

## **Socio-economic conditions of selected residents of Apid, Mahaba and Digyo Islands, Inopacan, Leyte, Philippines**

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### **ABSTRACT**

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This study describes the socio-economic conditions of selected households in the islands of Apid, Digyo and Mahaba. The data for this study are very limited considering the very short time spent in data collection.

Age of the respondents averaged 39.37 years and most of them attained only the primary level of education. The average number of children is five. Fishing is the main source of livelihood but the people are also engaged in other activities to augment their income. Among these activities are stripping and weaving pandan leaves into mats, fish trading, boat construction, animal raising and farming. Farming is not widely practiced since the land is not fit for growing agricultural crops. Farm produce is barely enough for their consumption.

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A variety of fish species is caught throughout the year. Daily catch ranges from 5 to 25 kg. Quantity of catch depends largely on the season and climate. Some species are abundant during certain periods of the year like squid which is generally abundant during the month of May and June. The respondents said that the lack of capital to buy inputs have forced them to avail of the credit extended to them by the traders within the island. As a consequence, they have to sell their catch at a price dictated by the traders. Another problem mentioned by the fishermen is the encroachment of big commercial fishing boats in the area. The fishermen felt that fishing yield was affected by their presence.

Marine resources in these islands are still abundant. However with the increase in population and the encroachment of commercial fishing vessels, the problem of overfishing may not be very far. Something should be done to make harvesting of fish and other marine resources sustainable. A policy that would lower fishing efforts would be difficult to implement since fishing in these islands is mostly for subsistence and survival for the fishermen. Forcing fishermen out of their livelihood without an acceptable alternative program will be viewed by many as inequitable and morally unacceptable.

Keywords: biodiversity, fishing effort, marine resources, monsoon, sustainable fishing.

## INTRODUCTION

The conservation of natural resources and biodiversity has been the concern of a number of organizations. The rate at which our natural resources are destroyed has been very alarming. Forest and marine resources are extracted at an alarming rate because of increasing population pressure and the increasing need for food. Today, various information media are constantly reminding us of the exhaustion of fish stocks, forest destruction, increase in the CO<sub>2</sub> level in the atmosphere, land constraint in food production and the rapid growing population especially in developing countries (Olewiler and Hartwick, 1998). Together with the natural resource degradation is the decrease in biological diversity. Losing any species or community essential in ecology functioning involves risk. The human population depends on the continued output of food, fiber and other essentials derived from wild or domesticated life forms. The future of agriculture depends on our continued ability to develop new varieties of plants and animals resistant to pests and climatic stress which, in turn, depends on having reservoirs of genetic materials to draw on. As

argued by Clawson (1985), crop genetic diversity is the peasant's way to protect production in low input farming systems. He further said that the decreasing biodiversity will live peasant cultivator more exposed to risk. The life insurance value of biodiversity is potentially enormous particularly as it come into a period where rapid climatic change and other severe planetary stress are likely to occur.

The islands of Apid, Digyo and Mahaba are surrounded by beautiful coral reefs and are rich in marine resources upon which the residents depend for food and livelihood. Their main source of income is fishing. Agriculture is not widely practiced because the area suited for growing crops is very limited considering that the land is stony and the terrain is very steep. Soil type is not suited to grow crops. Because of their dependence on fishing for their food and livelihood, the marine resources in these islands could be depleted if overfishing prevails. Without conservation efforts, these resources will be exhausted. Stress on the marine resources would be lessened if the fisherfolks could have alternative sources of income and at the same time be enlightened regarding sustainable use of the marine resources. The promotion of resource and environmental education programs in the fishing communities is another means to reduce fishing efforts. As fishermen become aware of the dangers that overfishing poses to their welfare, the more likely will they practice sustainable fishing. This study, therefore, is an attempt to: a) get an overview of the socio-economic profile of the fisherfolks in these islands; and b) look at options that would promote sustainable use of marine resources.

