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Anthropology Working Paper No. 35

Small-Scale Fishermen's Perceptions of
the Occupation: Northwestern Costa Rica

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July 1979

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INTRODUCTION

This paper deals with an analysis of socio-cultural aspects of small-scale fishermen from northwestern Costa Rica. The purpose of the analysis is to describe perceptions of the occupation and to compare these with fishermen from the Gulf of Nicoya to the south. Because the northwest coast is a more exposed environment than the Gulf of Nicoya, it will be possible to suggest what effect this macro-environmental feature has on the perceptions of occupation of otherwise fairly similar small-scale fishermen.

Knowledge of fishermen's perceptions of their occupation and how these perceptions may be influenced by environmental factors (protected gulf versus open ocean) can be useful in designing change programs, particularly if these require fishermen to utilize ecological niches to which they are unaccustomed.

THE SAMPLE

The sample employed in this analysis consists of 70 fishermen from four communities in the Gulf of Papagayo region of northwestern Costa Rica. All available fishermen encountered at landing sites were interviewed in Playa del Coco, Cuajiniquil, Jobo and Puerto Soley, Guanacaste. It has been estimated that there are some 200 fishermen in the northwestern region, thus approximately 35% of the total were interviewed.

Fishermen in this region have small-scale operations, using mainly outboard-powered skiffs and small boats (up to about 30'). Gill netting of fish is the most common form of capture, but some diving, various combinations of gill net and line-fishing also take place. Of our sample of 70 fishermen and crew members, 30 used monofilament gill net; 27 used multifilament gill net, 6 were divers and the remaining 7 used various combinations of line and gill nets.

TESTS

Fishermen were asked open-ended questions concerning qualities of good fishermen as well as what they most like and dislike about fishing. From these projective-like questions, perceptions of occupation may be derived. Other socioculture variables such as age, years fishing, boat ownership, education and father's occupation were measured by means of direct questioning.

ANALYSIS

Qualities of a Good Fisherman

Categories of first response concerning perceived qualities of a good fisherman are presented in Table 1.

Table 1

Qualities of a Good Fisherman

<u>Category</u>	<u>(f)</u>	<u>Percent</u>
Like fishing	27	39
Know how to use equipment	22	31
Personal characteristics	6	9
Know fishing spots	4	6
General knowledge about fishing	3	4
Luck	3	4
N/A	3	4
Have good equipment	1	1
Know tides, weather, etc.	1	1

n = 70

The most frequent first response to this question is that one has to like fishing in order to be a good fisherman. Thirty-nine percent of the sample mentioned this idea. The next most frequent response was that a person needed to know how to use equipment in order to be good at fishing. Thirty-one percent responded in this way. Together, these two responses account for 70 percent of the responses. Personal characteristics of fishermen were believed to contribute to being a good fisherman in the view of 9 percent of the respondents. As seen in Table 1, a variety of other responses make up the remaining 21 percent of first responses, but none by itself accounts for a large percentage.

The two most frequent responses were considered as they relate to the independent variables of age, years fishing, boat ownership, education,

father fisherman and father farmer. Age was not significantly related to the dependent variables, but years fishing was related ($\chi^2=7.75$ $p < .01$) to whether one emphasized "liking fishing" as a condition for being a good fisherman. Those with less experience (below mean) emphasized liking fishing more than those with more years of experience. This seems to indicate that fishing serves more as a form of enjoyment to those who first enter the occupation than those who have been in the occupation for some time. There was a corresponding tendency (44%) for respondents with fishermen fathers (versus 33% for those with non-fishing fathers) to consider liking fishing as a requirement for being a good fisherman. Respondents socialized in fishing households tend to emphasize the need to enjoy fishing, perhaps as an outgrowth of their learning the "costs" of fishing from association with their fishermen fathers.

Most Like About Fishing

Turning to what fishermen most like about fishing, we see in Table 2 the categories and percentages of responses.

Table 2

Most Like About Fishing

<u>Category</u>	<u>(f)</u>	<u>Percent</u>
Specific type of fishing	26	37
Catching many fish	11	16
Independence	8	11
Specific attribute of job	8	11
Monetary reward	5	7
Environment	4	6
Like everything	3	4
Easy work	2	3
Peaceful life	1	1
D/K, N/A	2	3

N = 70

The most frequently mentioned response had to do with some specific type of fishing such as gill netting, diving, etc. Thirty seven percent of the responses were in this category. The second most frequent response "catching many fish" amounted to 16 percent of the responses, while "independence" and some specific aspect of the job (e.g. pulling net) tied for third most frequent with 11 percent each. As seen in Table 2, a variety of other responses make up the remaining total.

These responses were also analyzed as they relate to age, years fishing, boat ownership, education and father's occupation. It was found that none of these independent variables was related to perceptions of what respondents most like about fishing.

Like Least About Fishing

Responses to the question of what fishermen like least about fishing are shown in Table 3.

