UNDERSTANDING OF ENVIRONMENTAL GOVERNANCE AND IMPLEMENTATION OF POLICIES PERTAINING TO EGAÑA RIVER'S PROTECTION, SIBALOM ANTIQUE, PHILIPPINES

¹ALIMEN A. ROLANDO, ²BAYNOSA S. RONALD, ³NONESCO E. ANTONIO

^{1,2,3}John B. Lacson Foundation Maritime University, Philippines

ABSTRACT

The study explored the participants' understanding of the environmental governance and implementation of policies pertaining to the protection of Egaña River, Sibalom in the Province of Antique, Philippines. The study employed the quantitative-qualitative research design by using data-gathering instrument and scheduled interview. Participants of the study were twenty one (21) residents, barangay officials, municipality officers, and fishermen living near the Egaña River at Sibalom, Province of Antique, Philippines. Statistical tools used were frequency count, percentage, and rank to identify the scope of the understanding of the participants regarding the protection of nature. The study identified the different practices, activities, and programs pertaining to environmental protection and implementation of the policies of the municipality towards the protection of the river. Moreover, the study presented the understanding of the policies regarding the river's protection among the different sectors of the community and stakeholders. To further reinforce the data generated, the researchers conducted an interview among the participants in order to draw their understanding about environmental concerns and policy implementation advocated by the government officials concerned.

Keywords: Environmental governance and implementation, river's protection, community, stakeholders.

1. INTRODUCTION

Environmental studies are conducted to address a broad range of issues related to the relationship of human beings with nature. The concept of understanding the different issues and addressing some of the challenges regarding the environmental problems today need knowledge, expertise, resources, and practices obtained from different fields that need to be brought together in order to develop new modes and concept of thinking among different sectors of the community. The implication of environmental studies could not be disputed because of the prevalent problems on nature. Many people take part in the advocacy towards sustainable development. Conducting and engaging in these activities shall be considered as keys towards the future of mankind. The problem and degradation of Mother Earth perceived to be contributed by continuing problems of pollution, loss of forest, solid waste management, issues reflecting economic productivity and environmental security. The developing status of the prevalent problems on environment is considered a major concern and seems to have adequate attention in dealing with academic performances in the colleges and universities in the Philippines.

The environmental governance and protection in the country is seriously challenged by different stakeholders because of the accountability, efficiency, and responsiveness of the local government units (Huesca, 2012). Promoting environmental governance and policy on river and lake protection shall be understood by the local constituents leading towards promising and encouraging prospects of the country's environmental governance. Students have great role in environmental sustainability and exposing them to video documentary

on environmental concern would increase their knowledge about the environmental conservation and protection (Quero, 2012).

The threats posed by climate change today increased the urgency of promoting love for the environment and increasing people's capacity to cope. Hence, vulnerability assessment is essential to the progress of adaptation (Matrandea & Schneider, 2008). This is considered an important tool for the development of climate change policies and programs, particularly adaptation and mitigation strategies, for effective management of the impacts of climate change (Neri, 2012).

2. STATEMENT OF THE PROBLEM

The present study was conducted in order to present the understanding of environmental governance and implementation of policies regarding the river's protection among the different sectors of the community and stakeholders at Egaña, Antique. In order to understand the present study the following specific questions were addressed:

- (1) What are the different activities, schemes, and initiatives manifested by the respondents leading towards the understanding of environmental protection and implementation of policies on Egaña River's protection?
- (2) What are the most and least prevalent activities, schemes, and initiatives manifested by the respondents leading towards the understanding of environmental governance and implementation of policies pertaining to Egaña River protection?
- (3) What are the comments, remarks, observations, and suggestions of the respondents towards the protection of the river?

3. CONCEPTUAL FRAMEWORK OF THE STUDY

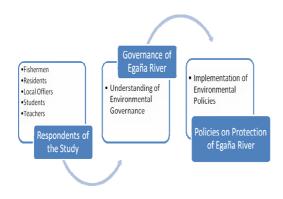


Figure 1 Understanding of environmental governance and implementation of environmental policies on protection of Egaña River situated at Sibalom, Province of Antique

4. THEORETICAL FRAMEWORK

The study was anchored on the theory advocated by Tormon (2005) entitled "Assessment of Issues, Concerns and Related Policies and Management Plans in Boracay island, Philippines". This theory states the significant role to intensify information common campaigns, amend ordinances that are practical and focus on basic laws and policies easily understood, delegate responsibilities to the specific sectors, and develop precautionary principle approach through research and development of the place. This theory was used to achieve understanding of environmental governances and implementation of policies focusing on the protection of Egaña River situated at Sibalom, Province of Antique, Philippines.

