

GENDER ASPECTS OF THE MANAGEMENT AND CONSERVATION OF SEA TURTLES IN NAIC, CAVITE

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ABSTRACT

In the province of Cavite, the Pawikan Conservation Center (PCC) is the leading community-based organization that has been conserving sea turtles in their locality for 10 years now. However, they were challenged since they could not sustain their operations due to lack of support system and organizational stability. This study determined the following: gender differences in the knowledge and awareness of the local community, PCC volunteers, and local government unit (LGU) towards sea turtle conservation; gender-based sea turtle conservation practices of the PCC volunteers; and gender-based division of labor among PCC volunteers. Five coastal barangays (Labac, Mabolo, Bancaan, Bucana Malaki, and Bucana Sasahan) in Naic, Cavite were chosen as study sites. A validated questionnaire and focus group discussions were used to gather necessary information on the management and conservation of sea turtles in the community. The Harvard Analytical Framework was used to determine gender-based sea turtle conservation. There were 183 men and 194 women respondents for this study. Men and women from the three stakeholder groups exhibited a very high level of knowledge and awareness towards sea turtle conservation. Both genders spent time on community work while on duty in PCC which decreases their time spent on other tasks. Some of the conservation practices were usually done by men alone and women alone, but the body agreed that most of these tasks could be done by both men and women.

Keywords: *GAD, conservation practices, gender-based conservation*

INTRODUCTION

Sea turtle conservation efforts are being pursued by local government units, local communities, and non-government organizations or NGOs in the Philippines and around the world. Conservation of sea turtles includes understanding the population status and trends, which plays a significant role in developing and evaluating management and conservation efforts for threatened species (Ceriani et al., 2019). In community conservation efforts, women often have unique knowledge in managing natural resources and understanding the environment differently than men. However, women's involvement in the con-

servation and management of the environment and natural resources remains limited and women are still struggling to face social, gender norms, and cultural challenges even to this day. This situation ultimately leads to a gender gap and differences in natural resources governance (Massey et al., 2021).

According to Earth Journalism Network (2023), in the Philippines, women are actively involved in Marine Protected Areas (MPA) including marine migratory species like the sea turtle. A women-led organization in sea turtle conservation mainstreamed the importance of their local ecological knowledge in pursuing natural resource manage-

ment and conservation. This effort opens an opportunity to incorporate women in decision-making in environmental aspects, specifically in the access and control of natural resources (Massey et al., 2021). The slow trend of gender and equality in sea turtle science was recorded in analyzing the symposium data from 1998 to 2018, thus, this data shows a lack of gender and development studies in sea turtle science and conservation (Robinson et al., 2022).

The Pawikan Conservation Center was established for the protection of sea turtles. They hatch sea turtle eggs, release hatchlings into the sea, and even rescue injured sea turtles. They also display information, communication, and educational materials on sea turtles (Madarang, 2017). This center was established in Naic, Cavite in 2011 and was recognized as partly NGO/LGU by barangay Labac. Sea turtle patrollers were trained and mobilized by the PENRO-Cavite in both Naic and Ternate. Despite facing financial support problems for the project, PCC in Labac continued to volunteer for the protection and conservation of sea turtles even without any monetary incentives in return. Conservation efforts through long-term monitoring projects further boost the value and essence of protecting nesting sites and foraging habitats, and promote the engagement and participation of local communities and volunteers; creating a wide range of stakeholders. People learning about the role of sea turtles in marine ecosystems lead to various acts such as control of predation, reduction of take-through hatcheries, and other forms of *ex situ* protection (Godley et al., 2020).

Objectives of the Study

This study determined the gender-based management and conservation of sea turtles in Naic, Cavite.

Specifically, it aimed to:

1. identify the gender difference in the knowledge and awareness towards sea turtle conservation;
2. determine the gender-based conservation practices of the volunteers at the Pawikan

3. determine the gender-based division of labor among the volunteers at the Pawikan Conservation Center in Naic, Cavite.

METHODOLOGY

Study Area

The study site (Figure 1) included the five (5) coastal barangays situated in the Municipality of Naic, Cavite, specifically Barangay Labac, Mabolo, Bancaan, Bucana Malaki, and Bucana Sasahan. Naic is a first-class coastal municipality in the province of Cavite with a land area of 76.24 square kilometers. The Labac Pawikan Conservation Center is located in Makalabas, situated near the Barangay Labac Multipurpose Hall, and close to Labac Barangay Hall in Naic.

