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Attitudes Toward Cooperation Among Small-scale
Fishermen and Farmers in the Azores

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INTRODUCTION Many governments, international organizations, and individuals view the fishermen's cooperative as the ideal means of improving small-scale fisheries. In some cases marked success has been reported (FAO, 1971) and in others, failure (UNRISD, 1975). The successes have led many governmental and international aid organizations to make release of development funds contingent upon formation of fishermen's cooperatives for management purposes. This has led to increased pressure with regard to attempts to institute cooperative organizations. In many instances these attempts have been abortive--either the fishermen resisted organization or the cooperatives failed soon after formation. These failures, in contrast to successful farmers cooperatives, have led to suggestions that various aspects of the occupation of fishing work against cooperation in the fisheries (cf. Digby 1973).

Digby (1973) argues that in many societies fishermen have very low status, and that this low social standing tends to make them unreceptive to the cooperative movement as a consequence of their suspicious attitude toward outsiders and their advice. He also suggests that while farmers are settled and have a tradition of mutual aid at harvest, fishermen tend to lead a semi-nomadic life, are hard to locate, and are quite uncooperative outside the sphere of necessary cooperation within a single crew.

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Numerous researchers have noted that fishermen can be characterized as "independent" types (cf. Pollnac and Ruiz-Stout 1977a; Poggie and Gersuny 1974; Harrison 1970; Aronoff 1967; Kottak 1966). This relative independence on the part of fishermen has been related to environmental and technological constraints of the occupation of fishing (cf. Poggie 1979; Pollnac 1876). Poggie (1979) suggests that this psychological trait of independence is a factor involved in the lack of success of fishermen's cooperatives.

Although it is tempting to make the claim that there is some intrinsic aspect of the occupation of fishing that results in fishermen being less likely than agriculturalists to cooperate, we must remember that there are successful fishermen's cooperatives (cf. Poggie 1979; Pollnac 1978, 1977; Digby 1973; F.A.O. 1971) as well as unsuccessful agricultural cooperatives (cf. Digby 1973; Inayatullah 1972, Borda 1971). Some of the explanations provided to account for the failure of fishermen's cooperatives could apply equally well to agricultural cooperatives (cf. Pollnac 1978; Digby 1973). Additionally, in some instances fishermen's cooperatives have failed because the model used was that of an agricultural cooperative, and aspects of the occupation of fishing conflicted with some of its structural features (cf. Pollnac 1978). Finally, as Digby (1973) points out, fisheries form only a small part of the economy in many countries; thus, their relative unimportance in comparison with agriculture has led to less emphasis and inconsistent cooperative development.

It is therefore suggested that the belief that fishermen are somehow predisposed to reject the idea of cooperation because of attitudes, beliefs, and values intrinsically associated with their occupation is an inadequate explanation of the relative success and failure of fishermen's cooperatives.

Perhaps some of these intrinsic aspects of the occupation contribute somewhat to the variance in relative success, but the literature cited above suggests that numerous factors are involved. Determining the relative importance and interactions between the various causal factors is an empirical question that can only be answered by intensive research. The purpose of this paper is to provide a small contribution to this necessary research by examining differences and similarities in attitudes toward a behavioral intentions regarding cooperation, as well as participation in organizations among small-scale fishermen and farmers in the Portuguese Atlantic islands of the Azores. The relationships between these ideational and behavioral aspects of cooperation and other sociocultural variables (e.g. age, education, exposure to mass media, material well being, etc.) will be examined in an attempt to separate out important factors involved. An understanding of these relationships in the Azores, which cannot be claimed to be representative of all areas where cooperative development is planned, will aid in understanding problems associated with development in the region and, in addition, provide another case example which may stimulate further research and add to our understanding of the sociocultural factors related to cooperative success and failure.

