

ENVIRONMENTAL GUIDELINES FOR HIKERS OF MOUNT BATULAO IN CUENCA BATANGAS

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Abstract: The Mt. Batulao is a famous beginners mountain with many hikers climbing the mountain there is a need for hiking to be sustainable to minimize the negative effects of hiking. Using survey questionnaires to know the profile of the respondents and the sustainability practices (Waste Management, Biodiversity Conservation and Tourist Behavior) of the hikers and to know if there is significant difference between the profile of the respondents and their assessment of green practices. The result shows that majority of the respondents age 19-29, male an educational attainment of college graduate and has an income range of 10001 to 30000. Hiking frequency for once and visiting the site for the first time. The result also shows that the respondents practice green practices while there is a significant difference between the profile of the respondents particularly the gender and waste management and number of times hiking in the site and waste management. The output of the study was a sustainable plan.

Keywords: Green Practices, Hikers, Waste Management, Biodiversity Conservation and Tourist Behavior.

1. INTRODUCTION

The Mt. Batulao is an example of a beginner mountain in which most of the first time hikers climb the mountain due to accessible location and the growing trend of hiking in the Philippines, however the question of sustainability in the mountain is important if the form of ecotourism in hiking is sustainable or if the hikers have some mitigation to achieve sustainable practices during the hiking activities.

Sustainability practices is more or less have been integrated in different aspects of tourism sustainable development is necessary for the future generation to benefit from the conservation of the past actions a need to implement these sustainable practices is a crucial factor in order to minimize the negatives effects of climate change and to realize the importance of biodiversity specifically in the field of tourism (Chen et. al, 2016).

The tourism industry it is necessary to adapt sustainable practices such as waste reduction, most commonly is the 3R (Reduce, Reuse and Recycle). Recycling is a popular practice, perhaps because many recycling methods have a short payback period and can produce significant improvement on the condition of a tourist site (Luc, 2018).

When it comes to the trend of tourism the ecotourism has been the subject of modern trend since the purpose of ecotourism is to create a recreation with minimal impact to the environment a good characteristics of ecotourism first is that it conserves local cultural and biological diversity, second it promotes the sustainable use of resources and third it supports local economies through employment and the use of local services other factors to look for when it comes to the characteristics of good ecotourism was to include empowerment of the local community by shared participation in management, cultural and environmental awareness and minimal impact of tourist activities on local natural resources (Green,2018).

Hiking has a great potential as a form of ecotourism and a great potential to for sustainable development especially if the hiking area have been subjected to as a protected area there is a link that hiking increases the awareness of the humans to

respect and protect the biodiversity of an area and the urge to protect the mother nature. However, hiking as a form of ecotourism creates a negative impact with the wildlife in the area, the landscape and the local heritage values of the locals in the area could be affected negatively while economically it is more advantageous because hiking brings economic activity with the local living in the area. (Santarem,2016).

When it comes to the ecotourism and hiking as form of there are both positive and negative impacts of ecotourism can. An example of positive effect of ecotourism is to realize and educate the tourist which in the case of hikers is the biodiversity conservation efforts in which the tourist will appreciate the nature and can become willing to take part in conservation efforts in an ecotourism area. Other positive impact of ecotourism is to provide jobs to the local in which it helps the locals to have a sustainable source of income it can also help them to improve their self esteem by being proud of their cultural heritage (Cargill, 2015).

However, the activity of hiking has negative impacts when out controlled by the number of the visitors in a trail then problems poses such as problems with the waste management and the threat to the species in the wild which is the issue with biodiversity. In which the main purpose of ecotourism that should be low impact was neglected. However, some of the hikers realized the damage that hiking activity can be done to the natural environment on a site that they have started to adopt ethics and green practices also known as the hiker behavior (tourist behavior) in order to have a low and minimal impact to the environment (Waterman, 2016).

Hiking also as a form of ecotourism have a negative impact specially to the locals some of the locals becomes displaced with the establishment of big businesses that entered an ecotourism site in which it reduces their culture and eviction of the homelands other negative impact can also be observed is the increased foot traffic of the hikers in which it damages the soil and the trail threatening the biodiversity in the area therefore damaging more the ecosystem of a mountain (Swanston, 2018).

Hiking have become a famous activity all over the world, that involves walking in a natural environment usually it is comparable to walking but with trekking and climbing involve aside from that the difference is the nature surrounding while walking and enjoying the view of the nature. Hiking has become an outdoor activity for people who loves outdoors (Raftrek, 2016).

