

# Community Involvement in Nature Tourism: The Case of Mangrove Forest in Noveleta, Cavite, Philippines

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**Abstract** - *The purpose of this research is to determine the involvement and the awareness of the residents of Noveleta, Cavite in the Mangrove Forest Project. Descriptive method was used in the study and survey questionnaires were distributed to the 381 participants from the town of Noveleta, Cavite, Philippines. The results showed that in terms of level of awareness, the participants were moderately aware about the Mangrove Forest Project. Residents somewhat agree that they are facing challenges in the conservation of the mangrove forest. Likewise, the residents agreed into the benefits of the mangrove forest to the community of Noveleta. The local community is moderately aware about the mangrove forest project. They have enough knowledge on the history and activities that is happening in their town regarding to the Mangrove Forest Project. To improve the knowledge of the locals in this project in Noveleta an enhancement in awareness campaign should be made. The involvement of the local community in the Mangrove Forest Project was moderate. The involvement of the respondents are closely responsible in supporting the protection and preservation of the mangroves in the place. The respondents somewhat agree on the different challenges: poachers illegally cutting mangroves to hunt woodworms, illegal cutting of mangrove to produce charcoal, limited community empowerment to mangrove forest project, lack of law enforcement and monitoring to protect from illegal encroachment, insufficient knowledge in maintaining mangrove forest, lack of participation of the local community to mangrove forest project, lack of financial of the municipality after launching the mangrove forest project.*

**Keywords:** *Mangrove Forest, Mangrove Forest Project, Local Community, Noveleta, Cavite*

## INTRODUCTION

Nature tourism means experiencing natural places, typically through outdoor activities that are sustainable in terms of their impact on the environment. It is a tourism based on the natural attractions of an area. The local residents encourage the tourist to experience different activities and be involved in the natural experiences. Examples include bird watching, photography, stargazing, camping, hiking, hunting, fishing, and visiting parks. These experiential tourists are interested in a diversity of natural and cultural resources. They want what is real, and they want to be immersed in a rich, natural, cultural and historical experience. Natural attractions include deserts, polar regions, rainforests, alpine areas, woodlands, grasslands, mountains, beaches, swamps, caves, oceans, cliffs, and rivers. People visit natural attractions for several reasons, these are: to appreciate the greatness of nature, to get away from the stress of city life, to escape from the crowd, to travel different places, to participate in outdoor activities in natural surroundings, to study about the environment and to engage in conserving the environment. Some of these natural attractions are near to cities and transport systems while others require huge effort to get there – which can be part of their appeal. Nature tourism is one of the fastest growing sectors in the tourism industry. Nature based tourism gives incentives to the local communities and landowners to preserve the wildlife habitat which the industry relies on. No matter how popular the attraction it requires supervision to avoid deterioration of natural ecosystem that are caused by humans. It needs to be managed so that humans do not degrade the natural ecosystems that are an intrinsic element of the attraction and that have taken millions of years to evolve.

### **Community Involvement**

Being involved in the community means building relationships. Community involvement is an active involvement of people living together in some form of social organization and cohesion in the planning, operation and control of primary programs, using local, national and other resources [1]-[4]. Community participation promotes shared responsibility by service providers, community members, and youth. They can work together to advocate for better programs, services, and policies [5]-[7]. Getting the community involved in a program design and implementation helps ensure that strategies are appropriate for and acceptable to the community. Each community's members have a rich source of knowledge about their community and of energy and commitment to that locality. That is why when the public professionals and the government envision a program to a particular community, genuine participation by community members, including youth, is the key. Community members control the project at the same time that professional partners build the community's capacity to make informed decisions and to take collective action.

### **Local Community of Noveleta, Cavite**

The mangrove forest project does not only depend on the sponsors and local government, but also with the participation of the locals. The local community has a big part and great impact in mangrove project. They can be involved through the tree planting and replanting of the mangroves that happens every year. They can also attend the seminars and training conducted by the local government and other organizations. The locals may also cooperate in coastal clean-up or clean up drive activities. The locals envision that this project will be beneficial to them. They will realize that this project will attract some tourists that can increase their livelihood. They will also notice that there are different exotic migratory and indigenous bird that appears in the mangrove forest.