5. METHOD

The design used in this study was quantitative-qualitative employing descriptive method of data gathering procedures. The researchers used fifteen (15) items data-gathering instrument distributed to the fishermen of Egaña, Antique. This instrument was answerable by "yes" and "no." Experts and environmentalists from different fields were invited to review and evaluate the instrument before the final administration to the respondents. Statistical Tools employed in this study were: Frequency count, percentage, and rank for descriptive analysis.

The interview was utilized to gather qualitative data from the respondents. The information, views, and comments of the respondents were categorized to comeup with the holistic views of the respondents towards the preservation and protection of the Egaña River at the Province of Antique.

Permission from the barangay officials of Barangay Egaña at the Province of Antique was properly secured by the researchers prior to the conduct of the study.

Proper courtesy call and consultations were conducted in order to address some protocols and procedures regarding the scope and limitations of the study. Sensitive ideas, information, and knowledge regarding environmental concerns were professionally handled. The confidentiality of the study was strictly followed and exercised by the researchers.

6. RESULTS AND DISCUSSION

6.1 Results of the Environmental Management of Egaña River at the Province of Antique, Philippines

The result on Table 1 reflects the procedure of the Municipality on the protection of the Egaña River. The data show that most of the respondents believed that the municipality has no "procedure on protection" of the river. It seemed that the municipality failed to design necessary guidelines and policies towards the protection and preservation of natural resources like Egaña River. The municipality should strictly review and implement the policies on environmental protection, emphasis shall be given to this particular urgent call of nature.

Table 1 Procedures regarding protection of Egaña River?

	Frequency	Percentage
Yes	5	24
No	16	76
Total	21	100

The result in Table 2 means that the residents know how to identify the different wastes situated at the river, particularly Egaña River situated at the Province of Antique. Most of the residents (81%) have knowledge on how to identify the wastes at the river while only few (19%) do not know how to identify them. Data are shown below:

Table 2 The residents know how to identify the wastes situated at Egaña River

	Frequency	Percentage
Yes	17	81
No	4	19
Total	21	100

Out of 21 residents being interviewed, eighteen (86%) said that they believe that there should be a protection mechanism towards the protection of the river. Only three (3) mentioned that they do not believe that there should be aprotection mechanism on Egaña River at the Province of Antique, Philippines. Data are shown in Table 3.

Table 3 The respondents believe that there should be protection mechanism in order to preserve and protect the Egaña River

	Frequency	Percentage
Yes	18	86
No	3	14
Total	21	100

The majority of the residents (86%) shared that they have not seen any posters/markers/bulletin boards pertaining to the advocacy leading towards the river's protection at Baragnay Egaña, Antique. Only few (14%) residents said that they have seen these posters at their place. Data of the study are shown in Table 4 below:

Table 4 Posters/markers/bulletin boards properly labelled regarding the protection of Egaña River

	Frequency	Percentage
Yes	3	14
No	18	86
Total	21	100

Most of the residents (86%) have knowledge about the penalty imposed upon those who will destroy the river and only few (14%) were not aware of the said penalty.

Table 5 Knowledge that penalty shall be given to those who will destroy the Egaña River

	Frequency	Percentage
Yes	18	86
No	3	14
Total	21	100

Table 6 Educational campaign regarding the protection of Egaña River

	Frequency	Percentage
Yes	2	10
No	19	90
Total	21	100

The result in Table 6 reveals that when it comes to the educational campaign towards the protection of Egaña River, nineteen (19) residents said they "have no knowledge" about the issue. This is reflected by the responses and answers of the majority of respondents (19, 90%) and only two (2, 10%) were aware of this educational campaign of the municipality. The result would be a wake-up call for those who are involved towards environmental and ecological concerns to exert more efforts on the activities and initiatives related to these particular global concerns and issues.