The research gap in the study was the awareness of the locals towards the sustainability of ecotourism in their area usually the locals does realize the problem with the ecotourism in their area as long as there is an economic benefit such as income generation to them and the locals usually have a hard time realizing the pre damages an ecotourism activity was done after a major environmental impact has already been realized.

The used of plastic bags have been also shown to pose a problem with the biodiversity conservation as it affects not only the surrounding but it also affects the organisms living for example were the garbage the hikers left on the mountain could be eaten by the wildlife which in turn does not digest the food therefore threatening their nutrition. Another example was the seabirds in which they also mistaken the plastic bag pellets as food in which it ruptures the organs of the birds (Ryan, 2017).

In the Philippines hiking was also a famous activity for those who wanted to escape the noisy urban setting and enjoy the scenic view of mountains and the nature surrounding it. However, problems with waste management and the biodiversity conservation poses the biggest threat with hiking. An example of this observations can be seen in Mt. Apo the highest mountain located in the Philippines were many hikers does not practice the leave no trace where garbage has been filed and this poses dangers to the wildlife animals who can eat this garbage that is toxic (Ranada, 2013).

According to Waterman (2016) the application of ecotourism in hiking is divided into three parts first was the waste management because usually in hiking the problem in waste management is the main cause of problem in the hiking because the hikers usually left the waste on the trails and these will cause problems with the biodiversity conservation because human activity and waste affects different organisms that lives in the mountain and the tourist behavior in the case the hikers as they are the key to solution if the tourist have a positive behavior towards taking care of the environment in the mountain.

The subject of the study the Mt. Batulao is a major hiking area located the Batangas, Cuenca although the jurisdiction is still with the Nasugbu Batangas. The mountain is also a famous mountain located near Manila approximate 2 to 3 hours' drive the mountain is considered to be a beginner's mountain because the trail is easy and very suitable for the beginners the mountain stands at 811 meters above sea level (Louise,2018).

The Mt. Batulao is primary grassland ecosystem with different species of grass and insects to be found although there is secondary forest established in steep slopes (DENR,2018). The area of Mt. Batulao is not subjected to NIPAS (National Integrated Protected Areas System) the area has been in talks with the DENR (Department of Environment and Natural Resources) to be established as a forest park with the goal of planting native tree species such as Nara, Palawan Cherry and Agoho under the “one billion trees program” (ENRB.DENR, 2018 Vol.4 Forest Park Guidelines).

The legal basis of the study was the DENR-DOT Memorandum Circular No. 98-02. Approved on June of 1998 the memorandum was about the development and the guidelines in establishing ecotourism sit in the country. The guidelines were about the conservation of the species in an ecotourism site, the waste management program in the area and the carrying capacity which is crucial in establishing an ecotourism site.

The stretch of Mt. Batulao to Mt. Sungay has been considered as a natural defense for natural calamities such as typhoons but the problem was the increase in urbanization near the proximity and the badly managed of land zone planning that the purpose of the mountain as a natural defense for calamities was displaced (Tiquia, 2018).

The mountain as a famous site for hiking was managed by the PENRO (Provincial Environment and Natural Resource office of Batangas). The activities were hiking and camping. The researchers have done a preliminary site visit and the researchers observed that there is a registration fee for the 3 peaks which amounting to 30 pesos per peak a total of 90 pesos per person. On the registration on the start of the trail a tour guide is required amounting to a fee of 500 pesos maximum of 5 persons. The management of the Mt. Batulao is responsible for waste pickers and there were locals living nearby the area with 100 people according to the management of Mt. Batulao. There is an estimation of maximum 500 hikers that go to the mountain per day the peak days were weekends and for the tour guide had an income of 1000 pesos per day with 2 trips maximum. The management of the Mt. Batulao comprises of 32 tour guides and 1 DENR staff responsible for registration at the beginning of the trail.

According to the management of Mt. Batulao several issues that affect the sustainability of ecotourism in the site was the capacity because there were a lot of hikers that hike in the area, the waste generated by the hikers in the area cannot cope up specially cigarette butts and the damage of the hikers on the trail of the Mt. Batulao damaging the soil. The researchers would like to conduct a study on the sustainability of ecotourism in Mt. Batulao with the output of the study being the action plan.

