of participation towards green practices on solid waste disposal and management. Based on the table the overall mean is 2.9197861 which is interpreted as great extent.Among the indicators, item no.10.2 and 11.1 got the highest mean rating of 3.03 which is rated as great extent. It states that the training of staff such as correct food storage and proper food storage is being participated to a great extent. The result of this table is in consonance with the extent of awareness where the proper food storage has the highest mean rating. Again this reinforces the Theory of Planned Behaviour of Azjen (1985) whereby intentions are assumed to capture motivational factors that influences the behaviour, in this case the extent of awareness on the implementation of proper food storage is manifested on the extent of participation. However, the lowest mean rating is 2.69 indicating that the use of eco-friendly alternative to packaging is not extensively participated since according to the study of Z. Yusof (2013) the use of such materials are expensive.

Table 11 Frequency, Percentage and Mean Distribution of Participants' Extent of Participation towards Green Practices (Noise Pollution Control)

Range	Interpretation	Frequency	%
3.51-4.00	Very Great Extent	17	19.31818
2.51-3.50	Great Extent	43	48.86364
1.51-2.50	Some Extent	14	15.90909
1.00-1.50	No Extent	14	15.90909
Total		**88**	**100**
Overall Mean		2.7364	
Interpretation			
SD		1.0572	

	Indicators	Mean	Interpretation	SD
1	The use of plants and equipment with quieter motors	2.74	Great extent	1.03
2	Installation of sound absorbing barriers underneath bath taps	2.66	Great extent	0.98
3	Replacement of toilet flush valve with quiet flush tanks	2.65	Great extent	1.05

4	The use of windows with good insulation	2.69	Great extent	1.07
5	Insulation and sound proofing of public areas with music entertainment using acoustic walls, ceiling, and carpets	2.67	Great extent	1.07
6	Installation of sound limiters in the music amplification system	2.67	Great extent	1.10
7	Installation of gaskets, drop seals and automatic door closers on entrance doors to guest rooms and conference rooms	2.69	Great extent	1.03
8	The use of phones other than alarm clocks to wake up guests	2.82	Great extent	1.10
9	The set up of maximum sound levels for telephones, TVs, and music systems in guest rooms	2.83	Great extent	1.04
10	The set up of maximum sound levels for music systems and TVs in public areas	2.94	Great extent	1.10

Table 11 represents the Frequency, Percentage and Mean Distribution of Participants' Extent of Participation towards Green Practices on Noise Pollution Control.The overall mean rating is 2.7364 which means that the extent of participation towards noise control pollution is great extent.Among the indicators, item no.10 got the highest mean rating of 2.94 stating that the setting up of maximum sound levels for music systems and t.v. in public areas is applied to a great extent.However, the lowest mean rating is 2.65 indicating that the replacement of toilet flush valve with quiet flush tanks is not extensively participated.

Table 12 Summary Table of Participants' Extent of Participation on the Green Practices in the Hospitality Industry

	Mean	**Interpretation**	**SD**
Water and Liquid Waste Management	2.92	Great extent	0.75
"Green" Energy Consumption	2.86	Great extent	0.84
Air Quality Management	2.92	Great extent	0.86
Solid Waste Disposal and Management	2.92	Great extent	1.07
Noise Pollution Control	2.74	Great extent	1.06

Table 12 shows the result on the summary of the participants' extent of participation on the green practices. Among the variables, water and liquid and waste management,air quality management,and solid waste disposal and management got the highest mean of 2.92. On the other hand noise pollution control got the lowest mean rating of 2.74. The result of the study contradicts the study conducted by Z.Yusof and M. Jamaludin (2013) on the "green approaches of Malaysian Hotels" indicating that among the green practices, it is the sustainable air quality which has the least participation among hotels because of the impact on operational costs.