POPULATION AND SAMPLE The Azores form part of Portugal's Atlantic Islands and are located approximately 930 miles from Europe and 2400 miles from North America. The nine islands extend for a distance of about 390 miles. The smallest island is Corvo (17 Km^2) with a population estimated at 355, and the largest is San Miguel (757 Km^2) with approximately 137,300 inhabitants in 1975. In all, the nine islands have approximately 260,000 inhabitants, most of whom are either farmers or fishermen. Population pressure has led

to a great deal of fragmentation of land holdings and out migration over the years, with most of the emigrants going to either the United States or Canada. Recently, a yearly average of over 10,000 emigrants have gone from the Azores to North America (White and Pollnac 1979).

The sample for this study was drawn from two villages in the northern part of San Miguel. A fifteen percent random sample of fishermen and farmer household heads was drawn from Rabo de Peixe and Pico da Pedra. Rabo de Peixe is a fishing and farming village located on the northern shore of San Miguel. Pico da Pedra is a small farming community approximately 3 kilometers from Rabo de Peixe and 2 kilometers inland. The total sample was composed of 49 fishermen and 34 farmers.

TESTS As a means of testing Digby's assertion that fishermen are suspicious towards outsiders and their advice, fishermen and farmers were presented with the following statement and asked if they agreed totally, in part, or disagreed: never confide in a stranger. Attitudes toward cooperation were determined on the basis of whether the respondent said he would be willing to cooperate in the ownership of productive equipment and how he responded to the assertion that it is preferable to earn less and be the owner of the land than earn more and divide ownership. Fishermen and farmers who were unwilling to state that they would cooperate with others were asked reasons why, and the responses were recorded and content analysed. Those who said they were willing to cooperate were asked if they could find others who would cooperate. If they responded that they could not, they were asked why, and these responses were recorded and content analysed. They were also asked who they would prefer to cooperate with: relatives, non-relatives, or both. The behavioral measure of cooperation was actual membership in a

fishermen's or farmer's association.

Independent variables such as occupation, age, education, correspondence with relatives abroad, ownership of productive equipment, and income were determined from responses to direct questions. Due to problems involved in obtaining exact information concerning income, individuals were requested to place themselves into one of five general income categories, and these categories were used as the income measure. Mass media exposure was determined with the use of a scale composed of the sum of relative exposure to newspapers, magazines, radio, television, and cinema. If the respondent was never exposed to the media in question he would receive a score of zero, for that media; if only occasionally during the year, a score of one; once or twice a month, a score of 2; once or twice a week, a score of three; and a score of four if exposed every day. Scores for each media were summed resulting in a scale with a potential range of from zero to 20. Item total correlations for this scale ranged from 0.39 to 0.74 ($p < .01$). Cosmopoliteness, or exposure to the outside world, was measured by determining if the respondent had travelled outside his home island. Finally, material style of life was measured by assigning a score of one for each of the following items present in the home: (1) running water, (2) toilet, (3) electricity, (4) sewing machine, (5) refrigerator, (6) washing machine, (7) television, (8) radio, (9) telephone. The scores were summed resulting in a scale with a potential range of from zero to 9.

ANALYSIS Table 1 includes the sample distribution of the variables included in this study.

Table 1. Sample Distribution of Dependent and Independent Variables.

1. Age (mean years)	46.7
2. Formal Education (mean years)	1.3
3. Travel Outside Home Island (%)	53
4. Correspond with relatives abroad (%)	67
5. Income Scale (mode)	2 ^a
6. Own productive equipment (%)	48
7. Material Style of Life Scale (\bar{X})	4.4
8. Mass Media Exposure Scale (\bar{X})	6.2
9. Belong to association (%)	11
10. Positive attitude toward cooperation (%)	40
11. Percent who agree that it is better to earn less and own land than earn more and share	77

^a11 = 53 ^a12 = 24 thousand escudos per year.

The relationship between fisherman or farmer status and suspicions towards outsiders can be found in Table 2.

Table 2. Cross-tabulations of fisherman-farmer status and response to assertion "never confide in a stranger."