The proposed study would like to assess the sustainability of ecotourism as perceived by the respondents the locals the study sought to answer the following questions:

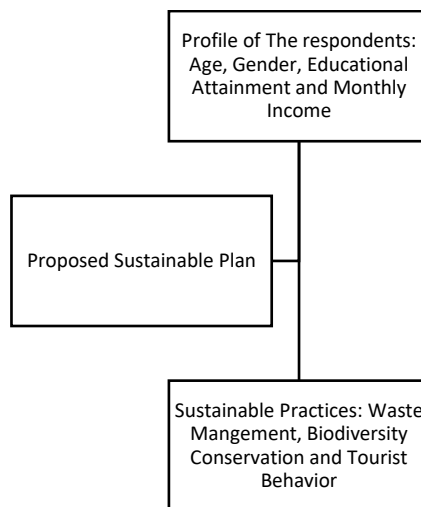
1. What are the profile of the respondents in terms of:
 - a. Age
 - b. Gender
 - c. Educational Attainment
 - d. Monthly Income
 - e. frequency of hiking
 - f. number of times hiking in the site.
2. What is the respondent’s assessment on the sustainability of Mt. Batulao in terms of:
 - a. Waste Management
 - b. Biodiversity Conservation
 - c. Tourist Behavior
3. Is there significant difference between the profile of the respondents and their assessment of sustainability in Mt. Batulao
4. Based on the findings what sustainable plan can be proposed?

The study is a great help to the management of the Mt. Batulao to help them to better manage the hikers in the area and for them to realize if the current hiking situation is sustainable in order for them to make better decisions and to provide a much stricted guidelines implementation in order to make hiking in the mountain more sustainable and with less impact. The study is also a great help for the locals for them to be aware of the sustainable ecotourism and to help preserve the Mt. Batulao and to realize the potential of Mt. Batulao as a source of sustainable livelihood and a sustainable environment and to help it incorporate to their cultural values the importance of the mountain to them.

The scope of the study is the Mt. Batulao and the hikers as the respondents of the study. the study is limited on the concept of sustainability in hiking in which it is divided into waste management, biodiversity conservation and tourist behavior. The study will be done in a span of 3 months from June to August 2019.

Research Paradigm

Figure 1 Research Paradigm



The figure above shows the conceptual framework of the study the concept of the study used was the concept of Waterman (2016) on the ecotourism application in hiking the concept was divided into three parts first was the waste management because usually in hiking the problem in waste management is the main cause of problem in the hiking because the hikers usually left the waste on the trails and these will cause problems with the biodiversity conservation because human activity and waste affects different organisms that lives in the mountain and the tourist behavior in the case the hikers as they are the key to solution if the tourist have a positive behavior towards taking care of the environment in the mountain.

2. METHODOLOGY

The researchers used Quantitative Research Design, specifically Descriptive Research. The collected data and information from the respondents in particularly on Mt. Batulao were used to determine the sustainability and respondent profile that was used in the study.

The researcher used purposive sampling since the study has the purpose to assess the sustainability of hiking activity in Mt. Batulao. Purposive sampling is more suitable in the study since the purpose of the study is to know the sustainability of hiking in Mt. Batualo. The researcher provides survey questionnaire to the hikers as the instrumentation. the survey questionnaire was in Likert form. The researcher visited the site and handed survey questionnaire 3 times during the visit the researcher had 100 respondents the researchers have come up to that number because there is no established data about the number of hikers in Mt. Batulao.

Letter was given to the management of the Mt. Batulao the DENR and the PENRO so that they will be aware of the study that was done in their area the Mt. Batulao. The researchers used survey questionnaire in data gathering. The researcher personally has handed out the survey questionnaire to the hikers in Mt. Batulao. The data gathering process started from 1st week of August up to 4th Week of August (2019).

The researchers then conduct the survey during weekends the respondents answered immediately the survey questionnaires and these are waited until they are finished answering. After handling out the questionnaire, it was collected by the researchers from the respondents for the researchers listed their answers for further statistical analysis.

The statistical tools that was use in determining the demographic profile of the respondents is Frequency and Percentage. The researchers used Mean, Standard Deviation and Ranking that determined the assessment of the respondent's assessment to the sustainability of the hiking activity in Mt. Batulao. The meaning of the weighted mean will be as followed 1.00 to 1.49 Needs Practice, 1.5 to 2.49 Sometimes Practice, 2.5 to 3.49 Practiced and 3.5 to 4.00 Often Practiced. Lastly, statistical computations such as ANOVA (Analysis of Variance) and T-Test test was used to determine the relationship of the profile of the respondents and their assessment of sustainability of hiking Mt. Batulao as perceived by the locals.

The survey questionnaire was validated by the thesis adviser. The thesis adviser improved the questionnaire and was approved it based on the variables involved. Hence, content validity. Aside from that face validity was also used the survey questionnaire was pre-shown to the respondents the hikers and was asked if the survey questionnaire answered the sustainability of the hiking in Mt. Batulao. The output of the study is a sustainable plan in which was based on the findings each from the concept of waste management, biodiversity conservation and tourist behavior.