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Table 13 Result of the Test of Relationship between the Participants' Awareness and their Extent of Participation of the Green Practices in Hospitality Industry

Awareness	Measures	Extent of Participation				
		Green Energy Consumption	Water and Liquid Waste Management	Air Quality Management	Solid Waste Disposal and Management	Noise Pollution Control
Green Energy Consumption	Correlation Coefficient	.771**	.576**	.524**	.472**	.491**
	Sig. (2-tailed)	.000	.000	.000	.000	.000
Water and Liquid Waste Management	Correlation Coefficient	.598**	.726**	.524**	.549**	.505**
	Sig. (2-tailed)	.000	.000	.000	.000	.000
Air Quality Management	Correlation Coefficient	.737**	.655**	.787**	.672**	.553**
	Sig. (2-tailed)	.000	.000	.000	.000	.000
Solid Waste Disposal and Management	Correlation Coefficient	.515**	.484**	.507**	.692**	.489**
	Sig. (2-tailed)	.000	.000	.000	.000	.000
Noise Pollution Control	Correlation Coefficient	.461**	.430**	.370**	.474**	.640**
	Sig. (2-tailed)	.000	.000	.000	.000	.000

Table 13 represents the result of the Test of Relationship between the Participants' Awareness and their Extent of Participation of the Green Practices in Hospitality Industry. The test shows that awareness of the green practices is significantly associated with the extent of practice. In this case the null hypotheses is rejected since the extent of awareness with the variables of green practices on green energy consumption,water and liquid waste management, air quality management, solid waste disposal and management and noise pollution control management are significantly associated with the extent of participation. This would imply that the human behaviour is essential in sustaining the participation on the green practices thus, awareness is highly important for the participants to practice. The data therefore, strengthens the theory of Planned behaviour to which this study is anchored to and massive educational campaign awareness must be conducted to sustain the green practices.

DISCUSSION

This current study found that the hotel industry management and staff are much aware of the green practices on water and liquid waste, green energy consumption, air quality management, solid waste disposal and noise pollution control. However, the lowest mean in the rating is the noise pollution control indicating that the participant's awareness is limited in terms of noise pollution control. Of all the variables, air quality management was rated highest which means that the hospitality industry in

Cagayan de Oro City is very much conscious on the implementation of the Executive Order no. 26 on the smoke -free environment. This reinforces the study of Rahman (2012) stating that legitimization or compliance with the environmental regulation is one of the reasons that forces the lodging industry to exercise green practices in their operation.

Furthermore, the hotel industry management and staff's extent of participation on the green practices was rated great extent. Among the variables, water and liquid and waste management, air quality management, and solid waste disposal and management got the highest mean. On the other hand noise pollution control got the lowest mean rating. This would reinforce the theory of Azjen (2006) on planned behaviour whereby the extent of awareness are assumed to engage the extent of participation. In this case, noise pollution control has the lowest mean rating in the extent of awareness and extent of participation.

In terms of the extent of awareness on green practices and extent of participation, the study found that they are significantly associated with reinforcing once again the theory of planned behavior of Azjen (2006) whereby it stated that the stronger the intention to engage in behaviour, the more likely they perform. Thus, there is an interplay of the different variables in the study as shown in Figure 1.