On the concern of cleanliness, the majority of the residents agree to maintain the cleanliness of the Egaña River as reflected in Table 7. Out of the 21 respondents of the study, 13 believe that the government officials should maintain and sustain whatever activities, projects, and initiatives pertaining to the cleanliness of the river. The clean river shall generate many benefits like abundant fish and marine organism which make the area/place bio-diversified. Other pollutants and heavy metals could be avoided if cleanliness is in place and properly maintained and monitored.

Table 7 Government officials have to maintain the cleanliness of the Egaña River

	Frequency	Percentage
Yes	13	62
No	8	38
Total	21	100

At the barangay level, it seemed that the barangay officers have already started and initiated management scheme on how to protect the river. The initiatives are geared towards the participation and cooperation of the different stakeholders especially teachers, students, parents, businessmen, fishermen, and government officers. However, some residents (7, 33%) still shared that they do not see any management scheme towards the protection of the river. This concern should be looked into by the BFAR, PENRO, and BFAMRC. Data are shown in table below.

Table 8 The barangay officers initiate management schemes for different stakeholders in order to protect the Egaña River

	Frequency	Percentage
Yes	14	67
No	7	33
Total	21	100

Based on the result of the study, it shows that the residents of the place already participate and get involved in any program, projects, and initiatives which concerned the protection of the river. However, these programs and projects on environmental protection could be intensified and sustained by more participation and cooperation of the residents. This participation is considered a very significant factor towards the success of any endeavours towards the protection of the river. Data are shown in Table 9.

Table 9 The locals/residents participate in the protection of the river?

	Frequency	Percentage
Yes	15	71
No	6	29
Total	21	100

The majority of the respondents believe that reasonable protection of Egaña River gives them sustainable livelihood because the river is considered as the only source of their income. The major occupation of the respondents is fishing, therefore, they depend on the river as their source of income to feed the members of their families. Data are shown in Table 10.

Table 10 The residents agree that reasonable protection of the Egaña River shall provide them sustainable livelihood

	Frequency	Percentage
Yes	20	95
No	1	5
Total	21	100

Table 11 reveals that the residents have demonstrated some actions to protect and preserve Egaña River situated at Sibalom, Antique, Philippines (17, 81%). Majority of the respondents (18, 86%) agreed that the management and protection of the river should be supported by every individual of the place, they also

believed that different stakeholders should take initiatives in maintaining the cleanliness and biodiversity, and sustaining marine life can be done and monitored through strict implementation of governance and policies on management and protection of the river. Data are shown in Table 12, Table 13, and Table 14.

Table 11 The residents show positive action to protect and preserve Egaña River

	Frequency	Percentage
Yes	17	81
No	4	19
Total	21	100

Table 12 The residents believe that the management and protection of Egaña River should be supported by everyone

	Frequency	Percentage
Yes	18	86
No	3	14
Total	21	100

Table 13 The residents believe that the different stakeholders should take initiatives in maintaining the cleanliness and biodiversity of Egaña River

	Frequency	Percentage	
Yes	19	90	
No	2	10	
Total	21	100	

Table 14 The residents agree that supporting governance and policy on management of Egana River can sustain the marine life

	Frequency	Percentage		
Yes	20	95		
No	1	5		
Total	21	100		

Most of the respondents believe that clean and diverse river is an indication of good environment. This concern should be the first priority of the officials of the municipality of Egaña situated at Sibalom, Antique, Philippines towards environmental governance and implementation of policies on the protection of the river. The least prevalent activity is the educational campaign regarding the protection and preservation of the river. The respondents perhaps believe that these activities should be enjoined by everyone especially the teachers, parents, students, tax payers, municipality officers, and government officers (DENR, BFAR, & MFARMC).

