



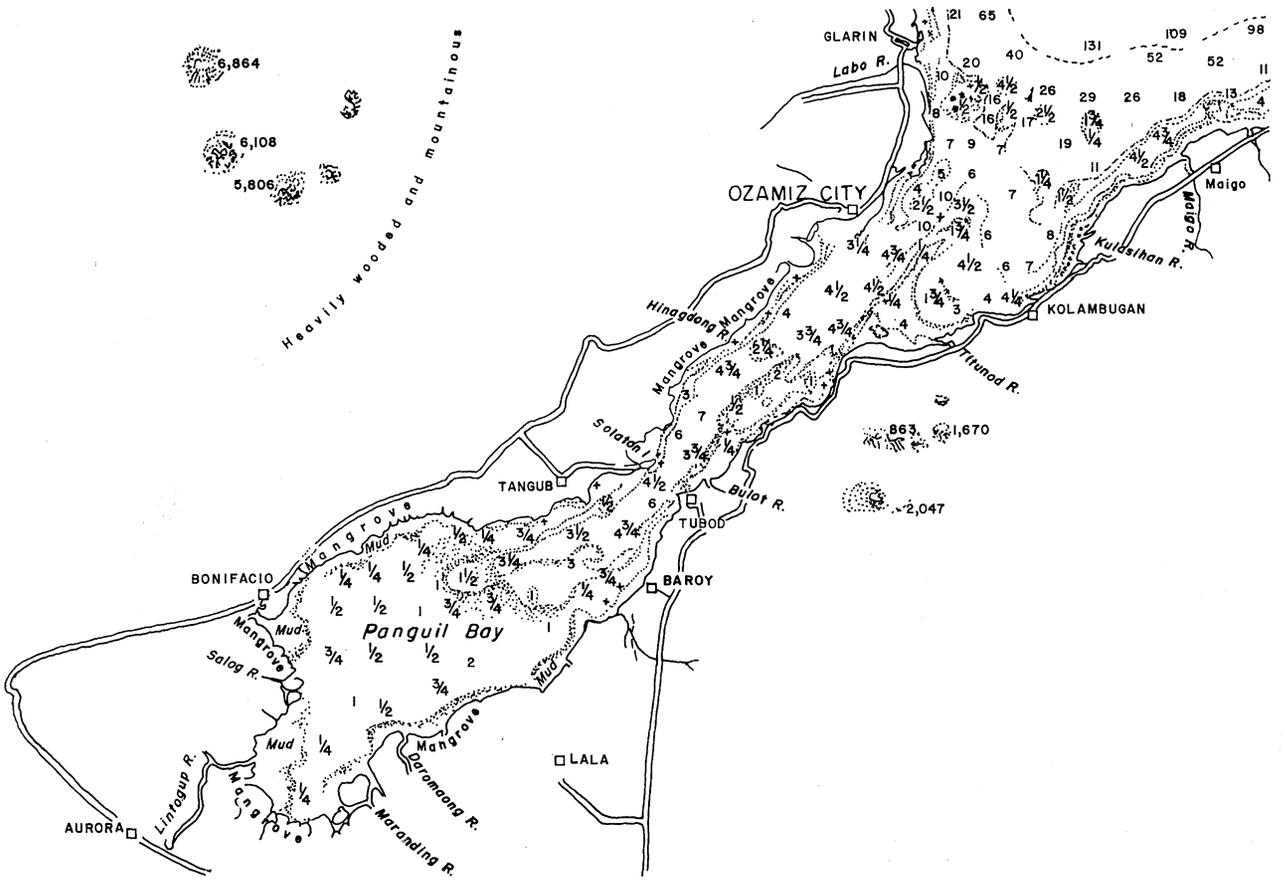
# **Marketing of Fisheries Products by Municipal Fishermen in Panguil Bay, Philippines**

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Map of the Panguil Bay area (scale 1:270,000). Elevations are in feet and soundings are in fathoms. (from PCGS 4604)

## SUMMARY AND CONCLUSIONS

Marketing practices of municipal fishermen in the Philippines have received little study. However, the few studies which have been conducted have been useful in formulating nationwide development plans. Unfortunately, these nationally oriented programs have not always met local needs because of problems peculiar to specific local areas. In order to provide data for the preparation of a localized fishery development plan, a baseline survey of fisheries resources was made.

The findings reported here present a description of marketing practices and problems of municipal (artisanal) fishermen around Panguil Bay, Mindanao, Philippines.

Panguil Bay is a 219-square kilometer body of water surrounded by approximately 8,000 hectares of mangrove swamps, of which about 5,000 hectares had been converted into fishponds. There were 89 coastal barrios (villages) with an estimated 4,500 municipal fishermen. The outer portion of the bay was used for fishing and the inner portion for fishing, gathering shellfish, and catching shrimp. No commercial vessels (over 3 gross tons) were registered in the area. Commercial fishing was prohibited because of the shallow depth of the bay.

Administratively the area is divided among three provinces (Lanao del Norte, Zamboanga del Sur, and Misamis Occidental) covering 10 municipalities and two cities. Ozamiz City is the primary commercial center. Culturally the area is a mixture of Muslims and Christians. During the survey, sporadic trouble had occurred with the resultant dislocation of inhabitants and disruption of business activities.