Respondents

Five (5) coastal barangays in Naic are involved in the sea turtle conservatory. There were a total of 6,481 households in Barangay Labac, Mabolo, Bancaan, Bucana Malaki, and Bucana Sasahan. Using Slovin's formula, a total of 377 respondents were chosen as samples from the local community in the coastal areas of Naic, personnel and volunteers from Pawikan Conservation Center, and the barangay officials from the local government unit. They are all involved in the management and conservation of sea turtles in Naic, Cavite.

The respondents were composed of 183 males and 194 females who had an average age of 42.48 years old with the age range of 13 to 72 years old; 61.6 percent were married and 41.1 percent were high school graduates.

Knowledge and Awareness Survey

A questionnaire was used to determine the knowledge and awareness of men and women from the local community, Pawikan Conservation Center, and the LGU toward the management and conservation of sea turtles in Naic, Cavite. Using a 5-point Likert scale, scores were interpreted based on the following range: 1.00 – 1.80



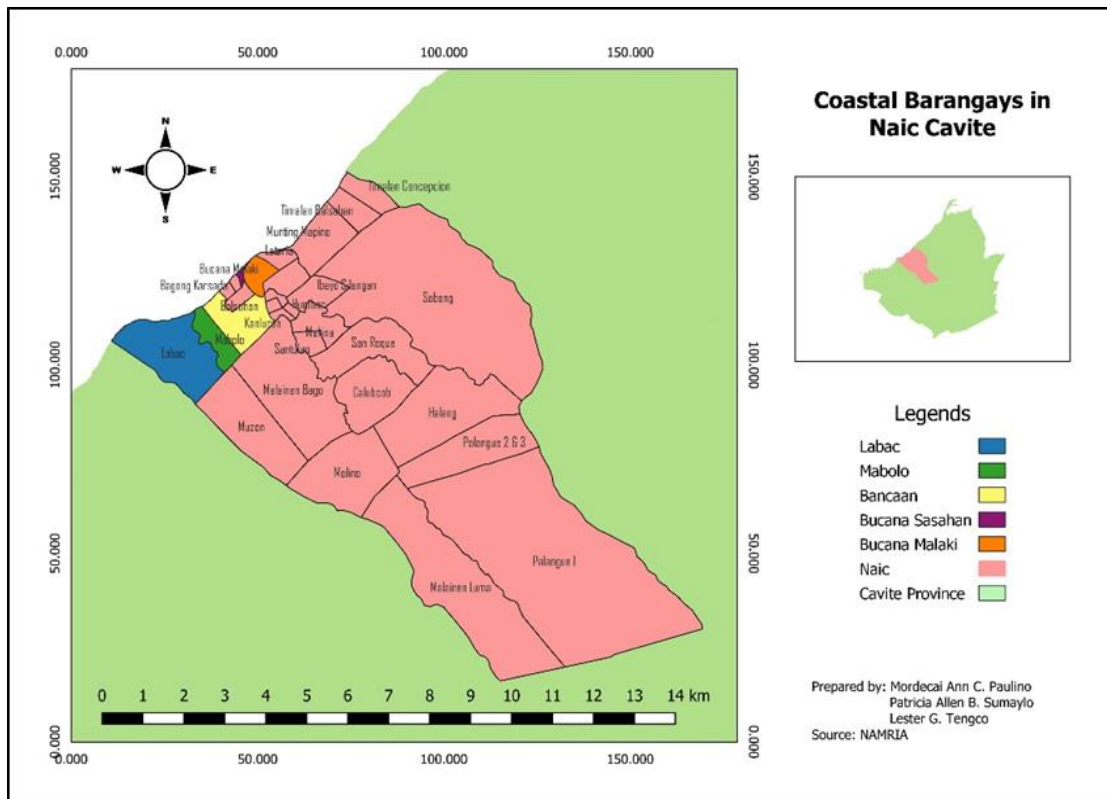


Figure 1. Coastal barangays in Naic, Cavite

(Very Low Knowledge/Awareness), 1.81 – 2.60 (Low Knowledge/Awareness), 2.61 – 3.40 (Moderate Knowledge/Awareness), 3.41 – 4.20 (High Knowledge/Awareness), and 4.21 – 5.0 (Very High Knowledge/Awareness). The questionnaire consisted of two parts: Part I. Socio-demographic profile and Part II. Knowledge and Awareness towards Conservation. The questionnaire was validated by one (1) environmental science specialist and one (1) registered psychometrician. It was also validated through statistics and a pilot testing was conducted on thirty (30) people.