	FISHERMAN	FARMER
Agree totally	36	26
Agree in part	9	5
Disagree	4	3

$$\chi^2 = 0.19 \quad p > .10$$

Table 2 indicates that fishermen and farmers do not respond in a significantly different manner to the statement "never confide in a stranger," suggesting that these Azorian fishermen are no more suspicious of strangers than farmers.

Relationships between other cooperation variables and fisherman-farmer status as well as other independent variables can be found in Table 3. In the analysis presented here, independent variables were dichotomized at the sample mean where appropriate, and Kendall's Tau was calculated as a measure of association. Chi Square was used as the test of significance.

Table 3. Correlations between Cooperation Variables and Independent Variables.

	<u>ASSOCIATION</u> <u>MEMBER</u>	<u>WILLING TO</u> <u>COOPERATE</u>	<u>PREFER TO</u> ¹ <u>EARN LESS</u>
1. Fisherman-farmer status	-.13	-.13	.16
2. Age ²	.03	-.05	-.07
3. Education ²	-.20*	.12	.14
4. Travel outside home island	.02	-.02	.00
5. Correspond with relative abroad	.08	-.01	.05
6. Income ²	.10	-.08	-.07
7. Own productive equipment	-.03	-.09	.24*
8. Material Style of Life ²	-.13	-.03	-.07
9. Mass Media Exposure ²	.14	.22*	-.06

¹agree with assertion "prefer to earn less and own land than earn more and share."

²dichotomized at sample mean * = $p < .05$ N = 63

The analysis in Table 3 indicates that none of the cooperation variables are significantly associated with fisherman-farmer status. Further, very few of the other sociocultural variables are related to the measures. We find that education is only related to fisherman/farmer association membership. The direction of the relationship indicates that those who are more educated are less likely to join. Ownership of productive equipment is positively related to agreement with the statement that it is preferable to earn less and own the land than earn more and share ownership. Finally, exposure to mass media is positively associated with a willingness to cooperate with others.

Turning to reasons provided for a lack of willingness to cooperate, we find that the responses could be subcategorized into three categories: (1) a negative attitude towards sharing, (2) a prediction of fighting or other discord, and (3) a category composed of idiosyncratic responses such as "too old for that," "what I grow is too little," etc. Thirty eight percent of the 47 respondents to this question manifest a negative attitude towards sharing, 19 percent predict discord, and 43 percent provide idiosyncratic responses. The categorized responses (excluding the idiosyncratic category) were cross tabulated with a selection of the independent variables, and the results can be found in Table 4.

Table 4. Relationships between categorized reasons for negative attitude toward cooperation and selected independent variables.

	NEGATIVE TOWARD SHARING		PREDICT DISCORD	
	χ^2	Phi	χ^2	Phi
1. Age ¹	0.37	.04	5.70*	.35
2. Education ¹	0.39	.14	4.40*	.31
3. Correspond with relative abroad	0.00	.00	0.13	.06
4. Income ¹	2.13	.21	0.02	.02
5. Own productive equipment	0.90	.14	1.76	.19
6. Fisherman-farmer status	0.14	.05	0.01	.13

¹dichotomized at sample mean. * = $p < .05$

There are only two significant relationships in Table 4. Looking at the data (Phi does not indicate the direction of the relationship), we find that younger men (those with the mean age or less) are more likely to predict discord than older men (32 versus 5 percent respectively). We also find that those with more than the mean number of years of education are more likely to predict discord than those with less (35 versus 10 percent respectively). None of the other independent variables are significantly related to these response categories.

With respect to the question concerning preferred cooperation partners, 24 percent said that they would prefer to cooperate with relatives only, 21 percent with non-relatives, and 55 percent with both relatives and non-relatives. Finally, 61 percent of the 33 respondents who evidenced a positive

attitude towards cooperation said that it would be difficult to find others to cooperate with. The rationales provided were similar to those reported above for negative attitudes toward cooperation. Forty percent provided responses that reflected that they thought others had negative attitudes toward sharing; 20 percent predicted that others would cause discord; and 40 percent gave idiosyncratic responses. Due to the fact that this was the last in a series of conditional questions (e.g. If "yes" to question "X" then proceed to question "Y"), cell sizes became so small that no statistical tests were conducted. The distribution of responses is provided as a means of elaborating the descriptive account of attitudes toward cooperation within the sample.