During May through August 1975, 249 municipal fishermen were interviewed regarding marketing practices. The interviewees came from barrios in all 10 municipalities and 2 cities adjacent to Panguil Bay. Peace and order conditions caused the interviewers to conduct rather hasty interviews in some areas. Data from the questionnaires were coded and transferred to punch cards for processing.

The municipal fishermen were basically living at a subsistence level. However, lack of alternative employment opportunities kept the recruitment high. Most of the fishermen lived along the coast, at the mouth of rivers, or on the edge of nipa swamps. Fishing was done at night for sales the following morning.

Fishermen reported low catch volume, which they attributed to dynamite fishing, poisons, use of illegal gear, and overcrowding of the fishing area. Fishermen averaged catching only a few kilograms per day. Even with the limited catch, most of the fishermen sold the entire amount. The fish were usually marketed within a few hours. Most were sold on the beach although some were sold at sea and others were delivered to the dealers. Larger, high quality fish were sold to wholesalers who shipped the fish from the area. Smaller fish were sold to local retailers or marketed directly to consumers. While the weight of fish was used in pricing, only 25 percent of the catch was actually weighed at the time of sale.

Fishermen chose buyers on the basis of cash needs. Retailers paid immediate cash. Wholesalers were able to buy because of *suki* arrangements, a system under which the buyer also represented the lender and the fish were collateral for the loan. The price paid was only sufficient to maintain the fishermen at the subsistence level. Marketing costs were low although a customary P1.00 (U.S. \$ = P7.40) per kilogram markup existed between sales to retailers and sales to consumers.

Fishermen borrowed for capital investments and operating (living) expenses. All lenders except the bank required the borrower to sell the fish to the lender. No interest was charged, but repayment was daily and the lender paid a reduced price for the fish. Many of the fishermen did not have ready access to the government's Foreshore Fisheries Loan Program.

Fishermen reported low price, lack of transportation, difficulties in receiving payments, and no market as major problems. The low price was associated with the method of financing and with the presence of dynamited fish in the markets.

Fishermen desired governmental assistance in loans, technical assistance, and law enforcement to stop illegal fishing. The fishermen could not foresee an improved level of living unless these problems were alleviated.

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**COVER PHOTO.** Typical Philippine coastal fishing village at high tide.

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# Marketing of Fisheries Products by Municipal Fishermen in Panguil Bay, Philippines\*

M. L. HOPKINS and E. W. MCCOY\*\*

## INTRODUCTION

A SPECIFIC DEVELOPMENT PLAN for the fishing industry in the Philippines has long been considered an essential part of the national plan for development. A major obstacle to the preparation of these plans has been the lack of accurate data, especially in the fisheries sector.

### Previous Research

Most of the previous research, dealing largely with marketing of fishery products within the Philippines, was done by the Special Studies Division of the Department of Agriculture and the Bureau of Fisheries and Aquatic Resources. This research concentrated mainly on marketing of milkfish, although at least four reports also considered marketing the catch of municipal fishermen.

Guerrero and Darrah (2) prepared a rather comprehensive nationwide marketing report on milkfish, including detailed descriptions of producer and middlemen practices and information about marketing channels, margins, and geographic flow. A survey of fish culture practices in Misamis Oriental, reported by Neri and Winner (4), gave some information about distances and transportation involved in marketing. A report by Valiente (5) included the marketing of milkfish along with marketing of other agricultural products. Vera Cruz and Carlos described fish marketing in Lamano del Norte, including both fishpond and municipal catch (6), and marketing of the municipal catch of freshwater fish of Lanao del Sur (7). The first municipal survey in Misamis Oriental (3) gave only brief mention of marketing problems, and a study by Firth (1) dealt with the socio-economic situation in two Malay fishing communities, which seems closely applicable to the Filipino fishing community.

### More Applicable Research Begun

To obtain the specific type data needed as a basis for development programs, the National Economic and Development Authority (NEDA) and the Bureau of Fisheries and Aquatic Resources (BFAR) joined efforts to conduct a complete survey of the fishing industry in northern Mindanao. The baseline survey was composed of five major sections: (1) studies of municipal (sustenance) fishing, (2) fish culture, (3) fish processing, (4) fishery product marketing,

\* This report is derived from the unpublished masters thesis (1976) of M. L. Hopkins, "Marketing of Fishery Products in Panguil Bay, Philippines," Xavier University, Cagayan de Oro City, Mindanao, Philippines, and presented as a contributing part of USAID Project 2780.

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and (5) institutional structures (government fishery projects, taxes, regulations) affecting the fishing industry. Because marketing has been an especially difficult area in which to implement changes, special emphasis was given to the marketing study.

Panguil Bay, a 219-square kilometer fishing area located on the northwestern side of the island of Mindanao, was chosen by NEDA-BFAR as the site of the second fishery baseline survey<sup>1</sup> in northern Mindanao. The bay was selected because of its shallow nature, in contrast to the deep water offshore of the province of Misamis Oriental, the site of the first survey. The bay and its surrounding marsh lands were reputed to be a major source of fishery products, especially shrimp, crabs, shellfish, and milkfish (bangus).

### Description of Problem and Limits of the Study

This study deals with the marketing of fishery products by municipal fishermen of Panguil Bay. Specifically, the study attempts to (1) identify and describe the different marketing channels used by municipal fishermen, and (2) determine the factors influencing the choice of marketing outlets used by these fishermen.

