

Needs of a Coastal Barangay in a Southeast Asian Country: Its Environmental Impact

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Abstract

The purpose of this study was to determine the livelihood training needs of the fisherfolks of Talayong, Lazi, Siquijor. Its overarching goal is to determine the extent of livelihood training and seminar requirements in barangay Talayong, Lazi, Siquijor. The outcomes will be used by the Siquijor State College-Maritime Education Program to take active steps for its extension program. The much needed livelihood trainings indicated are (1) bamboo furniture making, (2) concrete bench making, (3) basic training, (4) spear gun "pana" making, (5) bamboo fish trap "bobo" making, (6) small engine repair, (7) knot tying, (8) life guards, (9) welding and steel fabrication, and (10) concrete hollow blocks making. The much-needed seminars are on (1) Coastal Resource Management, (2) Environmental Laws, (3) Solid Waste Management, and (4) Environmental Education. Before planning extension activities for the said barangay, the results should be validated. The populace should be educated on environmental and climate change management in order to become resilient and responsible members of the community for the long-term sustainability of the marine environment.

Key words: *Needs assessment, fisherfolks, Siquijor Island*

Introduction

The only SUC in Siquijor province is Siquijor State College. It is mandated with its four functions as a higher education institution. These are education, research, community extension service, and production. The primary function, instruction, is concerned with the transmission of knowledge and skills to students. The development of new theories and practices for use by the university and society is the subject of research. Another function of a university that strives for total community development is community service.

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Failure to prepare, according to Benjamin Franklin, is preparation to fail. Any endeavor must be founded on a sense of necessity. As a result, any school/extension college's program must be evidence-based. In order to have effective community extension programs, the research and extension arms of any college must collaborate. These planned activities must be carefully planned and carried out in order to help and assist communities in need.

Siquijor State College's Maritime Education Program (SSC-MEP) plans and programs will be properly delineated and implemented through the department's research and extension chairs. Siquijor State College's Maritime Education Program (SSC-MEP) plans and programs will be properly delineated and implemented through the department's research and extension chairs.

The purpose of this study is to determine the extent of livelihood training and seminar needs of the fisherfolks of Lazi, Siquijor's barangay Talayong. The findings will form the foundation for Siquijor State College's Maritime Education Program's extension activities.

Objectives:

The general objective of the study is to find out the extent of livelihood trainings and seminar needs of barangay Talayong, Lazi, Siquijor.

Specifically, it finds answers to the following questions:

1. What is the profile of the respondents in terms of the following:
 - 1.1 age;
 - 1.2 sex
 - 1.3 marital status
 - 1.4 highest educational attainment;
 - 1.5 membership in an organization;
 - 1.6 average monthly income;
 - 1.7 occupation;
 - 1.8 source of income;
 - 1.9 other sources of income; and
 10. whether or not the spouse is working?
2. What is the extent of livelihood training needs of the respondents in barangay Talayong, Lazi, Siquijor?
3. What is the extent of seminar needs of the respondents in barangay Talayong, Lazi, Siquijor?

Review of Related Literature

Needs assessment gathers information about a location's or population group's social needs or issues and evaluates which concerns or needs should be addressed first. It can be tailored to meet the needs of priority population groups such as disabled individuals, single parents, and the elderly (Smart, J. 2019). It can also be applied to LGBTQ communities (Zajac, C., & Godshall, K. C. (2020), Drescher, C. F., et al.). Stepleman, L. M., et al., (2018), M. S. Pacey, et al., Pacey, et al., Pacey, et al., Pacey, et al., Pac J. Berkley-Patton et al., 2018); and religious organizations (Berkley-Patton et al., 2018). (2018).

Health and social service needs can be assessed (Gaspard, J., & Yang, C. M. (2016); Gordon, S. J., et al. Burns, J. C., et al. (2019); and Burns, J. C., et al. others (2020). It could be focused on faculty development programs (Manzoor, I., et al., 2018); cybercrime and digital evidence (Manzoor, I., et al., 2018); or cybercrime and digital evidence (Manzoor, I., et al., 2018). (Schreuders, Z. C., et. al. ,2018).