3. RESULTS

Table 1 Age of the respondents

Age	Frequency	Percentage
19 to 29	70	70
30 to 39	20	20
40 to 49	8	8
50 to 59	2	2
Total	100	100

The table 1 shows the result of the age of the respondents the result shows that majority of the respondents age 19 to 29 with 70 (70%) respondents followed by respondents with age 30 to 39 with 20 (20%) respondents while the lowest number of respondents age 50 to 59 with 2 (2%) respondents.

The result shows that majority of the respondents can be considered as young adults as hiking is popular with the young adults today. According to Santarem (2016) hiking is very popular with the young adults as these age group are more active and more physically fit as compared with the old ages which explains the result of the study.

Table 2 Gender of the Respondents

Gender	Frequency	Percentage
Male	63	63
Female	37	37
Total	100	100

The result of the table 2 shows the gender of the respondents the result shows that majority of the respondents were males with 63 (63%) respondents while female respondents were 37 (37%).

The result shows that majority of the respondents are male a probable reason behind this was due to the nature of the hiking activity as hiking needs more energy as it is a physically activity which males are more endured to go on hiking as compared with females (Santarem, 2016). In which it reflects the result of the study.

Table 3 Educational Attainment of the Respondents

Educational Attainment	Frequency	Percentage
Vocational	3	3
College Level	19	19
College Graduate	74	74
Post Graduate	4	4
Total	100	100

The table 3 shows the result on the educational attainment of the respondents the result shows that majority of the respondents are college graduate with 74 (74%) respondents followed by college level with 19 (19%) respondents while the lowest number of respondents can be observed in vocational with 3 (3%) respondents.

Based on the result it can be observed that there are more college graduate respondents the probable reason with this was college graduates are usually workers and hiking is considered as a form of leisure and recreation to them (Moghimefar and Halpeny, 2016). Other explanation to this was due to the location of the mountain which is near the capital Metro Manila in which there are a lot of college graduate workers in which it is a good site for the hikers to explore and experience the nature in the area without taking trips farther.

Table 4 Monthly Income of the Respondents

Monthly Income	Frequency	Percentage
10,001 to 30,000	70	70
30,001 to 50,000	20	20
50,001 to 70,000	8	8
70,001 and above	2	2
Total	100	100

The table 4 shows the result of the monthly income of the respondents the result shows that majority of the respondents had an income range of 10,001 to 30,000 pesos a month in which with 70 (70%) respondents followed by respondents with a monthly income range of 30,001 to 50,000 pesos. The lowest number of respondents had an income of 70,001 and above with 2 (2%) respondents.

The result shows that majority of the respondents had a monthly income ranging from 10,001 to 30,000. The probable reason to this was the average income of Filipino workers according to PSA (2016) the median income here in the Philippines was 22,000 pesos a month however in which the result was inside the range of 10,001 to 30,000 in which it directly reflects the result of the study.

Table 5 Frequency of Hiking of the Respondents

Frequency of Hiking	Frequency	Percentage
First Time	73	73
Once a month	5	5
Once a year	22	22
Total	100	100

The table 5 shows the result of the frequency of hiking of the respondents the result shows that majority of the respondents where first timer with 73 (73%) respondents followed by respondents that hikers once a year with 22 (22%) respondents while the lowest number of respondents hikes once a month with 5 (5%) respondents.

The result shows that majority of the respondents are first timer the probable reason with this was that the Mountain itself is considered as a beginner mountain which means that the trail is easy and most beginners can hike the mountain easily.

According to Louise (2018) the mountain is considered as a beginner's mountain in which the trail can be easily followed in which it is suitable for beginners.

Table 6 Number of times hiking on the site

Number of Times Hiking in The Site	Frequency	Percentage
Once	74	74
Twice	24	24
Thrice	2	2
Total	100	100

The table 6 shows the result on the number of times the respondent's hike on the site. The result shows that majority of the respondent's hike in Mt. Batulao for the first time with 74 (74%) respondents followed by twice with 24 (24%) respondents while the lowest number of respondent's hike on the site for thrice with 2 (2%) respondents.

The result shows that majority of the respondent's hike on the site for the first time in which reflects the result on the frequency of hiking as most of the respondents' hike for the first time.

The result further cemented that most of the respondents are beginner hikers as according to Louise (2018) the Mt. Batulao is considered as a beginner's mountain in which most of the aspirants to become a hiker starts with beginner's mountain such as Mt. Batualo.

