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**EVALUATING THE POTENTIAL OF FISHERMEN'S
ORGANIZATIONS IN DEVELOPING COUNTRIES**

By

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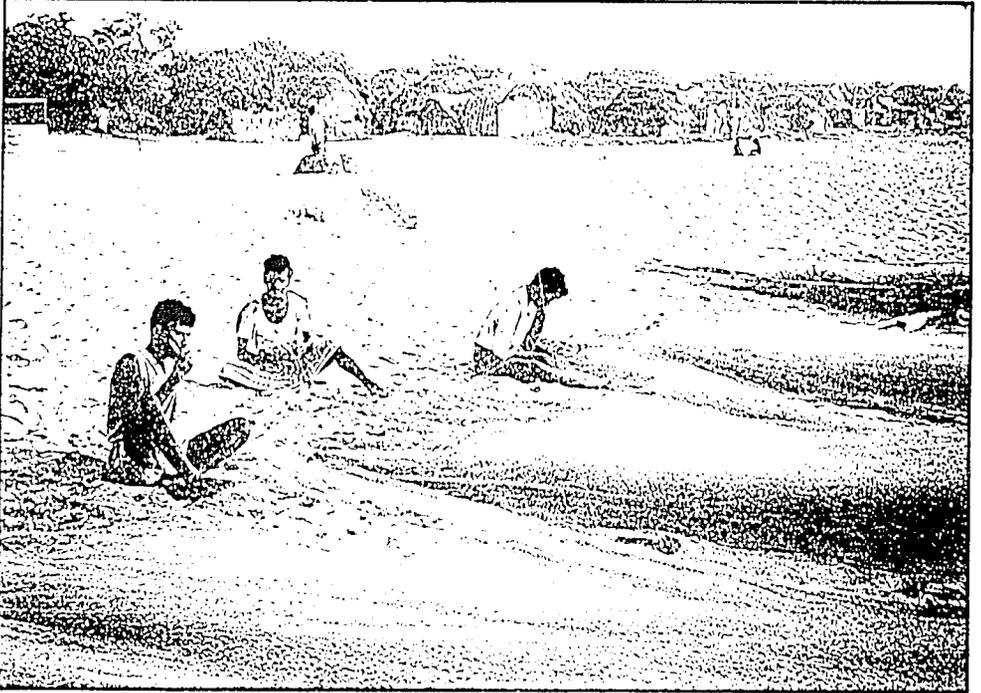
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INTRODUCTION

Over the last several decades, there has been a growing awareness of the important role fishermen's organizations, especially cooperatives, can play in the development process. Nevertheless, the development and use of these organizations has been characterized more by failure than success. The purpose of this guide is to provide users with information which will be of use in understanding social and cultural factors which influence the development of fishermen's organizations. The guide also contains instructions for obtaining social and cultural information which can be used for evaluating a fishery concerning the potential for establishing organizations as well as providing guidelines for using the information in decision making during the implementation of fishermen's organizations.

The guide is aimed at several types of users. Project planners involved in a fishery development project which includes some form of fishermen's organization will find it useful for obtaining information to be used in both planning and implementation. Members of cooperative departments in government ministries who have had little or disappointing experience with implementing organizations among fishermen can use the guide to adapt their procedures to the needs of fishermen. Finally, cooperative training institutes and extension agents will find a great deal of information which can form part of their training programs.

The first chapter of the guide examines the role of fishermen's organizations in fishery development and includes a brief outline of the various types commonly used. This is followed by two chapters which provide the rationale concerning the need for social and cultural information in the development of fishermen's organizations. This includes a brief examination of aspects of the occupation of fishing which are related to problems in developing fishermen's organizations. General social and cultural factors which influence the success of organizations are also examined. The chapters are based on a review of project reports, research papers, and books which span several decades of experience; nevertheless, as many readers will recognize, the same kinds of factors influence the development of fishermen's organizations in current projects. The literature reviewed can also be referred to by the reader to obtain more detailed information if needed. The final three chapters of the guide outline the kinds of information needed for the development of fishermen's organizations, details concerning the acquisition of the necessary data, and techniques for converting the data into information of use in the decision making process throughout the project cycle.



Mending nets on the beach in Tamil Nadu
(Graphic by R. Pollnac)

CHAPTER ONE. FISHERMEN'S ORGANIZATIONS AND FISHERY DEVELOPMENT

THE ROLE OF FISHERMEN'S ORGANIZATIONS IN FISHERY DEVELOPMENT

Small-scale fishermen, who are frequently among the poorest of the rural poor in developing countries, are faced with seemingly impossible obstacles in their attempts to better themselves. Meynell (1984) writes that small-scale fishermen, a marginal and exploited group of producers, are impeded by existing economic and social power structures and suggests that fishermen's cooperatives are the ideal organizational form to overcome these obstacles despite their limited success rate in development projects.

Meynell (1984:27) summarizes the advantages of cooperatives as follows:

- "1. Greater control by members over the business and benefits of their organization.
2. Combined action can be more effective than individual action whether it is in reduced costs of inputs bought in bulk or in negotiation with buyers or government.
3. Support of second and third tier federations of cooperatives providing advice and more specialized services which a primary society could not organize.
4. Group commitment to actions undertaken by the cooperative."

Jentoft (1985, 1986) expands discussion of these advantages by noting that cooperatives are often involved in formal training, not only with respect to fishery matters, but also health and literacy. Cooperatives can also facilitate information acquisition for fishery management purposes. They thus play a role in the political process, helping to implement government policies through provision of information for decision making and formal training activities.

The use of cooperatives as a tool in development has been advocated by major development agencies and governments at various times during the past four decades (Pollnac 1985). The United Nations Food and Agriculture Organization (UNFAO) began to argue for cooperatives as early as 1948 (Miller 1964). The Fourth Session of the FAO Conference of November 1948 recommended that "... cooperative societies provide one of the best means of reducing the cost of farm production supplies, credit and marketing, reducing the price of consumer goods to all people, and developing crop insurance and other forms of mutual aid which will enable rural populations to improve production and conditions of life" (Miller 1964:102). The

World Bank noted that farmer's associations and cooperatives can facilitate development by enhancing participation through involvement of members as well as performing intermediary functions making it possible to provide credit to more individuals while producing a situation of joint responsibility for loan repayment and acceptance of inputs (World Bank 1975). By the late 1950s and early 1960s cooperatives were identified by the UNFAO as organizations that could be used to reduce inequities in development resulting from earlier projects that focused on more wealthy and efficient producers who were identified as being those with the greatest potential for making use of new inputs and techniques (Laidlaw 1962; Dulfer 1971). Hence, in the 1960s the UNFAO's governing body began to encourage the development of cooperatives in various sectors (Dulfer 1971), including fisheries (FAO 1971). Many UNFAO fishery projects in the 1960s and 1970s reflected this encouragement by making fishermen's cooperatives the key institutions for developing small-scale fisheries. The UNFAO was not alone in this emphasis as evidenced by the fact that cooperatives figure in 53 percent of the World Bank's fishery projects between 1976 and 1981 (Pollnac 1985).

As more and more projects began to use fishermen's cooperatives as a means to deliver services to small-scale producers, it became evident that the failure rate was unacceptable. An expert who held the post of FAO Regional Fisheries Officer in Latin America for 10 years wrote in the mid-seventies that cooperatives have failed so often and with such notoriety that there was widespread skepticism among fishermen concerning their usefulness (Miyares del Valle 1974). A 1975 FAO fishery report detailed many of the shortcomings of cooperatives along with suggested causes (FAO 1975). Nevertheless, the report concluded that "cooperatives appear to offer the best means for assisting fishermen ..." (FAO 1975:7).

Although there are a fair number of reports concerning the failure of fishermen's cooperatives, it is clear that there are also successes. Pollnac (1981) notes that there is a tendency to write more about failures than successes. Allsopp (1985) suggests that this is true for fisheries projects in general and notes that this contributes toward negative attitudes at higher policy levels. It is also unfair to make statements concerning failure of fishery cooperatives in isolation from other fishery firms. For example, is the failure rate of fishermen's cooperatives any greater than that for comparable firms in the private sector of the fishery? One study from Norway comparing fishery cooperatives with private and state firms found little substantive differences in terms of several performance measures (Jentoft 1985). The performance of the cooperatives through time was basically parallel to that of other types of firms reflecting

similarities in responses to external changes (e.g. changes in the economy, fishery environment, etc.). The Norwegian experience may not be applicable in other contexts, but until further information is made available and analyzed, it will be difficult to claim that the failure rate of cooperatives is any greater than that for other firms performing the same functions in the fishery sector.

Nevertheless, the accumulating number of failures among fishermen's cooperatives in combination with the need for some sort of organization to facilitate development among small-scale fishermen forced some people to begin to rethink the process of cooperative development. A 1977 FAO report concluded that classical European cooperative systems will fail in developing countries unless they are adapted to local realities, and that a minimum of five to ten years preparation is needed (FAO 1977). Also, in the late 1970s an alternative concept for small-scale fishery development including an optional cooperative element was being elaborated--the community fishery center (cf. Ben-Yami 1980). The community fishery center concept does not insist on ready-made solutions like the cooperative but stresses that solutions must be adapted to local needs. For example, as long as all sectors of the fishery and their infrastructures are adequately considered (harvesting, marketing, processing, supplies, etc.), the various sectors can manifest any combination of appropriate ownership patterns; e.g., private enterprise, cooperative, government, or community enterprise. Additionally, and related to the community fishery center, is the concept of "grass root groups and associations," for both small farmers and fishermen. The concept emphasizes the formation of small groups with many of the same functions as cooperatives (group planning, mutual aid, group action for credit and marketing, and group bargaining for social justice) yet makes little mention of cooperatives (FAO Regional Office for Asia and the Far East 1978). Hence, it provides a means for avoiding both the stigma of the term "cooperative" and the rigid rules and regulations surrounding the formation of cooperatives in the developing world.

Despite the above noted problems with fishermen's cooperatives and the suggested alternatives, many international aid programs continue to promote their use to one degree or another. In addition, development agencies often have little choice but to use fishermen's cooperatives in development projects. Nearly all developing world governments support cooperative development for rural areas in one form or another and have cooperative agencies and training facilities which encourage their use. For example, a survey of West Africa shows that five out of the six countries surveyed have established policies encouraging the formation of fisheries cooperatives. The sixth country is proceeding cautiously

because of past failures (Lamming and Hotta 1980). This stress on cooperatives, in addition to the fact that theoretically at least cooperatives appear to be organizations which can be quite effective in fishery development programs (Pollnac 1985, 1981; Meynell 1984) as well as function to facilitate the communication process between planners and the fishery sector (Pollnac and Littlefield 1983; Jentoft 1985), clearly indicates that development decision makers will frequently be in positions where they will have to make decisions concerning the use of fishermen's cooperatives in development programs. These decisions must be made on the basis of adequate information, the identification and acquisition of which is the subject of the remainder of this guide.

TYPES OF FISHERMEN'S ORGANIZATIONS

The purpose of this subsection is to briefly describe the types of fishermen's organizations that are commonly found around the world. Since this manual is supposed to have international applications, it is important to clearly define the terms used to avoid possible misunderstandings that may arise due to varying uses of some of the terminology in different regions of the world.

For our purposes here, we will use the term "organization" to refer to all of the various types. An organization is a group of people who have come together for some purpose. They are working together because the purpose can be more easily achieved with a group of people than by isolated individuals. The major types of organizations used by fishermen are cooperatives, associations, and unions. In the remainder of this chapter, we will look at each of these major types as well as the functional subtypes (e.g., marketing association, supply cooperatives, etc.). Finally, at the end of this chapter, there is a discussion of a selection of non-fishermen's organizations which can play an important role in the fishery and fishing community.

Cooperatives and Associations

The main distinction between cooperatives and associations is that in most countries, cooperatives are legally defined by a relatively rigid set of rules and regulations which must be adhered to if a given fishermen's organization is to be legally accepted as a cooperative. In most countries, achievement of the status of cooperative confers numerous potential benefits on the fishermen's organization. These benefits frequently include alleviation of certain taxes such as gasoline tax and import duties on productive equipment. Low interest government loans, training programs, and technical assistance are also some of the

advantages gained by achieving cooperative status in some countries.

Fishermen's associations are organizations that are more loosely defined than cooperatives. In some cases, they are quite informal, based entirely on the consensus of members with no external legal foundation. In other cases, they may be more like businesses, incorporated within the legal system as any other business. Frequently associations are not eligible for the same type of government benefits as cooperatives, but they have more freedom in terms of their organizational structure and function.

Both types of organization can be subcategorized into subgroups on the basis of the services they perform for the fishermen. In most cases, either a cooperative or an association can carry out the same functions, hence in the discussion that follows, both types of organization will be considered together with respect to specific functions.

Supply Cooperatives or Associations. This type of organization has the function of supplying fishermen with necessary inputs at a reasonable cost. Many times fishermen are located in areas remote from large trade centers. They must either travel to the trade center for supplies or depend on middlemen who will add costs of transportation and profit to the selling price. This can result in a loss of fishing time and/or an expense far above what the fishermen need pay for the supply. A supply cooperative or association located in the fishing community can reduce both time lost from fishing and the cost of supplies to fishermen. If the organization stocks needed supplies such as spare parts, gear, gasoline, and oil, the fishermen need not lose time going to the trade center or waiting for the middleman to make an order and deliver the goods. Additionally, by buying in bulk, the organization can negotiate more favorable prices for the fishermen. In some cases, if local laws permit, the organization can obtain the material without the addition of local or import taxes; hence, providing additional savings for fishermen.

Marketing Associations or Cooperatives. Fishermen need to sell their catch, and this type of organization responds to this need. In some fishing communities, fishermen are at the mercy of a few fish dealers who set the price paid for fish landed. The fishermen either have to accept the price or let their harvest go unsold, to rot on the beach. In a situation such as this, the marketing organization can serve as an intermediary between the fishermen and fish dealers. The fishermen, together in the organization, will be in a stronger position to bargain with the dealers and obtain a more favorable price. In some cases, the organizations provide cold storage or freezing facilities to hold fish for more favorable

marketing conditions. In many developing countries, this type of organization attempts to perform functions originally carried out by traditional middlemen such as buying, selling, storage, and initial processing (e.g., cleaning, filleting, cooling, freezing, smoking, etc.).

If fishermen in such an organization find that it is impossible to obtain a fair price from existing fish dealers, the organization may be further developed to take over the functions of delivering fish to wholesale or retail markets or retailing the fish.

Credit Cooperatives or Associations. Small scale fishermen frequently find it impossible to obtain credit from formal financial institutions. This is due to the fact that they are relatively poor and usually lack adequate collateral for loans. By forming a group, the members can act as guarantors for each others' loans, and in some countries, obtain subsidized credit. In the most basic case, this type of organization obtains its capital from members' deposits. This type of credit organization is usually only found in small, close-knit communities that have a tradition of circulating credit schemes. In the most common case, the organization obtains capital from outside sources, usually government development banks.

Production Cooperatives or Associations. As a small-scale fishery develops, newly introduced gears may be beyond the means of individual fishermen. In certain fisheries, under special circumstances, it is more economical for groups of fishermen to pool their gear and divide expenses and profits. For example, beach seines are frequently quite large and expensive. Crews are also large; hence, it would be more rational for the fishermen to pool their resources to purchase the gear, operate it together, and share the profits. The same logic applies to a fishery where the boats exploit common grounds and usually go to fish and return at the same time. Rather than obtaining motors for each small vessel, one or more tow boats could be used to take the vessels back and forth from the fishing grounds. The organization (the group of fishermen) could purchase and maintain the tow boats and motors and share in the profits. Part of the profits would go back to the production cooperative or association to be used for repairs, maintenance, replacement, and loan repayment as needed.

Service Associations or Cooperatives. Some organizations function to provide services other than those provided by the types discussed above. The services can be fishing related such as provision of storage areas for vessels and gear at the landing area, vessel insurance, docking facilities, savings

plans, etc. Sometimes the function may appear to be purely social (e.g. providing a meeting hall, holding social events such as feasts, dances, etc.). Frequently these service organizations provide a foundation for the addition of some of the functions discussed above; hence, they have the potential to grow into more than a service cooperative or association.

Multipurpose Cooperatives or Associations. Frequently after a single purpose organization has been in operation for a while, members begin to see the value of working together as a group. This realization often leads to the addition of additional functions to the organization. When this occurs, the result is a multipurpose cooperative or association. Sometimes the organization is initially formed with multiple functions. The combinations of functions can include any or all of the above types. Such an organization is frequently quite complex and difficult to manage, especially as the number of functions become quite large.

Umbrella or Apex Associations or Cooperatives. Umbrella or apex organizations are organizations made up of smaller organizations. An important function performed by these higher level organizations is that they are often centers with resources that need not be duplicated at each of the lower level associations or cooperatives. For example, in fisheries where the fishermen are strung-out along the coast in relatively small communities, each community may form some sort of organization. Each organization will be relatively small, drawing members from an area with limited resources. These smaller organizations may need a skilled resource person such as an accountant. Since the organizations are relatively small, they may only need an accountant on a part-time basis; hence, one accountant could reside in the apex organization and be shared by all members. This could also apply to other resources that would be redundant if duplicated in each small organization. For example, one large refrigerated truck may be sufficient to distribute the fish from all organizations in a certain area. The truck, driver, and supplies could be centralized in the apex organization, hence conserving resources.

In some fisheries there are more than two levels of organizations. The highest level will frequently have resource personnel who can serve to provide instruction concerning organizational operation. This person travels from organization to organization giving classes and passing on information pertinent to fishery operations.