The study intends to shape a better understanding and awareness about the great impact and contribution of a community in the Mangrove Forest Project and also the effectiveness of this program. There are several cases that show how a community can help in giving solution to a problem, the best example was during the end of 2013. One of the strongest typhoons in the world, typhoon Haiyan/Yolanda took many lives and left numerous families homeless. Yolanda destroyed and damaged almost everything in its path particularly the province of Eastern Samar. The municipality of Eastern Samar and its community worked together to

return everything to normal. In the course of the study, the researchers were able to comprehend how the community responded, contributed, and was involved in a project implemented by their local government to use as a solution to the problem. The study may serve as a guide for other local government unit mostly in the nearby district in Noveleta. This helped them in giving possible actions and solutions to the problems they have especially in nature tourism.

The generalization of the research entitled "Community Involvement in Nature Tourism: The Case of Mangrove Forest in Noveleta, Cavite" would be a great contribution to the information related to the study.

This study will help students to have a knowledge and understanding regarding the importance of planting mangroves for the natural resources as tourist attractions in Noveleta. The student will be aware that the Baka Juan or the Mangrove Forest Project exists, and it will help them to know the importance of community involvement. Through this study, the academic institutions will improve their instruction when it comes to teaching the students about the Mangrove Forest Project. It will encourage the students to be more involved when they are more knowledgeable about this project. This study will encourage the local community to participate and contribute in any way for the development and preservation of their natural attractions. Also, to give awareness about the benefits of planting mangroves to their community. The researchers believed that through this study it will help the government to identify current status or weaknesses of the project and help them to provide or create a plan to overcome these weaknesses and transform it into strengths. This study will serve as a reference on their future and possible continuity of the study or to use the study as interpretative material for future research on the related topic.

### **OBJECTIVES OF THE STUDY**

This study figured out how the community was an involved in the preservation, development and improvement of the nature tourism that focused in the Mangrove Forest Project in Noveleta, Cavite. Government started to improve mangrove forest since 2014 up to presented together with the local community of Noveleta and those Local Government Unit (LGU), Non-Government Unit and private sectors. The study aimed to describe the demographic profile of the participants in terms of: Age, Occupation, Educational Attainment, Residency, and Years of residency; determine the level of awareness of the residents on the

nature tourism and Mangrove Forest Project; describe the level of involvement of local community to the Mangrove Forest Project; determine the challenges being faced by the host community in conducting the mangrove forest project; and identify the benefits of Mangrove Forest Project for the local community of Noveleta, Cavite.

The perceived challenges that can be faced by the host community in conducting the mangrove forest project, and lastly the perceived benefits of Mangrove Forest Project for the local community of Noveleta, Cavite.

The researchers aimed to have an output in the involvement of the community regarding to the case of having mangrove forest project in the town of Noveleta, Cavite and the possible and applicable recommendations for the students, academic institutions, local community, government and future researchers.

## **METHODS**

### **Research Design**

The researchers used the descriptive method in the study. It involves the collection of accurate evidence and information to give a comprehensive approach to the subject and focuses on facts and current conditions that have significance to the study. This concept to the problem solving seeks to answer questions and state real facts relating to existing conditions. This technique determined the prevailing conditions in the case chosen from the study.

### **Locale of the Study**

This study was conducted in April 2018 to the local residents of Noveleta, Cavite. The one-month assessment determined the great impact and contribution of a community in the mangrove forest project and also the effectiveness of the program.

### **Participants of the Study**

There are 381 residents of Noveleta, Cavite both females and males with the age range of 15 and 50 years old and above were considered as participants of the study.

This study focused on the awareness and involvement of the community of Noveleta in the Mangrove Forest project. The study to be conducted focused on the awareness and contribution of the respondents to the Mangrove Forest Project or the study.

Data were gathered by means of interviews and surveys using researchers made questionnaires.

The researchers chose the local residents of Noveleta Cavite as their respondents because they are in the best position or most knowledgeable individuals who can provide the needed information for the study. The study covered only the local people of Noveleta. It will not include the other form of tourism and will only focus on the awareness and community involvement in the said project for the improvement of nature tourism industry of the town. Moreover, the study also emphasized on the understanding of the respondents regarding the preservation and improvement of natural attraction in their town.

The researchers used the Random sampling technique to determine the number of participants to be surveyed as they became the respondents to provide insights to the study. The 381 participants were from the 45,846 population of Noveleta according to 2015 census. The respondents were taken from the 16 barangays to give each of them the opportunity to provide knowledge to the study, therefore there were 24 participants for the 15 barangays and 21 participants in one barangay that was been surveyed by the researchers.

### **Instrumentation**

The survey questionnaire is composed of five parts:

The first part contains questions about the background of the respondents which include their age, occupation, educational attainment, residency and years of residency.

