STEWARDSHIP OF WOMEN INTEGRATED INTO MPAS (SWIM) OF SAN JUAN, BATANGAS

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ABSTRACT

The study determines women's level of involvement in Marine Protected Areas (MPAs) Regulations of San Juan, Batangas in terms of their engagement in conservation, participation and compliance of MPAs laws. Analysis of gender dimensions of MPAs is valuable for implementing the municipal and national laws relative to MPAs' management because women are often ignored in the involvement in making coastal resources management policies. In process of research, the validated questionnaire was examined and passed through reliability analysis – scale (alpha) or Cronbach's alpha of .959 for overall involvement. The number of women respondents were determined through Raosoft sample size calculator with the result of 381 and equally distributed in 16 coastal barangays in San Juan, Batangas. Based on result, it revealed that most of the respondents were from 18-30 years, who are married, employed, whose primarily reason for involvement refers to livelihood and annually engaged into MPA related activities. They seldomly involve themselves into conservation, compliance and participation in the management of MPAs. For realizing inclusive and sustainable development, an action must take measure to integrate gender and development perspectives into marine protected areas and the implementation of women empowerment program in the coastal areas of Municipality of San Juan, Batangas.

Keywords: Marine Protected Areas (MPAs), Conservation, Participation, Compliance, Women Empowerment Program and Municipal Regulations 21-2010.

INTRODUCTION AND BACKGROUND OF THE STUDY

The Municipality of San Juan, Batangas municipal waters is an integral part of the renowned heritage Verde Island Passage adjudged as the Center of the Center of Marine shore fish Biodiversity in the World. Due to scientific findings, Executive Order No. 578 was enacted to establish the national policy on biological diversity. By such law, it is the policy of the state on biological diversity to protect, conserve and sustainably use biological diversity to ensure and secure the well-being of present and future generations of Filipinos.

Rapid degradation is happening especially in areas where there are significant human disturbances. In the clause of Executive Order No. 578, it states that the Philippine is also known as one of the biodiversity hotspots where biological diversity is under constant threat due to unsustainable resource use practices, overexploitation, population pressure, poverty and other factors. The prompt increase of urbanization, industrialization and population in the coastal and marine areas leading to multiple use conflicts has severely affected the country's coastal and marine resources and habitats.

To conserve and protect the coastal resources in the Municipality of San Juan, Batangas against human disturbances due to exploitation, the said Municipality enacted an Ordinance No.07-2006 on June 19, 2006 as amended by Resolution No, 21-2010 on April 19, 2010 for the establishment of fourteen (14) Marine Protected Areas (MPAs) including the Mangrove Forest Conservation Areas. These MPAs are located in the municipal waters adjacent to Barangays Catmon, Ticalan, Putingbuhangin, Abung, Calubcub 1, Imelda, Laiya Ibabao, Laiya Aplaya and Hugom, while Mangrove Forest Conservation Areas are located in Barangays of Catmon, Pinagbayanan, Barualte, Bataan, Nagsaulay, Subukin and Imelda. In 2008, the Municipality of San Juan, Batangas proposed the Marine Protected Area Management Plan for 2009-2013. However, the management plan does not provide provisions for the integration of women to be co-participants in management thereof. Thus, it denied them the opportunity to access coastal resources.

Based on the records of Provincial Government of Batangas - Environment and Natural Resource Office (PG-ENRO), the Municipality of San Juan, Batangas is recorded as the highest total numbers of duly established Marine Protected Areas (MPAs) with fourteen (14) MPAs equivalent to 1,277 hectares, followed by Calatagan with six (6) MPAs with equivalent of

178.53 hectares and Nasugbu with five (5) MPAs equivalent to 113.49 hectares. The Municipality of San Juan, Batangas has the biggest forest mangrove area in the Province of Batangas with 496 hectares, followed by Lobo with 43.55 hectares and Calatagan with 27.5 hectares. Thus, based on data of PG-ENRO, the Municipality of San Juan, Batangas has the highest and biggest coral reefs and seagrass habitat including mangroves forest. (PG-ENRO, 2014). Since the Municipality of San Juan has the highest number of Marine Protected Areas and biggest forest mangrove in the province, the stewardship for coastal marine resources integral with the women's participation is necessary for sustainable development and inclusive growth. Thus, level of involvement of women in Marine Protected Areas (MPAs) is necessary to examine women's access to opportunity and control of coastal resources, knowledge of marine resources, which prompted the researcher to assess the implementation for its proposed women empowerment program.