Focus Group Discussion (FGD)

Focus Group Discussion (FGD) involved 11 (4 males and 7 females) volunteers from Pawikan Conservation Center. The Harvard Analytical Framework Tool No.1 or the Activity Profile Tool was used in presenting the lists of different management and conservation activities to sea turtles in Naic and identifying the gender-based division

of labor. After gathering the lists of different activities and practices, the researchers summarized the activities of each individual based on Four Gender Roles.

From the list of activities, discussions on “who does what” were made during the FGD by asking which activities were done by men alone, by women alone, which were done by both women and men, and which could be done by both women and men but are currently assigned for women alone or men alone. During the focus group discussion, the participants were asked to provide and enumerate the conservation practices being done for the sea turtles in the coastal areas of Naic. These conservation practices were listed on a board then “who does what” was identified and discussed. All the participants gathered at a particular place and time at their most convenient schedules. The entire FGD was recorded.

Key Informant Interview (KII)

Focal persons, including the leader of the fisherfolk, the leader of Pawikan Conservation Center, and a barangay captain, were chosen and interviewed to validate the gathered data from the focus group discussion. The key informants were also asked about the list of conservation practices and the division of labor provided and enumerated during the FGD.

RESULTS AND DISCUSSION

Gender Difference in the Knowledge and Awareness of Sea Turtle Conservation

Men and women were known to experience and interact with nature in a very distinct manner (Trent, 2021). Data in Table 1 shows that there

was no gender difference in the level of knowledge and awareness of the respondents. All men and women from the local community, PCC, and LGU exhibited a very high level of knowledge and awareness towards sea turtle conservation.

Cultural, social, and economic aspects (such as age, gender, education, and income) have major influences on the transmission of knowledge (da Costa et al., 2021). For equitable and effective biodiversity conservation practices, gender is an important factor (Lau, 2020). The involvement and division of roles of the local community, PCC, and LGU towards sea turtle conservation despite their gender, did not seem to influence their overall knowledge and awareness. Both men and women from the three stakeholders have been observed as very knowledgeable and

Table 1. Gender difference in the knowledge and awareness

RESPONDENT	KNOWLEDGE		AWARENESS	
	MEAN	LEVEL	MEAN	LEVEL
Local community				
Men	4.4	Very High Knowledge	4.53	Very High Awareness
Women	4.39	Very High Knowledge	4.57	Very High Awareness
PCC				
Men	4.98	Very High Knowledge	4.9	Very High Awareness
Women	5	Very High Knowledge	4.98	Very High Awareness
LGU				
Men	4.8	Very High Knowledge	4.78	Very High Awareness
Women	4.8	Very High Knowledge	4.84	Very High Awareness



highly aware of the management and conservation of the sea turtles in Naic, Cavite.

Sea Turtle Conservation Practices of the Pawikan Conservation Center Volunteers

Table 2 shows the different conservation practices done by the local community, Pawikan Conservation Center, and the local government units of Naic, Cavite towards sea turtles. Tasks that involved repair and maintenance, manpower, and strength were usually done by men alone. On the other hand, tasks such as reproductive chores were specifically done by women alone. Men and

women perform distinct and complementary roles in traditional conservation efforts. Under the traditional approach, men usually perform energy-demanding tasks, while women usually perform or were usually assigned to lighter but time-consuming tasks (Mukoni, 2015).

Based on the FGD, most of the conservation practices were usually done by both men and women, but the group agreed that even the tasks that were traditionally assigned to a specific gender can be performed by both men and women such as patrolling/roving, egg collection, communication, giving incentives to the local community, tent preparation, burying of eggs, call for volun-

Table 2. Gender-based sea turtle conservation practices

PRACTICE	USUALLY DONE BY:					CAN BE DONE BY:
	MEN ALONE	WOMEN ALONE	MOSTLY MEN	MOSTLY WOMEN	BOTH MEN AND WOMEN	BOTH MEN AND WOMEN
1. Patrolling/ Roving					/	/
2. Egg collection			/			/
3. Communication					/	/
4. Giving incentives to local community	/					/
5. Tent preparation					/	/
6. Burying of eggs	/					/
7. Fence construction	/					
8. Record keeping					/	
9. Call for volunteers	/					/
10. Food preparation for volunteers		/				/
11. Egg counting					/	
12. Sea turtle tagging	/					
13. Cleaning of hatchery					/	
14. Coastal clean up					/	
15. Preparation of hatchling for releasing	/				/	