This current study focused particularly on the fisher folks of a selected coastal barangay of Lower Cabangcalan in Lazi, Siquijor Province. Similar studies have been conducted in different parts of the globe. These include Bangladesh (Kamruzzaman, M., & Hakim, M. A. 2016, and Rahman, T., et. al., 2017); Malaysia (Zain, R. M., et. al., 2018); India (Panda, E. S., & Mishra, S. P., 2020, and Dash, R. R. 2020). BFAR, F., and GEF, S., (2016) reported on a training and livelihood needs assessment and validation in the Philippines (2016). It covered the community's needs for fishing gear, fish processing, and oyster cultivation, among other things. The current study is unique in that the livelihood training skills chosen are those that are confined to use in maritime education and seminar needs for the marine environment's long-term sustainability. The purpose of the seminar was to provide fisherfolks with knowledge and understanding of the interaction between the land and marine environments. As a result, they will recognize their significant role in ensuring the long-term viability of marine protected areas and other marine resources in particular, as well as the maritime environment in general (Olivier, N. A., 2018; Lundsted, J. 2018; Gomez, E. J., 2019; Santos III, L. B., et. al. , 2017; and Tumbaga, J. R. , 2020). Climate change and environmental challenges are the outcome of human-induced activities, which have an impact on the Philippines' small-scale fisheries (Macusi, E. D., et. al., 2020).

Any institution's or company's extension operations or programs must be research-based, as noted above. Harder, A., & Zelaya, P. (2017); Lamm, A. J., et al. (2017); Turgeon, K., et al., (2016).

Methodology

This study is descriptive since all data were based on how the respondents described of what is needed.

Respondents. There were 27 respondents in Talayong, Lazi, Siquijor. Purposive sampling method was utilized.

Instrument. The research instrument used is self-constructed questionnaires whose items were chosen to suit and are applicable to maritime education and marine environment. It is composed of three different parts. Part I solicited the respondent's profile as to age, sex, marital status, highest educational attainment, average family monthly income, occupation, membership in an organization, source of income, other sources of income, and whether or not the spouse is working. Part II is on the extent of livelihood training needs of the respondents. The items under this section are those skills with touch of maritime education that can be learned and acquired by the respondents in order for them to earn a living. The items that were included are small engine repair, air conditioning, knot tying, basic training on survival at sea, life guarding and among others. Part III is on the seminars they need that are vital in the sustainability of the marine environment. The seminars are on solid waste management, environmental education and laws, and coastal resource management. Each item is divided into four (4)-scaled choices namely 1 – not needed; 2 – less needed, 3 – fairly needed, and 4 very much needed.

Data Collection. The questionnaires were administered to the respondents which were grouped into four respondents per table so that they discuss among themselves if there is point that has to be clarified. Faculty members of the Maritime Education Program were assigned in each table to readily answer any query. The answered questionnaires were retrieved right away.

Data Treatment. The data was tallied and treated with descriptive statistical tools such as **percent** for the respondents' profile and **weighted mean** in determining the extent of livelihood trainings and seminar needs and **ranking**. The data were interpreted.

Results and Discussion:

The results and discussion of this study is presented according to the sequence of the objectives. The discussion followed after the presentation.

Table 1. Respondents' Age Profile

Age Bracket	Frequency	Percent
21-30 years old	1	3.7
31-40 years old	3	11.1
41-50 years old	6	22.2
51-60 years old	12	44.4
61-70 years old	5	18.5
Total	27	100.0

Disclosed above is the age profile of the respondents. Of the 27 respondents, 12 or 44.4% are within the age bracket of 51-60 years old; 6 or 22.2% are within the age bracket of 41-50 years old; 5 or 18.5% are in the age bracket of 61-70 years old; 7 or 14.6% are within the age bracket of 61-70 years old; 3 or 11.1% are within the age bracket of 31-40 years old; and 1 or 3.7% is within 21-30 years old. More respondents are within the age bracket of 41-60 years old collectively. The result supports the study conducted that the average age fishers in Palawan, Philippines is 46 years old (B. J. Gonzales and M. M G. Gonzales, 2016).