DISCUSSION Overall the data indicate a relatively negative attitude toward cooperation within the sample. Only 11 percent belong to fishermen's or farmer's associations, 77 percent would prefer to earn less and own the land than earn more and share ownership, and only 40 percent assert that they would cooperate with others in the ownership of productive equipment. Primary among the reasons given for lack of cooperation are responses that can be categorized as a lack of willingness to share; e.g. "to each his own," "what I gain is for me," "what is mine is mine." Of secondary importance was the belief that such cooperation would lead to discord; e.g. "there will be disagreements," "we will end up fighting." Even among the 40 percent who said that they would agree to cooperate, fully 61 percent predicted that they could not find others to cooperate with. The reasons projected concerning those who would fail to cooperate were similar to those given for a negative attitude toward cooperation---lack of a willingness to share on the part of others and a prediction of discord.

These findings are supported by the literature concerning sociocultural impediments to cooperative development. For example, Inayatullah (1972) writes that an important factor to be considered in the establishment of cooperative activities is the quality and degree of interpersonal trust. The degree of suspicion present within the sample is clearly demonstrated by the fact that 75 percent of the respondents fully agreed (concordo, totalmente) with the statement "never trust a stranger." Foster (1973) notes that this attitude is quite common in peasant societies. Further, in an area where there is a great deal of population pressure on land and other resources such as in the Azores,, there is little question that an image of limited develops (cf. Foster 1965). The idea of "limited good" refers to the belief that all goods are allotted in a specific amount which cannot be increased but only redistributed. This belief is contrary to the ideal that through cooperatives the total amount of goods can be increased (cf. Inayatullah 1972; Carroll 1969); hence, the relatively negative attitude towards cooperation among the fishermen and farmers in our sample. Additionally, most of the fishermen and farmers in the sample are quite marginal economically. A mistake in planning their productive activities could result in financial disaster; thus, the perceived risk of any changes would be relatively high. Since there is a significant amount of lack of trust in combination with an image of limited good, the risks of cooperation would be perceived to be relatively high. Experimental analyses of cooperative behavior have indicated that one of the strongest predictors of withdrawal of cooperation is degree of risk (Carroll and Schmitt 1975).

Central to the questions posed by this paper is the fact that we find no differences between fishermen and farmers with respect to cooperation

Perhaps this is 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. The only statistically significant findings were that those with more education are less likely to belong to fishermen's or farmer's associations, exposure to mass media is positively related to willingness to cooperate, and owners of productive equipment are less likely to agree that sharing and earning more is preferable to sole ownership and less income. A possible explanation for the first finding is that those with more education probably perceive less of a need for membership in the existing organizations. The relationship between mass media exposure and willingness to cooperate is similar to findings by Pollnac and Ruiz-Stout (1975) who report that newspaper reading is directly related to knowledge about fishermen's cooperatives which has a significant effect on cooperative membership. Finally, those who do not already own productive equipment are probably more likely to express that they would like to share ownership since this can only increase their present good.

In sum, the findings of this paper suggest that the relative lack of trust within the sample is probably partially responsible for the tendency to have a negative attitude towards cooperation. This relative lack of trust, in combination with population pressure on resources which results in an image of limited good, influences the degree of perceived risk concerning changes; thus further depressing any tendencies toward cooperative behavior. It is suggested that programs designed to increase the quantity and quality of interpersonal communication in rural regions of this island economy may increase trust and reduce perceived risk (cf. Harwell and Schnitt 1975). These programs in combination with others designed to counter the

image of limited good by demonstrating that increased goods can accompany cooperative behavior, may succeed in increasing the likelihood of successful cooperative movements which will facilitate development of these Azorian small-scale farmers and fishermen.

14

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- 15
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