Table 7 Waste Management practices of the respondents

Waste management	Mean	Interpretation	Rank
1. I practiced "clean and go" during hike	3.41	Practiced	1
2. I minimize the use of plastic during hike	3.36	Practiced	2
3. I tell other hikers to properly disposed their waste	3.01	Practiced	4
4. I segregated the waste that I used during the hike	3.25	Practiced	3
5. I pick some waste that I can found in the trail	2.75	Practiced	5
Overall	3.16	Practiced	
<i>Interpretation 1.00 to 1.49 Needs Practiced, 1.5 to 2.49 Sometimes Practiced, 2.5 to 3.49 Practiced and 3.5 to 4.00 Often Practiced</i>			

The table 7 shows the result on the waste management practices of the respondents the result shows that the highest mean can be found in "I practiced clean and go" with a mean of 3.41 and interpreted as practiced while the lowest mean can be found in "I pick some waste that I can found in the trail" with a mean of 2.75 and interpreted as practiced. The overall mean suggests that most of the respondents practiced waste management in the site.

The probable reason as to why the practiced of clean and go got the highest mean was because the practice of clean and go was the most recognized when it comes to hiking (Louise, 2018) in which most of the hikers practiced it however there are some hikers that just throw away their garbage in the trail that this also explains the result as to why the lowest mean is "I pick some waste that I can found in the trail" which also indicates that the hikers does not have any motivation to do so. In which probable reason with it is that they are not responsible with the trash of other people.

According to Ranada (2013) when it comes to waste management it is very important when it comes to the mountains because trash was mistaken by the wildlife as a food in which could also threatened their existence due to eating plastics. Other hikers are insisted to be more responsible with their respective trash and garbage.

Table 8 Biodiversity Conservation practices of the respondents

Biodiversity conservation	Mean	Interpretation	Rank
1. I minimize the contact with the wildlife in the area	3.45	Practiced	2
2. I minimize the use of loud voice during the hike	2.94	Practiced	4
3. I minimize picking plant life in the area	3.47	Practiced	1
4. I strictly follow the trail path	3.41	Practiced	3
5. I minimize playing loud music during the hike	2.61	Practiced	5
Overall	3.18	Practiced	
<i>Interpretation 1.00 to 1.49 Needs Practiced, 1.5 to 2.49 Sometimes Practiced, 2.5 to 3.49 Practiced and 3.5 to 4.00 Often Practiced</i>			

The table 8 shows the result of the biodiversity practices of the respondents the result shows that the highest mean can be found in “I minimize picking plant life in the area with a mean of 3.47 and interpreted as practiced while the lowest mean can be found in “I minimized playing loud music during the hike” with a mean of 2.61 and interpreted as practiced. The overall mean of 3.18 suggest that most of the respondents practiced biodiversity conservation.

The result shows that most of the respondents respect the flora of the mountain by not picking plant life in the area. This shows that the respondents are somehow aware that the nature of the mountain should be respected. According to Bolduc (2018) one of the negative impacts when it comes to hiking was the destruction of plant life because of the trail it creates however minimizing contact with the flora of the mountain could establish a more sustainable form of hiking which is a form of ecotourism (Green, 2018). There should be a sustainable approach when it comes to hiking specially in order to protect the biodiversity of the mountain.

However, the result also reflects that the respondents lowest mean was playing loud music. This could become a problem as it creates a noise pollution specifically with the wildlife in the area. This also reflects that another lowest mean was the “I minimize the use of loud voice during the hike” in which loud human voice also creates a disturbance to the wildlife in the area. According to Moghimehfar and Halpenny (2016) the most important green practices during the hiking is the sensitivity of the hikers as somehow practices are neglected due to being unaware of the hikers and example of this are noise in which the hikers does not realized that their voice is already loud or the music the play could find some disturbances. Therefore, this explains the result of the study as the casual hikers are probably not aware of the disturbance that noise can cause with the wildlife, the casual hikers should be aware of the disturbance they cause in the site.