## MATERIALS AND METHODS

This paper is the output of the socio-economic group during the workshop on tropical ecology held in the Visayas State College of Agriculture on September 9-21, 1999. The group was assigned to look into the socio-economic conditions of the fisherfolks in the islands of Apid, Mahaba and Digyo. Data were gathered through informal interviews with the residents and through ocular observations. Due to the bad weather conditions, data collection was shortened. Although 25 respondents had been interviewed, only 12

provided complete data, thus, the data presented here do not represent the whole island. Discussion was focused only on the respondents' responses and on the group's observations on the islands. The results of this study may not be conclusive but they provide useful insights for future development programs or interventions designed to conserve or promote sustainable use of marine resources.

## RESULTS AND DISCUSSION

### *Historical background of the islands*

The islands of Apid, Digyo and Mahaba belong to the "Cuatro Islas" located in the town of Inopacan, Leyte. Inopacan is situated southwest of Baybay, Leyte and is 30 kilometers from ViSCA. Before World War II, the three islands were still blessed with abundant marine life. Only very few families were living in the islands and people were content with their simple ways of living. Fish were caught abundantly and sold very cheaply. Aside from fishing, people grew rootcrops and other crops that thrive well in the island. Through the years, more people settled in these islands in search of better means of livelihood. They were attracted to these islands because of the rich marine resources. Those who came first were able to put claim on the land. These landowners are now prominent families. Some residents inherited their land from their forefathers.

### *Socio-economic profile of residents*

As mentioned previously, only twelve of the people interviewed gave complete information. The data presented in these sections focused only on these twelve respondents.

The age of the respondents ranged from 27 to 83 years and with an average of 39.37 years (Table 1). Two-thirds of the residents interviewed reached only the primary level. Of the twelve respondents, only one reached the college level. This is quite expected since educational facilities in the three

Table 1. Selected demographic characteristics of respondents

Characteristic	Average
Age	39.37
Years in school	4
No. of children	5

islands are very limited. The schools in the islands is only until the fourth grade. Those who would like to proceed to the elementary level will have to go the town of Inopacan which is only accessible by pumpboats. There are no regular trips from the islands to the town of Inopacan making it difficult for the school children to commute. Generally, only those who can afford and those who have relatives in the town can pursue higher levels of education. Among the twelve respondents, the number of children ranged from one to ten. Older couples tend to have more children while young couples usually have only two or three children. According to the islanders, young couples are more concerned and knowledgeable about family planning.

### *Means of livelihood*

Table 2 shows the means of livelihood in the islands. Residents are engaged in different types of activities to augment their income from fishing.

*Fishing.* Fishing is the main source of livelihood of the people. It approximately contributes about 76% of the total income (Table 2). Men conduct fishing in the shallow and deep portions of Camotes Sea. Areas under the marine sanctuary are off-limits to fishing activities. A variety of fish species are caught during different times of the year. Some of them are "tamarong" (bigeye scud), "mangko" (frigate tuna), "katambak", "lapu-lapu" (grouper), "kitong" "kaliskisan", "sambagon" (blue fin tuna), and "saguisihon". Sharks are occasionally caught. Squid is abundant in the shallow portions near the shore. Although available throughout the year, some species are abundant during certain months. Squid is abundant during May and June. Sambagon is bountiful in December and shells are plentiful from November to December because the lowest tides occur during these months.

Table 2. Source of income among residents of Apid, Mahaba and Digyo, Inopacan, Leyte.

Source	Number	Total income earned per year (pesos)
Stripping & weaving of Pandan leaves	5	
Farming (for home use only)	1	
Boat construction	1	2,000.00
Fish trading	2	37,800.00
Hog fattening (for home use only)	1	
Patronage refund (one respondent)	1	700.00
Fishing	12	78,477.60

Fishermen in Apid assemble their own fishing gear with the use of floats, hooks, nylon strings, straws and feathers. They come in various forms and sizes and are custom made to catch a particular fish species of a particular size.

