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Beliefs About Benefits of Fishermen's Cooperatives on the Pacific Coast of Costa Rica

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Introduction

The purpose of this paper is to describe and analyze small-scale fishermen's perceived benefits of belonging to a cooperative in several communities in the Gulf of Nicoya and the northwest region of Guanacaste, Costa Rica.

One of the central features of the development program initiated in 1970 by the Presidential Office of Planning of Costa Rica was to establish a small-scale fishermen's cooperative. Although the cooperative was formed, it has not functioned well (cf. Poggie 1979). By understanding the small-scale fishermen's perceptions of the benefits of cooperatives, it may be possible to obtain insights into ways that the cooperative structure may be modified to better meet the needs and expectations in the various communities involved. Social and cultural research in a number of fishing communities in the New England region of the United States has shown that considerable variation exists within relatively small areas. Policy decisions that do not take this variability into account may be less effective (cf. Poggie and Pollnac 1979). There is reason to believe that comparable diversity exists on the west coast of Costa Rica and that this diversity should be known and incorporated into fishery policy decisions. As is true with other aspects of policy planning, it is better to have this information before policy decisions are made and action programs are set into motion.

The Sample

Data from a total of 187 small-scale fishermen from four communities were used in this analysis. Two communities from the Gulf of Nicoya region were Puntarenas (N=67) and Costa de Pajaros (N=50). The other two communities were Playa del Coco (N=39) and several small relatively small isolated communities between Guajuiniquil and the Nicaraguan border which in composite are considered as the fourth community (N=31). This community will be referred to as "North". Relative to the total population of fishermen in these four communities, these samples represent approximately 8 percent, 11 percent, 35 percent and 39 percent respectively (MAG, 1976).

Tests

As part of a larger interview schedule, fishermen were asked in an open-ended question to indicate what they consider to be the benefits of belonging to a fishermen's cooperative. Participant observation data were also obtained on social structural and economic features of community life. Of particular importance here is the number of fish dealers in the community who carry on many of the same functions of a cooperative (cf. Pollnac 1977). Data from the open-ended question were content analyzed and categorized into nine categories (see Table 2).

A number of independent variables were also measured by means of direct responses to questions in the interview schedule. These included: (1) age, (2) years fishing experience, (3) number of kinsmen who fish, (4) boat ownership, (5) number of kinsmen who fish with the respondent, (6) hours fished per trip, (7) days fished per week, (9) years of formal education, (10) whether father is/was a fishermen, and (11) whether father is/was a farmer. Current perception of socioeconomic position (variable 3, To) was measured by means

Table 1

Community Level Difference on Independent Variables

Variable	Puntarenas	Costa de Pajaros	Playa del Coco	North	Probability
(1) Age $\bar{X}$	32.8	27.6	27.6	28.7	$< .05$
(2) Y'rs Fished $\bar{X}$	12.4	11.8	11.8	5.9	$< .01$
(3) No. of family who fish $\bar{X}$	1.9	7.1	4.9	2.4	$<$
(4) Own boat (%)	30	50	33	45	$>$
(5) No. kin fish with $\bar{X}$	.43	1.0	.82	.48	$< .01$
(6) hrs. fish/trip $\bar{X}$	201	105	9	17	$< .001$
(7) days fish/week $\bar{X}$	5.6	5.5	6.2	6.1	$< .001$
(8) To $\bar{X}$	4.7	4.1	5.0	4.9	$> .05$
(9) Education $\bar{X}$	4.1	3.2	6.2	4.4	$< .001$
(10) Father Farmer (%)	24	28	41	58	$< .01$
(11) Father Fisherman (%)	40	68	28	9	$< .001$
(12) Number of Fish Dealers per community	17	6	1	.75*	----
N =	67	50	39	31	total 187

*Four communities with three dealers.

of a ten-step self-anchoring scale (Catril 1963).

Table 1 shows the community level differences in these variables. These variables are sufficiently different among the communities to justify controlling for community in the analysis of the relationship of the dependent and independent variables.

Analysis

For the four communities frequency categories of first response of perceived

benefits of belonging to a fishermen's cooperative are presented in Table 2. The findings presented in Table 2 support the contention that there is considerable diversity of perceived benefits of cooperative membership.