Table 2. Respondents' Sex Profile

Sex	Frequency	Percent
Male	23	85.2
Female	4	14.8
Total	27	100.0

Table 2 shows the sex profile of the respondents. There are 23 out of 27 or 85.2% are males while 4 out of 27 or 14.8% are females. There are more male respondents in Talayong, Lazi, Siquijor. The result is in consonance with the study conducted abroad that there are more male fishers than women (Purcell, S. W., et. al (2020). The participation of women in the fishery activity has generally been accepted at the landing site level (Nunan, F., & Cepić, D., 2020).

Table 3. Profile of Respondents' Marital Status

Civil Status	Frequency	Percent
Married	21	77.8
Single	3	11.1
Widow/widower	2	7.4
Separated	1	3.7
Total	27	100.0

Presented above is the respondents' marital status. Out of 27 respondents, twenty-one (21) or 77.8% are married, 3 or 11.1% of them are single, 2 or 7.4% are widow/widower, while 1 or 3.7% is separated. Most of the respondents are married.

Table 4. Profile of the Respondents' Highest Educational Attainment

Highest Educational Attainment	Frequency	Percent
Elementary	6	22.2
Elementary Graduate	7	25.9
High School	3	11.1
High School Graduate	4	14.8
College Level	4	14.8
College Graduate	3	11.1
Total	27	100.0

Displayed in the above table is the highest educational attainment of the respondents. There are 7 out of 27 respondents or 25.9 % are elementary graduate; 6 of 27 or 22.2% had experienced elementary education, 4 or 14.8% high school graduate and the same number entered college; 3 of 27 or 11.1% had went high school; and the same number graduated college. More of the respondents obtained elementary level up to high school graduate. This is in consonance with the study conducted in Samar and Leyte, Philippines that the crab fishers lack formal education (de la Cruz, M. T., et. al., 2018).

Table 5. Profile of Respondents' Membership in Organization

Organization	Frequency	Percent
No answer	13	48.1
Fisherfolks Association of Talayong	10	37.0
Lazi Rescue	4	14.8
Total	27	100.0

Manifested in the above table is the membership in an organization of the respondents. Of the 27 respondents, there are 10 or 37.0% that are members of fisher folks association of Talayong; 4 or 14.8% are members of Lazi Rescue; while 13 or 48.1% did not answer. Slightly more than half of the respondents are members in organizations.

Table 6. Respondents' Profile on Average Family Monthly Income

Average Family Monthly Income Bracket	Frequency	Percent
No Answer	4	14.8
Below PHP 5,000.00	16	59.3
PHP 5,001.00 to PHP 10,000.00	6	22.2
PHP 10,001.00 to PHP 15,000.00	-	0
PHP 15,001.00 to PHP 20,000.00	-	0
PHP 20,001.00 to PHP 25,000.00	-	0
PHP 25,001.00 to PHP 30,000.00	-	0
Above PHP 30,000.00	1	3.7
Total	27	100.0

Depicted in the above table is the income profile of the respondents. Of the 27 respondents, there are 16 or 59.3 % having income of below PHP 5,000.00; 6 or 22.2% are having an income bracket of PHP 5,001.00 – PHP 10,000.00, 1 or 3.7% income of above PHP 30,000.00 to PHP while 4 or 14.8% did not answer. More than half of the respondents are having an income of below PHP 5,000.00. The respondents are living very much below the poverty threshold of PHP10, 727.00, on average, for a family of five per month (PSA, 2019).

This is revealing information that the SSC-Maritime Education Program should consider in order that their income be augmented through livelihood programs.