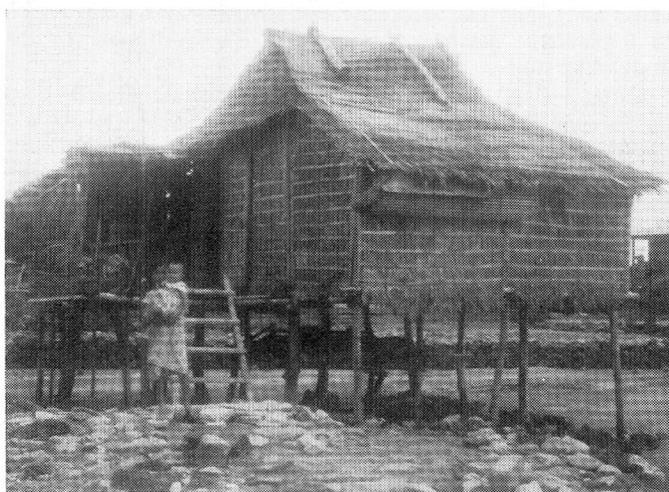
Although the study dealt only with marketing of fishery products by municipal fishermen in one specific area, findings should be applicable to other areas of the Philippines and to other countries with similar artisanal fisheries. The data are based on a one-time survey and the information is valid only when considered in the context of the time period of the survey. Changes appearing over a period of time were not described because a series of surveys would have been required to furnish that data.

## RESEARCH DESIGN

### Research Setting

Panguil Bay is a cocoon-shaped area of shallow water and muddy bottoms located at latitude 7°57' to 8°12' N. and longitude 123°38' to 123°58' E., see map on inside cover. Although technically the water area between Ozamiz City and Clarin, Misamis Occidental, on the west and Kolabugan and Maigo, Lanao del Norte, on the east is named Port Ozamiz, commonly the area is included as part of Panguil Bay and for purposes of this study was considered such. The bay is surrounded by approximately 8,000 hectares of mangrove swamps of which an estimated 5,000 hectares has been converted into fishponds. There were an estimated 4,500 municipal fishermen in the area catching fish mostly in the outer portions of the bay (offshore of the other towns in the area).

<sup>1</sup> The survey was entitled "Fisheries Baseline Data Survey of Lanao del Norte and Panguil Bay."



Typical Philippine coastal fishing village at low tide (top); typical home of municipal fisherman (bottom).

Administratively, the area was divided between 3 provinces covering 10 municipalities and 2 cities. There were 89 coastal barrios in the area. The municipal fisheries, except for general conservation regulations from the BFAR, were under the jurisdiction of their respective municipalities. The regulation of fishponds was split between the BFAR, for ponds on government land, and municipal governments, for titled fishpond areas.

Ozamiz City is the primary commercial center in the area, with Iligan City and Pagadian City as secondary centers. Ozamiz City has relatively good accessibility by water transportation. Roads in most of the study area are in poor condition.

Culturally, the area was a mixture of Muslims and Christians with Muslims concentrated in Kolambugan and Kapatagan, Lanao del Norte, and Aurora and Tambulig, Zamboanga del Sur. During the survey sporadic trouble had occurred in the area between Muslims and Christians. Passenger buses were ambushed and houses were burned, causing dislocation of inhabitants and disruption of business activities.

### Sample Design and Data Collection

For purposes of the marketing study all 10 municipalities and 2 cities adjacent to Panguil Bay were surveyed.

Approximately 5 percent of the 4,500 fishermen interviewed during the municipal fisheries census conducted by the NEDA-BFAR survey teams were asked detailed questions regarding marketing activities. Supplemental information was collected through interviews with market officials

and other personnel involved with fish marketing. Local conditions caused interviewers to conduct rather hasty interviews in some areas.

### Analysis Procedure

The quantitative analysis consisted of the determination of arithmetic means, percentages, and frequency distributions. Comparisons between marketing practices in the inner bay and outer bay were made but differences were insignificant in most cases. Conventional econometric analysis methods, such as regression, were not applicable because of variations in marketing from place to place caused by factors not readily quantified, such as geography, peace and order, and political restrictions. To facilitate analysis, data were coded into standard formats and placed on punch cards. A card sorter was used in handling the cards. Inter-relationships between various marketing practices were determined, but no statistical analysis of these relationships were made.

## MARKETING PRACTICES AND PROBLEMS OF MUNICIPAL FISHERMEN

The designation of municipal fishermen was essentially an administrative classification, based on the waters used for fishing. Certain waters were under control of local municipalities while others were regulated by the national government. A fisherman could theoretically fish in both municipal and national waters. Most of the municipal fishermen, however, operated in fresh or coastal water areas with small vessels (boats of less than 3 gross tons) or without the use of boats. The majority of the municipal fishermen in the study area lived at or near the subsistence level, with earnings entirely dependent on the daily catch. Experience in fishing reported by the fishermen ranged from 1 to 50 years, with an average of about 16 years. Even though income from fishing only maintained the fishermen at the subsistence level, the number of fishermen remained high. Recruitment had been continuous, as indicated by data on years of fishing experience in Table 1. Few alternative income opportunities existed within the area. The fishermen had relatively large families, with an average of over four dependent children. Most of the fishermen lived along the coast, at the mouth of rivers, or on the edge of nipa swamps. Fishing was usually done at night for sales in the market the following morning. Fish catch had declined according to both fishermen and retailers in the area.