Distinct organizations can also join together to increase their bargaining power. As a group of individuals increases their bargaining power by joining together into an organization and speaking with one voice, so would a number of local

organizations increase their power by joining into an umbrella organization. These can be organizations of the same or different types. If the organizations are of different types (e.g. fishermen's, processors', and/or dealers'), the association would also function to increase communication between the various sectors of the fishery.

Fishermen's Unions

Fishermen's unions are trade unions for hired or share fishermen. As with other trade unions, the organization represents its members in negotiations with vessel owners concerning wages, hours of work, and working conditions. Frequently, as with other trade unions, a fishermen's union may also provide additional services in the form of insurance, credit, social security, education, and cultural programs. Sometimes these unions are formed on a nation-wide basis with relatively large membership, providing them with the lobbying power to influence government actions on their behalf.

Fishermen's unions almost always stimulate the development of another organization - the boat owners association. Although this association type is not a union, it is considered in this section because it arises in response to the union of employees as a means of bargaining with the fishermen. Its original, and frequently sole purpose is to organize the numerous individual entrepreneurs who are boat owners and sometimes fishermen themselves. Without this type of organization, it would be impossible for either of the two groups, the employers or the employees, to effectively negotiate their positions. As with other organizations, these boat owners associations can accrue services other than labor negotiation. As they do, they may be considered along with the other multipurpose organizations discussed above.

Fishery Related Organizations

Although the concern of this volume is fishermen's organizations, there are other types of fishery related organizations found in fishing communities that can benefit the fishery. One characteristic of the artisanal fishery is the numerous small-scale entrepreneurs and workers involved in postharvest handling, processing, distribution, and marketing. In various fisheries around the world organizations have been formed for participants in postharvest aspects of the fishery which provide services analogous to those discussed with respect to fishermen's organizations. For example, there are organizations of individuals who unload the vessel and sort the fish. Processors sometimes form organizations as do fish dealers and the individuals who transport the fish between various levels of wholesalers and retailers. All of these

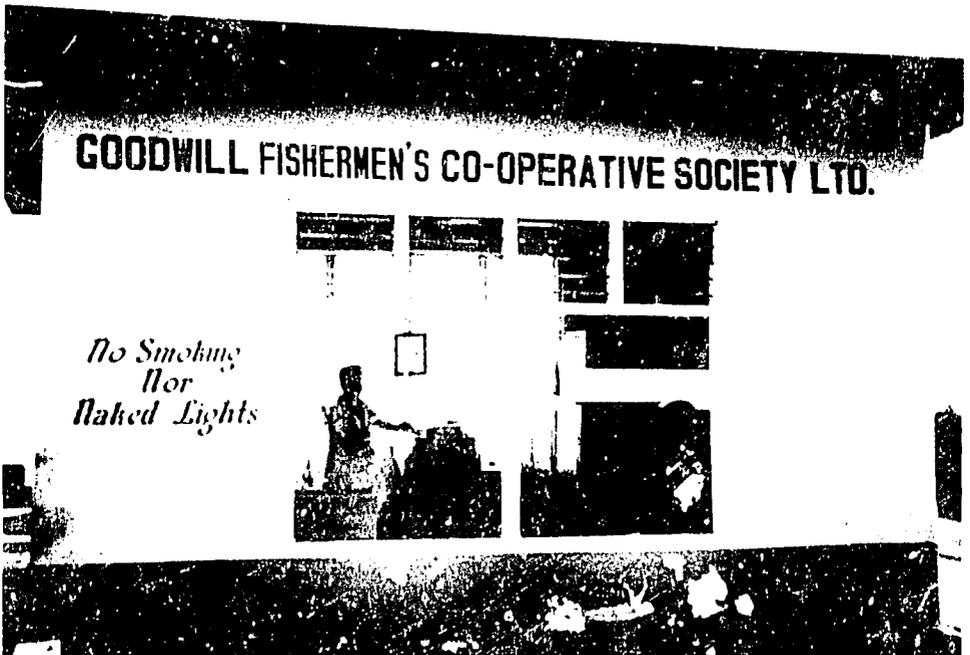
organizations have potential impact on the well being of the fishermen since, depending on their type, they can introduce efficiencies into the postharvest distribution of fish, potentially affecting both the prices paid to fishermen and the amount of catch that can be effectively handled.

Although all these types of nonfishermen's organizations can potentially impact the well being of the fishermen, the type that has the most immediate impact on the fishermen is the fisherwomen's organization. In many fishing communities around the world, women have important roles in the postharvest handling and distribution of fish. They are most frequently involved in the processing and marketing sectors. Often, these women are fishermen's wives and/or daughters; hence, their labors keep more of the profit in the family firm resulting in a greater overall quality of life accruing to the small-scale producer as a result of improvements in the fishery. In many artisanal fishing communities, the numerous individual fishermen's wives and daughters who are involved in the processing and marketing of fish can become organized into associations or cooperatives and receive some of the same benefits of organization that fishermen receive from their organizations such as tax free or subsidized inputs, credit, and greater bargaining power. In some small scale fisheries, especially West Africa, South and Southeast Asia, and the Pacific, "fisherwomen's" organizations are becoming quite important in the fishery.

Another type of fisherwomen's organization is composed only of fishermen's wives. This type of organization is usually referred to as a fishermen's wives association. It is usually found in communities where the fishermen are at sea for more than one day at a time. Fishermen's wives associations frequently function as support groups for the women while their husbands are away at sea. They provide companionship for women who have to cope with similar problems resulting from the absence of their husbands. In some cases, the fishermen's wives associations take on the additional function of representing their husbands to government and other authorities while they are away at sea. The men, who are at home for only short periods of time, usually when government offices and such are closed, find it both inconvenient and uncomfortable to deal with land-based officials. Their wives, not subject to the same stringent work-hours away from land can fulfill some of these obligations, and if they are organized into a group, they have more power in bargaining with and lobbying officials whose actions impact their husbands' livelihood. For example, in one fishery, it was members of the fishermen's wives association who represented their husbands at official meetings concerned with developing plans to regulate the fishery. The same fishermen's wives association lobbied the government concerning fish imports that were competing with their husbands' landings.

SUMMARY

The focus of this volume is on fishermen's organizations in developing countries. Hence, the focus will be on the six major types of cooperatives and associations discussed above: supply, marketing, credit, production, service, and multipurpose organizations. Fishermen's trade unions are usually found only in relatively large industrialized fisheries, which are not characteristic of developing countries; hence, they will not be examined any further. Nonfishermen's fishery related organizations can have a significant impact on fishermen, but they are not the topic of this work. Nevertheless, many of the factors discussed will also be applicable to these organizations.



Fishermen's cooperative in Saint Vincent
(Photo by Dennis Dixon)

CHAPTER TWO. FISHING COMMUNITIES AND ORGANIZATION DEVELOPMENT

INTRODUCTION

Fishing communities pose special problems with respect to the development of fishermen's organizations. Most development specialists who have worked in both fishing and farming communities have noticed that there are differences in the life-style and behavior of the two types of producers. Some of these variations are the result of differences between the two occupations which place different kinds of demands on the workers and their families. In some instances, the characteristics of fishing communities which contrast with other occupations can have an impact on the development of organizations. The organizations and the techniques used to introduce them into the communities must be adapted to the life-style of fishing peoples. If not, numerous problems could develop resulting in project failure. The purpose of this chapter is to look at aspects of the occupation of fishing which influence the community of fishermen in such a way that they must be taken into account in projects involving fishermen's organizations.

RESOURCE VARIABILITY, MIGRATION AND ORGANIZATION DEVELOPMENT

Fishery resources are highly variable. They vary from day-to-day and season-to-season. Some fishermen in all regions of the world, from the tropics to the polar zones, respond to this variation by annual movements between the seashore and inland settlements. Among peoples who are farmers as well as fishermen, we frequently find that they move to inland gardens during the planting season. Others, like the boat dwelling Bajau of the Sulu Archipelago, live on their boats and follow the fish. Finally, many shift residence to different parts of the coast, following the migratory fish. Hence, many fishing communities are characterized by shifting residence.

Shifting residence has several implications with respect to development of fishermen's organizations. First, although farmers' organizations can have residency requirements for membership, such rules would not work for the organization of migratory fishermen. For example, in a fishery development project in West Bengal, fishermen were required to live in the area of a cooperative in order to become a member. Many of the fishermen were migratory; hence, they could not join the organization. Second, movement of fishermen affects one's access to them as well as the development of adequate data gathering systems. For example, among migratory fishermen, it is difficult to determine a statistic as basic as the number of active fishermen. This makes it extremely difficult to either

obtain data necessary for planning organization development or to contact fishermen for organizational purposes. Finally, shifting residence makes it difficult for fishermen to attend meetings essential to the proper operation of a cooperative.

RESOURCE VARIABILITY, LOAN REPAYMENT AND ORGANIZATION DEVELOPMENT

Most fisheries have a great deal of day-to-day variability in the amount of fish caught. This results in a highly variable and unpredictable income among fishermen. Middlemen in most fishing communities have had a long relationship with fishermen and understand the problems they face with irregular incomes. The middlemen frequently loan money to the fishermen in times of need such as when catches are light or productive equipment has been damaged or lost at sea. Knowing the fishermen's incomes are unpredictable, they permit a great deal of flexibility in repayment of loans. If fishermen's organizations are to succeed, they must also provide the same type of flexible services.

In one area in the 1970s, government loans to Sri Lanka fishermen through cooperatives did not take this precaution. The required payments were inflexible, appearing monthly irrespective of catch size, resulting in numerous defaults and weakening the cooperative effort (Alexander 1975). Another author suggests that Madras fishermen in India were reluctant to use cooperative marketing schemes because unlike traditional middlemen, the marketing cooperative did not make loans for weddings, funerals, holidays, and expenses incurred during unproductive periods (Blake 1977). McGoodwin (1980) also points out that problems with meeting loan repayment schedules was one of the factors contributing to the decline of Mexico's inshore Pacific fishing cooperatives. The cooperatives, being based on the nation's agrarian collectives (ejidos), did not take into account the highly variable nature of marine production. As yet another example, a recently formed fishermen's organization in Sierra Leone failed due to defaults on loans resulting from fishermen's inability or unwillingness to pay regular monthly installments. Jentoft (1985) also cites cases from Yemen and Norway where cooperatives failed to take hold because they could not compete with private dealers with respect to either prices or services. Finally, Lawson and Kwei (1974) note that one of the factors leading to failure among fishermen's cooperatives in Ghana was the fact that herring fishermen found it difficult to meet monthly loan payments during the months of herring scarcity. It seems that to be successful, fishermen's organizations will have to adapt to this variability with flexible loan repayment schedules similar to those used by existing middlemen.

FISHING CYCLES, MEETING ATTENDANCE AND ORGANIZATION DEVELOPMENT

Variability in good fishing times, which is a characteristic of almost all fisheries, can have an impact on the way fishermen's organizations are developed and run. When the weather is good and fish are available, fishermen fish. Scheduled meetings, such as cooperative planning or training sessions, will be missed by those out fishing. It is the author's experience that better fishermen take advantage of good fishing conditions, thus leaving the less successful fishermen behind to attend meetings. Hence, it is the less successful fishermen who may become most active in agency sponsored meetings aimed at forming fishermen's organizations. Perhaps this is one of the reasons that good fishermen in some regions view cooperatives as havens for the incompetent. These observations suggest that planners (e.g., government agency representatives, etc.) should be flexible in terms of scheduling meetings with fishermen. Meetings should be scheduled during traditional days off (if such exist), slack fishing periods, or bad weather if planners want to have maximum participation. If meetings have to be scheduled during fishing periods, they should not be scheduled during traditional fishing or resting times. Currents, winds, and relative visibility of gear often result in nighttime or very early morning fishing activity; hence, fishermen might be sleeping or out fishing when government workers would like to schedule training activities or meetings. These times must be determined for each fishery and season since they vary widely.

EQUIPMENT DEPRECIATION AND ORGANIZATION DEVELOPMENT

Another aspect of the marine environment that has implications with respect to designing fishermen's organizations is the destructive nature of rough water, especially the sea with regard to equipment. Salt water is quite corrosive, and stresses placed on gear in bad weather result in relatively rapid depreciation. These factors are not always taken into account by planners. For example, Alexander (1975) notes that in Sri Lanka new fishing gear was introduced, sometimes through cooperative organizations, which was of relatively high cost and subject to rapid deterioration in contrast to the traditional gear, which lasted longer and could be replaced out of current earnings and small loans. The new gear thus required making provision for replacement. Nevertheless, no provisions for replacement were made, even in cooperative organizations. The form of the fishermen's cooperative organizations was transferred directly from farming where the major resource, land, appreciates through time; thus, failure to take basic differences between farming and fishing into account resulted in difficulties.

ROLE OF WOMEN AND ORGANIZATION DEVELOPMENT

In subsistence level and peasant societies, women perform subsistence functions, but they are also expected to bear and care for children. Fishing, especially deep sea or lake fishing from boats, is of such a nature that it is difficult to include less than fully active members in a crew. The size of most small-scale fishing vessels and the degree of coordinated activity required in relatively cramped work areas simply will not allow it. Therefore, women are usually confined to shoreline activities (including fishing and shell fishing in the shallows) where the work will not conflict with child care duties. The ethnographic sample supports these generalizations concerning the division of labor by sex in fishing communities. Of the 330 societies for which data concerning the division of labor by sex are available, both sexes participate equally in only 10 percent of the fishing societies (Pollnac 1974).

Further, division of labor by sex is often associated with the distribution and marketing system. Fish is a highly perishable product which is not easily stored without complex techniques such as drying or freezing technologies. Firth (1966) notes that a fisherman's catch, in comparison with a farmer's product, needs more outlay in equipment and labor if it is to be stored. This, he suggests, results in a tendency for a greater development of middlemen among fishermen. Further, a fisherman's work is physically exhausting, and when he arrives at shore, he usually does not have the time or energy to process or distribute his highly perishable product; thus, the distribution of surplus catch is usually performed by a specialist who is often referred to in the literature as a middleman or fish dealer.

In many fishing communities, women take over the function of buying and selling fish. Sometimes, they are only involved at the primary level, the initial buying from the fishermen. In some areas they deal with the fish at all levels including retailing and processing. These female "middlemen" are found throughout the world in regions as widely spread as the Caribbean, West Africa, India, Asia, the Pacific, and Latin America. This division of labor can function to keep more of the profit within the family -- the men fish and their female relatives sell the product.

Some authors suggest that the female role of fish trader results in their being the primary element of economic stability in some fishing societies (e.g., Ghana, Christensen 1982). The males fish intermittently while females work year-round. The organization of fishermen is often viewed as a technique for eliminating exploitation by middlemen. Sutinen, Pollnac, and Jossierand (1981) note that if this becomes the goal of the cooperative movement in areas like West Africa,

female fish processors and vendors would be displaced. In areas where fishermen are related to the middlemen, the cooperative movement would probably be resisted; but in other areas, the effects on a relatively large, economically productive sector of the population would be disastrous.

It should be further noted that women are frequently at a disadvantage with respect to decision making powers in fishing communities; hence, efforts directed at individuals face many constraints. Organization of women into associations or cooperatives will thus facilitate their participation in the development process. The role of women must be included in organization development plans.

ISOLATION OF FISHING COMMUNITIES AND ORGANIZATION DEVELOPMENT

Numerous characteristics of the occupation of fishing serve to isolate fishing peoples, both geographically and socially, from the larger societies within which they are found. For example, short-term variations in the availability of fish influence the hours and days that fishermen work. Currents, winds, and relative visibility of gear frequently result in nighttime or very early morning fishing activity. These work patterns differ from the more regular hours kept by people in most other occupations, hence, they serve as a factor socially isolating fishermen from non-fishing people. This relative isolation is enhanced by their separation from land-based society while at sea. Additionally, migratory fishermen are viewed as outsiders as they follow migrating fish through established communities along the coast. Fishermen also tend to live along the narrow margin of the sea, and in many parts of the world, especially in developing countries, this results in residential isolation from the larger society.

Fishing communities are usually characterized by relatively egalitarian work groups among men and increased social status for women as a result of the important roles they play in the economy. These characteristics frequently distinguish them from other occupational subgroups within their society. When fishing people form part of a society that has a strong system of social stratification as in traditional Japan, India, traditional China, and Korea, ocean fishing is frequently organized as the occupation of a low status, caste-like group. Norr and Norr (1974) suggest that this caste-like separation of fishermen functions to insulate the larger society from the potentially threatening egalitarian relationships that are characteristic of fishing communities. Digby (1973) suggests that the relatively low social standing of fishermen makes them unreceptive to the cooperative movement as a consequence of their necessarily suspicious attitude towards outsiders and their advice. Another report suggests that their long history of being an oppressed lower class

conditions them to accept exploitation as a way of life; thus, in their view, organizations such as cooperatives are not seen as a mechanism for achieving their aspirations (FAO 1978a).

ISOLATION, EDUCATION, AND ORGANIZATION DEVELOPMENT

It is also suggested that the residential isolation and social distance from non-fishermen has a strong influence on another factor associated with development of fishermen's organizations--level of formal education. Both the social and geographic isolation of fishermen probably contributes to the relatively low level of education found among many fishermen in the developing world. The author has visited many fishing villages which are so isolated that children desiring to attend school must live with relatives in other villages (e.g., as in some fishing communities in Sierra Leone). In regions where the residential isolation is not so great, the relative social isolation of fishermen and their families results in negative attitudes towards the formal education of non-fishing society. Children of the frequently poor fishermen are ridiculed for their poor dress and fisherfolk family. This contributes to early school leaving. The lower level of formal education resulting from these factors has a negative effect on success of fishermen's organizations in many areas of the developing world. For example, Ho Toh (1980) writes that the low level of education among fishermen in one cooperative in the Philippines resulted in management problems. Digby (1973) notes that fishermen are often illiterate, thus making it difficult to either train them or to find qualified managers among them. Gerhardsen (1977) also attributes problems in cooperative development to the low level of education among many fishermen. Further, Lawson and Kwei (1974) suggest that corrupt cooperative clerks in Ghana could easily cheat the illiterate fishermen--corruption being one of the major problems which plagues the development of fishermen's organizations in the developing world. Finally, Digby (1973) suggests that one of the factors contributing to the success of the Belize fishermen's cooperatives is the fairly high standard of education in Belize fishing communities.