Table 3

Like Least About Fishing

<u>Category</u>	<u>(f)</u>	<u>Percent</u>
Environment (wind, bad weather, etc.)	19	27
Nothing	15	21
Specific task	11	16
Problem with equipment	9	13
Lack of fish	7	10
Other	4	6
Prices	3	4
Amount of work	1	1
D/K	1	1

N = 70

We note here that negative aspects of the environment (wind, bad weather, etc.) form the most frequent (27 percent) category of response. The category "nothing" is second most common (21 percent), while some specific task (e.g. mending nets) is third. The fact that negative environmental features are emphasized is of interest, as these fishermen exploit an exposed section of coastline.

When these responses were analyzed in terms of the independent variables

of age, years fishing, boat ownership, education, and father's occupation, only one significant relationship emerged. This, too, had to do with negative aspects of the environment. It was found that the more educated (above and below the mean, 35 versus 13 percent respectively) emphasized negative environmental features as what they disliked most about fishing ($\chi^2=3.96$ $p < .05$, $Q.24$). Thus in some way education contributes to a greater concern with environment as a negative aspect of the occupation.

Open Ocean vs. Gulf of Nicoya

Small-scale fishermen's perceptions of the occupation in the protected Gulf of Nicoya region have been reported by Pollnac (1977). In this section we will compare responses from the northwestern open ocean region with those from the protected gulf in an effort to see how this macro-environmental difference appears to affect perceptions of occupation.

Pollnac (1977) used the same tests to determine fishermen's perceptions of qualities of a good fisherman and positive and negative aspects of the occupation. His sample of 125 was drawn from Gulf of Nicoya fishermen in Puntarenas and Costa de Pajaros. His results are directly comparable to those from the north.

Turning first to a comparison of the four most frequent responses to the question of what makes a good fisherman, we note clear differences between the regions:

Table 4

Ranked, Categorized Responses: Attribute of Good Fishermen

<u>Rank</u>	<u>Gulf of Nicoya</u>	<u>Rank</u>	<u>Northwest Region</u>
1	Knowledge of physical environment	1	Like fishing
2	Knowledge of fishing spots	2	Know how to use fishing equipment
3	Know how to use fishing equipment	3	Personal characteristics
4	Personal characteristics	4	Know fishing spots

It is the most frequent responses of knowledge of the physical environment and liking fishing that most differentiate the two regions. It would seem that knowledge of aspects of the physical environment (particularly tides and currents) is more important in the geographically constricted gulf than it is in the more open northwest region. It is not clear why liking fishing would be so important in the northwest. One suggestion is that, open ocean fishing is more "intensive fishing," requiring greater time and greater removal from land and landbound society and thus cannot be carried out effectively well unless one likes it. As noted earlier, northwest fishermen often are 40 to 50 miles from land, while Gulf of Nicoya fishermen are never out of view of land because of distance.

Looking at the comparison of what fishermen from the two areas like about their occupation, we again note marked differences:

Table 5

Ranked Categorized Responses: Most Like About Fishing

<u>Rank</u>	<u>Gulf of Nicoya</u>	<u>Rank</u>	<u>Northwest Region</u>
1	Monetary reward	1	Specific type of fishing
2	Everything	2	Catching many fish
3	Environment	3.5	Independence
4	Catching many fish	3.5	Specific attribute of job

It is interesting that northwest fishermen rank aspects of the job itself first, while Gulf fishermen rank the monetary reward of work as first. This suggests that there is more non-economic reward involved in the work of northwest fishermen from those in the south. This finding supports the ecological interpretation that one has to like fishing in order to carry it out well in the more open high energy physical environment of the north.

Finally, turning to the negative aspects of fishing in the two areas we present the four highest ranking of negative aspects in Table 6 below.

Table 6

Ranked Categorized Responses: Like Least About Fishing

<u>Rank</u>	<u>Gulf of Nicoya</u>	<u>Rank</u>	<u>Northwest Region</u>
1	Nothing	1	Environment
2	Specific task	2	Nothing
3	Lack of fish	3	Specific task
4	Environment	4	Problem with equipment

The rankings of negative aspects of fishing also seem to reflect the difference in ecological conditions between the two zones. Fishermen in the northwest emphasize environmental difficulties as those which they dislike the most. It is also interesting to note that "lack of fish" appears in the gulf fishermen's list of greatest concern and "problems of equipment" is that of the northwest fishermen. Both of these concerns appear to be ecologically based. The more heavily fished Gulf is subject to more depletion of stock than the less intensely fished northwest. Problem with equipment is of greater concern to offshore fishermen than those who are not so distant from shore.

SUMMARY AND CONCLUSIONS

Overall the fishermen of the northwest appear to be fairly positive about their occupation but with clear preferences for specific types of fishing and with the view that one must like fishing to be good at it. This suggests that development programs that require fishermen to change their mode of fishing or require added labor may involve resistance and recruitment problems. Changes in mode of fishing could conflict with their preferences for specific types of fishing, while recruitment would potentially bring in individuals who do not have the psychocultural predisposition to the occupation.

Also suggested by the data is that environmental factors (inshore vs. offshore) play a role in the occupational subculture that evolves within small-scale fisheries. For this reason too, planners should not assume that all small-scale fishermen are equally amenable to different types of fishing. Studies to determine the sociocultural potential for change among

fishermen targeted for change programs should be carried out before decisions of direction of change are made.

REFERENCES CITED

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