The second part includes the level of awareness of the residents on nature tourism and mangrove forest project. Below is the list of references that the researchers used in order to come up with questions relative to ascertain the level of awareness of locals to the project:

- ‘Forestry Department of Noveleta, Cavite-interview’, (E. Chavez, 2018)  
-This is the interview about the person involved in the project and who spearheaded and also talks about since and when the Mangrove Forest Project happened. Also, the impact of the project to tourism of the town.
- ‘Mangrove Tree Planting Project at Noveleta Cavite’, (H. M. Umali, 2016)  
-The discussion about the 3000 mangrove seedlings were planted at mangrove eco-tourism project in Barangay San Rafael IV.

- ‘Mangrove Planting Activity at San Rafael IV, Noveleta’, Cavite, (2016)
  - Discusses about the training and seminars conducted together with the Philippine Coastguard.
- ‘Mangroves’, (2017)
  - Mangrove systems are critical to coastal ecosystems, helping both plants and animals survive.

The third part includes the level of involvement of local community to the Mangrove Forest Project that the researchers band the questions from the following articles:

- ‘Mangroves a.k.a. Bakawan Tree Planting Activity 2017’, Noveleta Town, (2014)
  - Discussed the mangrove tree planting activity in the Barangay San Rafael IV.
- ‘Forestry Department of Noveleta, Cavite-interview’, (Ed Chavez, 2018).
  - Discussed about the replanting activity of the mangrove forest project, conducted seminars, the construction of the tower and decision making of the locals.

In order to identify the challenges that can be faced by the host community in conducting the project. The following articles were considered:

- ‘Governments ill-equipped to protect mangroves, need to involve communities: global study’, (M. Ponsford, 2017).
  - It is managed by a government agency that is too weak to protect mangroves. A small amount of support or technical support will greatly contribute to mangrove rehabilitation efforts.
- ‘Assessment of the local communities’ knowledge on mangrove ecology’,( M.I. Sawairnathan\*, N. Halimoon, 2017).
  - It discusses the negative result of the mangoves program when it comes to awareness and participation of the people.
- ‘Mangroves Action Project- Issues’, (2013).
  - It’s discusses the solution of an organization to the problem of one of the mangrove program which is the illegal encroachment.
- ‘Forestry Department of Noveleta, Cavite-interview’, (E. Chavez, 2018).
  - The illegal cutting of mangroves to use as charcoal and to hunt woodworm was been tackled.

The last part includes the perceived benefits of the project to the local community. Listed below are the references that the researchers used for this part:

- ‘‘Forestry Department of Noveleta, Cavite-interview’, (E. Chavez, 2018).
  - The mangroves serve as a sink for heavy metal, reduce carbon dioxide, and improved fish production was discussed.
- ‘Mangrove Forest for Coastal Defense’, (2014)
  - It’s about the important of the mangroves to the coastline.
- ‘Forestry Department of Noveleta, Cavite-interview’, (Ed Chavez, 2018).
  - Discusses that the project helps the town to be recognized.
- ‘Effects of Socio-Demographic Characteristics and Perceived Benefits of Tourism on Community Participation in Tourism in the Mesomagor Area of Kakum National park’, (Mensah, 2016).
  - It’s about the potential benefits of the skills trainings to the community

#### **Data Gathering Procedure**

The data for this research was collected using survey questionnaires. The questionnaire was divided into five parts, and were distributed to the local community of Noveleta, Cavite. Researchers used random sampling technique for this study. Convenience sampling technique was used to reach a targeted sample, selective or subjective sampling.

The researchers’ survey questionnaire has been checked and verified by their adviser Ms. Reymarie A. Lobo, and then handed to their statistician Mrs. Ma. Cecille Naga to correct and confirm the questionnaire. Two professors from the College of International Tourism and Hospitality Management (CITHM), Ms. Sharmaine Herrera and Mr. Gilbert Wesley Gallardo validated the survey questionnaire. Lastly the internal panelist, Mr. Regil John Vergara approved the final survey questionnaire.

The given scale was used to interpret the result of the survey in terms of level of awareness, involvement and agreement: 4.20-5.00: Very High; 3.40-4.19: High; 2.60-3.39: Moderate; 1.80-2.59: Low; 1.00-1.79: Very Low

The data were treated in relation to what were asked in the specific objectives. These data tabulated, analyzed and interpreted. Statistical tools used were frequency distribution, percentage and weighted mean.