STATEMENT OF THE PROBLEM

The research study aims to assess and analyze the level of involvement of women in terms of stewardship of Marine Protected Areas (MPAs) in San Juan, Batangas

Specifically, the study sought to answers the following questions:

1. What is the profile of the respondents in terms of:

    1.1. age;

    1.2. civil status;

    1.3. occupation;

    1.4. main reason of involvement; and

    1.6 frequency of involvement?

2. How may the level of involvement of women in Marine Protected Areas (MPA) regulations be assessed in terms of:

    2.1. conservation;

2.2. participation; and

2.3 compliance?

3. How may the responses be compared when respondents are grouped according to profile?

4. What are the challenges encountered by women in MPA management?

5. Based on findings, what inputs women empowerment program may be designed?

SCOPE AND LIMITATIONS OF THE STUDY

This study focused on determining the women's involvement in Marine Protected Areas (MPAs) in San Juan, Batangas which is probably utilized for local policy implementation in areas of gender and development and environmental programs. It intends to identify the profile of women respondents along the 16 coastal barangays in San Juan, Batangas. The study will not cover an extremely scientific finding of fish, coral, seagrass and mangrove species in the Marine Protected Areas (MPAs) including the adoption of instruments in fish and coral survey in determination of identification, biomass and density including biophysical aspects of study.

RESEARCH METHODOLOGY

Research Environment

The Municipality of San Juan in the Province of Batangas is deemed blessed with wealthy resources arising from agricultural and ecological life. As a first-class municipality, the richness of its marine and coastal resources is linked with the tourism industry. It has been regarded as one of the top tourist destinations in the Province of Batangas. The richness in ecology and biodiversity is from ridge to reef. The mountainous part of San Juan which is pristine in character because absence of mining in the said Municipality brought the ecological beauty in the coastal areas. Therefore, in effect, it is blessed with prosperous resources arising from agricultural and ecological life. The ecological tourism increased development in the said Municipality and was considered as the first-class municipality.

By virtue of Municipal Ordinance No. 21-2010, entitled as "An Ordinance Establishing the Rules and Regulation of San Juan, Batangas Marine Protected Areas and Prescribing Penalties for Violation thereof, and Declaring the Submarine Garden Marine Reserve and the San Juan Mangrove Forest Conservation Areas", this study is where the fundamental research environment is to be conducted simultaneous with mainstreaming Gender and Development initiatives.

Respondents of the Study

For purposes of this study, the respondents consist of 381 women from sixteen (16) barangays along the coastal areas of municipal water of San Juan, Batangas. The respondents to be surveyed reside at the established and declared Marine Protected Areas (MPAs). The researcher uses the stratified random sampling that will allow to consider the different subgroups of people in the population and helps guarantee that the same accurately represents the population on specific characteristics (Jackson, 2016). In the process of collecting data, the researcher adopted the random sampling in which each member of the population is equally to be chosen as part of the sample (Ibid, p.97).

A sample size of 381 female respondents was computed using Raosoft sample size calculator with 95% confidence level, 5%, margin of error and 50% response distribution from the population size of 37,709. Thus, the recommended sample size is 381 respondents under Raosoft sample size calculator. Copy the Raosoft findings is attached hereto as Appendices.

The matrix of total respondents per barangay is as follows:

Distribution of the Respondents

	Coastal Barangays at San Juan, Batangas	**Number of Respondents**	**Percentage**
1	Abung	19	4.98
2	Barualte	31	8.32
3	Bataan	21	5.51
4	Calubcub 1.0	21	5.51

5	Calubcub 2.0	17	4.46
6	Catmon	24	6.28
7	Hugom	31	8.13
8	Imelda	25	6.56
9	Laiya Aplaya	28	7.34
10	Laiya Ibabao	32	8.38
11	Nagsaulay	21	5.51
12	Pinagbayanan	22	5.76
13	Poctol	23	6.03
14	Putingbuhangin	22	5.76
15	Subukin	24	6.28
16	Ticalan	20	5.24
Total Number of Female Respondents		**381**	**100**

Data Gathering Instruments

The validity and reliability of the research study depends on the appropriateness of the instrument or tool to be utilized for survey purposes. In this study, the construction, validation, administration of the questionnaire and the scoring of respondents are the basic procedures for data collection and likely to give the expected results.