TABLE 1. FISHING EXPERIENCE OF MUNICIPAL FISHERMEN IN PANGUIL BAY, PHILIPPINES, 1975

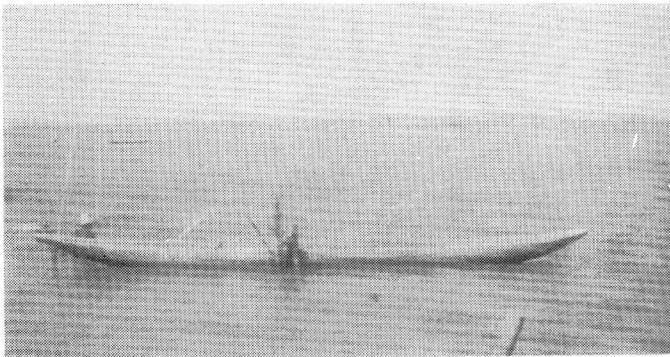
Years of fishing	Fisher- men Number	Percentage of fishermen		
		Inner bay Percent	Outer bay Percent	Total Percent
1-5.....	77	39	23	31
6-15.....	59	23	24	24
16-25.....	67	21	33	27
26-35.....	30	12	13	12
36-45.....	7	1	4	2
46-50.....	9	4	3	4
TOTAL.....	249	100	100	100

### Problems of Fishing

Many of the problems listed by municipal fishermen were directly related to limited catch. Since daily income was determined by size of the catch, any reduction in catch would directly result in a lower level of living. Problems

leading to or associated with reduction in catch were dynamite fishing, poisoning, use of illegal gear, and overcrowding of the fishing area. The relative importance of each problem varied by area, Table 2. In the outer bay, especially among fishermen from Clarin, Ozamiz City, and Maigo, dynamite fishing was reported as the direct cause of reduced catches. Within the inner bay near Aurora, Tambulig, Lala, and Bonifacio, the use of poisons was listed as a primary cause for low catches. Reports of low catch due to poisons were in areas where fishpond production was practiced. Fishpond operators are known to use endrin and other highly toxic pesticides to eradicate unwanted fish in their ponds. In addition, many also use a molluscocide to eliminate snails as competitors for pond food. Municipal fishermen thought that, when ponds were drained, the poisonous materials entered the bay and reduced shellfish population.

The use of illegal fishing gear was reported as a major cause for reduced catch by municipal fishermen in Tangub City and Kapatagan. Commercial fishing vessels were not allowed in the bay; however, municipal fishermen in these



TOP—dugout canoe (banca) with filter net (sangab) supported by bamboo poles; CENTER—shrimp fishermen on river with shrimp traps; BOTTOM—dugout canoe (banca) with kerosene lamps for night fishing.

TABLE 2. FISHING PROBLEMS OF MUNICIPAL FISHERMEN IN PANGUIL BAY, PHILIPPINES, 1975

Problems	Fishermen reporting		
	Inner bay	Outer bay	Whole area
	Percent	Percent	Percent
Low catch.....	26	11	19
Dynamite fishing.....	3	31	15
Poisons.....	9	---	5
Illegal gear.....	14	12	13
Overcrowding of gear.....	5	---	3
Lack of capital.....	19	15	17
No problem.....	12	16	14
Others.....	12	15	14
TOTAL.....	100	100	100

areas reported small shrimp trawlers were in operation. Overcrowding of the fishing grounds with too many fish corrals, filter nets, and other stationary devices was reported as the reason for lowered catches in Tubod. These reasons were listed most often by older fishermen.

Too few catch statistics were available to verify the comparative position of present fishermen to those of the past. The population of the area had increased with an associated increase in demand for fish products. Whether the number of fishermen increased faster than the increase in population cannot be determined. The fish mass supported by the bay ecosystem probably remained relatively constant over time. However, carrying capacity of the bay may have increased because of the heavier nutrient runoff associated with growth in population. Despite changes in population and market for fish, the level of fish catch for municipal fishermen only allowed them to exist at the subsistence level. In addition, they perceived factors contributing to a general worsening of this relative level.

### Fish Disposal

Although the survey was conducted among municipal fishermen whose livelihood was based on catching and selling fresh fish, the diets of their families consisted primarily of corn grits with dried or salted fish and a few vegetables. Among the respondents, 61 percent sold their entire catch, Table 3. Since many fishermen borrowed capital, the fish represented collateral to the lender. The immediate cash needs were readily apparent. Only 8 percent of the fishermen consumed the entire catch. Fishermen who consumed the catch reported renting or borrowing a boat for a few hours. Others used cast nets near the mouth of rivers or in the sea during low tide. These fishermen were seeking fish to supplement the diet. In general, the catch per unit effort was low, averaging only a few kilograms per fishing trip.