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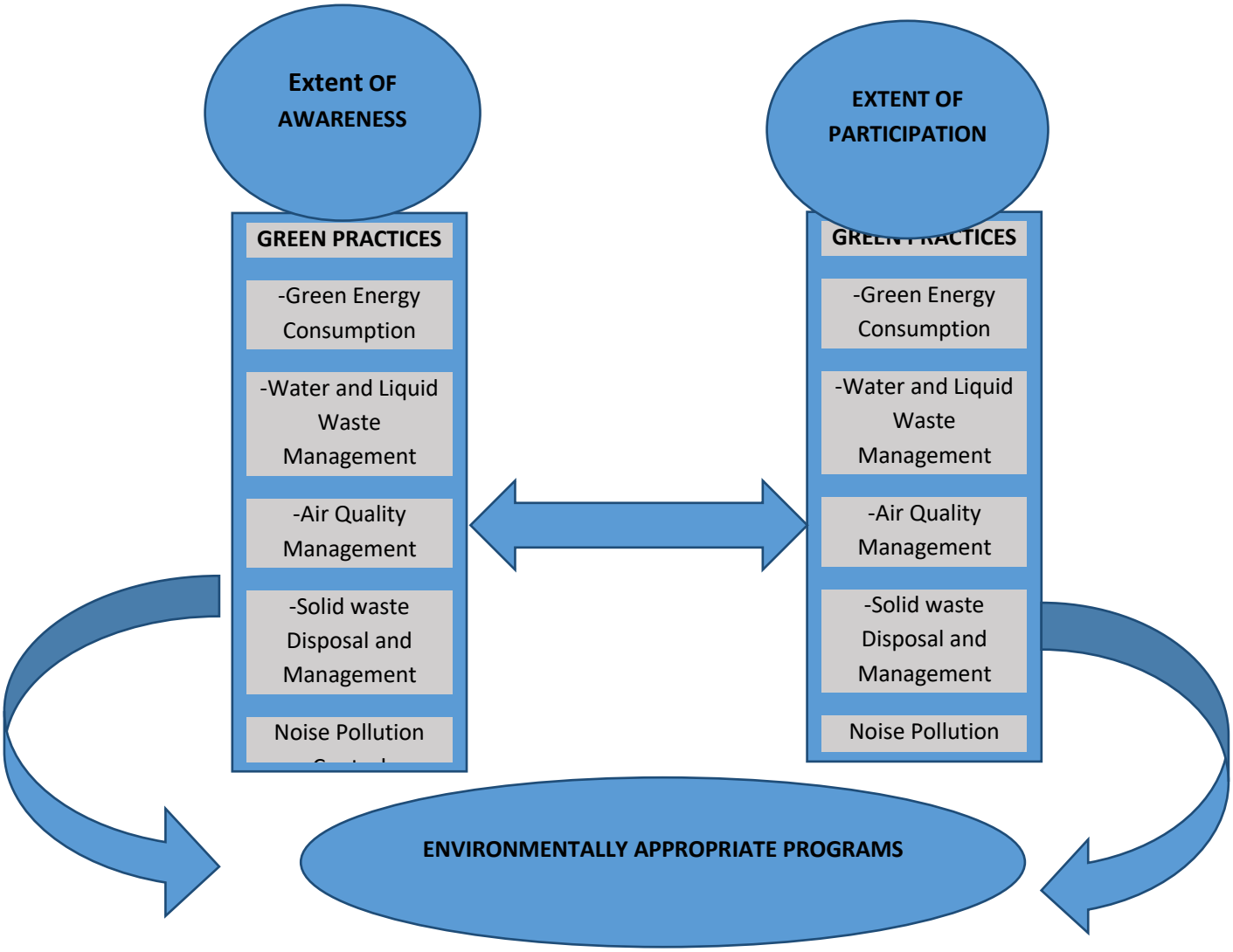

Figure 2- Interplay of Variables in the Study

Moreover, the distinctness of green practices in the hospitality industry vary and are associated with different approaches. As cited by Myung (2012) green practices are designed to minimize the impact on the environment by applying environmentally preferred practices to reduce waste and to use sustainable resources and supplies. Green practices are actions that reduce the impact on the environment like eco-purchasing and recycling as postulated by Wolfe (2001).

Rohman, *et al.* (2012) stressed that green practices by hotels are doing business in a way that reduces waste, conserve energy and generally promote environmental health. Another reason for green practices according to I. Rohman (2012) may be competitiveness in terms of going green can improve profitability by lowering of

expenses and another reason may be legitimization which means complying with the environmental regulation mandated by the government.

A study on sustainable tourism practices in the hospitality sector made by J. Eggeling (2010) mentioned that according to Edrogon and Boris (2007) the hotel industry is a key element in the tourism industry and have a crucial position in protecting and preserving the environment because hotels consumed a large amount of water, energy and other sources.

A study made by K.Sun Hwa, et.al. On the "Review of Green Research in the Hospitality" (2014) have stated that the implementation of green practices in the hospitality industry may also vary based on the internal organizational functions, financial structure, managerial attitudes and other external variables such as stakeholders pressures and environmental regulations. It was further stated that green practices is a comprehensive term covering issues such as environmental impact which may include aesthetic, cultural, ecological and social.Other issues also include sustainability, resources, management and pollution.

A study by J. Rathore and D. Gawankor (2009) on exploring sustainability in the hotel industry stated that transforming a property green is not an easy task since it involves a lot of teamwork, skills and dedication. It also needs a lot of initial investments by the hotel group. It further stated that while the hotel chains have a basic idea about green practices, they need a specific guidelines to go green in an comprehensible manner.

Therefore,a question on the extent of awareness towards green practices and the extent of participation among hotels has emerged.