ISOLATION, DECEPTION AND ORGANIZATION DEVELOPMENT

The residential and social isolation of small-scale fishermen, in combination with the fact that they frequently perform their work offshore where they cannot be readily observed, has resulted in a widespread practice of selling part, and sometimes all, of the harvest outside cooperative marketing organizations. This practice has been reported in areas as diverse as Ireland, the Philippines, and Malaysia, and the author has observed the practice in Central America and

Panama. Selling outside the organization diminishes its ability to make a profit, but it is especially harmful when gear has been sold to fishermen through the organization on a hire-purchase scheme, and the fishermen avoid repayment by outside selling. Narkswadi (1967a) reports this practice for the Kuala Linggi fishermen's cooperative in Malaysia, and the author has observed it in Latin America. The fact that fishermen work out of sight of those on land has also resulted in claims concerning lost cooperative gear which cannot be verified. Some suggest that the gear is not lost but sold.

SEA TENURE AND ORGANIZATION DEVELOPMENT

A very important element of social organization is control of natural resources. Land tenure is important among horticultural societies, and sea tenure is just as important among some fishing societies. Nevertheless, the flat, relatively featureless nature of the sea and large lakes presents boundary marking problems not associated with land. Further, in some regions wave and current activity shifts lagoonal, estuary, and coastal boundaries making boundary maintenance on a micro-level, as it is practiced in agriculture, practically impossible. For the most part, the marine fisheries resources of the world are to one degree or another a common property resource. On the high seas, the first vessel on the fish has the rights. Within specific extended economic zones, fishermen allowed to fish the waters compete on a first-come, first-serve basis. Even in the many cases that are coming to light concerning territorial use rights in the fishery, rights are most frequently communal (e.g., belonging to a village, a fishermen's cooperative or an extended kinship group), and individual rights are usually given on a first-come, first-serve basis. Hence, for the most part, open water marine fisheries are common property resources to one degree or another. Individual ownership is extremely rare and usually confined to extreme inshore waters or areas where substantial improvements have been made (e.g., fish pens, fish attractant devices, etc.).

In some areas where there is no formal recognition of sea tenure rights, fishing spots are often kept secret. For example, at Arambepe, Brazil, fishermen view the sea as an open access resource, but good fishing spots are kept secret (Kottak 1966). Forman (1970) reports a complex system of named fishing grounds and landmarks among the raft fishermen of Brazil. Location of the fishing grounds is made by visual triangulation, and knowledge of fish within them is transmitted from father to son over the generations. This type of secrecy concerning fishing spots is common in most fisheries. Further, in most fisheries, because of the difficulty of boundary maintenance, fishermen exploit the resource on a first-come,

first-serve basis.

These observations regarding sea tenure among fishermen have several implications with respect to the formation of fishermen's organizations such as cooperatives. First, in some cases it would be a mistake to try to assign fishing spots to fishermen's organizations in the same manner that land is assigned to agricultural cooperatives in some countries. McCoodwin (1980) notes that on the Pacific coast of Mexico, production sites for fishermen's cooperatives were fixed in the same manner as they were for the agricultural ejidos (cooperatives). Lagoonal boundaries in this region, however, are subject to erosion and shifting while the location of agricultural land remains constant. Thus, within a period of only several years, a fishermen's cooperative could lose nearly all of its productive harvesting areas. Farther north in the Gulf of California, however, a fishermen's cooperative succeeded in part because the members were all Yaqui Indians, and the tribe was given exclusive rights to fish resources in the tribal reserve (McGuire 1983). In this case, the sea tenure covered a relatively large area which was not susceptible to the oceanographic changes and shifts in species distribution found farther south. Hence, regional differences in the marine environment impact the ability to use sea tenure as an aspect of cooperative formation.

In areas where sea tenure systems have existed for some time (e.g., Japan and Korea) the guilds holding fishing rights have been effectively used as the basis for cooperative organizations (Digby 1973). As an outgrowth of this system, Japanese law grants property rights in the coastal fishery to fishermen's cooperative associations (Akiyama 1980); thus, in order to fish, one must be a cooperative member. This has been regarded as a key factor in the success of the Japanese fishermen's cooperative development program.

Finally, in the most common case where there is an absence of individual tenure systems, harvesting rights are usually based on arrival time at the fishing spot. The first vessel there deploys its gear and continues to fish until enough has been captured. In situations such as these, there is a great deal of competition between vessels and a need for independence in decisions concerning where and when to fish. This type of situation is inimical to establishment of cooperatives based on cooperative fishing strategies, such as using a cooperatively owned tow vessel to take independent boats out to the fishing grounds. An example of a tow vessel system that failed should serve to underline the importance of this observation. The following description is based on a study conducted by Fraser (1966) among Malay fishermen in South Thailand.

Traditionally, the Malay fishermen of Rusembilau relied on oars and sail to take them to their fishing grounds. In

1956 groups of boat owners and steerers (traditionally a high status position in the boat crew) dominated deliberations concerning the best way to motorize the fleet. They decided to introduce tow boats to take fishing vessels to fishing areas and bring them back. Groups of boats would form tow-groups associated with a particular tow boat. This new technology immediately placed considerable strain on the traditional social system.

First, membership in tow-groups meant that individual boat crews and steerers lost their previous independence with regard to locating fish and timing return to market. Second, after a period of poor fishing, wives of members of the more skillful boat crews realized that they were subsidizing less successful crews, since shares were based on the tow-group's total catch. Fraser notes that this situation had broad repercussions in other areas of community life. It resulted in overt hostility between women, and relations between men became strained. The coffee shops, which were the focus for community decision making groups and associated with boat crews, manifested a marked drop in attendance, reflecting the social strains. Attendance at coffee shops never fully recovered. Further, traditional village authority figures, the orang baik (morally good men), were involved in ownership of tows and their operation; thus the chief source of authority and means of maintaining village control were undermined. Finally, because the religious leaders of the village remained aloof from the changes, their status increased.

Before long, the strains became too great, and the tow boats were eliminated. The reindividualization of fishing did much to restore good relations, but the degree of community organization which was originally based on boat crew membership and the traditional authority of the orang baik (whose traditional status depended on boat group affiliation) was never regained.

It therefore seems that competition between vessels and the need for independence concerning where and when to fish are important factors to be taken into consideration with respect to fishermen's organization development. In situations such as the one described above, cooperative ownership and use of tow vessels would probably be doomed to failure. Perhaps some form of training could prepare the fishermen for the consequences, but that is beyond the scope of this paper.

FISHERMEN AS INDEPENDENT TYPES AND ORGANIZATION DEVELOPMENT

Most people who have worked in fishing communities remark on the independent nature of fishermen. They take pride in their self-reliance and for the most part, view themselves as having a great deal of freedom to come and go as they please. This relative independence on the part of fishermen is related

to both technological and environmental aspects of their occupation. In part, the psychological characteristic of independence is useful in carrying out various tasks involved in fishing. For example, the decisions they are forced to make in the face of uncertainty have immediate effects with respect to safety of the vessel and its crew as well as the success of the hunt. These decisions must be made with little delay because of the rapidly changing nature of the sea and other aquatic environments. The characteristic of independence is also related to the fact that most fishermen are physically removed from the help and support of land-based society. While at sea, fishermen carry out complicated tasks independently with virtually no verbal communication between them. Each crewman works and makes independent decisions.

Paradoxically, however, a great deal of literature also discusses the interdependent and cooperative nature of fishermen. For example, Morr and Nerr (1974) have suggested that the need for coordination within fishing crews and the physical risks associated with the marine environment increase both the need for interdependence and the importance of each worker. This, in combination with the rapid depreciation of equipment and the possibility of equipment loss, increases the social and economic distance between owners and laborers. Hence, they argue that work relationships in fishing crews should be more egalitarian than among farmers.

Nevertheless, Poggie emphasizes that "egalitarianism is the only noncoercive way that individuals with high need for independence can be organized into a crew" (1980:21). He thus suggests that need for independence is one of the causal factors influencing onboard egalitarianism and further argues that this psychological trait of independence is a factor involved in the lack of success of fishermen's cooperatives. It is important to note, however, that Poggie did not say that need for independence is the only factor that influences success of fishermen's cooperatives. He suggested that it was a factor but left open the possibility that other factors are also important. It is also important to note that the egalitarianism and interdependence between fishermen which is discussed above refers to within crews, not between crews. Cooperative organizations often require some form of cooperation between crews. Lawson and Kwei (1974) provide a very clear example of how a certain degree of within crew cooperation deceived development workers into thinking that between crew cooperation was possible. Proposed cooperatives failed when the expected cooperation did not materialize.

So as to not end this subsection on a negative note, it is noteworthy that Pollnac and Carmo (1980) found no difference between Azorian farmers and fishermen with respect to attitudes towards cooperation. They suggested, however, that this was probably due to the fact that the degree of perceived pressure

on resources, interpersonal distrust, and perceived risks is similar for both sectors of the population sampled. Clearly, this question concerning the psychological need for independence among fishermen and its relationship to the formation of fishermen's organizations requires additional research before any firm generalizations can be offered.

NEED FOR HARMONY WITHIN FISHING CREWS AND ORGANIZATION DEVELOPMENT

The section above discusses numerous fisheries within which safe and profitable operation of a fishing vessel depends upon an interdependent and cooperative crew. It has been suggested that the use of kinsmen in a crew functions to enhance cooperativeness within the work group. The use of kinsmen in fishermen's work groups is found in many fisheries all around the world.

It is important to note that even in societies where kinship is reported to play a significant role in crew composition, other factors may reduce the proportion of kinsmen in individual crews. For example, in both Panama and Costa Rica (Pollnac 1977, 1981c), the role of kinsmen in crew membership differs significantly between rural and urban areas. In rural areas, over one-half the fishermen interviewed (66 percent in Costa Rica and 52 percent in Panama) fish with kinsmen in contrast to only 36 and 12 percent in urban Costa Rica and Panama respectively. The lower frequency of kin involvement in crews in urban areas could be the result of either weaker ties between kinsmen or more numerous alternative employment opportunities.

Among some fishing people, however, we find that kinship plays little or no role in crew composition. Glacken (1955) notes that family members fish from different vessels on Okinawa. This is done to minimize loss to individual families if a fatal accident occurs. Further, Taiwanese (Diamond 1969), Malay (Firth 1966) and East Anglian (Lummis 1985) fishing crews are not kin based. Norr (1972) reports a similar situation in South India and suggests that the skilled nature of the occupation of fishing results in worker recruitment on the basis of skill and interpersonal ability rather than social ties. McGoodwin (1976) reports that kinship does not play an important role in the crew structure of shark fishermen of the northwest Mexican coast. He suggests that this results from the fact that closely related kin are unlikely to take orders without complaint and that they would probably resent retention through debt peonage, a technique commonly used to retain crew members among these shark fishermen. Finally, VanMannan et al. (1982) indicate that although kinship ties can still be found in modern fishing crews, other criteria take precedence. Hence, the need for a highly coordinated, interdependent crew

can be satisfied with several crew selection techniques.

It is significant to note that in some areas where kinship plays little or no role in crew composition, crew turnover is reported to be relatively high. For example, Bailey (1980) indicates that in Mangkok, Malaysia, crew composition is constantly changing in response to disagreements among crew members or with the captain. Narkswadi (1967a) makes similar comments about Malay fishing crews. Gladwin (1970) notes that Ghanaian vessels with kin based crews manifest less turnover in crew membership. Finally, Lammis (1985) notes that in East Anglia, where crew were traditionally not kinsmen, the casualization of fishing crew labor functioned to reduce onboard stresses--crewmen who did not get along with the others could solve the problem by shifting to another vessel.

Underlying all of this variation, however, there is the need to promote harmony on the vessel. It follows that if an individual or individuals create discord on a vessel, there would either be crew changes or the vessel would become inefficient. Thus, the need for harmony creates situations where changes in crews are to be expected in the fishery. These changes, however, are inimical to forms of ownership promoted by some fishermen's organizations. For example, among Malaysian fishermen, quarrels frequently lead to changes in crew membership. The Kuala Linggi Fishermen's Cooperative Credit and Marketing Society established a system whereby crew members would jointly sign a hire-purchase contract. Subsequent crew changes made it difficult to settle loans, thus contributing to the decline of the association (Narkswadi 1967a).

PERIODICITY OF INCOME, POSTHARVEST LOSS, AND ORGANIZATION DEVELOPMENT

As noted above, catches vary extensively from day to day in many fisheries. Further, fish generally deteriorate rapidly after being removed from the water. It is suggested that this periodicity in catch in combination with the general absence of sea tenure systems (marine fish are usually a common property resource) and the perishability of fresh fish results in a tendency for fishermen to want to rapidly sell their catch to the highest bidder who can pay them in cash. Fishermen are used to relatively unpredictable variability, and claims that, overall, cooperative prices will be higher, although on a given day, they might be less, are greeted with skepticism by fishermen accustomed to capturing as much fish as possible today because those left behind will only be caught by someone else tomorrow (the basis of the "tragedy of the commons").

At present, this interpretation is speculative, but numerous cooperatives in many parts of the world suffer from

the fact that fishermen often sell their catches outside the cooperative. Perhaps fishermen's organizations can counter this problem initially by competing with the other buyers until they gain the confidence of the fishermen to the point where they can begin to provide some stability with respect to prices.

PERISHABILITY OF FISH AND ORGANIZATION DEVELOPMENT

In comparison with a farmer's product, fish is highly perishable and is not easily stored for further distribution without complex technologies such as cold storage, ice making, freezing, or drying technologies. This places an initially higher demand for capital in the development of multipurpose fishermen's organizations. It is often difficult to meet this demand because in regions where organizations are most needed, fishermen are commonly among the poorest of the poor, living from day to day with little or no slack capital for investment in the organization; thus, fishermen's organizations often run into difficulties because of lack of funds (cf. Castillo Obispo 1980; Ho Toh 1980; Fishery Development Authority, Malaysia 1980). This need for capital is further intensified in organizations which have production and supply functions due to the relatively high price of boats, motors, and other supplies, and their higher rate of depreciation in contrast with the major investment in an agricultural cooperative, land. This greater need for capital in combination with the relative poverty of fishermen must be met with careful planning, a general aspect of fishermen's organization financing which will be discussed in the next section of this paper.

SUMMARY

Although it is tempting to make the claim that there are some intrinsic aspects of the occupation of fishing which result in fishermen being less likely than agriculturalists to cooperate in organizations, it must be remembered that there are successful fishermen's cooperatives as well as unsuccessful agricultural cooperatives. Some of the explanations provided to account for the failure of fishermen's organizations could apply equally well to farmer's organizations as will be discussed in the next chapter. Nevertheless, as we have stressed in the above discussion, some fishermen's organizations have had problems due to the fact that the model used was that of an agricultural cooperative, and aspects of the occupation of fishing conflicted with some of its structural features. It is these features, unique to fishing, that must be stressed in the appraisal of projects involving development of fishermen's organizations. This is especially important when the plan involves agencies (e.g., government



Fishermen's cooperative in El Salvador
(Photo by R. Pollnac)

CHAPTER THREE. GENERAL FACTORS INFLUENCING SUCCESS OF FISHERMEN'S ORGANIZATIONS

INTRODUCTION

In Chapter Two, social and cultural characteristics of fishing communities and the occupation of fishing were described. It was noted that some of the characteristics inherent to fishing people influence the relative success or failure of fishermen's organizations. This chapter focuses on other factors which have been found to have some effect on the relative success of fishermen's organizations. Most of these factors also influence the development of non-fishermen's organizations and are discussed elsewhere (e.g., Esman and Uphoff 1984; Dulfer 1974; Borda and Inayatullah 1969). They are discussed here, along with specific examples drawn from fishery development projects, as a means of indicating their importance with respect to the development of fishermen's organizations as well as providing justification for information needs to be discussed in following sections.

As a means of organizing the numerous variables found to influence the relative success of fishermen's organizations, variables are grouped into categories in an attempt to provide some order in the seemingly chaotic network of variables involved. There is, of course, some overlap between various categories, and the groupings are not immutable. What is important, however, is that factors influencing the success of fishermen's organizations be identified so that they can be accounted for in the assessment of development programs.

ORIGINS AND BACKGROUND

The factors grouped under this category provide information concerning the questions why is an organization being formed, what is its basis, and what is the context within which it is formed. They deal with information concerning source of initiative, past experience, traditional underpinnings, and the context. In addition, several factors form the wider context within which a fishermen's organization is formed. Some of these are governmental, e.g., support programs, laws governing organizations, etc. Others are vested interests with whom the organization will compete. All these contextual factors can influence the ultimate success or failure of a fishermen's organization.

Local Initiative. A point frequently raised in discussions concerning success and failure of fishermen's organizations is the original motivation behind formation of the organization and the preexisting relations between individuals and subgroups within the fishing community. Many

observers have noted that fishermen's organizations formed on the basis of local initiative--needs felt by the fishermen themselves--are more likely to succeed than those imposed from outside the community. Successful cooperatives generated by the fishermen themselves can be found in Belize (Gibson 1978; FAO 1971), Italy (Cattarinussi 1973; Bonetti 1976), among a Chinese minority in Malaysia (Narkswasdi 1967b), in the Philippines (Castillo Obispo 1980), Grenada (Epple 1979), Canada (FAO 1971), Denmark and France (Bonetti 1976), Panama (Pollnac 1977), and the United States (Poggie and Gersuny 1974). Fishermen's cooperatives in Belize are so successful that Gibson (1978) reports that FAO chose Belize as a potential site for training others in the organization of fisheries cooperatives.