Table 9 Tourist Behavior of the Respondents

Tourist behavior	Mean	Interpretation	Rank
1. I motivate other hikers to be responsible of their actions during the hike	2.76	Practiced	5
2. I appreciate the nature and raise awareness on responsible hike to other people (hikers)	2.84	Practiced	4
3. I respect and engaged in the culture of the locals in the area	3.27	Practiced	1
4. I pay attention to the precautions lectured by the government unit before hiking in the area	3.03	Practiced	3
5. I strictly follow the rules and regulations of the protected area during hike	3.10	Practiced	2
Overall	3.00	Practiced	
<i>Interpretation 1.00 to 1.49 Needs Practiced, 1.5 to 2.49 Sometimes Practiced, 2.5 to 3.49 Practiced and 3.5 to 4.00 Often Practiced</i>			

The table 9 shows the result of the tourist behavior of the respondents the result shows that the highest mean can be found in “I respect and engaged with the culture of the locals in the area” with a mean of 3.27 and interpreted as practiced while the lowest mean can be found in “I motivate other hikers to be responsible of their actions during the hike” with a mean of 2.76 and interpreted as practiced the overall mean of 3.00 suggest that most of the respondents practiced proper tourist behavior.

The result shows that most of the respondent’s respect and engaged with the culture of the locals in the area. The probable reason as to why this got the highest mean was that the tour guides in the mountain were also locals in the area in which they interact with the tourist and vice versa in which the hikers engaged with the locals and respect their cultural traditions. According to Cargil (2015) ecotourism such as hiking helps the local community to generate a livelihood while the tourist also engaged and creates a cultural exchange, in which this explains the result that most of the respondents engaged and respect the culture of the locals nearby the site.

However, when it comes to the lowest mean the result also shows that hikers do not motivate other hikers to be responsible of their own action. The probable reason about this was that other hikers are expected that other hikers are responsible enough for their own actions, however these hikers are only beginners and they were not fully aware of the proper behavior when it comes to hiking. According to Santarem (2016) hikers should be responsible with their behavior as it could not only have impact environmentally but socially as well the responsibility of the hikers to remind others of their inappropriate action towards a site should be practiced in order to change one's attitude towards responsible hiking.

Table 10 Significant difference between the age of the respondents and their assessment of practices

Age	P-value	Interpretation	Decision
Waste Management	.902	No Significant Difference	Accept
Biodiversity Conservation	.340	No Significant Difference	Accept
Tourist Behavior	.644	No Significant Difference	Accept

The table 10 shows the result on the significant difference on the age of the respondents and their assessment of hiker's practices in Mt. Batulao the result shows that age is not a factor when it comes to the practices because all of the p-value was more than the significance level of 0.05.

The result reflects that there is no significant difference with the age of the respondents and the said green practices a probable reason for the result was that age is not a factor when it comes to hikers' practices. Different age groups have the same assessment of waste management, biodiversity conservation and tourist behavior.

According to Santarem (2016) although there are more young adults who do hiking there is not significant relationship established with the green practices as according to Ranada (2013) is should be the responsibility of the hikers to green practice when hiking so that they don't pose danger or threat to the natural surroundings.

Table 11 Significant difference between the gender of the respondents and their assessment of practices

Gender	P-value	Interpretation	Decision
Waste Management	.000	Significant	Reject
Biodiversity Conservation	.484	No Significant Difference	Accept
Tourist Behavior	.633	No Significant Difference	Accept

The table 11 shows the result on the significant difference on the gender of the respondents and their assessment of hiker's practices in Mt. Batulao the result shows that gender is a factor when it comes to waste management as the p-value is less than the level of significance of 0.05. While biodiversity conservation and tourist behavior are not a factor when it comes to the practices because all of the p-value was more than the significance level of 0.05.

The result shows that waste management is factor when it comes to the gender of the respondents as female respondents have higher assessment of waste management than male respondents.

According to Ferehiwot and Shewit (2015) the importance of women when it comes to ecotourism is very important since the women are considered more as an environmental steward as compared with males in which women are more responsible to take care the environment than male counterparts in which it explains the result of the study as to why there is significant difference between the waste management and the gender.

Table 12 Significant difference between the educational attainment of the respondents and their assessment of practices

Educational Attainment	P-value	Interpretation	Decision
Waste Management	.088	No Significant Difference	Accept
Biodiversity Conservation	.366	No Significant Difference	Accept
Tourist Behavior	.355	No Significant Difference	Accept

The table 12 shows the result on the significant difference on the educational attainment of the respondents and their assessment of hiker's practices in Mt. Batulao the result shows that educational attainment is not a factor when it comes to the practices because all of the p-value was more than the significance level of 0.05.

The result reflects that there is no significant difference with the educational attainment of the respondents and the said hikers practices a probable reason for the result was that age is not a factor when it comes to hikers' practices. Different educational attainment groups have the same assessment of waste management, biodiversity conservation and tourist behavior.