Frequency distribution was used to present the response on the participants and the percentage was only used for the total results of the participants.

To interpret the results of the data, regarding the level of awareness, the level of involvement and level of agreement. The weighted mean of each category was obtained for better representation of data. The weighted mean of each category was computed to determine the average scores given by the participants. The formula for weighted mean is:

## RESULTS AND DISCUSSION

**Table 4. Summary of Participants Based on Age**

Age	Frequency	Percentage
15-25	101	27%
26-32	95	25%
33-40	64	17%
41-50	69	18%
50 and above	52	14%
<b>TOTAL</b>	<b>381</b>	<b>100%</b>

Table 4 presents the frequency and percentage distribution of the respondents based on their age. Age 15-25 ranked first which has a highest frequency of 101 respondents, with 27%. On the other hand, age 26-32 ranked second with 25%. And age 41-50 ranked third with 18%. While age 50 and above ranked fourth with 17%.

The lowest is ages 33-40 which have a frequency of 52 respondents with 14%. This shows that the majority of the respondents are young people who fall into the majority age of 18 to 25 years. Actively engaging youth in the community development projects can implicitly acknowledged youth as viable and efficient members of the community and has the potential to result in deeper rooted and more sustainable community change. In relation with the result, the young people of Noveleta, Cavite should be more immersed in the Mangrove Forest Project or other community endeavors to make more changes as well as to become an active and feasible member of the community. The youth are the backbone of a society and hence they determine the future of any given society [8]. There is a need for those ages 50 and above to actively take part in the project. However, those belonging to this age are not that active due to their weakening health. If more people participate in the development of their area, more skills, experience and knowledge will be gained and will be easily transferred to the new generation [9].

**Table 5. Summary of Participants Based on Occupation**

Occupation	Frequency	Percentage
Farmer	24	6%
Fisherman	30	8%
Factory Worker	43	11%
Construction Worker	52	14%
Self-employed	39	10%
Government Officials	22	6%
Teacher	25	7%
Students	88	23%
Others:	58	15%
-Janitor	8	
-House Wife	15	
-Call Center	5	
-Driver	17	
-Vendor	13	
<b>TOTAL</b>	<b>381</b>	<b>100%</b>

Table 5 presents the frequency and percentage of the respondents based on their occupation. The students ranked first which has a highest frequency of 88 respondents with 23%. Others ranked second with 15% while the Construction Worker ranked third with 14%. The Factory Worker ranked fourth with 11% and the Self-employed ranked fifth with 10%. The Fisherman ranked sixth with 8% and Teacher in the seventh position with 7%.

On the other hand, Farmers which has a frequency of 24 respondents and Government Officials which has a frequency of 22 respondents ranked last with 6%. In this area, the students got higher percentage because most of the students were available during the collection of data in Noveleta and relating to table 5 most of the participants ages from 15-25 who are in the youth stage. They are also involved and knowledgeable when it comes to the mangrove project. The schools also encouraged the students to join the mangrove tree planting activity that is why they are well informed and also immersed on it. This proves the study of Lomas, [10] that today's students often learn better by doing rather than by listening. As a result, schools provide activities for the students with ample opportunities to participate. Whether in the form of participation in discussion or construction, designs should enable interaction, and group work. When considering the technologies to support, remember that students no longer just consume information, they construct it—in multiple media formats.

Others who ranked second with 15% are those respondents who are a janitor, housewife, call center agents, drivers and vendors. On the other hand, the

government officials got the lowest percentage because majority of the officials are on the duty during the gathering of data. However, it does not mean that they are not aware and involve in the project, most of them are required to participate in the actual mangrove tree planting.

**Table 6. Summary of Participants Based on Educational Attainment**

Level	Frequency	Percentage
Elementary	69	18%
Secondary	169	44%
College	122	32%
Others:	21	6%
<b>TOTAL</b>	<b>381</b>	<b>100%</b>

Table 6 present the frequency and percentage of the respondents based on their educational attainment. Majority of the respondents has achieved secondary level of education with 44%. Then College level ranked second with 32% while the Elementary level ranked third with 18%. Others ranked last which has a frequency of 21 respondents with 6%. The reason why the secondary level got the highest percentage it's because relating to the table 6 most of the participants are students and most of them ages from 15-25 which the highest percentage in table 5 is. Based on the Cavite Quickstat, high school or secondary level has the highest population with 1, 080,085, followed by the elementary level with 710, 447. Third is the college level with 678,059 and those not stated with 5,999 populations [11]. For the others who got the lowest percentage shows that there are 21 respondents who did not attained to reach the elementary, secondary and college level.

