

Socioeconomic Status and Environmental Problems Affecting the Fishermen in Coastal Areas

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Abstract

Fishing is an essential and profitable means of livelihood among peoples all over the world especially those residing in countries located along the coastal areas because food from the sea is good for human consumption and every harvest generates employment as well. In the Philippines, fishing plays an important part in the livelihood of Filipino fisher folks particularly on the reduction of poverty, especially in the different coastline communities of the country. It is indeed advantageous but even though how beneficial it may be, still, problems affecting fishermen could never be avoided. This study delves in the socioeconomic status and environmental problems affecting fishermen in the coastal barangays of Laoang. This applies a proportionate sampling technique in answering the survey questionnaire on the socioeconomic status and environmental problems of the respondents. Findings revealed that the respondents were 41 to 50 years old with an income of 5,000-10,000, with 1 to 5 family members residing in a combined nipa and concrete house. As to the environmental problems it was found out that declining fish catch, improper garbage disposal, weather condition, climate change came out as very serious problems. As to the test of a relationship, findings showed that the profile of the respondents in terms of age, civil status, number of households, highest educational attainment, monthly household income, fishing gear, and environmental problems were found to have significant relationship to the environmental problems affecting fishermen. As to the recommendations, very serious problems together with the serious, moderately serious, and slightly serious ones met by the residents in the shorelines of the studied barangays should be addressed by the local government unit of the municipality of Laoang, Northern Samar.

Keywords: Socio-economic status; environmental problems; fishermen; coastal areas, climate change

I. RATIONALE

The Philippines is endowed with substantial water resources. This is in addition to the country's coastline of 36,289 kilometres. The abundance of the country on water resources is an opportunity for fish farming. In fact, the fishing industry contributed 1.5 percent to the country's gross domestic product in 2015 since almost half of the country's population settles in the farming or fishing areas of the Philippines. In like manner, rural fish farming is common which is done by small-scale farming households using low-cost production technology just appropriate for their resource capability so generally fishermen have minimal income in terms of socioeconomic aspects.

Fishing is an important source of income contributing to the economy of fishing communities living along the coastal areas of Laoang, Northern Samar. Nevertheless,

there are challenges that are met by fisher folks such the expanding fishing population

lack of alternative options on how to find other ways of fishing , and poverty. Other problems include unsustainable fisheries, destructive fishing practices, bad conditions of water resources, and decline of fish catch.

To date, little is known about other socio-economic status and the environmental problems encountered by the fishermen in Barangays Cahayagan, Mualbual, Langob, Inamlan, Laoang, Northern Samar. This is the reason why this study is conducted.

The present survey aims to fill the gap by determining the socio-economic status and environmental problems affecting the fishermen in Barangays Cahayagan, Mualbual, Langob, Inamlan, Laoang, Northern Samar.

II. METHODOLOGY

This study determines the socioeconomic status and environmental problems affecting the fishermen in the selected coastal barangays in Laoang, Northern Samar. This study utilized a survey questionnaire to gather responses from 60 fishermen selected through proportionate sampling. The researcher distributed a survey questionnaire form from four (4) coastal barangays in Laoang, Northern Samar namely: Barangay Inamlan, Barangay Langob, Barangay Mual-bual and Barangay Cahayagan.

There were 60 fishermen respondents and 15 of come from the mentioned barangays in the study. The survey questionnaire was distributed personally to the identified fishermen respondents. Soon after the data were gathered, they were analysed and tabulated.

III. RESULTS AND DISCUSSIONS

Profile of the Respondents

Age. As observed in Table 1. This shows that 23 or 38.33 percent of the respondents were identified to be within the age bracket of 41 to 50 years old while 6 or 10.00 percent were within the age bracket of 21 to 30 years old. The finding shows that a greater number of the fishermen respondents belonged to the age bracket of 41 to 50 years old.

Civil Status. The data show that 59 or 98.33 percent of the fishermen were married, while 1 or 1.67 percent were single. This shows that majority of the fishermen were married and have their own families.

The Number of Household Members. The data show that 27 or 45 percent of the fishermen have 1 to 5 family members while 2 or 3.33 percent have 11 and above family members. This implies that the majority of the fishermen have 1 to 5 family members.