According to Heid, (2017) hiking had been an activity for the workers since the purpose of hiking is to enjoy the nature view while at the same times it reduces stress but the relationship with the education and hikers practices could be established by the more a person is educated they are aware of the green practices according to Waterman (2016) the application of ecotourism to hiking was to have a minimal impact on the trail the hikers walk on to although there is no establish relationship between the educational attainment and green practices the responsibility of the educated respondents in green practices should be observed.

Table 13 Significant difference between the monthly income of the respondents and their assessment of practices

Monthly Income	P-value	Interpretation	Decision
Waste Management	.134	No Significant Difference	Accept
Biodiversity Conservation	.642	No Significant Difference	Accept
Tourist Behavior	.552	No Significant Difference	Accept

The table 13 shows the result on the significant difference on the monthly income of the respondents and their assessment of hiker's practices in Mt. Batulao the result shows that monthly income is not a factor when it comes to the practices because all of the p-value was more than the significance level of 0.05.

The result reflects that there is no significant difference with the monthly income of the respondents and the said hikers practices a probable reason for the result was that monthly income is not a factor when it comes to hikers' practices. Different age groups have the same assessment of waste management, biodiversity conservation and tourist behavior.

According to Bolduc (2018) many people of different backgrounds have engaged in hiking this could be either they were rich or just normal people, there are a lot of people that engaged in hiking. This could reflect the result in which monthly income is not a factor when it comes to the practices of the hikers in hiking because hiking is for everybody regardless of their own background.

Table 14 Significant difference between the frequency of hiking of the respondents and their assessment of practices

Frequency of Hiking	P-value	Interpretation	Decision
Waste Management	.200	No Significant Difference	Accept
Biodiversity Conservation	.365	No Significant Difference	Accept
Tourist Behavior	.537	No Significant Difference	Accept

The table 14 shows the result on the significant difference on frequency of hiking the respondents and their assessment of hiker's practices in Mt. Batulao the result shows that monthly income is not a factor when it comes to the practices because all of the p-value was more than the significance level of 0.05.

The result reflects that there is no significant difference with the frequency of hiking of the respondents and the said hikers practices a probable reason for the result was that frequency of hiking is not a factor when it comes to hikers' practices. Different age groups have the same assessment of waste management, biodiversity conservation and tourist behavior.

According to Waterman (2016), the realization of hikers towards ecotourism is very important to have a minimal impact with the train and the surrounding and if we observed that most of them are hike once the respondents could not be well aware of the biodiversity conservation practices hence the result applies. Therefore, this also explains that hikers have a more awareness when it comes to taking care of the mountains.

Table 15 Significant difference between the number of times hiking in the site of the respondents and their assessment of practices

Number of Times Hiking on the site	P-value	Interpretation	Decision
Waste Management	.007	Significant	Reject
Biodiversity Conservation	.236	No Significant Difference	Accept
Tourist Behavior	.173	No Significant Difference	Accept

The table 15 shows the result on the significant difference on the number of times hiking on the site of the respondents and their assessment of hiker's practices in Mt. Batulao the result shows that number of times hiking in the site is a factor when it comes to waste management as the p-value is less than the level of significance of 0.05. While biodiversity conservation and tourist behavior are not a factor when it comes to the practices because all of the p-value was more than the significance level of 0.05.

The result shows that waste management is factor when it comes to the number of times hiking in the site of the respondents. Respondents who visited the site thrice have higher assessment of waste management.

According to Waterman (2016), the hikers responsibility and realization that there is a negative impact of hiking on the trails is an important factor in applying the green practices therefore the more experience the hiker in visiting the site the more a hiker will be aware of the impact and will start the green practices towards minimal impact. Which explains the result as to why there is a significance between the waste management and the number of times hiking in the site assessment of the respondents.

4. CONCLUSION AND RECOMMENDATION

Based on the result of the study the result shows that majority of the respondents are young adults with an age range of 19 to 29. While majority of the hikers are male with 63% of the respondents are identified with this gender. Had an educational attainment of college graduate with 74% respondents and a monthly income range of 10001 – 30000 a month with 70% of the respondents. The respondents of the study hikes in the Mt. Batulao for the first time with 74% respondents and visit the site for the first time with 73% respondents.

When it comes to the practices of the hikers the hikers mostly practiced proper waste management with an overall mean of 3.16. meanwhile when it comes to biodiversity conservation most of the respondent's practice with an overall mean of 3.18 and for the tourist behavior it is also interpreted as practiced with a mean of 3.00.

The result on the significance of the profile of the respondents and their assessment of hiker's practices showed that there is a significant difference between the gender of the respondents and their assessment of waste management and the number of times hiking in the site and the assessment of waste management.