**Table 7. Summary of Participants Based on Years of Residency**

Duration	Frequency	Percentage
Less than 1 year	37	10%
1 – 5 years	53	14%
6 – 10 years	48	13%
10 years and above	243	64%
<b>TOTAL</b>	<b>381</b>	<b>100%</b>

Table 7 present the frequency and percentage of the respondents based on their year of residency. 10 years and above has the highest frequency with 243 respondents with 64%. The 1-5 years ranked second with 14% while those range from 6 to 10 years ranked

third with 13%. Less than 1 year ranked last which has a frequency of 37 respondents with 10%. The municipality of Noveleta (Tagalog: Bayan ng Noveleta) is an urban district in the province of Cavite, Philippines. Since Noveleta is one of the oldest municipalities of Cavite there are more respondents who are living in the town for 10 years and above. Cavite is one of the main points of entry to Manila by 26 kilometers and accessible by land transport modes; different people from different places tend to stay to this town for accessibility [12]. That is the reason why there are people who lived in this town for less than a year.

**Table 8. Perceived Level of Awareness of the Respondents on the Nature Tourism and Mangrove Forest Project**

Level of Awareness	WM	VI
1. Mr. Ed Chavez the head of forestry department proposed the mangrove forest project.	3.70	High
2. The government initiated the mangrove forest project in Noveleta, Cavite in the year 2014.	3.73	High
3. The government started the implementation of the mangrove forest project in San Rafael IV, Noveleta, Cavite.	3.72	High
4. The local government of Noveleta supported the project through requiring the government employees and others to join in the planting and replanting activity.	3.72	High
5. The government conduct skills training and seminars for the community to learn more about mangrove forest.	3.75	High
6. The birdwatching activity of nature tourism attracts more tourist that helps the tourism industry of Noveleta, Cavite.	3.78	High
7. The mangrove trees are the shelters of the marine species along the coastal area.	3.82	High
<b>GRAND WEIGHTED MEAN</b>	<b>3.74</b>	<b>High</b>

It can be gleaned in Table 8 that the respondents were moderately aware of the following: that the mangrove trees are the shelters of the marine species along the coastal area with the weighted mean 3.82 as the highest; that the bird watching activity of nature tourism attracts more tourist that helps the tourism industry of Noveleta with the weighted mean of 3.78; that the government conduct skills training and seminars for the community to learn more about mangrove forest with the weighted mean of 3.75; that the government initiated the mangrove forest project in Noveleta in the year 2014 with the weighted mean of 3.73; that the government started the implementation of

the mangrove forest project in San Rafael IV, Noveleta with the weighted mean of 3.72; that the local government of Noveleta supported the project through requiring the government employees and others to join in the planting and replanting activity with the weighted mean of 3.72; and that Mr. Ed Chavez the head of forestry department proposed the mangrove forest project with the weighted mean of 3.70. Using weighted mean to find out the level of awareness of the respondents on nature tourism and Mangrove Forest Project, it was found out that the quantitative rating of 3.74 (Moderately Aware), showed reasonable level of awareness of the respondents of Noveleta, Cavite.

Majority of the respondents are students and they were moderately aware that mangrove trees are the shelters of marine species along the coastal area. This statement got the highest weighted mean. The reason why the students know this common knowledge or simple information about mangroves is because it was taught and learned from the school. However, the respondents are moderately aware about the person who proposed the project, Mr. Ed Chavez and this statement got the lowest weighted mean. During the researchers' discussion with Mr. Chavez, according to him their main goal is to introduce and implement the mangrove forest project. That is why people were more aware about the project instead of being informed about the person who started it.

It can be gleaned in Table 9 that the respondents are moderately involved of the following: volunteered in the clean-up drive to maintain the cleanliness of the mangrove forest with the weighted mean of 3.73 as the highest; cooperated in the decision making together with other local residence about the mangrove

restoration and preservation with the weighted mean of 3.63; cooperated in disseminating the information of mangrove forest project through word of mouth with the weighted mean of 3.59; attended a seminar about the conservation and development of Mangrove Forest Project with the weighted mean of 3.59; participated in the construction of tower in mangrove forest area for birdwatching site with weighted mean of 3.58; joined in the replanting activity of the mangrove forest project with weighted mean of 3.56 and participated in the tree planting activity of mangrove forest project with the weighted mean of 3.51. Using weighted mean to find out the level of involvement of the respondents on nature tourism and Mangrove Forest Project, it was found out that the quantitative rating of 3.60 (Moderately Involved), shown reasonable level of involvement from the respondents of Noveleta, Cavite.