Table 7. Respondents' Occupation Profile

Occupation	Frequency	Percent
Farming	8	29.6
Fishing	6	22.2
Barangay Kagawad	5	18.5
Fishing and farming	4	14.8
Driving	2	7.4
No answer	2	7.4
Total	27	100.0

Exhibited in the table is the respondents' occupation profile. Eight (8) out of 27 or 29.6% indicated farming; 6 or 22.2% is fishing; 5 or 18.5 % are barangay kagawads 4 or 14.8% answered both fishing and farming; 2 or 7.4% answered driving, while the same number did not answer. More than half of the respondents are indulged into fishing and farming and are means of earning their living. Although Talayong is one of the coastal barangays in Lazi, Siquijor, it has also lots nearby that they toil.

Table 8. Profile on Respondents' Source of Income

Source of Income	Frequency	Percent
Fishing	9	33.3
Farming	3	11.1
Hog raising	3	11.1
House rental	2	7.4
Farming and fishing	1	3.7
Driving	1	3.7
Mechanic	1	3.7
Panglabada	1	3.7
No answer	6	22.2
Total	27	100.0

Table 8 exposes the respondents' profile on income source. Of the 27 total respondents, 9 or 33.3% indicated fishing; 3 or 11.1% answered farming with hog raising having the same number; 2 or 7.4% from house rental; 1 or 3.7% on both farming and fishing, driving, mechanic, panglabada have the same number; while 6 or 22.2% did not answer. Most of the respondents' income source is from fishing.

Table 9. Respondents' Profile on Other Source of Income

Other Source of Income	Frequency	Percent
Fishing	5	18.5
Hog Raising	4	14.8
Farming	4	14.8
Sales from agricultural crops	1	3.7
Honorarium	1	3.7
Broker	1	3.7
Motor boat rental	1	3.7
No answer	10	37.0
Total	27	100.0

As illustrated in the above table, the respondents' other sources of income include fishing (5 or 18.5%); hog raising and farming having the same value (4 or 14.8%); sales from agricultural crops, honorarium, broker, and motor boat rental have the same value of 1 or 3.7 while 10 or 37.0% has no answer. The respondents managed to find other means of augmenting their income. This is a point for consideration by which SSC-MEP can make an intervention plan.

Table 10. Profile of Whether or Not the Respondents' Spouse is Working

Whether or Not the Respondents' Spouse is Working	Frequency	Percent
YES	3	11.1
NO	18	66.7
No answer	6	22.2
Total	27	100.0

Table 10 presents the profile of whether respondent's spouse is working or not. Of the 27 respondents, there are 3 or 11.1% indicated YES, 18 or 66.7% answered NO, while 6 or 22.2% did not answer. More than half of the respondents' spouses have no work. They are just dependent on the income of their husbands. Though not included in the study, but it can be deduced that the wives of the fisher folks can still do something to help their husbands in earning a living. This is depicting a typical Filipino family in which the fathers are usually expected to be the primary provider to the needs of the family (Abalos, J. B., 2018). The mothers just stay home to take care of the children.

Table 11. Extent of Livelihood Training Needs in Talayong, Lazi, Siquijor

Livelihood Training Needs on	Mean	Adjectival Description	Rank
Bamboo furniture making	4.52	Much Needed	1
Concrete Bench Making	4.18	Much Needed	2
Basic Training	3.89	Much Needed	3
Spear gun "pana" making	3.78	Much Needed	4
Bamboo fish trap "bobo" making	3.74	Much Needed	5
Small engine repair	3.70	Much Needed	6
Knot tying	3.63	Much Needed	7.5
Life guards	3.63	Much Needed	7.5
Welding and steel fabrication	3.56	Much Needed	9
Concrete Holl Block Making 2	3.41	Much Needed	10
Concrete Flower Pot making	3.37	Much Needed	11
Concrete Mold making	3.22	Fairly Needed	12
Wood Works (carpentry)	3.18	Fairly Needed	13.5
Giant squid (Dalupapa) catching	3.18	Fairly Needed	13.5
Concrete Post Making	3.04	Fairly Needed	15
Aircon repair	2.93	Fairly Needed	16
Concrete Hollow Block Making 1	2.89	Fairly Needed	17