Local initiative concerning the development of some type of cooperative venture is usually the result of the recognition by fishermen that they have a common problem (e.g., prices paid for fish, need for credit in the face of opposition, etc.). If this problem is viewed by the fishermen as pitting them against some rival group (e.g., the middlemen or farmers who are obtaining loans that they themselves cannot receive), the perceived need for group action becomes quite salient, and fishermen become ready for organized effort. Borda (1971) suggests that this kind of conflict with a common enemy was a potent force in the evolution and growth of the cooperatives he studied.

Nevertheless, the fact that organizations founded on local initiative have a higher probability of success than others does not explain the phenomena. It appears that in situations where development of a fishermen's organization proceeds from below, it is more likely that its specific form was selected because it was viewed as compatible with the society, culture and needs of the fishermen. Further, as it evolved from below, its specific operating procedures probably evolved in a form compatible with the membership. Thus, with target group involvement at the early stages of development, the structures are more likely to be compatible and hence more likely to be accepted by the participants (Pollnac 1981). This is related to the concept of popular participation in development. A recent comparative analysis of a number of fishermen's organizations from around the world has indicated that degree of fishermen's participation in organizational decision making is positively correlated with the success of these organizations (Pollnac 1987). Several authors have specifically attributed the failure of some fishermen's organizations to the fact that they were imposed by outside forces (Narkswasdi 1967a; FAO 1979).

Early Investment by Fishermen. A factor associated with local initiative is early investment of time, labor, or capital

in the cooperative venture by the fishermen themselves. There is ample evidence from many types of organizational ventures that a vested interest on the part of the participants gives them more of an initiative to work at making their cooperative venture operate efficiently. This initial investment need not be in money. This is especially important since small scale fishermen often lack necessary resources. Contributed labor has worked both to reduce the amount of initial capital needed and provide the fishermen involved with a vested interest, both economic and psychological, in project success.

For example, it has frequently been observed that items easily obtained are not cared for as well as those which are difficult to obtain. Many production cooperatives have encountered problems when fishermen failed to perform required preventative maintenance on motors and gear. This failure was not due to lack of knowledge in all cases. The fishermen were trained in the techniques, but they simply kept delaying maintenance, figuring that someone else would do it or that the government would just replace the item. A good example of this behavior occurred in a fishery cooperative development program in Uruguay where cooperative equipment loaned free of charge was not properly maintained (FAO 1978b). In the Uruguay case this was overcome by selling gear to the fishermen with contracts regarding maintenance and use. Narkswadi (1967a) indicates that one of the factors contributing to early problems in the Kuala Linggi Fishermen's Cooperative was the fact that members had all costs advanced. Engvall, et al. (1978) suggest that lack of ownership interest in Sri Lanka fishermen's cooperative equipment led to problems due to failure to perform timely maintenance.

Early investment in the organization is perhaps one technique that can be used to develop a vested interest in the fishermen. In Uruguay (FAO 1978b) fishermen labored for two months at less than one-half their normal income to help build cooperative structures. This investment of both time and income demonstrated their interest and provided them with more of an investment in the success of the cooperative. Gibson (1978) partially attributes the success of the Belize fishermen's cooperatives to the relatively large amount of share purchases required for membership. Further, success of the Prince Rupert Fishermen's Cooperative in Canada can be partly attributed to the fact that it had no outside financial assistance. Finally, the conclusion of an FAO workshop included economic support of the organization by the membership as one of the factors contributing to cooperative success (FAO 1979).

Foundation in Traditional Organizations. Fishermen's organizations which have their roots in some form of preexisting social organization in the community are also more

likely to succeed. The preexisting social groups can be of almost any type; e.g., kinship, religious, credit association, etc. For example, the very successful Japanese fishermen's cooperatives were founded on the basis of traditional fishing village guilds (Holazo 1980). Bonetti (1976) notes that the fishermen's cooperative movement in Europe was grafted onto pre-existing inshore fishing associations, such as mutual aid societies, family loan associations, etc. The Henghwa Cooperative Credit and Marketing Society in Malaysia, which is reported as being quite successful, was based on two mutual benefit societies which were founded by members of the same clan (family group) (Narkswaski 1967b). Davenport (1956) notes that a successful fishermen's association in Jamaica was simply a perpetuation of the district's basic social organization. Finally, Epple writes that the successful Saint Andrew's Fishermen's Cooperative Society was based on what he refers to as a "crew" (1979:5). Epple's "crew" is a frequently interacting, named grouping of fishermen who usually anchor their boats in the same area, are concerned with one another's welfare, and congregate in the same general location for social activities.

It is important to note that these traditional organizations were probably formed or gained their identity on the basis of local initiative, thus relating this variable to the previous one. Further, Epple notes that the Grenada "crews" were characterized by long-standing rivalries and intense competition, hence increasing the need for within group cooperation and the likelihood of successful cooperative formation.

Several social scientists (e.g., Epple 1973, Edel 1967) have elevated this social structural variable to one of primary importance. Epple, for example (1973:476), relegates most of the items considered in this paper to "specific causes of failure" and contrasts them with "more general conditions" affecting either success or failure such as features of the local social structure. Epple presents the following three postulates concerning the success and failure of fishermen's cooperatives:

"Postulate I: Acceptance is most likely when the membership of the cooperative coincides with the membership of an interesting unit in the social structure of the community, such as an informal neighborhood grouping.

Postulate II: The presence of intra-community factions, or multiple informal groupings, associated with traditional rivalries, will generally be beneficial to the acceptance of a cooperative whose membership coincides with that of one of the segments.

Postulate III: Congruence between the pattern of leadership roles in a cooperative and similar positions of authority and group responsibility in the social unit upon which the cooperative is based, will facilitate the acceptance and operation of the cooperative." (Epple 1973:479).

He tests these postulates by comparing the relative success of attempts to form fishermen's cooperatives in fourteen communities in the Caribbean. The results impressively support his postulates. Nevertheless, there is extensive evidence that other social variables have influenced the relative success of fishermen's organizations.

Even the occurrence of successful preexisting groups among the fishermen does not guarantee successful establishment of a new fishermen's organization. It is possible that the informal leadership of the existing group may oppose the new organizational form, often because they perceive it as lessening their degree of control. Further, the preexisting group may be exploitative, and thus in direct contradiction to the goals of fishermen's organizations aimed at assisting small-scale fishermen.

Past Experiences. Past failures with respect to the organization of fishermen can have negative effects on future efforts. For example, Ho Toh (1980) writes that one serious obstacle to the development of fishermen's cooperatives in the Camarines Norte area in the Philippines was the anti-cooperative attitude resulting from bad experiences with them in the past. Miyares del Valle (1974) notes that the cooperative movement has failed so often among Latin American fishermen that in some countries, it is largely discredited among the people it is supposed to benefit. He goes on to suggest that it is therefore important to select groups of fishermen most likely to succeed in the effort to serve as a model to counter negative impressions gained from past failures.

Organization Structure. Errors are often made in determining the exact form of a fishermen's organization by trying to design it along the lines of either successful farmers' organizations or classical European cooperative systems without trying to adapt them to local requirements. This problem is often made worse by the existence of detailed

legislation concerning the establishment and operation of various types of organizations such as cooperatives. The legislation can sometimes force an unworkable structure on the organization. For example some fishermen's cooperatives were known to suffer difficulties because legislation assigned fixed parcels of lagoonal areas to each society, and subsequent shifting of shoreline and sand bars resulted in a redistribution of resources that left some of the areas without any of the preferred species. In other instances, legislation required that fishermen's organizations have a structure and operating bylaws based on foreign (often European) models, and thus effectively prohibited the use of organizational structures based on successful, preexisting local patterns of work organization.

Sometimes the structures proposed for fishermen's organizations ignore established patterns of relationships between individuals which are set by the requirements of the occupation. Organizations formed on this faulty basis are bound to develop problems or be rejected out of hand. For example, in most fishing communities around the world, men conduct deep sea and deep lake fishing from boats while women are confined to activities in the near shore region or on the land. This has resulted in a division of labor where men fish and their wives process and/or distribute the product. Organizations formed to handle marketing which do not take this division of labor into account will either fail outright or result in unemployment among the fishermen's wives. Women frequently perform other shorebound activities in the fishery sector, and should be included in plans to develop fishermen's organizations.

The demands of fishing often create a situation which demands a high degree of coordination and cooperation between crew members. This need for harmony in the work group is so strong that all attempts are made to form crews that get along well together. When arguments erupt in a crew, changes in crew composition are made to restore harmony. Some fishermen's organizations, however, were formed on the basis of joint crew hire-purchase contracts. This meant that crew members were jointly responsible for loan repayment. Subsequent crew changes resulted in defaults and strains on the organizations.

Finally, variability in the availability of fishery resources has resulted in a relatively common occurrence of periodic migration among small scale fishermen. Sometimes the fishermen move from coastal to inland locations, shifting from fishing to farming; sometimes they migrate from one fishery resource to another. In one region where attempts were being made to develop fishermen's organizations, one of the requirements for membership was that fishermen had to live in the region of the organization. This requirement effectively prevented many fishermen from belonging to the society, thus

weakening the overall effectiveness of the program.

Laws Concerning Fishermen's Organizations. One summary paper (FAO 1979) notes that the cause of failure of some fishermen's cooperative organizations is the complex and confusing legislation regarding their establishment and use. Sometimes these laws prevent effective fishermen's organizations from registering as a cooperative, hence denying them benefits such as favorable loan terms and decreased taxes on supplies that are given to cooperatives in some parts of the developing world. Epple (1979) provides excellent examples of how local laws inhibited cooperative development in Grenada. First, the requirement that leadership be selected early in the formative process went counter to the fishermen's traditional values. Second, the length of time necessary for the training and pre-cooperative stages was considered excessive by the fishermen who became disillusioned by the delays.

Although it is necessary that some legislation exist with respect to fishermen's organizations, it should probably be flexible to allow for regional and occupational needs. Some countries (e.g., Japan) have developed separate legislation to cover fishermen's cooperatives. Dibgy (1973) suggests that a single, general law would be superior because it would pool expertise and functions. Unless this law is very general, however, it could not be adapted to differences in needs between the fishery and other sectors as discussed in the previous section of this report. What is needed is legislation which reflects the spirit of the cooperative movement while not stifling the various manifestations made necessary by differing situations.

Training Needs. In many instances, fishermen's organizations have had problems attracting members due to a misunderstanding of what a specific fishermen's organization could do for them. Pollnac (1977) notes that a significant number of fishermen could not respond to simple questions concerning the functions of a cooperative in a region where the government was actively promoting the development of fishermen's cooperatives. Davenport (1956) partially attributes failure of a fishermen's cooperative in Jamaica to a lack of communication with fishermen concerning objectives of such an organization.

The complexity of the training issue is indicated by the fact that an FAO publication on cooperatives (FAO 1977) notes that a minimum of five to ten years is needed to adequately develop the human resources necessary for the expansion of cooperatives. Only local governments can be expected to undertake such long-term training. In areas where cooperatives have been successful (e.g., Belize) the government has had a consistent program of providing support when needed (Gibson

1978).

Legislative Support. Another factor involved in success of fishermen's organizations is legislative support provided by the government. For example, in Japan cooperatives are given the legal basis for acquiring property rights over the coastal fishery (Holzao 1980). A Malaysian law granting trawler licenses only to cooperative members provided great stimulus to the growth of the cooperative movement. The fact that the fishermen's cooperatives in Belize were given the export monopoly with regard to lobster and conch greatly aided their development (Digby 1973). Finally, Haltenstvedt (cited in Jentoft 1985) attributes the success of Norwegian fishermen's sales cooperatives to a national law giving them a monopoly on primary sales.

Vested Interests. Sometimes middlemen and money lenders who are displaced by a fishermen's organization use all means at their disposal to cause failure of the society. For example, Day writes that in India "blackmail, lies, fraud, coercion were all used against the fishermen of Marianad in attempts to prevent their cooperative succeeding" (1981:35). Dibbs (1964) found that a cooperative failure in Tanzania was due to a middleman who "...instigated schemes in an attempt to win trade..." In Grenada, a businessman-boat owner, looking out for his own interests, dissuaded fishermen from joining a developing cooperative (Epple 1979). Finally, in some cases, other groups of fishermen may have a vested interest in maintaining the status quo. For example, Lamming and Hotta (1980) report that Ghanaian fishermen in Sierra Leone opposed formation of a cooperative by Sierra Leone fishermen.

Nevertheless, vested interests do not always succeed in their attempts to defeat the development of fishermen's organizations. Kurian (1980) partially attributes the success of the Marianad fisheries cooperative (India) to the fact that its struggles against vested interests resulted in cohesion of the group rather than disunity. This factor is related to Epple's (1973, discussed above) hypothesis relating cooperative success to the presence of intra-community factions where one or more of the factions form a cooperative.

In some cases, middlemen do not need to scheme to attract fishermen away from cooperative societies. Pollnac (1981a) notes that the independent middlemen in Costa Rica provided necessary services not provided by the fishermen's cooperative planned to replace them. The Fisheries Development Authority, Malaysia (1980), notes that their middlemen also provide services not provided by the cooperatives, thus attracting fishermen away from the societies. Lamming and Hotta (1980) write that the firm establishment of the middlemen in the Gambia has been a constraint to cooperative development.

Finally, FAO (1958), noting the complexity of the fish trade, suggests that the competence of the middlemen is greater than the government or fishermen and that the middlemen also perform functions that we know little about. The present author concurs with this position and suggests that those establishing fishermen's societies could learn a great deal from traditional middlemen. Perhaps with the proper incentive, their services could be used.

MEMBERSHIP

How many and who should be members of a fishermen's organization are two factors which have been found to affect its relative success or failure.

Group Size. When new fishermen's organizations are based on existing organizations, care must be taken not to develop an organization much larger than the existing one since traditional interaction patterns in a community influence the optimal number of individuals that can form an effective organization. There are cases where fishermen's organizations failed because they were made so large that members no longer felt that the group was their own. Plans for development of fishermen's organizations that are not compatible with this optimal size factor could run into difficulties. A scheme in Sri Lanka to reorganize 292 small cooperatives into 45 larger ones resulted in a loss of identity between fishermen and subsequent deterioration in cooperation (FAO 1978a). Digby (1973) has attributed this to the fact that it is difficult to retain the interest of fishermen in an organization that is no longer "their own." Noting that the overall trend in cooperative organization is towards larger societies, Digby (1973) indicates that it is becoming increasingly difficult to reconcile differences between the ports and groups of fishermen brought together. Pollnac (1981a) provides data which indicates the need to adapt fishermen's cooperatives to regional needs, a process that becomes evermore difficult as cooperatives grow larger and larger in response to needs for administrative efficiency.

Members. In the final analysis, success or failure of a fishermen's organization depends upon the behavior of its members. If the members are either unable or unwilling to perform duties required for effective operation, then the organization will not succeed.

What are the characteristics of members of successful fishermen's organizations? One important characteristic is that the members should be fishermen or participants in the fishery who are somehow involved with the fishermen, such as mechanics, boat builders, and fish processors. Some

organizations, in attempts to meet minimum legal membership requirements or those set by the development project, have admitted non-fishermen, thus greatly weakening the community of self-interest among members of the organization. In other cases, corrupt individuals have set up organizations with fictitious members as a means of profiting from some development scheme.

Among the many problems facing the Kuala Linggi Fishermen's Cooperative, Narkswasdi (1967a) notes that the society faced difficulties from the start due to improper selection of members--desired qualities were not made clear in the by-laws. Many were not even fishermen. FAO (1978a) notes that in Bangladesh many cooperatives have undesirable members who use the society to gain their own ends. Engvall, et al. (1978) found that the lack of experience on the part of cooperative members in Sri Lanka resulted in equipment breakdown. In a workshop summary, FAO (1979) concluded that among factors contributing to cooperative success is membership homogeneity--consisting entirely of fishermen and those committed to fishermen's causes.

Social categories of members may also affect organizational effectiveness. For example, Davenport (1956) argues that it was a mistake to allow women to become members of the fishermen's cooperative at Farquhar Beach in Jamaica. He notes that in the traditional social organization of the community, men and women do not participate in group activities together except within the household. The only exception is at church meetings, and although there was no church in the community, most community members had at some time gone to church. Davenport suggests that the mixed sex membership, along with the fact that the organizer instructed the fishermen to begin the meeting with prayer and hymns, resulted in meetings conducted with the high moral tone of a church meeting. This contributed to failure of the organization.

Lack of experience in entrepreneurial activities is a factor cited as creating problems in cooperative development in several countries, such as Malaysia (Fisheries Development Authority, Malaysia 1980) and the Philippines (Ho Toh 1980). Doubtless the problem exists in other small-scale fisheries, and its importance is underscored by the fact that Narkswasdi (1967b) partially attributes the success of the Henghwa Fishermen's Cooperative to the entrepreneurship of its members.

As a means of ensuring qualified members, Miyares del Valle (1974) suggests that fishermen's organizations such as cooperatives must exclude non-vessel owners. He indicates that what a cooperative needs is membership with the "...perseverance, willingness to work, and thrifty disposition..." necessary to obtain a vessel. Digby (1973) disagrees with this position, suggesting that all fishermen should be allowed to become members due to the fact that in

contrast to farm laborers, fishermen are more interested in the success of the venture due to the system of distributing the catch. Additionally, fishermen are likely to become vessel owners themselves one day in contrast to the unlikelihood of a farm laborer becoming a land owner.