Majority of the respondents are students and they are moderately involved in volunteering in the clean-up drive to maintain the cleanliness of the Mangrove Forest Project. This statement got the highest mean with 3.73 because the students prefer the easiest and most suitable activities that they are going to be part with.

There is a step by step process when planting mangroves, and for a student it takes a lot of effort to participate in this kind of activity. While through clean-up drive it is an easy activity to join in and it is not a difficult task especially for a student. Similar with the study about Community Participation in Mangrove Forest Management in the Philippines [13], prior to the MENRO, local community participation within the barangay is largely through coastal clean-up drives only.

**Table 9. Perceived Level of Involvement of the Respondents on the Nature Tourism and Mangrove Forest Project.**

	<b>Level of Involvement</b>	<b>WM</b>	<b>Indicator</b>	<b>VI</b>
1.	Participated in the tree planting activity of mangrove forest project.	3.51	Moderate	High
2.	Joined in the replanting activity of the mangrove forest project.	3.56	Moderate	High
3.	Attended a seminar about the conservation and development of mangrove forest project.	3.59	Moderate	High
4.	Cooperated in the decision making together with other local residence about the mangrove restoration and preservation.	3.63	Moderate	High
5.	Volunteered in the clean-up drive to maintain the cleanliness of the mangrove forest.	3.73	Moderate	High
6.	Participated in the construction of tower in mangrove forest area for birdwatching site	3.58	Moderate	High
7.	Cooperated in disseminating the information of mangrove forest project through word of mouth	3.59	Moderate	High
<b>Grand Weighted Mean</b>		<b>3.60</b>	<b>Moderate</b>	<b>High</b>

People did not care too much about the mangroves and only utilize it for producing charcoals or vinegar. The statement about the tree planting activity of mangroves got the lowest weighted mean because for the respondents it will be inconvenient for them to join in this kind of activity, for them clean-up drive is better and less hassle to join to. According to Chavez, sponsors from the outside of their town are more involved in the planting activity.

It can be gleaned in Table 10 that the respondents are somewhat agree to the following challenges: presence of poachers illegally cutting mangroves to hunt woodworm with the weighted mean of 3.40 as the highest; the illegal cutting of mangrove to produce charcoal with the weighted mean of 3.34; that there's a limited community empowerment to mangrove forest project with the weighted mean of 3.31; that there's a lack of law enforcement and monitoring to protect from illegal encroachment with weighted mean of 3.29; that there is insufficient knowledge in maintaining mangrove forest with the weighted mean of 3.26; there is a lack of participation of the local community to mangrove forest project with the weighted mean of 3.23 and that there is a lack of financial support of the municipality after launching the mangrove project with the weighted mean of 3.10. Using weighted mean to find out the challenges being faced by the host community in conducting the mangrove forest project, the respondents slightly agreed that the perceived challenges were faced by the host community of the project. The grand weighted mean of 3.28 with somewhat agree, shown the overall agreement of the respondents.

The first statement about the lack of financial support of the municipality after launching the project is somewhat agreed by the respondents and it also got the lowest weighted mean. The reason for this was the

local government focused more on supporting financially those projects or problems of the community which requires immediate action.

The next statement is about the insufficient knowledge in maintaining mangrove forest. This statement is somewhat agreed by the respondents because most them lack insight about conserving and preserving the forest. The local community should have enough knowledge in preserving the mangrove forest so that whatever the government started for this project would not be wasted. The local government should also give attention to this by giving and adding more information to the local residents because this is important for the continuity of the project and for the conservation of the mangroves. Similar with the study of Feka and Ajonina [14] about mangrove forest ecosystem, they indicated that locals have an insufficient knowledge regarding value of mangrove that placed the forest into critical condition resulting into degradation and deforestation. That is why the people should have enough knowledge to make the mangrove forest project a successful one.

The statement which is about lack of participation of the local community to mangrove forest project is somewhat agree by the respondents. Participation of the locals is the most important thing in this project. Participation provides private individuals an opportunity to influence public decisions and to be a component of the democratic decision-making process [15]. The local government should have monthly visit in the mangrove forest, by assigning every barangay to conduct clean-up drives and replanting of the mangroves.

The government of Noveleta should have a stiff order to avoid trespasser in the mangrove forest site so that illegal cutting of mangroves will be stop.