Thus, green practices will help in preserving the environment and will help reduce costs in the natural environment, society and economy. Becoming green is a multidimensional process; there are various practices that can be applied when business wants to shift to a green behaviour. The hospitality industry should participate at least in one of "4Rs" – reduction, reuse, recycling, and recovery (Kassaye, 2001). Each of those "Rs" can be achieved through several practices, some of which might serve the purpose of more that one "R". "R" as reduction has a twofold meaning: as a reduction of resource consumption and a reduction of waste.

The greening of the hospitality industry begins because of the many benefits such as the financial benefits, the consciousness on the sustainability of the environment and the changing attitudes of tourist towards sustainable tourism. The researchers believes that in general, what the hospitality industry needs specially in CDO is the awareness of the importance of green practices as well as the strengthening of the practice of green tourism. However, before progress can be initiated, the current status of the hotel industry of CDO needs to be identified and evaluated, which in this case it already has been identified using specific indicators of green practices. According to J. Rathore and D. Gawankor (2009) making a property green is not an easy undertaking

and it involves a lot of teamwork, skills, dedication and initial investments by the hotel group. He further stressed that although hotel chains have a basic idea about green practices, they need a specific guidelines to go green in an approachable manner.

The result of the study has pointed out that there is a need for an environmentally appropriate programs that will direct the hotel industry to a green hotel standard guidelines. The program is designed to guide the hotel industry on the application of greening of hotels in the city. This would also help other tourism sectors in the assessment and certification of Green Hotel Standard. The objective of the program is to help the hotel industry of CDO integrate the green practices as a component of their daily operations. It would also help in identifying significant and priority measures for hotels to enable them to implement and ensure sustainability in the environment.
To ensure the total implementation of the program, the proposed scheme is presented here. This covers the phases of the program as based on the findings.

Findings and Areas of Concern:	**Specific Objectives:**	**Strategy/Indication of Practices**	**Responsibility Center/Documentation**	**Time Frame:**	**Budget:**
1.The extent of awareness towards green practices is only "much aware"	To strengthen awareness on green practices on green energy consumption, water and liquid waste management, air quality management and solid waste disposal and management.	Training and promotion of environmental activities in order to encourage involvement of hotel staff, guests,suppliers to participate in the environmental management practices.	Department heads and list of activities may be documented.	6-12 months	Depending on the appropriate materials to be used.
2.The extent of participation on the green practices in the hospitality industry is rated "great extent"	To formulate an environmental plan on green practices to serve as a guide to hotel personnel.	Create an awareness among personnel on the green practices at the same time monitoring program will be implemented	Department heads and monitoring checklist.	May be done once a month.	Depending on the appropriate materials to be used.
3.The use of green products such as use of	To encourage the use of environmentally	There should be a formulation of the purchasing	Department heads and owners	6-12 months for the installation of all green	Depending on the appropriate materials to be

automatic sensor lighting,use of native plants,use of environmental thermometer to monitor humidity, the use of eco-friendly packaging and the use of quiet flush tanks.	friendly products and the use of local products.	policy in the hotel industry pursuing the green procurement criteria.		products.	used.
4.Collaboration with the tourist and hotel guests and local tourism organizations	To collaborate with the local tourism organization on their existing green practices program and to collaborate with hotel guests to help in the protection of the environment.	The introducing of Environmental Protection Awareness program and implementation of activities.	Hotel Industry management and staff and the Department of Tourism officers.	1 to 2 years	Depending on the appropriate materials to be used.
5.Human Resource program	. To provide training programs for the hotel staff and management on the green practices.	The provision of training programs for management and hotel staff on green practices(sustain able) environment	Human Resource Department/ Heads	Once a month	Budget for training materials

Recommendation:

On the basis of the findings and conclusions drawn from the study, it is recommended that the hotel industry, particularly in CDO, shall embark a more aggressive green practices to help in the sustainability of the environment as part of the social responsibility, the hotel industry should consider the implementation of green practices since a lot of benefits will result such as cost saving on the part of the establishment, the hotel and tourism industry considers the implementation of the proposed environmental program formulated as a result of the study, there should be a collaboration on the policy for green practices between the hotel industry and the accrediting organization like the Department of Tourism for better quality of life improvement, this study can also be replicated by other researchers applying this to hospital industries, food manufacturing industries, and even in schools. And future researches may be undertaken and that focused on the socio-economic impact of green practices may be emphasized and studied and "Green Practices" may be integrated in the curriculum of the hospitality management and tourism student

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