Heterogeneity of Membership. Internal conflicts of interest have also been cited as a factor influencing the relative success of fishermen's cooperatives. Internal conflicts of interest can be generated in several ways. First, the one-man-one-vote principle leads toward the expectation that the cooperative will provide functions deemed necessary by its membership. If the cooperative is composed of different types of fishermen (e.g. exploiting different stocks that require different times and methods) the number of functions or temporal duration of the functions may result in inefficiencies. For example, a cooperative in the North East of the United States failed because fishermen who finished at different times demanded that the supply store be open at hours convenient to all fishermen. This resulted in a final expense that pushed the organization into bankruptcy. Hence, heterogeneity of membership can result in conflicting demands that can reduce the efficiency of operation.

Jentoft (1985) indicates that conflicts of interest can also develop as a cooperative adds functions, for example, when harvesting cooperatives move into processing and marketing. This not only increases the number of participants, but also introduces a further element of heterogeneity regarding the type of participant. Processors will be the employees of the fishermen, which can result in conflicts of interest when it comes to the use of profits for salaries, improvement of workplace, etc. The employers (the fishermen) will naturally want the benefits, potentially resulting in antagonism between the various participants in the cooperative (Jentoft 1985).

ADMINISTRATION

A large number of interrelated factors have been grouped under the category "administration," including variables such as record keeping, meeting attendance, management expertise, and inter-agency cooperation. Many of these variables are frequently cited as influencing the relative success of fishermen's organizations in various parts of the developing world.

Management Expertise. Turning first to management expertise, which is perhaps the most widely cited cause of the failure of fishermen's organizations, Rao (1980) attributes the poor performance of a large number of Indian fishermen's cooperatives to inefficient management. Ho Toh suggests that

management is the most serious problem facing the Camarines Norte Area Fishing Cooperative in the Philippines (1980). Castillo Obispo notes that management was also a problem with the Madridejos Fishermen's Cooperative in the Philippines (1980). Many of the problems of the Kuala Linggi Fishermen's Cooperative have been attributed to inadequate management (Narkswasdi 1967a). Conversely, successes have been attributed, at least in part, to effective management in numerous areas (e.g., Grenada, Epple 1979; Malaysia, Narkswasdi 1967b; Belize, Gibson 1978). Some of the management problems cited include factors such as a lack of record keeping. For example, lack of adequate record keeping has been noted as an impediment to cooperative performance in the Philippines (Castillo Obispo 1980), Malaysia (Narkswasdi 1967a) and is undoubtedly a factor subsumed under "poor management" in many other parts of the developing world.

The importance of competent management is widely recognized in the literature, and one can find many general recommendations concerning the need to staff fishermen's cooperatives with trained managers (e.g., FAO 1975). Ho Toh (1980) notes that good management is expensive in the Philippines and that failure to pay salaries comparable to the private sector will lead to inadequate staffing. This is true throughout both the developing and the developed world. One encounters problems when attempting to pay relatively high wages, however. For example, during the early stages of fishermen's cooperative development in Denmark, fishermen resisted paying high wages for management. As a consequence, the cooperatives were not properly managed and had to be abandoned (Mourier and Sorensen 1976).

Another problem frequently encountered with respect to management is that it is frequently difficult to find competent management personnel among fishermen. Nevertheless, some fishermen have reacted negatively to being managed by non-fishermen. A cooperative development project in Colombia ran into problems when the fishermen would not cooperate with government-appointed "outsiders" who knew little about fishing. Non-fishing members and office workers in the Kuala Linggi Fishermen's Cooperative contributed to its problems (Narkswasdi 1967a). It is reported that fishermen in the Satpati Fishermen's Sarvodaya Society became more supportive when fishermen joined the board of directors (FAO 1971). This is not to say that non-fishermen will never be accepted in a leadership role. Epple (1979) notes that in the Saint Andrew's Fishermen Cooperative Marketing Society, a retired teacher who was also a respected community leader provided leadership. The manager must be respected, and it is doubtful that a government-appointed outsider will gain the respect of the fishermen soon enough to guarantee success of a fishermen's organization during its vulnerable early stages. In support of

these generalizations, a recent comparative analysis of a number of fishermen's organizations from around the world indicated that while 83 percent of the successful organizations had a board of directors elected by the organization's members, over one-half (55%) of the failures had non-member input to the selection process (Pollnac 1987).

Bonetti (1976) has outlined a three-stage process in the development of the directorship of fishermen's cooperatives: First, the founder is often a fisherman, the head of some local association or the top fisherman in the port. Second, leadership is often shifted to the hands of someone connected to the fishing industry either through birth, career, or community position but who is somewhat detached because of level of training. Finally, the growing complexity of management requires a trained administrator. By this stage, the fishermen, through trusted administrators, are made aware of this fact and are willing to accept such a person. This development sequence will probably be hard to duplicate in small-scale fisheries in the developing world because of the low level of education in many fishing communities. Nevertheless, all attempts should be made to appoint managers who have the respect and support of the fishermen.

Organizational Complexity. It has been noted that fishermen's organizations exhibit a tendency to become increasingly inclusive through time, to assume more and more economic and social functions. This results in cooperatives evolving into multipurpose organizations. This is especially true in developing areas where services are lacking. For example, Poggie (1981) notes that fishermen in more rural Costa Rican communities expected more services from a cooperative than those in the more urban areas. Jentoft (1985) suggests that this internalization of functions also internalizes conflicts in addition to becoming so complex that participants feel out of touch with daily operations, alienating them from the leadership and potentially leading to failure.

Meeting Attendance. Since the fishermen are supposed to have input into the running of their organization, attendance at meetings is an important facet of administration. Nevertheless, as was noted in the previous section, demands of the occupation make it impossible to attend all meetings. Digby cites this as a general problem with respect to the development and maintenance of fishermen's cooperatives. Techniques used in conducting organization meetings may also reduce attendance. For example, Davenport (1956) partially attributes failure of a cooperative in Jamaica to the fact that the church-meeting-like tone of cooperative meetings inhibited the development of interesting activities, thus lowering attendance and the opportunity for stable group formation.

High attendance at cooperative meetings in Belize is attributed to the fact that a feast accompanies the meeting. Perhaps similar stimuli or scheduling of meetings during non-fishing periods will work elsewhere.

Interagency Cooperation. In many LDCs effective development of fishermen's organizations is complicated by the fact that the scarcity of skilled personnel results in a number of bureaucratic agencies being responsible for different components of the fishermen's organization development and maintenance program. In a fishery development project in Uruguay involving fishermen's cooperatives, problems in coordinating all involved agencies resulted in delays which had negative effects on the morale of cooperative members (FAO 1978b).

Hennessey (1981) has argued that an essential feature in development planning is the determination of the administrative feasibility of interagency cooperation. For example, in a fishery development project in Costa Rica, no less than nine institutions were involved which required coordination (e.g., bank, government agencies, a fishermen's cooperative, etc., cf. Hennessey 1981). This multiple agency involvement was necessitated by the comprehensive nature of the project which stressed socioeconomic and institutional factors as well as technology transfer. The problem was that adequate authority was not established to coordinate the various agencies. Further, the fact that responsibility for the project was at different levels in the various agencies led to status conflicts, delays, and jealousies between individuals and groups involved. All of this, of course, led to grave problems with respect to project implementation.

SOCIOECONOMIC FACTORS

This guide will not include considerations of cost-benefit analysis or financial analysis of cooperatives which are covered in other publications. The socioeconomic variables considered are basic, more social in nature, and relatively simple to evaluate. Nevertheless, they play an important role in cooperative success or failure.

Availability of Capital. Since fishermen are among the poorest of the poor in the developing world, it is frequently impossible to raise sufficient capital to begin effective operation of a fishermen's organization. Difficulties in obtaining sufficient initial capital have been noted in many parts of the world, e.g., the Philippines (Castillo Obispo 1980; Ho Toh 1980), Africa (Lanning and Hotta 1980), and Latin America (Miyares del Valle 1974). Availability of capital is a factor noted as contributing to success of fishermen's

cooperatives in Japan and Belize (Digby 1973). Frequently fishermen view cooperatives as credit sources rather than investment opportunities. They function socially as a source of assistance for fishermen, and their categorization as "non-profit entities" reinforces behaviors which mitigate against accumulation of capital. This, as Jentoft (1985) notes, increases the vulnerability of the cooperative in times of financial hardship resulting from variations in catch, bad weather, or price fluctuations. Although lack of capital is a frequent impediment to establishment of fishermen's cooperatives, it must be noted that dependence on government subsidies has been cited as a factor contributing to cooperative failure (FAO 1979).

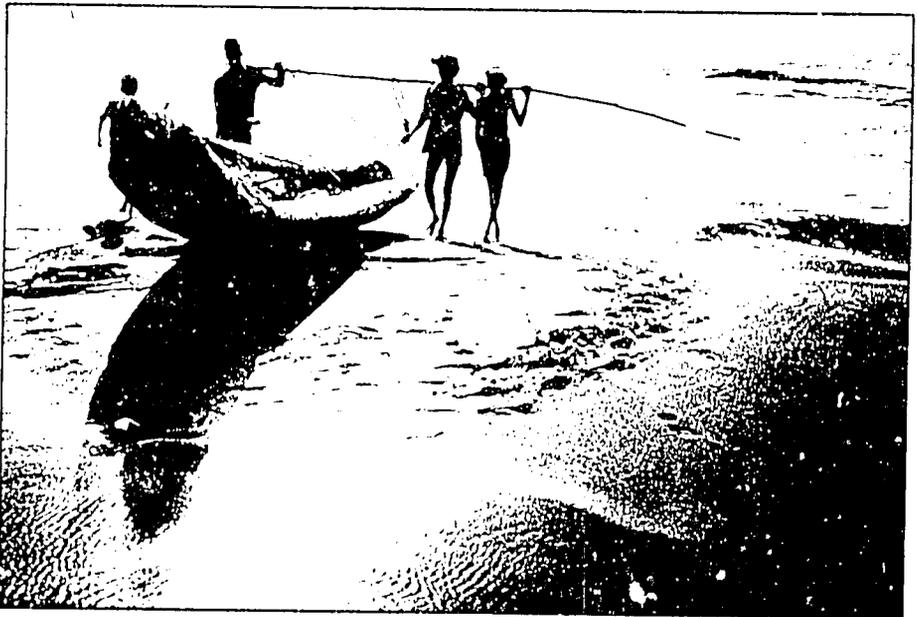
EVASION OF RULES

It was difficult to include this factor under any of the above categories, since it is more an indicator of an organization in trouble than a factor outside the organization contributing to its success or failure. Nevertheless, evasion of rules seems to be a widespread problem affecting development of fishermen's organizations in many parts of the world. In several countries in Central America, the author was told by non-cooperative members that they were initially interested in belonging to a fishermen's cooperative, but dishonest activities on the part of cooperative staff and other members convinced them not to join. Often fishermen voicing these complaints were among the best and most respected in the community. Narkswadi (1967a) writes that dishonesty and deception plagued the Kuala Linggi Cooperative from the start, including default on loans, theft of equipment, illegal allowances, etc. Engvall, et al. (1978) note that Sri Lanka cooperative members sometimes illegally sell cooperative equipment. McGowan (1987) writes that internal corruption is one of the most serious problems facing shrimp fishermen's cooperatives on the Pacific coast of Mexico. One of the conclusions of an FAO workshop summary was that corruption and exploitative leadership are among the important causes of cooperative failure (FAO 1979).

Selling fish outside the cooperative is another evasion of rules that inhibits cooperative development. This practice is so widespread that it is safe to predict that it probably affects all cooperatives to one degree or another. It has been reported as a factor affecting cooperative performance in the Philippines (Castillo Obispo 1980), Ireland (Doyle 1976), India (Day 1981), Belize (Gibson 1978), Malaysia (Narkswadi 1967a) and Sri Lanka (Engvall et al. 1978). The only way to counter this problem is through effective pricing and control.

SUMMARY

We have examined numerous factors found to be associated with the success and failure of fishermen's cooperatives in various parts of the world. It is important to be flexible in the application of this information. For example, it was noted that cooperatives formed on the basis of local initiative are frequently more successful than those which are imposed from outside sources. This does not mean that all cooperatives formed on the basis of stimulus from outside the community are bound to fail. They will probably succeed if other factors influencing success and failure of cooperatives are taken into account. Locally initiated cooperatives probably succeed more often because they evolve under local direction, adapting to the needs of the participants along with their early input. The next chapter will define the kinds of data that must be collected to assess factors influencing the success of fishermen's organizations.



Beaching kattumaram in Tamil Nadu
(Graphic by R. Pollnac)

CHAPTER FOUR. TYPES OF INFORMATION NEEDED TO EVALUATE FACTORS INFLUENCING THE POTENTIAL OF FISHERMEN'S ORGANIZATIONS IN DEVELOPING COUNTRIES

In Chapters Two and Three, a number of factors affecting relative success and failure of fishermen's organizations were presented. The purpose of this chapter is to outline the types of information needed to evaluate the potential of actual or proposed fishermen's organizations for achieving the goals associated with specific development projects. In this chapter, the factors affecting fishermen's organizations will be subcategorized on the basis of their applicability to the types of organizations discussed in Chapter One. A matrix located at the end of this chapter (Figure 2) cross-tabulates different organizational functions discussed in Chapter One with the specific data needed to evaluate their potential success.

Origins and Background. Among the information required concerning origins and background of proposed organizations is whether or not the fishermen themselves have already perceived that through group action they can more readily obtain some goal and if, acting on this perception, they have already begun to form groups. This piece of information will be referred to as local initiative (1.1). The numbers in parentheses following descriptions of information types are for reference purposes in the following Chapters and Figures Two and Three

Information concerning other groups within the fishing community must also be compiled. This should include identification and description of all groups existing now and in the recent past in the community. The description should include numbers of members, functions of the organization, its structure (what kinds of positions are there in the group, how are they filled, and how do they relate to one another?), operations (how do they do what they do?), relationships with other groups, relationship to proposed organization (will the new organization compete with the existing group?), and fishermen's attitudes towards the various existing groups (1.2).

Some of these groups that already exist in the fishing community may be composed of fishermen; hence, will provide valuable insights into traditional forms of cooperation among the fishermen. In some cases, the fishermen's groups will be informal associations related to some aspect of fishing, such as groups of men who store their boats and gear together in a common enclosure or who work on nets together. In other cases, the groups may have non-fishing functions. No matter what their present function, such groups provide valuable information concerning patterns of organization and cooperation among the fishermen. It is therefore important to obtain

information concerning all facets of their organization and operation. For example, does the group have a leader? If so, what is his role, and how did he obtain this position? How are decisions made in the group? If there are meetings, when are they held and for what purpose? How long has the group been in existence, and how was it formed? How many members are there, and what are their relationships to one another (e.g., kinsmen, friends, fellow crew members, etc.)? (1.2).

If it has already been decided to include fishermen's organizations as part of the project design, the source of this decision and projected role for the fishermen's organization in the project should be determined. This should be done whether the organization is in existence, incipient, or about to be introduced to the community by a government agency or some other body (1.3).

Further, an assessment must be made of all laws concerning the formation and operation of organizations. Laws affecting access to resources should also be described (1.4).

Social Organization of Fishing. Needed information concerning the social organization of fishing includes a description of crew structure including who owns the vessel and gear and do these owners fish, the number of individuals operating equipment and their positions (e.g. captain, mechanic), relationships between crew members themselves and between crews and owners (e.g. are they kinsmen, friends coming from the same village, or something else), and methods used to distribute income from both labor and the use of capital equipment (2.1).

Information is also required concerning all occupations closely associated with fishing. For example, one must determine if there are individuals who specialize in certain types of fishing, in buying and selling fish, in processing, in boat building, etc. This information will help identify potential vested interests who may oppose the new organization. Information concerning the full range of functions of these specialists with regard to the fishermen should be compiled. For example, do fish buyers also lend fishermen money and transport supplies for them (2.2)?

Finally, it must be determined if the seasonal availability of fish requires the fisherman to change his place of residence during the year. If it does, it will be important to determine if the entire family or just the men migrate and for how long (2.3).

Membership. Important characteristics of membership include whether or not membership is open and/or voluntary, whether non-fishermen will be or are allowed to join, and what types of fishing are conducted by potential members (3.1). Certain individual characteristics of the fishermen themselves

will also be needed. For example, what is their entrepreneurial orientation (3.2), level of education (3.3), social class (3.4), attitude towards cooperation in an organization (3.5), need for freedom to come and go as they please (3.6), attitudes towards outsiders (3.7), potential for selling outside the organization if it is a marketing organization (3.8), and knowledge about functions of fishermen's organizations (3.9).

Economic Factors. Especially important is information on the availability of capital for group formation and/or maintenance. This should include amount of initial investment by fishermen in either time or money. Sources, amounts, and terms should be described (4.1). Information about actual procedures concerning acquisition and repayment of loans should also be compiled (4.2). Finally, it is essential to collect information on procedures used to pay fishermen for their catches (4.3) and on the longevity of vessels and other productive equipment, both present and proposed (4.4).

Government Support. Several factors are important concerning government support. First, what are the relationships between the goals of the proposed organization and government development goals (5.1)? If organizational training facilities such as schools or extension services exist, will the government provide the organization with access to them (5.2)? If these training facilities do not exist, is the government willing to establish them (5.3)? Finally, does the government already have legislation or are they willing to make legislation, which will facilitate formation of fishermen's organizations (5.4)?