TABLE 3. DISPOSITION OF THE DAILY CATCH BY MUNICIPAL FISHERMEN IN PANGUIL BAY, PHILIPPINES, 1975

Fish disposal	Fishermen reporting		
	Inner bay	Outer bay	Whole area
	Percent	Percent	Percent
Eaten.....	10	7	8
Sold.....	63	59	61
Processed.....	1	---	1
Part eaten-part sold.....	26	34	30
TOTAL.....	100	100	100

### Marketing of the Daily Catch

The municipal fish were sold within a few hours of catch by 82 percent of the fishermen. The place of sale varied by



**Basket of uyap (goby fry) with a few small fish caught from filter nets and trawls.**

bay area, Table 4. Both inner and outer bay fishermen sold the largest proportion of their fish on the beach. The second most important place of sale was directly at the market for inner bay fishermen and at sea for outer bay fishermen. Several retailers and wholesalers utilized boats to pick up catches from fishermen on the fishing areas. In this manner the buyers were able to avoid competitive bidding on the beach. In the inner bay, 17 percent of the fishermen delivered the fish to the dealers' home. Fisherman who borrowed money from dealers were often required to transport the fish to the lender.

Fish were sold to both retailers and wholesalers. Sorting of fish was seldom done for sales to retailers since the catch was usually of the same species and about the same size, Table 5. Retailers customarily bought sardines, anchovy, and other smaller fish. Wholesalers required sorting of fish by size and type before purchase. The wholesalers then offered a price for each lot. Fishermen often sold the larger fish to wholesalers and the smaller were retained for retailers, door to door sales, or home consumption.

Over 60 percent of the fishermen reported using weight as the basis for sale, Table 6. No scales were available on the beach, however, so weight was estimated. A common practice was sales by pail. A number 6 pail was estimated to hold 2½ kilograms and a number 8 pail held 4 kilograms. Although the seller estimated the weight of the fish and price was stated in pesos per kilogram, the effective means on the beach was per *ponduk* (pile). For fishermen who delivered fish to the buyer's house, scales were used to determine the weight of catch. The fishermen who did not sell by weight used stringer, piece, or pile as the unit of measure. None of the measures was standardized, thus price varied

**TABLE 4. PERCENTAGE OF MUNICIPAL FISHERMEN'S SALE BY LOCATION, PANGUIL BAY, PHILIPPINES, 1975**

Place of sale	Fishermen reporting		
	Inner bay	Outer bay	Whole area
	Percent	Percent	Percent
Sea.....	8	19	12
Beach.....	37	51	43
Road.....	4	3	4
Market.....	19	8	15
Door to door.....	8	9	8
Dealers' home.....	17	---	10
Others.....	7	10	8
<b>TOTAL.....</b>	<b>100</b>	<b>100</b>	<b>100</b>

**TABLE 5. FISH SORTING BY MUNICIPAL FISHERMEN IN PANGUIL BAY, PHILIPPINES, 1975**

Sorting	Fishermen reporting		
	Inner bay	Outer bay	Whole area
	Percent	Percent	Percent
None.....	28	53	40
By species.....	31	4	19
By type.....	14	14	14
By size.....	23	26	24
By quality.....	1	---	1
Complete.....	3	1	2
<b>TOTAL.....</b>	<b>100</b>	<b>100</b>	<b>100</b>

**TABLE 6. BASIS OF SALE OF FISH BY MUNICIPAL FISHERMEN IN PANGUIL BAY, PHILIPPINES, 1975**

Basis of sale	Fishermen reporting		
	Inner bay	Outer bay	Whole area
	Percent	Percent	Percent
Piece.....	6	5	6
Kilo.....	63	60	61
Pile.....	5	6	6
Stringer.....	6	---	3
Kerosene can.....	4	---	2
Pail.....	10	24	16
1-quart can.....	1	---	1
Others.....	5	5	5
<b>TOTAL.....</b>	<b>100</b>	<b>100</b>	<b>100</b>

widely from unit to unit depending on the type, condition, and quantity of fish contained in the measure.

A portion of the catch was not sold immediately. Because of poor fishing, marketing conditions, or other reasons, some fishermen were unable to sell the fish fresh in the morning market. The carry-over fish were preserved by cooking, salting, or drying. That preserved by cooking usually included some fish that remained unsold after the morning market, and these were normally sold in the market the same day. The price typically was per piece. Quality of the cooked fish was reduced since they had been out of the water for a relatively long period. Fishermen who caught only a small amount often dried the catch until the accumulation was large enough to market. The dried fish was used by customers in the same manner as fresh fish.

Some of the shellfish gathered in the inner bay near Tanguib City and Lala were salted and packed in reclaimed kerosene cans for sale. The salted shellfish represented a specialty product in the market and sold for a higher price.

The system of financing, custom, and location all influenced the sales of fishermen. Wholesalers tended to purchase larger species that were preferred by consumers, while retailers purchased smaller, less preferred species. The anomaly of wholesaler-retailer purchasing practices was due to the resale practices of the buyers. Most large, high quality fish were exported from the area to larger cities. The local retailers sold only the lower quality and smaller fish.

### Choice of Market Outlets

The need for immediate cash for daily expenses was the reason most frequently given by municipal fishermen for choosing market outlets. Municipal fishermen sold mostly to retailers, Table 7, who were preferred because they paid cash. Retailers also usually picked up the catch at the beach. Wholesalers paid a higher price for preferred species, but often paid weekly or every 2 weeks. Wholesalers advanced credit to fishermen in order to receive the catch for

TABLE 7. BUYERS OF THE MUNICIPAL CATCH IN PANGUIL BAY, PHILIPPINES, 1975

Buyer	Fishermen reporting		
	Inner bay	Outer bay	Whole area
	Percent	Percent	Percent
Retailer.....	57	70	63
Equipment owner.....	3	1	2
Consumer.....	11	13	12
Friend.....	1	1	1
Relative.....	1	---	1
Private creditor.....	15	2	9
<i>Suki</i> .....	10	4	7
Others.....	2	9	5
TOTAL.....	100	100	100

debt repayment. The highest price was received from direct sales to consumers. Only limited consumer sales could be made on the beach and most fishermen did not want to incur the cost and risk involved in door to door or market selling.