In the Puntarenas sample, 48 percent of respondents felt that there are no benefits to belonging to a cooperative; 16 percent said they did not know what the benefits would be, and an equal percentage thought that it would bring mutual help to fishermen. Nine percent thought it would bring better income. Other categories of response accounted for the remaining responses, but all were under five percent of the total. In Costa de Pajaros, 52 percent said they did not know what the benefits would be; 20 percent saw no benefits, and 8 percent of the total saw the advantage in mutual help or other miscellaneous positive benefits. Six percent saw a chance to participate in a savings plan as the main advantage, while four percent and two percent cited better income and loans respectively.

Table 2

Benefits of Belonging to A Fishermen's Cooperative

Category	Puntarenas (f)	Puntarenas percent	Costa de Pajaros (f)	Costa de Pajaros Percent	Playa del Coco (f)	Playa del Coco Percent	North (f)	North Percent
1) Better income	6	9	2	4	3	8	-	-
2) Saving plan	2	3	3	6	-	-	1	3
3) Loans	1	1	1	2	1	3	-	-
4) Equipment/supplies	1	1	-	-	12	31	10	32
5) Mutual help	11	16	4	8	2	5	2	6
6) Other positive	3	4	4	8	3	8	-	-
7) No benefits	32	48	10	20	4	10	2	6
8) Don't know	11	16	26	52	11	28	16	52
9) Selling point/ marketing	-	-	-	-	3	8	-	-
	67	100	50	100	39	100	31	100

☐ = highest frequency response in community

Responses in the northwestern region were different in pattern from those in the two Gulf of Nicoya communities. At Playa del Coco the most frequent response (31 percent of total) was equipment/supplies, while "don't know" was second most frequent with 28 percent of the total. "No benefits" received 10 percent of the total, and "better income," "other positive", "selling point/ marketing" each received 8 percent of the total. Mutual help and loans received 5 percent and 3 percent respectively. In the North community "don't know", with 52 percent of the responses, was the most frequent response, and equipment/ supplies was the second with 32 percent of the total. "No benefits" and "mutual help" had 6 percent of the total. "No benefits" and "mutual help" had 6 percent each, while savings plan had 3 percent of the total.

The analysis shows a relationship between patterns of responses to perceived benefits of cooperatives and a community level variable. Variable twelve (Table 1) is the number of middlemen in each community. As seen below in Table 3, there is a perfect positive rank order correlation between number of middlemen and response category seven (no benefits), and a perfect negative rank order correlation between response category four (supplies/equipment) and number of middlemen. This relationship will be discussed further below.

The next step in the analysis is to determine how the dependent and other independent variables are related to each other. Because "lack of knowledge" about the benefits of cooperatives formed the single most frequent response in two of the communities, a new variable (K/NOK) knowledge vs no knowledge about the benefits of cooperatives was created and tested against independent variables one through 11. Table 4 shows the results of this part of the analysis. In each community (K/NOK) was significantly related to at least one of the independent variables.

Table 3

Relationship of Variable 12 and Response 7 and 4

Variable	Rank Variable 12 Number of fish dealers Per Community	Rank Response 7 No benefits	Rank Response 4 Supplies/equipment
Puntarenas	1	1	3.5
Costa de Pajaros	2	2	3.5
Playa del Coco	3	3	2
North	4	4	1