For the purpose of this study, the questionnaire is used as a fact-finding strategy. Part One determines the profiles of the women respondents in terms of age, civil status, employment, primary reason of involvement and the frequency of involvement. Part Two describes the determination of the level of involvement of women in taking care of Marine Protected Areas (MPAs) in terms of conservation, participation and compliance. Conservation consists of fifteen variables, participation has ten and compliance has eight. In Part Three, the

questionnaire identifies the problems, issues and challenges that may be encountered by women in their involvement in MPAs. The scoring of responses or answers to the questionnaire utilized a 1 to 4 scale, where:

Scoring Responses to the Questionnaire

Options	Scale Range	Verbal Interpretation
4	3.50 – 4.00	Always
3	2.50 – 3.49	Often
2	1.50 – 2.49	Seldom
1	1.00 – 1.49	Never

The above scale is used to determine the level of stewardship of women in terms of conservation, compliance and participation in Marine Protected Areas (MPAs) in San Juan, Batangas. The respondent's description and responses were statistically verified. The verbal interpretation will be scaled according to its range and such findings will be meticulously analyzed and substantiated or justified by related literature.

Statistical Treatment of Data

Descriptive statistics was used in analysis of data. The following statistical tools were employed:

Frequency count and percentage: This was used to determine the profile of the respondents in terms of age, civil status, occupation, main reason of involvement, and frequency of involvement. This methodology gives an answer to the Statement of Problem number 1.

Weighted Mean: This is used to determine the responses chosen from the options 1-4 with scale range of 1.00-4.00 and its corresponding verbal interpretation. It will adopt the Harmonized Gender and Development Guidelines. This methodology gives an answer to the Statement of Problem number 2.

Mean: This is used to determine the average exact value of each entry or sometimes called the *arithmetic mean*. To compute the mean, it added the values of all entries and divided them by the number of entries. For purposes of this study, the responses of the female respondents were divided by the number of respondents which is 381. This was used to assess the level of involvement of women in MPAs in terms of conservation, compliance and participation. This was also used to compare their involvement when grouped according to profile.

FINDINGS

Profile of the Respondents

Most of the respondents in terms of age were under the age bracket of 18-30 years old with frequency of 188 or 49.33%, while the lowest refers to 51 years and above with 7.07%. With respect to civil status, the highest frequency obtained refers to married female respondents with 59.85% obtaining 288 frequency, and the lowest frequency refers to separated individuals with merely 4.98%. The highest frequency in terms of respondents' occupation refers to being employed with 55.38% and the lowest refers to pensioner/s with merely 6.82%. With regard to the primary reason of involvement of respondents in MPAs, the survey shows that the highest frequency refers to livelihood with 46.45% while the lowest refers to research and monitoring with merely 4.72%. On frequency of involvement, the highest frequency obtained refers to annually with 62.75% and the lowest refers to daily with 2.62%.

Respondents' level of involvement in Marine Protected Areas (MPAs) Regulations in terms of Conservation, Participation and Compliance

Since the level of involvement in Marine Protected Areas (MPAs) were variated in terms of conservation, compliance and participation, this study presents an overall composite mean obtained from the mentioned variables with 2.15 survey result and verbally interpreted as seldom. With regard to conservation, the average or composite mean obtained by this study is 2.04 or verbally interpreted as seldom. The composite mean obtained in terms of participation of the respondent is 2.33 or verbally interpreted as seldom. The composite mean obtained in terms of compliance is 2.14 or verbally interpreted as seldom. Since the composite level of involvement of respondents is regarded as seldom, it implies that they rarely engage themselves into stewardship of Marine Protected Areas (MPAs).

Comparison on the Respondents' Level of Involvement in Marine Protected Areas (MPAs) when grouped according to their Profile.