Monthly household income. The data show that 49 or 81.67 percent of fishermen have ₦ 5,001 to ₦10,000 monthly income while 4 or 6.67 percent has ₦ 3,001 to ₦5,000 monthly family income. This implies that the majority of the fishermen have ₦ 5,001 to ₦10,000 monthly income.

Type of House. The data show that 24 or 40 percent of the fishermen had a combination of nipa and concrete houses while 10 or 16.67 have concrete houses. This implies that majority of the fishermen live in houses made of a combination of nipa and concrete materials.

Fishing Gear. The data show that 37 or 61.67 percent of the fishing gear used by the fishermen were fish hooks while 1 or 1.67 percent were lifted net. This implies that majority of the fishermen use fish hooks as their fishing gear

Figure. 1a. Profile of the Respondents

Age	Frequency	Percentages
21 – 30 years old	6	10.00%
31 – 40 years old	14	23.33%
41 – 50 years old	23	38.33%
51 years old and above	17	28.33%
Total	60	100.00%
Civil Status		
Single	1	1.67%
Married	59	98.33%
Total	60	100.00%

Number of household members		
1 – 5	27	45.00%
6 – 10	31	51.67%
11 - above	2	3.33%
Total	60	100.00%
Highest Educational Attainment		
Elementary Level	11	18.33%
Elementary Graduate	14	23.33%
High school Level	12	20.00%
High School Graduate	20	33.33%
College Level	3	5.00%
Total	60	100.00
Monthly Household Income		
3,001 – 5,000	4	6.67%
5,001 – 10,000	49	81.67%
10,001 - above	7	11.67%
Total	60	100.00%
Type of House		
Concrete	10	16.67%
Wooden	12	20.00%
Nipa/Pawod	14	23.33%
Combination of Nipa and Concrete	24	40.00%
Total	60	100.00%
Fishing Gear		
Fish Hook	37	61.67%
Fish Pen/Cages	4	6.67%
Gill Net	10	16.67%
SkyLab	3	5.00%
Sky Blue	5	8.33%

Lift Net	1	1.67%
Total	60	100.00%

Environmental Problems that Affect the Livelihood of the Respondents

Table 2 reveals the perception of the fishermen on the environmental problems that affect the livelihood of the fishermen. The declining fish catch got the highest weighted mean of 4.75 interpreted as very serious with a standard deviation of 0.47. This implies that fish catch is declining.

The computed grand mean was 3.28, interpreted as moderately serious with a standard deviation of 0.63. This shows that the respondents have a moderately serious rating on the environmental problems that affect the livelihood of the respondents.

Figure. 1b. Environmental Problems that Affects the Livelihood of the Respondents

Statements	$\bar{x}$	Int.	SD
1. Declining fish catch	4.75	Very Serious	0.47
2. Deteriorating water quality	3.78	Serious	0.88
3. Fish caught before are no longer caught now	3.93	Serious	0.78
4. The proliferation of fish pens and cages	2.43	Slightly Serious	1.27
5. Occurrence of fish kill	1.63	Slightly Serious	1.18
6. Run-off of agricultural waste	1.00	Not Serious	0.00
7. Siltation	1.60	Slightly Serious	0.72
8. Improper garbage disposal	4.98	Very Serious	0.13
9. Weather condition	4.95	Very Serious	0.39
10. Climate Change	5.00	Very Serious	0.00
11. Overpopulation along shorelines	2.07	Slightly Serious	1.13
Grand Mean	3.28	Moderately Serious	0.63

Test of Relationship between the Profile of the Respondents and the Environmental Problems that Affect their Livelihood

Table 3 presents the test of the relationship between the profile of the respondents and the environmental problems that affect their livelihood.

Data show that the respondents' profile in terms, age, civil status, number of household, highest educational attainment, monthly household income and fishing gear and the environmental problems that affect their livelihood were found "significant" ($x = 10.00$, $p = 0.019$), ($x = 56.07$, $p = 0.000$), ($x = 24.70$, $p = 0.000$), ($x = 12.50$, $p = 0.014$), ($x = 63.30$, $p = 0.000$) and ($x = 92.00$, $p = 0.000$). This means that the respondents' age, civil status, number of households, highest educational attainment, monthly household income, and fishing gear have a significant relationship to the environmental problems that affect their livelihood. Implying that the profile of the respondents such as age, civil status, highest educational attainment, type of house are directly related to the environmental problems that affect their livelihood.