Table 15 The residents believe that clean and diverse river is an indication of good environment

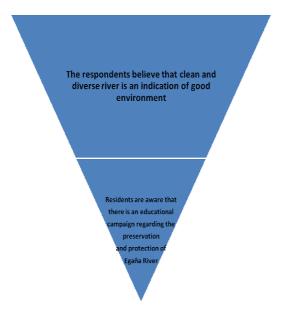
	Frequency	Percentage
Yes	21	100
No	0	0
Total	21	100

Table 16 Summary of the activities/advocacies leading towards understanding and implementation of policies regarding the protection of Egaña River at Sibalom, Antique, Philippines

Item	f	P	R
The respondents believe that clean and	21	100	1
diverse river is an indication of good			
environment.			
Supporting governance and policy on	20	95	2
management of Egaña River can sustain			
the marine life.			
Reasonable protection of the Egaña	20	95	3
River shall provide sustainable			
livelihood.			
Believing that the different stakeholders	19	90	4
should take initiatives in maintaining the			
cleanliness biodiversity of Egaña River.			
Believing that the management and	18	86	5
protection of Egaña River should be			
supported by everyone.			
There should be protection mechanism	18	86	6
in order to preserve and protect the			
Egaña River.			
Residents are knowledgeable that	18	86	7
penalty shall be given to those who will			
destroy the Egaña River.			
Residents should show positive action to	17	81	8
protect and preserve Egaña River.			
Residents know how to identify the	17	81	9
wastes situated at the river.			
The locals/residents participate in the	15	71	10
protection of the river.			
Barangay officers shall initiate the	14	67	11
management schemes for different			
stakeholders in order to protect the			
Egaña River.			
The government officials have to	13	62	12
maintain the cleanliness of Egaña River			
The municipality should have	5	24	13
procedures regarding protection of the			
river.			
Posters/markers/bulletin boards are	3	14	14
properly labeled regarding the protection			
of Egaña River.			
Residents are aware that there is an	2	10	15
educational campaign regarding the			
preservation and protection of Egaña			
River.			

The data shown in the summary (Table 16) reveal that the municipality of Sibalom, Antique should give emphasis and attention on the three (3) areas such as the following: (a) educational campaign regarding the preservation and protection of Egaña River, (b) posters/markers/bulletin boards regarding the protection of Egaña River, (c) the municipality should have procedures regarding the protection of the river. Moreover, the members of the council on environmental protection should also notice the following: (a) government officials have to maintain the cleanliness of Egaña River, (b) Barangay officers shall initiate the management schemes for different stakeholders in order to protect the Egaña River, and (c) the locals/residents participate in the protection of the river.

The most prevalent understanding of environmental governance and implementation of policies on the protection of Egaña River situated at Sibalom, Antique, Philippines is "clean and diverse river is an indication of good environment." This is the most prevalent response among the respondents. This is an indication that most of the respondents wanted their river to be properly monitored by authorities concerned. This monitoring leads towards cleanliness of the river in order to achieve the standards of bio-diversity. Many respondents believed that when the river is bio-diversified, abundant stock of fish shall be observed, and other marine organisms are thriving in the river.



6.2 Comments

Comments, suggestions, remarks, and observations regarding the environmental protection and implementation of policies on Egaña River situated at Sibalom, Antique, Philippines

- *No effort from the municipality;
- *Prevent the Garbage coming from other barangays;
- *Local government should prevent the residents from other barangays of throwing their garbage and plastics to the river especially waste from piggery;
- *No concrete programs to preserve and protect the river;
- *Amo gid daad ka importante sa amon ang katinlo sang Egaña River (The cleanliness of Egana River is very important to us);
 - *Put Projects to Egaña River;
 - *Stop illegal fishing and electrifying the fish;
- *Burugan naton para ang officials sang banwa makabulig sa katinlu-an sang Egaña River (help the municipal officials of the town towards the cleanliness of Egaña river);
- *Local officials should maintain the cleanliness of the river;
 - *Help us to protect the river;
 - *Stop polluting the river;

- *It must be cleaned from waste and garbage and stop illegal fishing activities;
- *Stop cyanide practice and using electricity in fishing;
- *Gusto ko matinlo ang suba para maka kuha kami isda (I want the river to become clean so that I can get fish):
 - *The local officials are neglecting the river.

7. CONCLUSIONS

The majority of the respondents of the study believed that Egaña River should be protected and monitored in order to safeguard its cleanliness. These indicators lead to clean and well-preserved environment.

The residents of Barangay Egaña at the Municipality of Sibalom, Province of Antique, Philippines were aware that education regarding the protection of the river should be enhanced and enforced. Qualitative data through comments and suggestions shared by the respondents of the place are indicators of their environmental understanding and reflection of how the government officers implemented the environmental policies pertaining towards river's protection and preservation.