**Table 10. Perceived Challenges of the Respondents on the Nature Tourism and Mangrove Forest Project**

Challenges	WM	Indicator	Interpretation
1. Lack of financial support of the municipality after launching the mangrove project.	3.10	Somewhat Agree	Moderate
2. Insufficient knowledge in maintaining Mangrove forest.	3.26	Somewhat Agree	Moderate
3. Lack of participation of the local community to mangrove forest project.	3.23	Somewhat Agree	Moderate
4. Lack of law enforcement and monitoring to protect from illegal encroachment.	3.29	Somewhat Agree	Moderate
5. Illegal cutting of mangrove to produce charcoal.	3.34	Somewhat Agree	Moderate
6. Poachers illegally cutting mangroves to hunt woodworm.	3.40	Somewhat Agree	Moderate
7. Limited Community empowerment to mangrove forest project.	3.31	Somewhat Agree	Moderate
<b>Grand Weighted Mean</b>	<b>3.60</b>	<b>Somewhat Agree</b>	<b>Moderate</b>



**Table 11. Perceived Benefits of the Respondents on the Nature Tourism and Mangrove Forest Project.**

	<b>Perceived Benefits</b>	<b>WM</b>	<b>Indicator</b>	<b>Interpretation</b>
1.	Mangrove Forest Project helps stabilized the coastline in Noveleta and prevents erosion from waves and storms.	3.72	Agree	High Level of Agreement
2.	The mangrove serves as sink for heavy metal that reduces toxicity of a given coastal area.	3.65	Agree	High Level of Agreement
3.	The mangrove serves as an important carbon sink to reduce carbon dioxide in the air.	3.82	Agree	High Level of Agreement
4.	The mangrove forest project trainings and seminars enhance the skills of the locals.	3.88	Agree	High Level of Agreement
5.	The project gives employment opportunities in the area.	3.88	Agree	High Level of Agreement
6.	The mangrove forest project improved fish production of the town.	3.91	Agree	High Level of Agreement
7.	The mangrove forest project helps Noveleta, Cavite to be known or recognize by other municipality.	3.69	Agree	High Level of Agreement
	<b>Composite Mean</b>	<b>3.79</b>	<b>Agree</b>	<b>High Level of Agreement</b>

According to Chavez, one of the main problems of the mangrove forest project are the poachers illegally cutting mangroves to hunt woodworm; this statement got the highest weighted mean. Law enforcement and proper monitoring would be the same solution to avoid these circumstances.

For the last statement, there is limited community empowerment to mangrove forest project, people are also somewhat agreeing. Community empowerment encompasses involvement, participation and commitment to the society [16]. This empowerment should not be bounded; the community would be a great contributor of information and has a function when it comes to implementation of a local project.

It can be gleaned in Table 11 that the respondents agree of the following; that the mangrove forest project improved fish production of the town with the weighted mean of 3.91 as the highest; that the project gives employment opportunities in the area with the weighted mean of 3.88; that the mangrove forest project trainings and seminars enhance the skills of the locals with the weighted mean of 3.88; that the mangrove serves as an important carbon sink to reduce carbon dioxide in the air with the weighted mean of 3.82; that Mangrove Forest Project helps stabilizes the coastline in Noveleta and prevents erosion from waves and storms with the weighted mean of 3.72; that the mangrove forest project helps Noveleta, Cavite to be known or recognize by other municipality with weighted mean of 3.69 and that the mangrove serves as sink for heavy metal that reduces toxicity of a given coastal area with the weighted mean of 3.65. Using weighted mean to find out the benefits of the Mangrove Forest Project for the host community, the respondents agreed that the perceived benefits were gained by the community. The respondents agreed that the Mangrove

Forest Project improved fish production of the town with the weighted mean of 3.91 as the highest. The Noveleta as part of the District 1 of Cavite has increased their number of fishermen from 2013 to 2016.

This mean that there is a good source of fish in Noveleta because of the increasing number of fishermen. During the year 2013 where the mangrove forest project was not yet implemented there is only 240 fishermen in the town but year 2015 when mangrove forest is already implemented it increased into 540 number of fishermen [12]. The statement about mangrove that serves as sink for heavy metal that reduces toxicity of a given coastal area with the weighted mean of 3.65 is the lowest. The respondents are not yet well informed about this that is why the government should conduct more seminars to improve the knowledge of the people about the mangrove forest project and also the mangrove itself.