On the other hand, the type of house was found "not significant" ($x = 7.73$, $p = 0.052$). This means that the respondent's type of house has no significant relationship to the environmental problems that affect the livelihood. This implies that the type of house has nothing to do with the environmental problems affecting the livelihood.

Figure 2. Test of Relationship between the Profile of the Respondents and the Environmental Problems that Affect their Livelihood

	$\bar{x}$	P-value	Decision	Interpretation
Age	10.00	0.019	Reject Ho	Significant
Civil Status	56.07	0.000	Reject Ho	Significant
Number of household members	24.70	0.000	Reject Ho	Significant
Highest Educational Attainment	12.50	0.014	Reject Ho	Significant
Monthly household income	63.30	0.000	Reject Ho	Significant
Type of house	7.73	0.052	Failed to Reject Ho	Not Significant
Fishing Gear	92.00	0.000	Reject Ho	Significant

IV. CONCLUSIONS

As to the type of house, 40 percent of the fishermen have a combination of nipa and concrete houses. The majority of the fishermen use the fish hook as their fishing gear.

As to the environmental problems that affect the livelihood of fishermen of the respondents, declining fish catch, improper garbage disposal, weather condition, and climate change are interpreted by the respondents as very serious with a standard deviation of 0.47, 0.13, 0.39, and 0.00 respectively.

Run-off of agricultural waste is interpreted as not serious with a standard deviation of 0.00.

Deteriorating water quality and fish caught before are no longer caught now is interpreted as serious with a standard deviation of 0.88 and 0.78 respectively and proliferation of fish pen and cages, the occurrence of fish kill, siltation, and overpopulation along shorelines interpreted by respondents as slightly serious with a high standard deviation of 1.27 and a lowest of 0.72.

Environmental problems that affect the livelihood of fishermen of the respondents had a 3.28 grand mean, interpreted as moderately serious with a standard deviation of 0.63.

As to test the relationship between the profile of the respondents and the environmental problems that affect their livelihood.

Data show that the respondents' profile in terms, age, civil status, number of household, highest educational attainment, monthly household income and fishing gear and the environmental problems that affect their livelihood were found "significant" ($\chi^2 = 10.00$, $p = 0.019$), ($\chi^2 = 56.07$, $p = 0.000$), ($\chi^2 = 24.70$, $p = 0.000$), ($\chi^2 = 12.50$, $p = 0.014$), ($\chi^2 = 63.30$, $p = 0.000$) and ($\chi^2 = 92.00$, $p = 0.000$). This means that the respondents' age, civil status, number of households, highest educational attainment, monthly household income, and fishing gear have a significant relationship to the environmental problems that affect their livelihood. Implying that the profile of the respondents such as age, civil status, highest educational attainment, type of house are directly related to the environmental problems that affect their livelihood.

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There is also a need to improve the fishery science and monitoring and management capacities of government agencies in charge of fishery management. A long-term analysis of fish farming in the country is essential considering the socio-economic importance of fisheries and fishing activities to many Filipinos. It is argued that many management

measures are likely to have a significant effect on wealth but little, if any, on income. In designing management systems that have income improvement as a goal, care, therefore, needs to be taken if a sustainable improvement in incomes is to be achieved rather than a, perhaps unintended, wealth redistribution [10].

Recommendations

Based on the finding and conclusions the researchers' proposed the following recommendations:

The environmental problems that affect the livelihood of fishermen of the respondents such as declining fish catch, improper garbage disposal weather conditions, and climate change should be given serious attention by the local government unit because they affect the livelihood of the fishermen living in the four coastal barangays in Laoang, Northern Samar.

The overpopulation along the shoreline implies that the fishermen have slightly serious concerns about the overpopulation along the shoreline. The local government unit should create a municipal ordinance as to the limitation of building houses along the coastal areas of different barangays in the municipality of Laoang, Northern Samar, or even in the entire province of Northern Samar.

Appropriate action, implementation, monitoring, and evaluation initiatives should be considered and be taken cared of for sustainable livelihood improvement of fishermen in the community of coastal barangay in Laoang, Northern Samar.

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