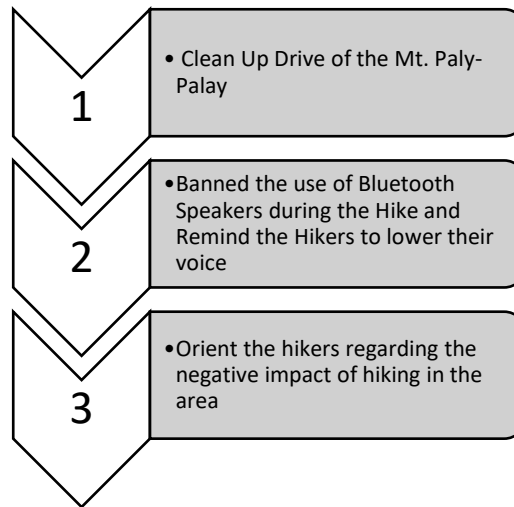
Based on the result the researchers have concluded that most of the hikers in Mt. Batulao age 19 to 29, Male with an educational attainment of college graduate and an income range of 1001 to 30000 hikes for the first time and visits the Mt. Batulao for the first time.

Based on the findings the researcher recommends the following based on the lowest on each hiker practices the first recommendation was to do a green clean up drive for the hikers and other stakeholders. The second recommendation was to make a regulation to ban the use of Bluetooth speakers and remind the hikers to lower their voice while the last recommendation was to orient the hikers regarding their actions while hiking.

OUTPUT

The output of the study was a sustainable plan that will improve the sustainability practices of Mt. Batulao and help the hikers to realize the importance of the area as a forest park and to minimize the negative impacts of hiking in the site. The action plan has three objectives the first objective was to do a clean-up drive in the area with the participation of the different stakeholders such as the hikers, the academe and the local government units. This will be important in order to pick up some trash and reduce the waste generated in the area. The second objective of the output was to banned the use of Bluetooth speakers in the area and to remind the hikers to lower their voice this objective will be very helpful to not disturb the wildlife in the area and the last objective was to orient the hikers of their negative actions in the hiking site this will be very important to motivate the hikers and increase their awareness to reduce the negative impact of hiking in the area.

Figure 2 Objectives of the Sustainable Plan



The first objective of the study was to do a clean-up drive in the area with the participation of the different stakeholders such as the hikers, the academe and the local government this can be done through a planning of clean up drive the implementation can be done in 3 months with a 1 day clean up drive the instruction of the clean-up drive was to pick up the trash that was present in the trail and many persons involve in the clean-up drive will collect many trash. This objective will be helpful in the area to clean the trail and to restore the natural beauty of the trail.

Exhibit 1 Mountain Cleanup Drive (Picture adopted from: medium.com)



The second objective was to banned the use of Bluetooth speaker during the hike as these disturbs the wildlife in the area. These can be done by the creating rules and regulations of the PENRO (Provincial Environmental and Natural resources office). This objective can be done in a week and this will help to not disturb the wildlife tin the area. The tour guides of the Mt. Batulao should also remind the hikers to town down their voices while conversation to reduce the noise this objective can be done by the tour guides during the hike.

Exhibit 2 Conversation during hiking (Photo adapted from: Dreamstime.com)



The last objective was to orient the hikers regarding the negative impact of hiking in the area and to motivate them towards responsible hiking. This can be done by the PENRO staffs that is assigned in the area. This objective will be important in order for the hikers to realize their negative impact and to motivate them towards responsible hiking.

Exhibit 3 Orientation before hiking (photo adapted from: thenovicetrekker.com)



Roadmap of Activities

Activity	Objective	Time Frame	Implementing Body	Result	Projected Cost and Implementation
Clean Up Drive of the Mt. Batulao	To do a clean-up drive in Mt. Batulao	3 months	Local Government Units, Hikers and Academe	The trail will be much cleaner and improve the natural beauty	Cost: N/A Implementation: 3 months plus 1 day of clean up drive
Banned the use of Bluetooth Speakers during the Hike	To banned the use of Bluetooth speakers during hike	1 week	PENRO officers	The wildlife will not be disturbed	Cost: N/A Implementation: 1 week writing rules and regulations
Remind the Hikers to lower their voice	To remind the hikers to tone down their voice during hike	1 day	Tour Guides	The wildlife will not be annoyed and other hikers as well	Cost: N/A Implementation: Immediately
Orient the hikers regarding the negative impact of hiking in the area	To orient and motivate the hikers towards responsible hiking	1 day	PENRO officers assigned in the area	The hikers will be more aware of their actions and will be more responsible hikers	Cost: N/A Implementation: Immediately

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