The price for fish was established in different ways. In a few areas where retail buyers were numerous, the price was established by competitive bidding. Little collusion seemed to exist between buyers in these areas and prices to fishermen were higher. When fishermen and buyers could not agree on a price, fishermen often marketed the fish directly to consumers. This system only prevailed in areas where fishermen had easy access to towns. Fishermen who borrowed money from the buyer often had to depend on the buyer to set the price. In these instances, prices received were lower than prices paid to fishermen not using buyer capital.

The price mechanism normally equates supply and demand for a market. Over time, low prices will normally drive fishermen out of the market and the remaining fishermen can make adequate incomes. This has not occurred in the study area, however, even though prices only allowed fishermen to maintain a bare subsistence level of living. This lack of movement out of fishing reflects the absence of alternative employment opportunities.

### Costs of Marketing

Fishermen incurred few costs in marketing the catch. Those who sold to buyers on the beach had no cash costs, except in the outer bay where a method of taxation known as cash tickets was used. The amount of tax was dependent on the quantity of fish sold. Most fishermen did not pay the tax, and for those who did, the amount was minimal.

Fishermen who delivered the catch to buyers also did not expend any funds for marketing. Fish were transported on strings or in cans that were used in the fishing operation. In most instances, buyers lived near the fishermen so extra travel was not involved. Fishermen who sold the product in the retail market did incur some expenses for packaging and transportation. Since fishermen who marketed fish lived close to town, the distance was not excessive. Packaging consisted of banana leaves and cost less than 5 centavos per kilo of fish wrapped. Basically little more than the time of the fisherman or wife was involved. Alternative uses of the time were limited, which made marketing essentially cost free even when non-cash costs were included. The returns for direct marketing of fish were substantial. Consumers consistently paid about P1.00 more per kilogram for fish than did retailers, Table 8. The consistent 1 peso markup may have developed historically since it had little relationship to actual costs involved in marketing the product. As

TABLE 8. PRICES PAID TO MUNICIPAL FISHERMEN FOR SELECTED TYPES OF FISH BY RETAILERS AND CONSUMERS, PANGUIL BAY, PHILIPPINES, 1975

Type of fish	Condition	Price/kg, by buyer*	
		Retailer	Consumer
		P	P
Grouper, snapper, etc.....	fresh	4.25	5.25
Sardine, anchovy, etc.....	fresh	2.25	3.25
White shrimp.....	fresh	5.25	6.25
Pink shrimp.....	fresh	4.25	5.25
Crabs (small).....	alive	2.50	3.50

\* U.S.\$ = P7.40.

a percentage, the retail markup ranged from 20 percent on white shrimp to 40 percent on small crabs. The presence and maintenance of a relatively rigid marketing margin indicated the influential role played by intermediate buyers. The retailers were operating as price setters rather than price receivers. Demand at the retail level was sufficient to generate high prices. However, the market sector (both wholesale and retail) was able to extract profit margins before passing the reduced price to the fishermen. Forces other than competition were at work in the market system.

### Financing Municipal Fishing

Fish marketing was closely associated with the seasonality of fishing in the area. During the monsoon season, fishing activity nearly ceased. During this period many fishermen subsisted on *suki*, a type of loan agreement whereby the lender had first refusal on the catch of the borrower. In effect the catch represented collateral for the loan. Since the loan was made prior to the fishing season no price for fish was established. As a result, most of the fishermen with this type of lending agreement received lower prices for fish. The arrangement was made by both wholesalers and retailers. The wholesalers often provided equipment and supplies necessary to catch larger and better quality fish with the understanding that the product would be sold to the lender. Most municipal fishermen in the area owned boats and fishing equipment. Cost of the gear varied from less than P10 for small traps to more than P10,000 for small trawls and stationary bag nets. Daily operating costs varied according to type of gear used, type of fish caught, location of fishing grounds, and length of time fishing.

A majority of the fishermen supplied their own capital while 35 percent borrowed from banks, Table 9. The Development Bank of the Philippines supplied most of the bank capital through the Foreshore Fishermen Loan Program. In this program, fishermen banded together in groups of five, each fisherman with unlimited liability, and received loans. The bank required a chattel mortgage on the

TABLE 9. SOURCE OF FINANCING FOR MUNICIPAL FISHERMEN IN PANGUIL BAY, PHILIPPINES, 1975

Source	Fishermen reporting		
	Inner bay	Outer bay	Whole area
	Percent	Percent	Percent
Self.....	54	51	53
Bank.....	29	43	35
Relative.....	1	---	<1
Friend.....	1	---	1
Equipment owner.....	3	1	2
<i>Suki</i> .....	7	2	5
Private creditor.....	4	---	2
None.....	---	1	<1
Others.....	1	2	1
TOTAL.....	100	100	100

boats as loan collateral. Loans with the unlimited liability provision have had a poor performance history in other countries. Even though fishermen were utilizing the program, other types would be preferred, such as loans to individual fishermen or limited liability loans to groups. Additional loan funds were borrowed from such sources as friends, relatives, retailers, wholesalers, and equipment dealers.