The comparison of level of involvement when grouped according to age has an overall result of 2.16 under the age bracket of 18-30, 2.14 under age bracket of 31-40, 2.14 under the age bracket of 41-50 and 2.18 under the age bracket of 50 and above. They are all verbally interpreted as seldom. The comparison of level of involvement when group according to civil status has an overall result of 2.15 for the single, married, widowed and separated. They are all verbally interpreted as seldom. The comparison of level of involvement when group according to occupation has an overall mean result of 2.15 in terms of being employed, 2.09 in terms of being self-employed, 2.13 in terms of being pensioner and 2.20 in terms of being unemployed. They are all verbally interpreted as seldom. The comparison of level of involvement when group according to main or primary reason of involvement has an overall mean result of 2.15 in terms of being of volunteerism, 2.13 in terms of livelihood, 2.19 in terms of research/monitoring and 2.18 in terms of socialization. They are all verbally interpreted as seldom. The comparison of level of involvement when group according frequency of involvement has an overall mean result of 2.13 in terms of daily involvement, 2.11 in terms of weekly involvement, 2.33 in terms of monthly involvement and 2.15 in terms of annual involvement. They are all verbally interpreted as seldom.

Challenges encountered by women in MPA management

Most of the enumerated challenges in the questionnaires were considered as issues or existing problems of women in their involvement in MPAs. Lack of institutional linkages to advance advocacy for women in the MPAs management garnered a frequency of 342. Unequal treatment for women in the management of MPAs garnered a frequency of 203. Lack of capability or opportunity for the women to be invited in various trainings, seminars or capacity-building for MPAs management garnered a frequency of 305. Unaware or inadequate awareness in taking good care of the MPAs garnered a frequency of 235. Lack of opportunity to join programs or projects in MPA related activities garnered a frequency of 262. Absence of legitimate organization exists to advance MPAs obtained at a frequency of 257.

Proposed Inputs to Women Empowerment Program

The output of this research study provides women empowerment programs to attain the objectives of the study. This is to ensure that women in San Juan, Batangas would benefit equally and participate directly in the MPA developmental programs. The empowerment programs are considered gender-responsive in governance, increased economic opportunities and fulfillment of women's human rights to attain gender equality, sustainable development and inclusive growth.

RECOMMENDATIONS

From the preceding findings and conclusions, the following recommendations are offered by the researcher:

1. Since most of the respondents are within the age bracket of 18-30 years, they are considered millennials who are enthusiastic to perform multi-tasking activities. It is recommended that they should be invited personally to engage themselves in coastal resources management capacity-building training and college scholarships for courses relative to stewardship of MPAs such as environmental science, marine science, aquatic and fisheries be offered to women-high school students.
2. Since most of the respondents are married and the reason for involvement in MPAs is due to livelihood that could benefit their respective family, it is recommended that eco-tourism and MPA management plan should integrate women development initiatives to gain employment arising from protection and conservation of MPAs Due to lack of organizational membership, LGUs, academe and stakeholders along coastal areas that has MPAs must be mobilized to organize women group to incorporate empowerment of women in MPAs. It should be incorporated to establish a legitimate group that advance gender and development into MPAs.
3. Since respondents are seldom involve into stewardship of MPAs in terms of conservation, it is recommended that gender and development programs be implemented through livelihood projects derived from conservation of MPAs. Nursery seedlings of mangrove plantation in the Mangrove-MPAs must be

actualized, where it is managed, participated and administered by women organizations.

4. In terms of compliance, the women sector must be trained to enforce the ordinance on MPAs and other related fishery laws. Capacity-building seminar and focus group discussion among women residing along coastal areas must be realized to increase involvement in the conservation, compliance and participation in the management of MPAs. This could be in partnership with the academic institutions through Batangas State University- Research and Extension office and PGENRO (Provincial Government for Environmental and Natural Resources Office)
5. Since most of the respondents are active participants of the annual International Coastal Cleanup, it must be sustained and expanded to increase awareness among the women sector in the coastal areas. Proper disposal of waste and garbage especially the plastic must be prohibited to all tourists along coastal areas.
6. Since there are no existing legitimate women organizations that integrate gender and development into coastal resources management, the LGUs, NGOs and academe must initiate to form and organize women organizations as counter-part of the *Bantay-Dagat* in protecting and conservation of MPAs. The women's organization could be known as *Ingat-Dagat* that will implement gender and development projects relative to conservation of the duly declared MPAs.
7. Lastly, it is recommended that this study will be utilized for further future research studies in areas of coastal resources management and gender and development initiatives.

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