Administration. Of primary consideration is the availability of management expertise for the fishermen's organization. Information needed here includes the type of expertise needed as related to complexity of proposed organization, the relationship of the management needs perceived by the fishermen to the management needs perceived by the government development agencies, and the determination of whether management expertise acceptable to the development agency is available (6.1). If possible, a history of meeting attendance in former or currently existing community organizations should be determined (6.3) as well as the best potential times (6.2) and structure for meetings (6.4). Finally, the various agencies to be involved must be determined (6.5) along with a history of past cooperation (or the lack of it) between these agencies (6.6), as well as the structure of the techniques to be employed to coordinate activities amongst these agencies (6.7).

ORGANIZATION FUNCTIONS

DATA CATEGORIES		Supply	Credit	Marketing	Production	Service	Multipurpose
ORIGINS AND BACKGROUND	1.1 Local Initiative	X	X	X	X	X	X
	1.2 Group structure	X	X	X	X	X	X
	1.3 Source of Idea	X	X	X	X	X	X
	1.4 Legal requirements	X	X	X	X	X	X
SOCIAL ORGANIZATION	2.1 Crew structure	X	X		X	X	X
	2.2 Ancillary occupations	X	X	X	X	X	X
	2.3 Migratory/residence status	X	X	X	X	X	X
MEMBERSHIP	3.1 Membership requirements	X	X	X	X	X	X
	3.2 Entrepreneurial orientation		X	X	X		X
	3.3 Education level	X	X	X	X	X	X
	3.4 Social class	X	X			X	X
	3.5 Attitude toward cooperation	X	X	X	X	X	X
	3.6 Need for independence			X	X		X
	3.7 Attitudes toward outsiders	X	X	X	X	X	X
	3.8 Outside marketing potential		X	X	X		X
	3.9 Knowledge about organizations	X	X	X	X	X	X
ECONOMIC FACTORS	4.1 Investment	X	X	X	X	X	X
	4.2 Loan procedures	X	X		X	X	X
	4.3 Payment for production			X	X		X
	4.4 Equipment life	X	X		X	X	X
GOVERNMENT SUPPORT	5.1 Goal complementarity	X	X	X	X	X	X
	5.2 Existing government support	X	X	X	X	X	X
	5.3 Planned government support	X	X	X	X	X	X
	5.4 Legislative support	X	X	X	X	X	X
ADMINISTRATION	6.1 Available expertise	X	X	X	X	X	X
	6.2 Meeting times	X	X	X	X	X	X
	6.3 Meeting attendance	X	X	X	X	X	X
	6.4 Meeting structure	X	X	X	X	X	X
	6.5 Agencies involved	X	X	X	X	X	X
	6.6 Agency cooperation	X	X	X	X	X	X
	6.7 Agency coordination	X	X	X	X	X	X

Figure 2 Matrix relating organization functions to suggested data type.

CHAPTER FIVE. HOW TO OBTAIN INFORMATION NEEDED TO EVALUATE THE POTENTIAL OF FISHERMEN'S ORGANIZATIONS IN DEVELOPING COUNTRIES

INTRODUCTION

Although the description of information needs in the previous chapter seems to be rather extensive, obtaining this information need not in actual fact be overly time consuming and will more than pay for the required investment in terms of its contribution to project success. The purpose of this chapter is to provide guidelines on techniques to be used in acquiring this information.

The required data can be obtained using three basic techniques: (1) research of available records, published sources, or other recorded material concerning the region; (2) key informant interviews; and (3) sample surveys. Following a brief description of each of these techniques, the specific data subcategories (as identified in Chapter Four) appropriate to each will be enumerated along with details concerning specific data acquisition techniques, where needed. A matrix relating data categories to data source can be found at the end of this chapter.

USE OF AVAILABLE WRITTEN RECORDS

Where possible, all available written records concerning the target fishing population should be reviewed prior to beginning fieldwork in the project region. For example, if the fishermen's organization will be associated with a planned or ongoing project, all available material concerning the project and the project site should be reviewed for information relevant to the formation or evaluation of organizations. If project appraisal reports include sociocultural or economic analysis, they include some of the information required.

Frequently, relevant written materials exist but are not available outside the target country and can be found only through conducting interviews with key informants in the region (see section on key informants below). Existing written materials are likely to include reports completed by other agencies (including donors), studies done by local university staff or students, and statistics compiled by the fishery office in the target region. In addition to data collected by previous researchers or development agencies, one may also find needed information in church or government censuses, local histories, newspaper files, etc.

One should use caution when relying on written material. In today's rapidly changing world, materials are rapidly outdated, and checks should be made to determine if the materials are obsolete. Further, attempts should be made to

determine the reliability of all sources. Sometimes inadequate data collection methods were used, sometimes statistics are inflated for political purposes, and sometimes observers attribute their own attitudes and values to the persons observed. Only through actual field research can the reliability of written materials be checked. Finally, reliable written materials can be used as a cross-check on the validity of statements made by key informants.

Almost any type of information can be obtained from existing written records. It is unusual, however, to find a great deal of useful information. Detailed and accurate studies of the target population are the exception rather than the rule, but if some exist, it pays to search them out and use them, especially if careful checking determines that they are reliable. More often, the information that can be found in written documents is limited to legislation concerning organizations and/or cooperatives (1.4 and 5.4), censuses of population which may include occupation and location and which can be used to determine residence patterns of fishermen (2.3) and draw representative samples for survey work, government development plans which can be used to evaluate whether the proposed organization fits with the stated goals (5.1), and the administrative structure of the government involved which may provide some insight into which government agencies will be involved in a development plan which includes the formation of fishermen's organizations (6.5). The census can often be found in the records of religious organizations or local government tax or license files. The other written information such as legislation, administrative structure, and development plans are usually published by a government printing office. Access to these documents is usually open to those involved with official projects.

It bears repeating at this point that all written records must be carefully evaluated. For example, although a fisheries officer may tell you that all fishermen are required to obtain licenses, and that no one may fish without one, it is still important to check the reliability of the license records. The fishery officer may tell you that all fishermen obtain licenses because he wants you to think that his office is doing a good job or that all the fishermen in his district comply with the law. The fact is that frequently in small-scale fisheries in developing countries there are many unlicensed fishermen due to problems in enforcement; thus, the files on licensed fishermen would not be a good source of either information concerning residence or as a "universe of fishermen" from which to draw a representative sample for survey purposes. Once again, care must be taken with all written material to determine its accuracy.

KEY INFORMANT INTERVIEWS

This type of data collection technique involves intensive, in-depth interviews with individuals selected because of their knowledge of the subject matter. For example, a great deal of important information concerning fishing activities can be obtained from a few well informed local fishermen, shopkeepers, and fish merchants. Data concerning important non-fishing factors can often be obtained from officials, either religious or secular, who keep records on births, deaths, commercial establishments, etc. As noted above, key informants can also be useful in identifying sources of written records. Finally, key informants can aid in developing questions that should be posed to a larger sample in the form of a structured interview. This use of the key informant will be more carefully examined below when we discuss sample surveys.

Identification of key informants is an important task which may require several weeks of preliminary research in the target community by a competent social scientist, but improved accuracy in obtained data will more than make up for the costs involved. It is suggested that several key informants be used for each data type as a means of quality control and cross-checking on the information gathered.

A great deal of the information needed to evaluate the potential for fishermen's organizations can be obtained from well selected key informants. For example, a well-informed local fisherman could tell you whether or not fishermen have been considering forming an organization on their own (1.1) or if there had been one in the past (1.3). He could also give information on social groups, or factions, that exist in the community and the types of relationships between them (1.2).

In communities where traditional groups contain fishermen, and information must be gathered concerning traditional forms of organization and cooperation, one of the important key informants selected would be the leader (either formal or informal) of the existing group. This person could provide information concerning the history of the group's development, its membership, organization, and functions as outlined in the previous chapter. In addition to the group leader, at least one key informant drawn from the group's membership and one from outside the group should be interviewed concerning attitudes towards the group by both outsiders and insiders (1.2).

Key informants drawn from local fishermen can also provide a great deal of pertinent information concerning the social organization of fishing (2.1, 2.2, and 2.3). This would include a determination of ownership patterns (2.1.1), the distribution of labor (2.1.2), the composition and social structure of fishing crews (2.1.3), techniques for distributing

proceeds of the catch (2.1.4), a description, including functions, of other occupations associated with the fishing sector (2.2), and residential and/or migratory patterns of local fishermen (2.3). Local fishermen key informants can also provide relatively accurate information on traditional loan and payment procedures (4.2 and 4.3), as well as general information concerning life expectancy of present vessels and gear (4.4), whether or not fishermen traditionally attend meetings and information concerning these meetings (6.3 and 6.4), and the times when fishermen are usually fishing, so as to help in scheduling meetings for fishermen (6.2). Fishermen key informants might also be able to provide some preliminary information concerning the availability of a person who they would trust to run the organization (6.1), but their suggestions should be tempered with a personal evaluation of the individual suggested and some survey results to be discussed below.

In cases where fishermen's organizations already exist, knowledgeable members can be used as key informants to obtain information concerning its history and problems (1.3, 3.1, 4.1, 5.2, 6.1, 6.2, 6.3 and 6.4). Preliminary information concerning fishermen's attitudes toward the organization (3.5 and 3.9) can be obtained from key informants prior to administering a survey. As described later, responses in the preliminary work with the key informants can be used to structure questions for the subsequent survey.

Finally, government officials associated with the fishery can be used to obtain information concerning existence of and access to organizational (or cooperative) training facilities, as well as the government's attitude concerning the establishment of such facilities (5.2 and 5.3). Attitudes concerning the government's willingness to enact legislation favorable to the establishment of cooperatives or other fishermen's organizations can also be determined by interviewing key government officials (5.4). These same officials can be a source of information concerning the potential identification of those agencies which would be involved in the program (6.5), as well as the potential for cooperation or noncooperation between these agencies (6.6), and suggestions concerning the techniques that could be used to coordinate the activities of the involved agencies (6.7).

SAMPLE SURVEYS

Certain types of information need to be collected by a sample survey of the community involved. Key informants base their responses on their own experiences, which may or may not be representative of the community as a whole. Since most fishermen's organizations require the cooperation of a relatively large number of fishermen, it is necessary to ensure

that information on which the organization is to be based is really representative of the client group of fishermen. The only way that this representativeness can be assured is through a sample survey.

Questionnaires used in sample surveys should be constructed so that they are locally appropriate, brief, and easily administered. A relatively small pre-test of the questionnaire with 5 or 10 individuals from the local population will usually allow one to judge the ease and length of administration, as well as appropriateness. Often, key informants can be quite valuable in both construction and preliminary evaluation of the research questionnaire.

Experience in numerous small-scale fishing communities has indicated that interviews lasting more than one-half hour are not well received by fishermen, and thus decrease the reliability of data collected. If the questionnaire takes more than one-half hour to administer, it is preferable to break it into two parts and conduct two sample surveys. The reliability of the data obtained and the good will of the fishermen will more than compensate for the extra effort involved.

Efforts should be made to obtain a representative sample of the client population. If possible, fishermen should be enumerated, a random sample selected, and these people interviewed. This will be possible if the researcher has access to a census of the type referred to previously. For example, in some catholic countries, the local parish keeps a list of all church members along with their occupation. A strictly random sample of fishermen can be drawn from such a list if almost everyone belongs to the church. This technique has been used successfully in the Atlantic islands of the Azores. In other regions, lists of households compiled by local government for taxation or other purposes might be useful. The researcher must, however, check the accuracy of the lists before using them for sampling purposes.

In most cases, however, it will be impossible to develop lists of fishermen without considerable effort; hence, a quota sampling procedure may be preferable. In obtaining such a quota sample, all landing sites in the areas selected should be visited, and all small-scale fishermen (captains and crew) landing fish, working on their boats, or simply visiting the landing site should be interviewed. The interviewer should travel from point to point during each day, starting at a different landing site each morning; thus, the times of interviewing at the various sites will be distributed throughout the day. This system of visiting landing sites at various times throughout the day eliminates possible systematic bias due to landing time (Stevenson, Pollnac, and Logan 1982).

Keeping in mind the necessity of limiting the length of a survey questionnaire (interview form), it is still possible to obtain a great deal of useful, quantifiable data for the

evaluation of fishermen's organizations. For example, really reliable information on individual characteristics of fishermen can usually be obtained only through the use of a sample survey (3.2 through 3.9). Perceptions of the individual attitudes, beliefs, and values of others are often influenced by the informant's own thoughts concerning these issues; thus, key informant statements can be quite unreliable. Statements made by key informants, however, can be used to construct questions. For example, if key informants note that fishermen would object to having a non-fisherman manage their organization, a question concerning this issue could be made a part of the survey.

Turning to specific questions that could be asked in a relatively brief survey, some of the most basic, quick, and easy to ask can provide quantitative support to statements made by key informants. For example, fishermen could be asked if they own the vessel they fish from (2.1.1); how many people are in the crew and what are their relationships to one another (2.1.3); where do they live, and do they migrate seasonally (2.3); why do they use one middleman as opposed to another (2.2); and what is the temporal distribution of their fishing effort (6.3).

Practically all of the information concerning individual member characteristics must be obtained with the use of survey questions. For example, the education level of potential members (3.3) can be determined with a relatively straightforward question concerning the number of years of formal education. If there is some reason to believe that fishermen may not respond accurately to this question, or if there is some reason to suspect that years of formal education will not be related to functional literacy, a simple test of functional literacy should be devised. A fisherman could be handed a two or three sentence statement and asked questions about it which would evaluate his ability to read. Due to the fact that in some areas fishermen may be sensitive concerning their education, it is important that such questions be structured so that they are not an obvious test of literacy.

An evaluation of relative socioeconomic status (3.4) also forms an important part of the survey. Usually this can be determined by constructing a list of questions concerning household possessions. The household items on the checklist will vary from region to region, but usually include items such as electricity, indoor plumbing, radio, television, sewing machine, number of rooms in the house, whether or not the individual owns the house, etc. Background information collected from key informants will help in the construction of such a scale. For example, the key informant may be asked to indicate the kinds of items rich men, poor men, and average men have in their houses. A scale can then be constructed from the items which seem to distinguish these categories. This

information may also be useful to social planners for other purposes.

The other questions about individual characteristics dealing with attitudes are quite difficult to construct so that good, quantitative results can be obtained. Nevertheless, such questions are extremely important since an individual's attitude often determines his or her behavior. A great deal of research has been directed at the construction of attitude scales which can be used in surveys, and many such scales have been tested and published (see Robinson and Shaver, 1973). Most development programs, however, do not have sufficient time or funds to construct and test locally appropriate attitude scales. Thus, although the suggestions provided here will provide only approximate measures of the attitudes in question, they are better than nothing at all. For projects that have sufficient funds, it is suggested that a good social psychologist be contracted to construct the survey questionnaire and especially the attitude scales. The expense would be more than compensated by the increased probability of project success.

Turning to suggestions concerning the construction of specific attitude scales, several questions which could be used to judge an individual's attitude toward outsiders (3.7) would be the following:

- a. Some people say that most outsiders can be trusted.
- b. If you are not careful, those who come into your community promising to help you will just end up taking things from you in the long run.
- c. People from outside your community do not really understand you or care about you. They just come around to find out what they can take from you for their own benefit.

The individual fisherman could be asked whether he:

- agrees fully
- agrees somewhat
- disagrees, but not totally
- disagrees totally

with each of the above questions. The responses to each of these questions would receive scores ranging from zero to three, with responses most favorable to outsiders rated as three, most negative as zero, and intermediate values as one or two. These scores can then be summed for the three item scale concerning trust of outsiders. The scale values would range from zero to nine, with a scale value of nine indicating the

most positive attitude toward outsiders, and zero the most negative.

A similar technique can be used to construct another scale aimed at measuring attitudes toward cooperating in an organization (3.5). Statements used in the scale could be the following:

- a. Organized fishermen will succeed where the fisherman alone fails.
- b. Fishermen's organizations (cooperatives) work for the good of the management, not the fishermen.
- c. A fisherman is better off selling his catch to whomever he wishes rather than only to the fisherman's organization.

Here again, the response would range from "agree fully" to "disagree totally," the response most positive to fishermen's organizations being given a value of three and the most negative response given a value of zero.

It must be emphasized that the content of the questions should be appropriate to the situation. For example, if the organization in question is a fishermen's cooperative, the statements should refer to cooperatives. If the organization is aimed at providing group-owned equipment, then statements tapping attitudes toward joint-ownership should be included. The questions can be posed and scored in a manner similar to those with respect to attitudes toward outsiders which was described above. A scale measuring need for independence (3.6) can be constructed using similar techniques.

Finally, some attitude questions can be formulated as open-ended questions. For example, a fisherman's attitude toward selling outside the proposed organization (3.8) can be assessed by simply asking the fisherman under what conditions does he think it would be appropriate for a fisherman to sell outside the organization (if it is to be a marketing organization). The responses to this question can be used to both assess potential loyalty to the organization and to predict circumstances which would result in outside selling. The organization can then be structured to minimize this potentially destructive behavior. Another item which can be appropriately posed as an open-ended question concerns beliefs about the functions of a fishermen's organization (3.9). This question can be simply posed as "what do you think a fishermen's organization is supposed to do for the fishermen?" The responses to this question can be particularly revealing with respect to providing reasons why fishermen are rejecting an existing or proposed organization, as well as providing items which can be used to ensure the local acceptance of the

proposed organization or in developing training programs to correct faulty perceptions and educate the fishermen concerning potential benefits of membership in an organization.

FINDING INTERVIEWERS

One point that must be emphasized is the fact that not everyone can function as an effective interviewer. This cautionary note holds for those conducting both survey interviews and key informant interviews. The selection, training and supervision of interviewers is a crucial aspect of any data collection program. Decisions based upon information generated from inadequate, improperly collected data can have bad effects on all aspects of the fishery. It is therefore important that careful attention be paid to all aspects of the interview process.