Table 4

Knowledge of Cooperatives vs independent variables

Variables	Puntarenas K	Puntarenas NOK	Puntarenas P	Costa de Pajaros K	Costa de Pajaros NOK	Costa de Pajaros P	Playa del Coco K	Playa del Coco NOK	Playa del Coco P	North K	North NOK	North P
1) Age $\bar{X}$	33.5	29.1	>.05	29.6	25.8	>.05	29.9	21.8	<.05*	29.7	27.7	>.05
2) Yrs Fished $\bar{X}$	12.7	10.6	>.05	12.8	10.9	>.05	14.4	5.4	<.05*	6.5	5.4	>.05
3) No. of family who fish $\bar{X}$	2.0	1.5	>.05	6.5	7.7	>.05	5.9	2.5	>.05	2.1	2.8	>.05
4) Own boat (%)	34	9	<.05*	63	39	<.05*	39	18	>.05	53	38	>.05
5) No. kin fish with $\bar{X}$	.40	.50	>.05	.67	1.35	<.05*	1	.4	.05	.2	.8	<.10*
6) hrs fish/day $\bar{X}$	10.3	10.7	>.05	4.8	5.6	>.05	7.3	4.8	>.05	15.7	19.8	>.05
7) days fish/ week $\bar{X}$	5.6	5.6	>.05	5.6	5.4	>.05	6.4	6.0	>.05	6.0	6.1	>.05
8) To $\bar{X}$	4.7	4.7	>.05	4.0	4.3	>.05	5.0	4.9	>.05	4.5	5.2	>.05
9) Education $\bar{X}$	4.1	4.5	>.05	2.5	3.8	<.05*	6.1	6.5	>.05	5.0	3.9	>.05
10) Father Farmer (%)	27	9	>.05	29	27	>.05	36	54	>.05	60	56	>.05
11) Father Fisher-man (%)	39	46	>.05	67	69	>.05	39	0	<.001*	7	12	>.05

* = significant relationship alpha = .10

In Puntarenas and Costa de Pajaros boat owners had more knowledge about cooperatives than non-owners. In Costa de Pajaros and North, the more kinsmen individuals had fishing with them, the less knowledge they had about the benefits of cooperatives. In Playa del Coco the interrelated variables of age and years of fishing experience are related to (K/NOK). The older and more experienced a fisherman is, the more likely he is to have knowledge about the benefits of cooperatives. Also in this community, individuals with fathers who were fishermen had more knowledge about cooperatives than individuals who had fathers with other occupations.

Discussion

The results of this analysis show that there is considerable variation from community to community regarding perceived benefits or lack of benefits of belonging to a fishermen's cooperative. Both situational and individual factors help to explain some of this variation. A systematic relationship exists between the number of fish dealers in a community (situational variable) and perceived lack of benefits of belonging to a cooperative as well as with perceived benefits in the form of supplies and equipment.

Besides the obvious point of supplying a selling point, middlemen also serve the important function of obtaining supplies and equipment for fishermen. In fact, as shown by Pollnac (1977), Costa Rican middlemen carry on a variety of functions besides purchasing of fish for resale to others. Pollnac (1977) cites providing loans, picking up parts and providing other "help" as some of the other functions of middlemen. It would appear that where there are sufficient middlemen in a community who compete with one another to supply a variety of functions to fishermen, perceived benefits of a cooperative is

low. Where there are not enough middlemen in competition to supply the needs, then the perceived benefits increase.

Some might argue that the high negative evaluation of cooperatives in Puntarenas is due to its main activities being located there; and, thus, this is where its weakness and shortcomings are most visible. However, the data do not support this view. There was a branch of the cooperative in Playa del Coco which did not function at all well and eventually closed down just before the data reported here were collected. Yet, it is in Playa del Coco that we find the highest total positive responses (63%) concerning the benefits of belonging to a fishermen's cooperative. This suggests that the "negative visibility issue" is not a valid alternative explanation.

Regarding knowledge or lack of knowledge about benefits of belonging to cooperatives, we note that in each of our four "communities" different combinations of variables predict whether an individual will have or lack knowledge of the benefits of cooperatives. Although it is not possible at the present time to explain why these various combinations of variables are related to K/NOK, there is an important policy implication to the findings. This implication is related to other findings of the project which indicate that there is considerable diversity and complexity of beliefs, opinions, knowledge, as well as their correlates in the four communities.

It is clear from this analysis that programs related to cooperative formation and education must take into account the diversity within and between communities. Blanket policy decisions that disregard this diversity are less likely to be successful than those that deal with the complexity as a normal social and cultural feature of human life. It is, of course, impossible to deal with the social and cultural complexity unless studies are carried out

as a prior step to policy decisions. In the case studied here, it would appear that greater effort in cooperative development in communities with lower numbers of middlemen and efforts to adjust the cooperatives structure to needs of the fishermen (cf. Poggie 1979) in communities with high concentrations of middlemen may have been in order.

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