8. RECOMMENDATIONS

Based on the results and conclusions of the study, the following recommendations are advanced:

- (1) The ideas and data reflecting the understanding of environmental governance and implementation of policies on the protection of Egaña River shall be the major concern and focal point of discussion among the government officers of the Municipality of Sibalom, Province of Antique, Philippines.
- (2) Major concerns pertaining to the protection of Egaña River shall be initiated and participated by the different sectors especially the teachers, students, parents, residents, and government officers of the Sibalom, Province of Antique, Philippines.
- (3) Parallel studies shall be conducted to determine other areas of concern and issues towards the environmental understanding and protection of the Egaña River situated at Sibalom, province of Antique, Philippines.

9. ACKNOWLEDGMENTS

The authors would like to acknowledge the support given by the administration, faculty members, and students of JBLFMU-Molo, Iloilo City, Philippines for this study.

10. REFERENCES

- [1] AGARWAL, K.C., *Environmental Biology*, Nidi Publishers Ltd. Bikaner, 2001.
- [2] BHANUCHA, Erach, *The Biodiversity of India*, *Map*, in Publishing Pvt. Ltd, Ahmedabad 380013, India, Email: mapin@icenet.net, 2003.

- [3] BRUNER, R.C., *Hazardous Waste Incineration*, McGraw Hill Inc. 480 pgs., 1989.
- [4] CLARK R.S., *Marine Pollution*, Clanderson Press, Oxofrd (TB).
- [5] CUNNINGHAM, W.P., COOPER T.H., GORHANI E. & HEPWORTH M.T., *Environmental Encyclopaedia*, Jaico Publishing House, Mumbai, 1196 pgs., 2001.
- [6] DE AK, Environmental Chemistry, Wiley Eastern Ltd.
- [7] GLEICK, H.P., Water in Crisis, Pacific Institute for Studies in Development, Environment and Security, Stockholm Environmental Institute, Oxford University Press, 473 pgs., 1993.
- [8] HAWKINS, R.E., *Encyclopaedia of Indian Natural History*, Bombay Natural History Society, Bombay (R).
- [9] HEYWOOD, V.H., and WATSON R.T., *Global Biodiversity Assessment*, Cambridge University Press 1140 pgs., 1995.
- [10] JADHAV, H. and BHOSALE V.M., *Environmental Protection and Laws*, Himalaya Publishing House, Delhi 284 pgs., 1995.
- [11] MCKINNEY, M.L. and SCHOCH R.M. *Environmental Science Systems and Solutions*, Web enhanced edition, 639 pgs., 1996.
- [12] MHASKAR, A.K., *Matter Hazardous*, Techno-Science Publications (TB).
- [13] MILLER, T.G., Jr., Environmental Science, Wadsworth Publishing CO. (TB).
- [14] ODUM, E.P., Fundamentals of Ecology, WB Saunders Co. USA, 574 pgs., 1971.

- [15] RAO, M.N. and DATTA A.K., *Waste Water Treatment*, Oxford and IBH Publishing Co., Pvt. Ltd. 345 pgs., 1987.
- [16] HUESCA, E. F., Decentralization and
- Environmental Governance: Understanding Environmental Policy Implementation in Lakeshore Communities in Mindanao, Southern Philippines, Conference Abstract ISSN 2244-2863, Published by West Visayas State University, Lapaz, Iloilo City, Philippines, (2012).
- [17] QUERO, S., Understanding Environmental Conservation: A Study on the Effectiveness of Video Documentary in teaching Environmental Conservation among Fourth Year High School Students, Conference Abstract ISSN 2244-2863, Published by West Visayas State University, Lapaz, Iloilo City, Philippines, (2012). [18] MASTRANDREA, M. D. & SCHNEIDER, S. The Rising Tide: Time to Adapt to Climate Change, Boston Review, Volume 33, Number 67, November-December, (2008).
- [19] NERI, D. L., Global Predictors of People's Vulnerability to Climate Change, International Journal of Multidisciplinary Research, Volume 3, Jan, 2012, ISSN 22438327, (2012).
- [20] TOMON, D., Assessment of Issues, Concerns and Related policies and Management Plans in Boracay Island, Philippines, First UP-Visayas Graduate Research Conference held at the Auditorium of UP-Visayas, Iloilo City, Philippines, (2005).