Table 11 uncovers the extent of livelihood training needs of the respondents in Talayong, Lazi, Siquijor. The **much needed** livelihood trainings are bamboo furniture making, concrete bench making, basic training, spear gun "pana" making, bamboo fish trap "bobo" making, small engine repair, knot tying, life guards, welding and steel fabrication, and concrete hollow block making 2

Table 12. Extent of Seminar Needs in Talayong, Lazi, Siquijor

Seminar Needs on Climate Change and Environment	Mean	Adjectival Description	Rank
Coastal Resource Management	3.78	Much Needed	1
Environmental Laws	3.63	Much Needed	2
Solid Waste Management	3.59	Much Needed	3
Environmental Education	3.52	Much Needed	4

As revealed, the respondents of Talayong, Lazi, Siquijor **much needed** seminars on coastal resource management (weighted mean of 3.78 and Rank 1), environmental laws (weighted mean of 3.63 and Rank 2), solid waste management (weighted mean of 3.59 and Rank 3), and environmental education (weighted mean of 3.52 and Rank 4).

The respondents of barangay Talayong, Lazi, Siquijor felt the need to have seminars on the topics that are very vital in the sustainability of the marine environment considering that their main source of income is fishing. These seminars will help them understand their roles and participation in managing the resources in their vicinity. Having the understanding of the interconnectedness of the terrestrial and marine environments, as the seas are considered as the catching basin of all the pollutants from land and even from air, the respondents can already properly manage their solid wastes and others.

This is a good indication that they are concerned in preserving the environment more specifically with the marine environment. Their future relies on the marine resources.

Findings

There are more male respondents in Talayong, Lazi, Siquijor that are within the age bracket of 41-50 years old and most of them are married. More of the respondents obtained elementary level up to high school graduate and more than half of them are members of Fisherfolks Association of Talayong, Lazi, Siquijor that are having an income of below PHP 5,000.00 in which most of them indulged into fishing.

The **much needed** livelihood trainings of the fisherfolks of barangay Talayong, Lazi, Siquijor are on (1) bamboo furniture making, (2) concrete bench making, (3) basic training, (4) spear gun “pana” making, (5) bamboo fish trap “bobo” making, (6) small engine repair, (7) knot tying, (8) life guards, (9) welding and steel fabrication, and (10) concrete hollow blocks making.

Moreover, the seminars they need are on Coastal Resource Management (Rank 1), Environmental Laws (Rank 2), Solid Waste Management (Rank 3), and Environmental Education (Rank 4).

Conclusions

Based on the findings, it can be concluded that the respondents of barangay Talayong, Lazi, Siquijor are in need of livelihood trainings that can augment their income and seminars in the management, specifically on solid wastes and the environment in general.

Recommendations

Based on the above findings, the following are recommended:

1. The results on the livelihood training needs of the participants, mostly fisher folks, should be discussed thoroughly, during the validation phase, to the participants together with the barangay officials of barangay Talayong;

2. The Extension Chair of the Maritime Education Program of Siquijor State College shall consider of making a proposal for concrete extension activities based on the findings and more specifically on the results of the validation phase; and
3. Seminars on environment and climate change must be conducted in order to equip the beneficiaries with the knowledge and eventually good practices in order to become responsible members in the community for the sustainability of their marine environment considering that it is a coastal barangay.

Environmental Impact:

1. The main impacts on marine ecosystems are: disturbance and removal of benthic organisms, damage to spawning areas for fish, alteration of the seabed, destabilization of shallow banks and increased erosion;
2. These resources should be managed properly so that they can continue to benefit the Philippine economy and the well-being of many coastal residents (White and Cruz-Trinidad 1998). Coastal resources provide much of what supports daily life: food, livelihood, economic development, clean water, and even the air we breathe; and
3. In your community, do the following tasks: (1) Volunteer with your local environmental organizations; (2) Pick up trash; participate in trash clean-up days; (3) Help plant trees or seagrass, or remove invasive vegetation; (4) Don't litter: streets and storm drains empty into rivers and streams that drain into our estuaries; and (5) Pick up your pet's waste.

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