The best data is collected by mature, poised, and well-motivated interviewers who can establish some degree of rapport with those people being interviewed. It is therefore necessary that the interviewer understands and is able to convey the impression that he respects the persons who are giving information.

Too frequently interviewers are hired mostly on the basis of their ability to establish rapport with an official in the fishery office, and when they begin interviewing fishermen, they project an image of superiority which makes it difficult, if not impossible, to establish good rapport with the person being interviewed, thus decreasing the probability of obtaining reliable data. The person responding must be motivated to provide accurate and timely data, but if he feels that the interviewer is talking down to him, or that the interviewer, himself, thinks that the data being collected has very little value, he will not make an effort to provide good responses, and in some cases, will mislead the interviewer.

A very important step in interviewer training is to provide a good description of the nature and importance of the data to be collected. The interviewer must be convinced that the data being collected will be critical in a decision-making process which will influence the well being of many people. The interviewer, in turn, must be able to communicate the importance of the interview to his informants if he is to gain their cooperation. Interviewers should be trained to identify inappropriate responses (e.g., responses which are obviously wrong or inappropriate) and know how to probe for better answers without influencing the results. They should be trained to not ask leading questions, to obtain responses for all questions, and record all responses fully.

Many of the problems encountered by interviewers occur during the first few interviews; hence, it is necessary to continue the training sessions into the first stages of the

interviewing process. Supervisors should examine initial interviews for inconsistencies or inadequate data. Problems encountered in interviewing should be discussed with the interviewers, who should be made to realize that conducting good interviews is a difficult process which must be learned, and that a good interviewer is a valuable person. If the interviewers are previously advised that it is quite common for some informants to either mislead or refuse to talk to them, they will be more likely to bring these problems up in review sessions, and the supervisor can then help develop strategies to minimize or eliminate these problems.

Interviewers need to be supervised. An additional advantage of the early analysis of interviews suggested above is that it indicates to interviewers that their work will be reviewed and helps discourage falsification of data. Interviewers should also be advised that their work will be checked, either through unannounced visits at interviewing sites or by follow-up visits to informants.

Figure 3 on the next page is a matrix relating data type to data source using the categories defined in this chapter.

DATA SOURCE

DATA CATEGORIES		Written records	Key informants	Sample survey
ORIGINS AND BACKGROUND	1.1 Local initiative		X	
	1.2 Group structure		X	
	1.3 Source of idea		X	
	1.4 Legal requirements	X		
SOCIAL ORGANIZATION	2.1 Group structure		X	X
	2.2 Ancillary occupations		X	X
	2.3 Migratory/residence status	X	X	X
MEMBERSHIP	3.1 Membership requirements		X	
	3.2 Entrepreneurial orientation			X
	3.3 Education level			X
	3.4 Social class			X
	3.5 Attitude toward cooperation		X	X
	3.6 Need for independence			X
	3.7 Attitudes toward outsiders			X
	3.8 Outside marketing potential		X	X
	3.9 Knowledge about organizations			X
ECONOMIC FACTORS	4.1 Investment		X	
	4.2 Loan procedures		X	
	4.3 Payment for production		X	
	4.4 Equipment life		X	
GOVERNMENT SUPPORT	5.1 Goal complementarity	X		
	5.2 Existing government support		X	
	5.3 Planned government support		X	
	5.4 Legislative support	X	X	
ADMINISTRATION	6.1 Available expertise		X	
	6.2 Meeting times		X	
	6.3 Meeting attendance		X	
	6.4 Meeting structure		X	
	6.5 Agencies involved	X	X	
	6.6 Agency cooperation		X	
	6.7 Agency coordination		X	

Figure 3 Matrix relating data type to suggested data collection techniques.

CHAPTER SIX. DESIGNING AND USING AN INFORMATION PROGRAM FOR DEVELOPING FISHERMEN'S ORGANIZATIONS

DESIGNING THE PROGRAM TO GENERATE INFORMATION

Previous chapters have reviewed the usefulness of fishermen's organizations, surveyed factors contributing to the success or failure of fishermen's organizations, and described techniques which can be used to obtain the information needed to evaluate such an organization's chances for success. The present chapter deals with how to design an appropriate information gathering program using the techniques described in the previous chapter. The chapter begins with a discussion of priorities in information gathering and then examines strategies to be used in situations with different previous experiences with fishermen's organizations.

Assessing Priorities. A recent publication concerning data collection in developing countries suggests that a key question to be asked is "Why are we collecting these data?" (Casley and Lury 1981). Our Chapters Two and Three provide generally sound answers to this question for the information needs outlined in Chapter Four, but their applicability should be individually assessed for each project. For example, if it has already been determined that the organization being considered is not a marketing organization, then there will be less need to carefully assess the functions of middlemen since they are not to be replaced by the organization, and other factors will receive greater emphasis in the data gathering. Likewise, if it is certain that the organization is not to be a producer's organization which will hold equipment in common, then there will be little reason to obtain data concerning attitudes towards common ownership. Figure Two at the end of Chapter Four indicates data types necessary for specific types of organizations. These considerations should be obvious, but a person using Chapters Four and Five to construct a plan of investigation may simply assume that all the information needs listed therein are always necessary. One could waste valuable and limited time gathering data that will never be used, time which could have been devoted to gathering data on factors with higher priority. Prior to including any questions in a data acquisition scheme, always ask, "Why are we collecting these data?"

Information gathering is expensive; it costs money which could be used for other necessary expenses associated with a fishery development project. It is thus important to allocate appropriate levels of funding to the information gathering program. In circumstances where a government has already established a policy of dealing only with fishermen's organizations in development projects, then a full-scale

investigation of the success potential of the organizations to be involved in the project under consideration would be essential and should receive priority funding. If the idea for the formation of the fishermen's organizations is coming from the government or another outside agency, then the type of full-scale investigation described previously is what is called for. On the other hand, if the idea for the fishermen's organization originated with the fishermen themselves, the much higher success rate of such endeavors implies that much less information is required in order to go ahead with this aspect of the project, and the required investigation expenses are consequently much less. It should, nonetheless, be carefully verified that it is really a sizeable proportion of the fishermen who are interested, and not just a few highly verbal individuals.

Although Chapter Four gives the impression that a lot of information needs to be collected, the discussion of data gathering techniques in Chapter Five shows that much of the information needed can be obtained from written material and the use of properly selected key informants. Many of the problems which have been encountered in the past when using fishermen's organizations could have been foreseen and avoided using only this level of information. When one considers that an initial information gathering phase based on written records and key informant information may require one man-month or less, (depending on the number of communities involved in the project), it is a shame that so many ill-considered and bound-to-fail fishermen's organization development projects have been allowed to go forward.

Expenses involved in the second level of investigation, the survey phase, also need not be great. It must be remembered that fishermen are only a small proportion of the population in many countries so that samples need not be extremely large, and if only the data which is really needed is collected, each individual interview can be relatively short. Methods for determining adequate survey sample sizes for the required degree of accuracy are given in most text books on statistics or sociological surveys (see for example Casley and Lury 1981). If the financial resources available are not adequate for interviewing enough fishermen, the certainty of conclusions and recommendations based on the data gathered will be reduced. If the fishermen's organization being proposed is a central and critical element of the overall development program, as discussed above, the funding agency must be made to understand the fundamental importance of needed information, and persuaded to allocate enough money for the really essential investigations. The history of the use of fishermen's organizations is filled with failures which could have been avoided had the information gathering and evaluation techniques recommended here been put to use.

Information Gathering and Evaluation of Pre-existing Fishermen's Organizations. When it has been decided that a fishermen's organization would perform a useful function in a fishery development project or if the host country government encourages use of such organizations, it will be necessary to determine if there are any fishermen's organizations in the target area at the present time. If such organizations exist, one must find out (a) if they are presently effective; (b) what are the attitudes and perceptions of the fishermen for whom the project is intended toward the existing fishermen's organization; and (c) whether the existing organizations are compatible with the new development plans. The techniques of information gathering should be used to obtain the categories and types of information as discussed in the preceding chapter. It is important to stress that when existing organizations are being evaluated, officers and some members of the organization may have a personal interest in presenting the existing organization in its most favorable light. Experience has shown that interviews conducted with cooperative officials and members who "happen" to be conveniently present when an outsider visits are often very unreliable sources of information. This is especially true with the least effective fishermen's organizations. Members of ineffective organizations are often the least efficient fishermen in the region and have the most to gain from outside aid. Interviews conducted with fishermen who have dropped out of the organization, or have refused to join are often much more informative and revealing.

If the existing organization is found to be presently effective and fully compatible with the proposed project, use it. If, however, there are problems with respect to incompatibility with the project, the membership, and/or with fishermen's attitudes towards the existing organization, the possibility of making acceptable changes should be examined. If the evaluation has been conducted using the procedures of the previous chapters, the necessary changes in the organization should be obvious. A potential problem is determining if the needed changes are compatible with regulations governing fishermen's organizations. This is especially a problem with respect to fishermen's cooperatives where the cooperative must conform to laws established by the government. As noted above, these laws are sometimes not adapted to the needs of fishermen, and can result in an ineffective organization. If this is the case, either the project must obtain government permission for an exemption from existing laws, the laws must be changed, or the organization must accept losing its cooperative status and become some other type of society.

If none of these options are possible, attempts to develop the fishery with the use of a fishermen's organization

should be abandoned. It is better to use no organization at all, rather than waste precious development funds by funneling them through a corrupt or ineffective organization.

Where Previous Organizations Have Failed. The situation where one is trying to establish a fishermen's organization in an area where previous organizations have failed is perhaps the most difficult. Fishermen will remember that something called a "society" or "cooperative" performed miserably in the past, perhaps actually hurting some of them, and they will want nothing to do with one.

The most logical approach when dealing with such a situation is to first obtain all written material on the failed organization, including the defunct organization's records, if possible. This written material may provide leads to be followed up in key informant interviews. Key informant interviews should be conducted with ex-officers of the organization, government or other external agency personnel who were associated with the organization, as well as with fishermen, both those who belonged and those who did not belong. These interviews and the examination of records should be aimed at discovering reasons for the previous failure. The investigation may be structured to obtain the kinds of information outlined in previous chapters, but the investigator must always be on the outlook for unique causes of failure. It should be remembered that an organization's failure is often caused by a combination of factors, not just one factor. The investigator must search for additional contributing factors even after the one or two major factors contributing to the failure have been uncovered.

After a review of written material and key informant interviews have been carried out, a survey of a small sample of the fishermen should be conducted to determine the extent of bad feelings about the proposed new organization. This survey could also be used to find out what the fishermen would expect to get out of such an organization as well as providing an opportunity to contact individual fishermen and give the message that the proposed new organization will not make the same mistakes as the previous one. By this time, the project's investigators will have already discovered most of the previous organization's problems, and disclosure to the fishermen of this knowledge will probably enhance the fishermen's feelings that the personnel responsible for the new project are competent. This knowledge of previous problems, as well as information gained from the survey of fishermen, can then be used to design programs to inform the fishermen of the new organization, stressing those aspects that differ from the previous one's failures. In some cases, a change of name, e.g., from "cooperative" to "society" will also help improve the new organization's image.

Once again, however, it is important to note that government restrictions may prohibit some necessary changes from the previous organization. In these cases, the previously outlined procedure for revising existing organizations should be followed.

Where There is No History of Fishermen's Organizations.

Where initial investigations show that there are none now and never have been any type of fishermen's organizations, the data collection procedure should follow that outlined in the previous chapters. All relevant and necessary information should be collected and transformed into recommendations for developing the structure and operations of the proposed fishermen's organization. Information which is particularly relevant in this case is the structure and function of traditional forms of cooperation in the fishermen's community (see Chapters Four and Five, data type 1.2). Here the emphasis will not be on using or improving an existing organization or one that has failed. The problem is developing an appropriate organization.

As a means of maximizing the fit of the proposed organization to the society and culture of the fishermen, it will be necessary to determine aspects of traditional forms of cooperation and try to build them into the new organization. For example, if in traditional forms of cooperation decisions are made by an elder after individual/private consultations with group members, it might be difficult or impossible to introduce a process where the members vote on decisions either by ballot or voice votes at a group meeting. If traditional cooperating groups are relatively small in number (e.g., 10 to 15 kinsmen or friends), organizations based on larger membership may prove unworkable. In this case, it might be better to have a number of smaller groups organized under an umbrella or apex organization. All of the data concerning traditional forms of cooperation detailed in Chapters Four and Five should be collected and used in this manner to develop an organization form which is appropriate for the fishermen to be organized.

Part of the information collected, of course, will deal with government regulations concerning organizations. If the projected form of organization which is most compatible with the evaluation of the information collected does not fit government requirements, then attempts must be made to either obtain exemptions or fit the organization to the laws while still maintaining its usefulness to the target population. If neither of these options is possible, it would be better to proceed without an organization than to try to use an inappropriate form which could do harm to both the fishing industry and relations between fishermen and planners.

Figure 4 provides a diagram outlining the procedures to

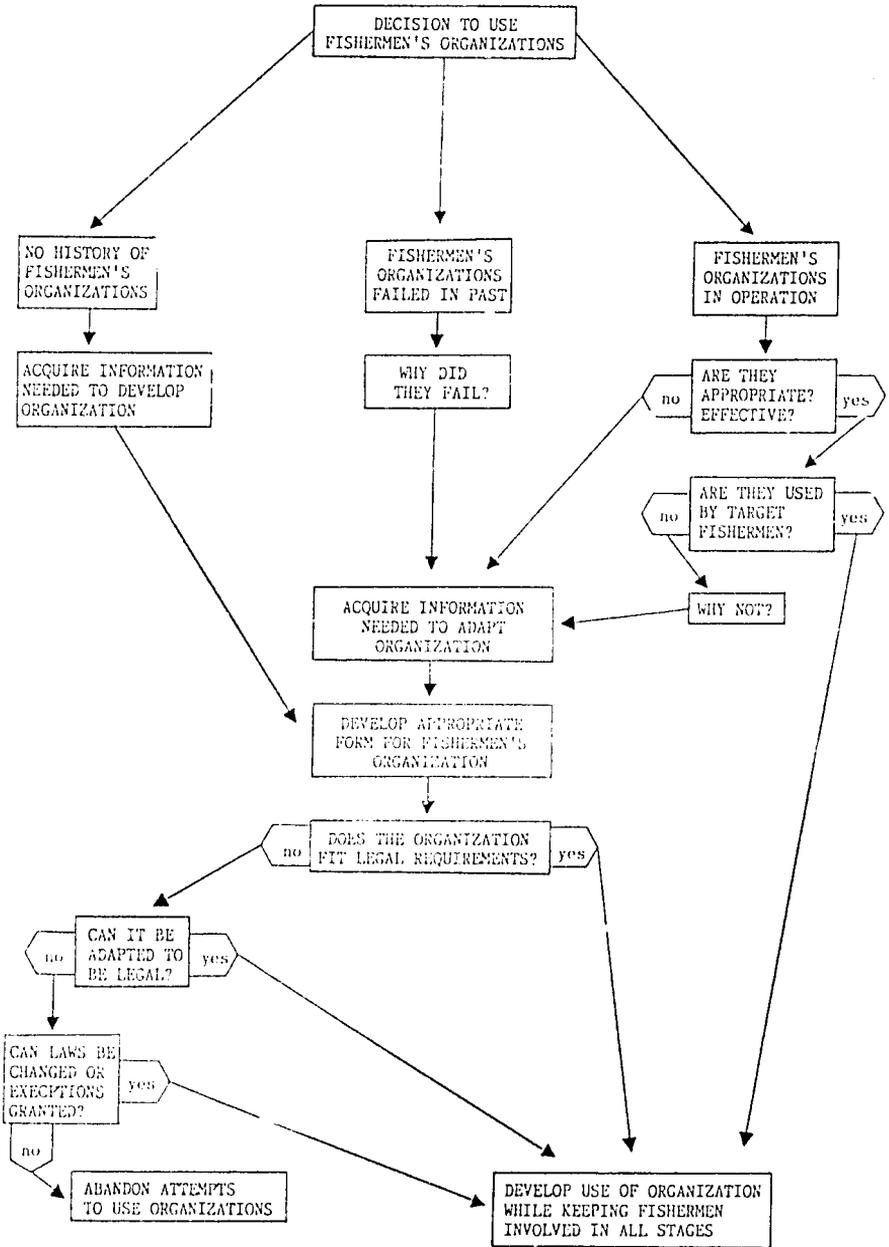


Figure 4 Diagram outlining suggested procedures to be used under the three cases of fishermen's organization development discussed in the text.

be used under the three cases of fishermen's organization development discussed above.

CONVERTING DATA INTO INFORMATION FOR DECISION MAKERS

A stack of key informant interviews or survey data sheets are of no use whatsoever unless this raw data is converted into information which can be used in making decisions concerning the development of fishermen's organizations. The purpose of this section is to provide some guidelines and examples which will illustrate how one moves from data to operationally relevant recommendations. The examples are drawn from projects which include as one component the establishment of fishermen's cooperatives.

The first example will focus on a common component of many programs aimed at developing some form of fishermen's organization. One of the most common complaints made by fishermen and some of those who wish to help them is that they are being exploited by middlemen. They claim that the middlemen pay a very low price for their product and then sell it at a high price. This frequently expressed complaint has led to a wide spread view of the middleman as an exploiter of the fishermen and a barrier to development. Hence, many view a fishermen's organization with a marketing function as the ideal solution to the problem. It would put marketing in the hands of the producer and get rid of the exploiter. Nevertheless, as noted elsewhere in this paper, fishermen's organizations often find that they cannot compete with the middlemen. This failure is frequently due to the fact that middlemen provide not only marketing, but also some additional services to the fishermen (see Chapter Two). These other functions of middlemen are often not discovered until the new organization has either failed or is in the process of failing. If an organization aimed at replacing the middlemen is to succeed, it must be able to compete successfully in the provision of all those services which the middlemen traditionally provide. It is thus necessary, as discussed above, to determine the fishermen's evaluation of the real services provided by the middlemen. Once these services are determined, they can be worked into the design of the proposed fishermen's organization. Then a cost/benefit analysis of the fishermen's organization versus the middlemen could be used to determine if the organization is a realistic alternative.