A uniform 12 percent interest rate was charged by the bank for capital loans. Repayment was in monthly installments. No interest was charged by other lenders, who received payment on a daily basis in kind. In effect, lenders extracted an interest rate by allowing a lower than market price for fish products used in repayment.

The source of loans for capital was highly dependent on the location of fishermen. Fishermen in Ozamiz City, Tanguib City, Kolambugan, and Clarin borrowed from the bank, while fishermen in other areas used other sources for loans. The bank was located in Ozamiz City and did not have branches or fishermen loan officers operating in other areas. Most fishermen in other areas did not have ready access to the bank loan program.

In addition to loans for capital items, fishermen also borrowed for operating expenses. Most of these loans were in the form of food, dry goods, gasoline, bait, and other fishing items. The loans were almost exclusively from fish buyers or equipment dealers and were repaid on a daily basis in kind. Due to the extended low income non-fishing period, many of the fishermen were perpetually in debt to lenders. The daily catch often was insufficient to repay daily loan costs. Thus, the anomaly of fishermen who subsist on corn grits, a few vegetables, and unmarketable fish in an area that exports fish to larger towns.

### Marketing Problems

Marketing problems reported by municipal fishermen highlighted the funding arrangements. Among the top four problems listed, three were directly associated with *suki*. The problems, in order of importance, were: low price, lack of transportation facilities, difficulty in receiving payment, and no markets, Table 10.

The low price problem differed between inner and outer bay fishermen. Inner bay fishermen reporting low price were also those financing by *suki*. Wholesalers who purchased the inner bay products sold to markets away from the area and delivered fish only once or twice a week. Prices were relatively stable in the larger cities because of constant supply of fish. In contrast, prices were relatively volatile in the local markets since they were dependent on the daily catch. Wholesalers purchased on the basis of the price in the large city market and were assured of a local supply of fish because of the credit arrangement. In periods of short

supply in the local area, the wholesaler's price could be substantially lower than the local market price. In periods of excess the wholesalers paid the local market price, thus sellers to wholesalers never received more than the local market price and often received less.

In the outer bay, municipal fishermen had to compete with illegal types of fishing. The market was frequently glutted with species resulting from the activities of dynamiters. The price was reduced for all types of fish at these times. A fundamental economic law states "cheap goods drive dear from the market." The dynamited fish represent cheap goods and fish caught in the traditional manner could only be sold at the same price. During periods when dynamited fish were available, the daily income for municipal fishermen in the outer bay was driven below the subsistence level, creating an even larger debt load. With lower prices the fishermen tried to increase the catch to maintain income. However the catch could not be substantially increased using traditional methods. The fishermen seemed to face an unsolvable paradox. Low prices begat increased supply or increased debt, which in turn led to lower prices. In some instances the fishermen had to resort to illegal fishing methods to survive in the marketplace.

The second major marketing problem was lack of transportation, which limited the market options for the fishermen. The problem was especially prevalent for fishermen in the inner bay. The road was located at a considerable distance from the shoreline, especially in Bonifacio, Tambulig, and Aurora. Fishermen in Bonifacio and Aurora had to travel by boat up one of the larger rivers that separated the shoreline from the road. In other areas the peace and order conditions disrupted transportation systems.

Transportation represents a vital linkage between producers and markets. With inadequate facilities a market glut can exist in one area while shortages exist a short distance away. Transportation costs also can assume a dominant role in the market price structure. In evaluating any program to alleviate the situation of municipal fishermen, the role of the transportation system in the fisheries infrastructure must be included.

The third major marketing problem was difficulty in receiving payment for the catch. Fishermen sold to retailers, wholesalers, and consumers, with the buyer often being a friend or relative. In addition, the close knit traditional Philippine society had a tradition of sharing. Friends without fish expected to share in the catch of more fortunate fishermen. Because of the day to day income flow, payment to fishermen was often delayed while more pressing payments to other creditors were made. The practice was rooted within the societal system and existed for other types of production as well. The system tended to reduce initiative among fishermen. Some fishermen expressed an awareness that increased catch effort on their part would be borrowed to subsidize fishermen who were less resourceful or industrious. In effect, it was difficult for an individual fisherman to prosper by his own efforts.

Even though the area was deficient in fish products, some producers occasionally could not market the catch. Fish were traditionally purchased early in the morning for marketing that day. Late arrivals at the beach sometimes missed the buyers. Also at intervals throughout the year, oversupply from outside the area (primarily Illana Bay) was sold in local markets. When the lower price outside fish were available, buyers did not purchase the local catch. When the catch was not purchased fishermen attempted to barter the

TABLE 10. MARKETING PROBLEMS OF MUNICIPAL FISHERMEN IN PANGUIL BAY, PHILIPPINES, 1975

Problems of sale	Fishermen reporting		
	Inner bay	Outer bay	Whole area
	Percent	Percent	Percent
Low price.....	20	24	22
Transportation.....	12	---	6
Difficulty in receiving payment.....	1	5	3
No market.....	3	3	3
Ice.....	---	3	1
None.....	57	65	61
Others.....	7	---	4
TOTAL.....	100	100	100

catch for other needed products. Some of the catch was dried and much was consumed. Debt payments were not met for non market days. Failure to meet payments required higher repayment during periods when fish were marketed.