Table 2. Continued

PRACTICE	USUALLY DONE BY:					CAN BE DONE BY:
	MEN ALONE	WOMEN ALONE	MOSTLY MEN	MOSTLY WOMEN	BOTH MEN AND WOMEN	BOTH MEN AND WOMEN
16. Hatchery monitoring to protect from predation and salt water intrusion	/					/
17. Maintenance and repair of hatchery	/					/
18. Morphometrics of sea turtle					/	
19. Photo documentation					/	
20. Guests orientation					/	
21. Securing the area for possible nesting sea turtles					/	

teers, food preparation for volunteers, hatchery monitoring, and maintenance and repair of the hatchery.

It was interesting to highlight that both men and women were participating in the conservation of different resources. However, there were still tasks that were exclusively assigned and performed by either men or women even if it were agreed by the group that these traditionally assigned activities could be done by both genders. The patriarchy that the West transplanted into the Philippines not only made women less superior to men but also subordinate to men's nature (Gabriel et al., 2020).

Gender-Based Division of Labor Among the Volunteers in the Pawikan Conservation Center in Naic, Cavite

Table 3 shows the gender division of labor of the

24-hour activity profile based on the four gender roles in the Harvard Analytical Framework. These are productive, reproductive, community works, and personal. Productive activity pertains to the production of goods and services usually with a cash value. Reproductive activity involves care and maintenance of the household/family. Community works refer to the activities under an organization of social events or participation in an organization. While personal activities are activities done for one's recreation.

The division of labor between women and men in any society was distinct. Table 6 demonstrates that men had more productive hours of work than women while women spent more hours on reproductive activity than men. Men are typically assigned tasks that demand relatively intense physical activities. Women, on the other hand, are given tasks that usually can be done at home and do not require a lot of physical strength (Dahal,

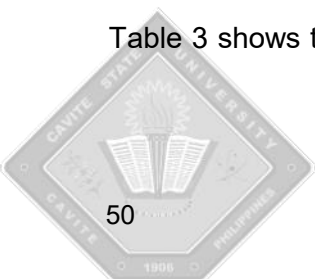


Table 3. Gender-based division of labor based on the four gender roles

DIVISION OF LABOR (HOUR)								
GENDER	NOT DUTY				ON DUTY			
	PRODUCTIVE	REPRODUC-TIVE	COMMUNITY WORKS	PERSONAL	PRODUCTIVE	REPRODUC-TIVE	COMMUNITY WORKS	PERSONAL
Men	10.1	2.5	0	11.4	6.8	0.4	6.6	10.2
Women	5.8	6.4	0.5	11.3	2	3.7	7.4	10.9

2016). Women usually take on chores like cooking, weeding, harvesting, and child care, while men typically fulfill traditional gender roles (Sinhuja & Murugan, 2018).

Moreover, both genders had a lot of time for personal activities whether on duty or not. Both men and women showed volunteerism where they spent six to seven hours on community work which decreased their time on productive, reproductive, and personal activities. Conservation initiatives that deliver both environmental and economic advantages, regardless of whether they are led by men or women, are thought to motivate conservation commitment (Massey et al., 2021). Both men and women from the stakeholders were observed to actually dedicate their time to volunteering at the Pawikan Conservation Center in Naic, Cavite.

Conclusions

In view of the findings, the following were deduced:

1. In general, there is no gender difference in the level of knowledge and awareness of men and women in Naic, Cavite. Men and women from the local community, Pawikan Conservation Center, and local government unit have a very high level of knowledge and awareness towards sea turtle conservation.

2. Conservation practices are exclusively assigned and performed by either men alone or women alone, even if the group agrees that these traditionally assigned activities can be done

regardless of gender such as patrolling/roving, egg collection, communication, giving incentives to local community, tent preparation, burying of eggs, call for volunteers, food preparation for volunteers, hatchery monitoring, and maintenance and repair of hatchery.

3. Men have more productive hours of work than women while women have more hours spent on reproductive activity than men. Both genders show volunteerism where they spend six to seven hours on community work which decreases their time on productive, reproductive, and personal activities. Therefore, men and women dedicate and invest their time in volunteering at the Pawikan Conservation Center.

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