## CONCLUSIONS

The discussion above has evaluated the awareness and involvement of the local community, also the challenges and perceived benefits of the Mangrove Forest Project in different barangays of Noveleta, Cavite being implemented by the local government. With the result given through survey, the researchers therefore conclude that the local residents of Noveleta were moderately aware about the mangrove forest project. Moreover, in connection to their awareness is their moderately involvement in the conservation and preservation of the mangrove forest. In relation with the awareness and involvement of the project are those challenges which is somewhat agree by the locals. While the perceived benefits of the mangrove project were all agreed by the local community. Their

occupation is also another factor in level of their involvement. For the residents who are a student are more likely to engaged in the said project for they are informed and aware that this program will benefit their town and also the local people.

The discussion noticed that majority of the respondents are students that is why they are more aware about the mangrove forest project because it is taught to them in the schools. According to the respondents they are not aware who implemented the project, so that the researchers recommended to them that they need to have an interaction between the participants and the head. The students together with the local community are involved in the clean-up drives and other activities, to help the government and the sponsors to maintain the mangrove forest. The researchers conclude that lacking of fund in proposing a project is a big factor, financial support of the government will keep the good condition of the mangrove forest. Some of the respondents has insufficient knowledge in maintaining the mangrove that is why the researchers thought that it would be a good action on the part of the government to conduct seminars and activities relating to the mangrove forest for them. The residents' lack of knowledge can be remedied by educating them on how to participate in the project. The government's lack of law enforcement, might cause the residents to think that it is fine not to join and participate in the project. Without proper law enforcement, the poachers or the one who is illegally cutting trees for hunting woodworm and the one who is producing charcoal is a big no to them, because it can cause destruction in the forest. The town adopted the wood-charcoal-ban provision that is why it is prohibited.

The researchers found out that some of the local residents are not fully involved in the activities related to the mangrove project. Therefore, the researchers conclude that if the local government will give assistance and also motivate the residents to participate then locals will engage themselves to the project. The local residents are willing to get involved and at the same time be aware as long as the programs and activities are continuous and well implemented to the community. There is also a factor towards the perceived benefits of the mangroves and the project that makes the locals to actively join, the more benefits that they can get to this program, the more that the local community will involve themselves in the mangrove forest project.

## **RECOMMENDATIONS**

The following recommendations are made in light of the findings of the study and conclusion arrived of:

The researchers suggest that the students should make a move by forming a youth organization that will be the voice of the student body and this organization should share ideas interest and concern about the project to the local government. As a student who are more aware about the project they should also be more involve in the tree planting activity. The researchers also recommend that academic institutions in Noveleta, Cavite should include the mangrove forest project to their subjects like science, social studies and community service by teaching and giving the students more information and knowledge about the project.

The researchers encourage the local community to be more cooperative in maintaining the mangrove forest. The local community should have monthly visit in the mangrove forest to conduct clean-up drives and replanting of the mangrove and they should also join in the seminars and training that will be conducted by the local government. In critical areas of the mangrove forest there should be a guard to watch for the illegal poachers or wood worm hunter to avoid destruction of the mangrove. The researchers recommend that they should contribute information to the local government and also be more knowledgeable and involve in the project.

The researchers recommend to the government to identify their goals on how they will maintain the mangrove forest. Then government needs to possess additional funds or financial support to cultivate the project. Establish policies for the procurement of mangrove and nature sound products and services for use within governments. The researchers also recommend having appropriate monitoring system in the mangrove forest to monitor the progress and evaluate strategies to improve the environmental performance and to have a strong and persuasive law enforcement to avoid the illegal cutting of mangrove to produce charcoal to avoid poachers. There should also be recognition to the person behind the project which is Mr. Ed Chavez who is the head of the Forestry Department or the MENRO. The researchers encourage the other nearby municipalities to join the preservation and conservation of the mangrove forest by inviting them to visit the mangrove forest and be part of the activities of the project like planting, clean-up drives and seminars. Also to minimize the generation of waste in coastal areas and to finish the construction of the tower so that it would be convenient to the tourist to access the birdwatching site. The

researchers also suggest that if Mr. Dino Chua the municipality mayor will propose the project of floating market in Noveleta they should have proper monitoring and enhance the skills and knowledge of the local community in protecting the mangrove forest.

The researchers recommend to the future researchers that they should continue the study because this topic is interesting and timely nowadays. The researchers may use the result of this thesis as a guide or reference for their further- research and can use this to deeply dig through their study. Moreover, a comparative study about the community involvement on nature tourism can be done in order to update the data and results for additional information.

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