A study conducted in Costa Rica (Pollnac 1981a) can be used to illustrate the techniques used to gather information concerning this problem and the methods used to convert this data into information of use in making decisions concerning the development of a fishermen's marketing organization. In an attempt to gain a more complete understanding of the middleman in Costa Rica, 80 small-scale fishermen in the Gulf of Nicoya

were interviewed. Fifty of these fishermen were from an urban area (Puntarenas) and 30 from a rural community (Costa de Pajaros).

In the Gulf of Nicoya, the middleman, or fish buyer, is an important individual in the structure of the small-scale fishing industry. On the short strip of coastline where interviews were conducted in Puntarenas, there were seven active middlemen, while 17 middlemen were registered for the entire town. At Costa de Pajaros five were active. Other middlemen existed in both areas, but they were either outside the particular sub-area sampled or not active during the research period. Obviously, the middleman performs the important function of purchasing fish from the fisherman for resale to other middlemen or retailers. He also, however, appears to provide other services for fishermen. Since the number of active middlemen in the region and statements made by fishermen suggest that competition exists between the various middlemen, fishermen were asked a very simple, open-ended question as part of a larger interview (cf. Pollnac 1981a): "Why do you sell to one middleman rather than another?" The answers to this question were examined, and it was found that they could be classified into the eight categories listed in Table 1.

Table 1

Distribution of rationales for selection of middleman.

Rationale	Percent of fishermen giving rationale ^a
Better prices	48
Provides help (loans, etc.)	45
Fair treatment	31
In debt to middleman	9
Friendship	8
Always buys fish	6
Closer to residence	4
Other	10

N = 80

^aTotal exceeds 100 percent because each fisherman could, and often did, give more than one rationale. Only the first three rationales given by each fisherman were counted.

The most frequent rationale for selecting one buyer over another is the price paid for fish. The second most frequent rationale is that a fisherman would rather deal with a buyer

who helps him in some way, such as providing loans, picking up parts, etc. Fishermen also select a buyer on the basis of what they perceive as fair treatment. This category includes the attributes of honesty, immediate payment for product, not discarding marginally spoiled fish, etc. Nine percent of the fishermen report that they sell to a specific buyer because they are in debt to him, while 8 percent claim they make their decision on the basis of friendship. A small proportion of the fishermen choose middlemen who never refuse their product. Some middlemen refuse to buy when the market is glutted, and the fishermen are forced to let their product rot. Several fishermen noted that they deal with a specific buyer because he is located closer to their home. The "other" category includes responses which do not easily fit any of the previous categories, and includes such things as "character of buyer," "landing facilities," and "more responsible."

Due to the fact that the rural and urban regions of the Gulf of Nicoya are quite different, the first and therefore presumably most important responses from each fisherman were examined in terms of where the fisherman lived. The expectation that urban fishermen would be more likely than rural fishermen to select buyers on the basis of price was supported by the data (44% for urban versus 23% for rural fishermen, respectively; Chi Square = 3.47, $p < .05$; one-tailed test). Urban fishermen are most involved in the cash economy, so we would expect that the prices paid by middlemen would be the most important attribute in the urban area. In contrast, the rural fishermen are more interested in the help that the middleman provides in the form of loans, picking up parts for equipment, etc. (37% for rural versus 14% for urban fishermen; Chi Square = 5.52, $p < .02$). Finally the relationship between area of residence and the "fair treatment" category was not statistically significant (Chi Square = 0.02, $p > .10$).

The information from the example presented above represents the analysis of the data obtained from one simple open-ended question. Nevertheless, it provides important information which can be used to make significant decisions concerning the establishment of marketing cooperatives among these fishermen. First, a farther analysis of what is important to fishermen in the "provides help" category would indicate services that a marketing cooperative should provide to effectively compete with existing middlemen. Second, the rural-urban differences discovered indicate that cooperatives will be required to provide different patterns of services in different regions of the country.

For the purpose of this guide, one final example of the conversion of raw data into useful information for making decisions concerning the development of fishermen's organizations should be sufficient.

Fishermen in four distinct areas of the Pacific coast of

Costa Rica were interviewed as part of a larger fisheries development project (Poggie 1981). The Costa Rican Government, as part of a fisheries development project, was in the process of trying to establish a single fishermen's cooperative throughout the area of the survey. Many of the regional fishermen had been contacted concerning this project. The regions included in the survey included Puntarenas and Costa de Pajaros, described above, as well as Playa el Coco and four smaller fishing communities in the northern section of Guanacaste Province. Playa el Coco had previously had a cooperative for a very brief period of time, but it was inactive when the interviews were conducted. A relatively unsuccessful cooperative which included Puntarenas and Costa de Pajaros was struggling to keep its head above water in the several years preceding this survey. Playa el Coco and the other four small fishing communities differed from Puntarenas and Costa de Pajaros mainly in terms of distance from the capital (San Jose) and the major port facilities available at Puntarenas, as well as in terms of the small number of active middlemen in their region. Playa el Coco was served by only one middleman, while the four smaller communities farther north were together served by only three middlemen: one community had two middlemen and the other three communities shared one middleman.

As a means of discovering the beliefs concerning fishermen's cooperatives in these four regions, fishermen were requested to answer a simple, open-ended question: "What are the benefits of belonging to a fishermen's cooperative?" Responses were examined, as in the previous example, and it was found that the responses could be classified into the nine categories listed in Table 2.

The first striking aspect of this data is the high frequency of fishermen who claim that they do not know the benefits of cooperative membership in a region where the government is actively promoting cooperative development. The second is the large proportion of fishermen in the two southern regions (Puntarenas and Costa de Pajaros) who assert that there are no benefits to cooperative membership. The greater proportion of the fishermen in the southern region either do not know or deny that cooperative membership has any benefits. Finally the highest frequency of positive responses (provision of equipment and supplies) are found in the northern, more isolated areas (Playa el Coco and the four northern communities).

Table 2

Perceived benefits of belonging to a fisherman's cooperative
Percent distribution.

Response category	Puntarenas	Costa de Pajaros	Playa el Coco	Four northern communities
Do not know	16	52	28	52
No benefits	48	20	10	06
Equipment/supplies	01	00	31	32
Mutual help	16	08	05	06
Better income	09	04	08	00
Other positive	04	08	08	00
Savings plan	03	06	00	03
Loans	01	02	03	00
Marketing	00	00	08	00
Sample size	67	50	39	31

Adapted from Poggie (1981).

This information can be converted into several operationally significant recommendations concerning the establishment of fishermen's cooperatives in the region: first, it is clear that well designed educational programs concerning the benefits of cooperative membership need to be used in the entire region if a cooperative development program is to have any chance for success. The program will have to take into account what it is that fishermen object to with respect to the operation of the cooperatives that exist or have existed in the region. Second, variation in fishermen's perceptions of benefits of a fishermen's cooperative indicate that cooperatives should perform different functions in different areas of the region. For example, it appears that the cooperatives in the north would be more successful if they focussed on supply functions.

The above two examples, although limited, should make it clear that data collected as suggested in previous chapters of this manual can be converted into information of use in designing programs for the development of fishermen's organizations. The examples focussed on data generated by open-ended questions since some practitioners have suggested that this type of question is both particularly informative and particularly difficult to analyze. It is hoped that this brief section will illustrate the value of open-ended questions, as

well as the conversion of the raw data into useful information.

SUMMARY AND CHECKLIST

Application of previous sections of this guide should result in a set of information which will facilitate decision making concerning the implementation of fishermen's organizations as part of a fishery development program. The information should allow one to design organizations appropriate for the targeted fishing communities. As a summary and conclusion to the guide, a checklist of questions is provided which should be answerable with information gathered as a result of the information gathering strategy described in previous sections of the guide.

1. CHECKLIST CONCERNING ORIGINS AND BACKGROUND

- A. WERE THE FISHERMEN THEMSELVES THE SOURCE OF THE IDEA FOR THE ORGANIZATION?

Although a yes answer to this question indicates the most favorable circumstance, it is possible for organizations introduced from the outside to succeed if the fishermen are convinced of the usefulness of the society and involved in its development from the beginning.

- B. WILL THE ORGANIZATION HAVE ITS ROOTS IN A SOCIAL GROUP THAT ALREADY EXISTS IN THE COMMUNITY?

If yes, the situation is favorable for the development of a fishermen's organization, especially if the group was successful and composed of members who cooperate to achieve a common goal. If no, organization development can still proceed, but it will not be as rapid.

- C. WILL THE FISHERMEN HAVE A ROLE IN DECISION MAKING DURING THE FORMATIVE PHASES OF THE ORGANIZATION AS WELL AS IN LATER PHASES?

If yes, the fishermen's input should help to structure the organization in a manner compatible with their needs. If not, research has shown that the failure rate is much higher for organizations which have little or no input from the fishermen with respect to decision making.

D. WILL MEMBERS OF THE OLD GROUP COOPERATE IN THE FORMATION OF THE NEW ORGANIZATION?

If not, the new organization should be formed separately, and it should be made clear that the new group is not a threat to the old.

E. IS THE PROPOSED SIZE OF THE ORGANIZATION COMPATIBLE WITH THAT OF TRADITIONAL GROUPS?

If not, numbers may be so large that traditional forms of group interaction may not be able to cope, and the organization may not be able to function effectively.

F. IS THE PROPOSED ORGANIZATION FORM BASED ON AGRICULTURAL ORGANIZATIONS, AN OUTLINE PROVIDED IN A COOPERATIVE DEVELOPMENT MANUAL, OR LEGAL REQUIREMENTS?

If yes, the organization may not be adapted to local needs. The organizational form must fit the needs of the local fishermen, which are often different from farmers or fishermen from other regions.

J. DOES THE PROPOSED ORGANIZATION FIT LOCAL LEGAL REQUIREMENTS?

If an organization designed to fit local needs cannot be adapted to local legal requirements, then either the organization must obtain an exemption or abandon development plans. Sometimes, however, the organization can adapt to the laws by changing its name from "cooperative" to "society."

2. CHECKLIST CONCERNING THE SOCIAL ORGANIZATION OF FISHING

A. DOES THE PROPOSED ORGANIZATION CONFLICT WITH THE TRADITIONAL DISTRIBUTION OF LABOR?

If yes, there are bound to be developmental problems unless the conflicts are somehow settled in advance. Those with vested interests who will be displaced will work against the new organization unless acceptable alternatives are found for them.

- B. IF JOINT HIRE-PURCHASE CONTRACTS FOR VESSELS OR FISHING GEAR ARE PART OF THE NEW ORGANIZATION'S OPERATIONAL STRATEGY, WILL THE GROUPS WHO MAKE THE CONTRACTS BE SUFFICIENTLY STABLE TO AVOID SPLITTING APART BEFORE THE CONTRACTS ARE FULFILLED?

If not, other types of contracting schemes must be used.

- C. DO THE ORGANIZATION'S RESIDENCY REQUIREMENTS TAKE INTO ACCOUNT THE MOVEMENT OR MIGRATION OF POTENTIAL MEMBER FISHERMEN?

If not, the requirement will have to be changed.

3. CHECKLIST CONCERNING MEMBERSHIP

- A. IS MEMBERSHIP RESTRICTED TO ACTIVE FISHERMEN AND PARTICIPANTS IN THE FISHERY WHO ARE INVOLVED WITH FISHERMEN?

If not, it must be noted that several studies have indicated that fishermen object to having individuals in the association who have nothing to do with fishing.

- B. DO THE FISHERMEN HAVE SUFFICIENT EDUCATION TO UNDERSTAND THE ROUTINE OPERATION OF THE ORGANIZATION?

If not, they may be suspicious of some procedures. It is suggested that the organization develop no functions that are beyond the ability of its members to understand (at least superficially). The organization can develop information programs which will allow it to grow along with its members.

- C. WILL THE ORGANIZATIONAL REQUIREMENTS CONFLICT WITH TRADITIONAL FREEDOMS PRACTICED BY FISHERMEN?

If yes, chances for success are minimal unless the fishermen are truly convinced that the conflicts will lead to greater freedom in the long run.

- D. WILL THE ORGANIZATION FULFILL IMPORTANT FUNCTIONS SEEN AS NECESSARY BY POTENTIAL MEMBERS?

If not, the organization should be restricted to meet those needs which are capable of fulfillment.

- E. IS PROPOSED MEMBERSHIP COMPOSED OF DIFFERENT TYPES OF FISHERMEN WHO EXPLOIT DIFFERENT STOCKS THAT REQUIRE DIFFERENT GEARS METHODS AND FISHING TIMES?

If yes, the different types of fishermen may require different types of services and operating times, potentially resulting in internal conflicts of interest and/or inefficiencies in operation.

4. CHECKLIST CONCERNING ECONOMIC FACTORS

- A. IS THERE SUFFICIENT CAPITAL AVAILABLE TO MEET THE NEEDS OF THE ORGANIZATION?

If not, can further sources be identified? Under capitalization has resulted in numerous cooperative failures. It is a very serious problem which must be dealt with realistically. Moderate loans on realistic terms (not subsidies) are sometimes available and useful.

- B. ARE POTENTIAL PARTICIPANTS REQUIRED TO MAKE A SUBSTANTIAL CONTRIBUTION TO THE FORMATION OF THE ORGANIZATION IN EITHER LABOR OR MONEY?

There is ample evidence that the degree of personal economic commitment on the part of members is positively correlated with organizational success.

- C. IF IT IS A MARKETING ORGANIZATION, IS THERE SUFFICIENT WORKING CAPITAL SO THAT FISHERMEN CAN BE PAID FOR FISH UPON DELIVERY?

If not, more working capital must be arranged. Marketing organizations have been known to fail when they could not compete with middlemen with respect to immediate payment for fish.

- D. IF THE ORGANIZATION WILL PROVIDE LOANS TO FISHERMEN, ARE REPAYMENT PROCEDURES COMPATIBLE WITH TRADITIONAL REPAYMENT TECHNIQUES?

If not, many defaults may occur, resulting in failure of the organization.

- E. IF THE ORGANIZATION HAS SUPPLY AND CREDIT FUNCTIONS, WILL CREDIT BE AVAILABLE FOR MAINTENANCE, REPAIR, AND REPLACEMENT?

If not, initial investment may in some cases be lost.

5. CHECKLIST CONCERNING GOVERNMENT SUPPORT

A. DO THE GOALS OF THE PROPOSED ORGANIZATION FIT GOVERNMENT DEVELOPMENT GOALS?

If not, government opposition, rather than support, may develop.

B. DOES THE GOVERNMENT RUN TRAINING PROGRAMS FOR THIS TYPE OF ORGANIZATION?

If not, it is possible that arrangements will have to be made to train management and members with either government or other funds.

C. DOES LEGISLATION EXIST, OR WOULD THE GOVERNMENT BE WILLING TO MAKE LEGISLATION, WHICH WOULD FACILITATE THE FORMATION OF FISHERMEN'S ORGANIZATIONS?

If yes, it will make the organization much easier to form.

6. CHECKLIST CONCERNING ADMINISTRATION OF THE ORGANIZATION

A. CAN ADEQUATE MANAGEMENT AND LEADERSHIP BE FOUND WITHIN THE FISHING COMMUNITY?

If not, there may be problems due to the fishermen's lack of trust in outsiders. Bonetti (1976) has noted three stages in the development of leadership in successful fishermen's cooperatives. First, the founder is often a fisherman who is recognized as a leader. Second, a director is appointed who has some connection with fishing (family, past experience) or holds a position in a fishing community, but who is somewhat detached, often because of education level. Third, the complexities of management force the fishermen to concede that they need outside expertise.

B. WILL THE BOARD OF DIRECTORS BE ELECTED BY THE FISHERMEN OR APPOINTED BY THE GOVERNMENT OR SOME OUTSIDE AGENCY?

Research has indicated that fishermen's organizations are more likely to succeed if the fishermen play a role in appointing the board of directors. When board members are selected by an outside agency the failure rate is relatively high.

C. DOES THE PROPOSED MEETING SCHEDULE OF THE ORGANIZATION CONFLICT WITH FISHING TIMES?

If yes, meeting schedules must be coordinated with fishermen's schedules or they will be unable to provide needed input.

D. WILL THERE BE ADEQUATE MONITORING TO PREVENT CORRUPTION?

If not, experience has shown that cheating and other illegal activities can develop which will destroy the organization.

E. WILL THERE BE MORE THAN ONE GOVERNMENT AGENCY RESPONSIBLE FOR ASPECTS OF THE ORGANIZATION?

If yes, there must be adequate means of coordinating the various agencies' activities. This will be especially important if there has been a history of lack of cooperation between them.

F. IS THE LOCATION AND STRUCTURE OF THE PROPOSED ORGANIZATION'S MEETINGS COMPATIBLE WITH MEMBER'S NEEDS?

If not, the meetings will be ill-attended and desired input and feedback will not occur.

If the investigation allows one to answer each of the above questions in an adequately positive fashion, then development can proceed. If some of the questions cannot be favorably answered to the satisfaction of the investigator, it is probably best to delay organizational development until the problems can be resolved. This delay would be preferable to a failure which may not only harm the fishermen, but turn fishermen against future attempts at development.

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