### Governmental Assistance

The fishermen were queried regarding possible sources of governmental assistance. Three suggestions were mentioned most frequently: provision of capital, provision of technical assistance, and law enforcement to stop illegal types of fishing, Table 11. Some fishermen were taking part in the Forshore Fisheries Program; however, many were not aware of the program. About 58 percent of the fishermen thought catch, and thus income, could be increased if they had sufficient capital to improve their equipment. Coupled with the desire for additional capital was a need to change the restrictive terms of repayment that exist under *suki*. In other agricultural loan programs in the Philippines there has been a tendency for borrowers to consider the loan as a grant. Repayment to the government lending agency has not always been forthcoming. The questionnaire did not include motivational sections; however, fishermen's comments indicated the same problems might exist for capital loans. A need for any governmental loan program to municipal fishermen is that responsibilities of the borrower should be clearly expressed. In other countries and for other crops in the Philippines, a form of "supervised" credit is used to assure that loan proceeds are utilized for the purpose intended. Other means can be used to obtain the same ends.

Improvements or changes in fishing equipment would require changes in fishing methods. The fishermen expressed a desire for technical assistance. Such assistance at the local

TABLE 11. TYPES OF GOVERNMENTAL ASSISTANCE DESIRED BY MUNICIPAL FISHERMEN IN PANGUIL BAY, PHILIPPINES, 1975

Government help	Fishermen reporting		
	Inner bay	Outer bay	Whole area
	Percent	Percent	Percent
Provide capital.....	59	58	59
Stop illegal fishing.....	17	21	19
Technical assistance.....	9	4	7
Allow illegal gear.....	4	.....	2
Nothing.....	10	15	12
Others.....	1	2	1
TOTAL.....	100	100	100

level would include instruction in use of gear, maintenance of equipment, fishing methods, and other aspects of use of the new techniques. Recognizing the continual problems in marketing of the catch, fishermen also sought technical assistance in forming marketing associations and other means to stabilize sales of the product. The existing practices were leading to a continual decline in their level of living. They could not foresee an improved situation for themselves or for their children in the future. A possibility which must be further studied is that the fish stocks are severely depleted from intense over-fishing and may require a drastic program to reduce the fishing pressure. This could necessitate the transfer of some fishermen to other occupations.

Fishermen perceived the government as the court of last resort. Essentially all fishermen desired development of an effective governmental program to suppress illegal fishing activities, since such activities affected them in both catch and marketing. Both dynamiting and trawling activities were thought to decrease the supply of fish available for municipal fishermen. In addition, the large supplies of fish harvested by illegal means depressed market prices and reduced income for the municipal fishermen.

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## APPENDIX—MUNICIPAL FISHERMAN'S QUESTIONNAIRE

Barrio	Municipality/City	Province
Name	Address	Status

If married, name your children below 21 years old.


1. How many years have you been fishing? \_\_\_\_\_
2. What are your major problems in fishing? \_\_\_\_\_
3. Did you receive help from any government agency related to your fishing activities? ( ) Yes ( ) No. If yes, give the date, name of the agency and type of help extended.  
\_\_\_\_\_  
\_\_\_\_\_
4. Are you a member of cooperative organization? ( ) Yes ( ) No. If yes, name the organization and your reason for joining. \_\_\_\_\_
5. What can the government do to help you improve your fishing activity? \_\_\_\_\_
6. Where did you get your capital? ( ) Bank ( ) Private person (please specify) \_\_\_\_\_. Why? \_\_\_\_\_
7. What is your arrangement regarding:
  - a) Catch sharing \_\_\_\_\_
  - b) Yearly interest \_\_\_\_\_
  - c) Nature of payment \_\_\_\_\_
  - d) Payment schedule \_\_\_\_\_
8. When do you usually fish? ( ) morning ( ) night.

9. How do you dispose of your catch?
 

<i>Method</i>	<i>Percentage of catch</i>
Eaten ( )	_____
Sold ( )	_____
fresh ( )	_____
cooked ( )	_____
dried ( )	_____
salted ( )	_____
Other (please specify)	_____

 For fish which are sold:
10. Do you sort your catch? ( ) Yes ( ) No. If yes, how? \_\_\_\_\_
11. Where do you sell your catch?
 

( ) sea	( ) beach	( ) road	( ) market
( ) door to door	( ) dealers home		
( ) others (please specify) _____			
12. How do you sell your catch?
 

( ) piece	( ) pile	( ) kerosene can
( ) 1 qt. can	( ) kilo	( ) stringer
( ) pail	( ) others (please specify) _____	
13. When do you sell your catch?
 

( ) 4 hours after catching
( ) 6 hours after catching
( ) 8 hours after catching
( ) 10 hours after catching
( ) 12 hours after catching
14. To whom do you sell your catch?
 

( ) retailer	( ) equipment owner	( ) <i>suki</i>
( ) private creditor	( ) consumer	( ) friend
( ) relative ( ) others (please specify) _____		
15. What is the selling arrangement?
 

( ) delivered by fishermen	( ) picked up by buyer
( ) contract	( ) consignment
16. What is the payment arrangement?
 

( ) cash	( ) installment	_____ number of installments
( ) credit _____		
time of payment		
17. How much profit do you usually receive per kilo? \_\_\_\_\_
18. What are your marketing problems? \_\_\_\_\_
19. What are your suggested solutions to the marketing problems? \_\_\_\_\_