*Harvesting and processing of pandan leaves.* The stripping and weaving of pandan (screw pine) leaves is one of the alternative sources of income of the people in Mahaba and Apid. In Digyo, residents stripped and weave pandan leaves for home use only. In Mahaba, housewives stripped pandan leaves during the monsoon season (June–July) when their husbands cannot go fishing. Stripped leaves are sold to the mat weavers right in the island and in Inopacan. Pandan strips are sold by the hundreds. Stripped pandan leaves are sold at P25 per hundred for short strips and P35 for long strips. Pandan leaves are taken either from their own plants or bought from other raisers. The arrangement is for the owner to get one-third of the proceeds and two-thirds for the harvester.

In Apid, the whole family is involved in the processing of pandan leaves. The men harvest the leaves while the women do the stripping and weaving and producing different sizes of mats.

*Farming.* The residents of Mahaba, Digyo and Apid are engaged in farming only for home consumption. Crops grown include breadfruit, sweetpotato,

sugarcane, cassava, corn, banana and malunggay (horse raddish tree). In Digyo, however, they stop growing crops because of the poor soil condition and the lack of freshwater. Yield of the crops are very much affected by the El Niño phenomenon. Some residents raised goats, chicken and swine. These animals are raised usually for special occasions like fiesta celebrations.

*Boat construction.* Aside from fishing, some respondents also derived income from boat construction. They use white lauan wood which they got from Inopacan. It takes one week to finish one boat which is sold at P7,000. If the material is provided by the customer, P2,000 is charged for the labor. Costs of constructing one boat including labor ranged from P4,500 to P 5,000.

*Fish trading.* Some residents are also engaged in the buying and selling of fish. They buy the catch of the fishermen within the islands and sell them to middlemen in Baybay and Inopacan. It contributes a big proportion to their income as reported by one trader interviewed. Some traders in the island also extend loans to the fishermen in the form of inputs and goods with the condition they sell their catch to the said traders. The disadvantage with this practice is that the fishermen cannot set the price of their fish. It would depend on the price quoted by the trader.

*Patronage refund.* Members of the cooperative store in the islands get patronage refunds. The refund they get is a big help to augment the income they get from fishing. One islander said that they get goods from the cooperative at a price lower than that charged by the other sellers in the area.

### *Marketing of fish*

The daily catch of an ordinary fishermen ranges from 5 to 25 kilograms. These are sold to local traders in the island. They are paid from P40-50 per kilogram. The traders then sold these to middlemen in Baybay and Inopacan at a price ranging from P50 to P55 per kilogram. To ensure that the fishermen sell their catch to them, some traders extend credit in the form of inputs like gasoline. Payment is usually done during Saturdays. Fishermen can gain more benefits if they themselves will provide their own inputs and therefore

can choose the market outlets where they set their own price. Fish is usually not processed because the local traders absorb all the catch. Drying and salting of fish is only done when supply of fish is really abundant.

### *Problems and threats*

The fishermen voiced out two concerns affecting their fishing operation. These are the lack of capital and the encroachment of large commercial fishing vessels. The lack of capital compels them to avail of the inputs by credit from the fish traders. In most cases, fish traders dictate the price of their catch.

The encroachment of big commercial vessels poses a threat to small fishermen. Although big fishing boats are not supposed to fish within the 15 kilometer radius from the shore, commercial fishing boats are encroaching in these areas. This activity will lessen the chance of the small fishermen to catch more fish. The law enforcers have not been effective in apprehending these encroachers.

## CONCLUSION AND POLICY IMPLICATIONS

The study may not give conclusive results due to the inadequacy of sample size and insufficient data but the results gave a picture of the socio-economic condition of the fishermen in the three islands. Residents are mostly dependent on fishing for their livelihood. This high dependence on fishing may lead to unsustainable harvesting of the marine resources if no intervention will be introduced in the area that will reduce fishing effort. The increase in the population and the encroachment of large commercial vessels will result to over exploitation of the fishery resource. One way to reduce fishing effort is the introduction of alternative livelihood projects where the fishermen can derive income. Another way is the promotion of resource and environmental education in the area. It is believed that a fisherman who is aware of the danger poses to his welfare by over extraction will be more likely to practice sustainable fishing activities.



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