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COMMUNICATION AND TECHNOLOGY TRANSFER

FINAL REPORT

June 15, 1977

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PURPOSE OF THE STUDY AND VARIABLES EXAMINED

This report deals with self-concepts of innovation adopters and non-adopters among artisan fishermen in two locations on the Gulf of Nicoya, Costa Rica. A study of self-concepts was undertaken for the following reasons. The literature of social psychology and communication indicates that self-concepts are critically related to people's behavior. Literature on diffusion and adoption on innovations shows that relationships between self-concepts and adoption of innovations have been examined in only a negligible number of studies. In situations where they have been examined, characteristics of their association with adoption have been determined without further consideration of their function. Since self-concepts are critical for behavior, they may have implications for adoption of innovations which have not yet been determined. This type of information could be of use in work with developmental change among artisan fishermen.

Hence, this study of self-concepts was undertaken to find out if they have characteristics with potential for use in: 1) describing predisposition to change and adopt innovations; 2) predicting adoption of innovations; and 3) improving communication to facilitate the adoption of innovations.

THE AREAS STUDIED

The two areas studied are located on the Gulf of Nicoya, which opens into the Pacific Ocean on the western coast of Costa Rica. Barrio el Carmen is a waterfront neighborhood-community within the city of Punteranas; it is occupied by people whose life style is influenced by their proximity to the Gulf of Nicoya and their access to inland areas of Costa Rica through the existing highway system. Among them are artisan fishermen and dealers in fish whose operations are small in scale.

Costa de Pajaros, on the eastern shore of the Gulf of Nicoya, is a village area and is more remote than Barrio el Carmen, being accessible only by water and by unimproved roads. The setting is a natural one which lends itself to small scale farming operations as well as to contact with the Gulf and fishing.

DATA COLLECTION

Data were collected by Dr. Richard B. Pollnac during the last two weeks in November, 1976. Questionnaires designed by Dr. Irving A. Spaulding were used as the basis for interviews. Respondents were selected as cases, being classified as adopters if there were fishermen who had adopted and were continuing to use a simple record keeping system and book introduced earlier in the year by Dr. Jan Johnson. Non-adopters were fishermen who had not adopted the record keeping system and book, even though they had the opportunity to do so. Both adopters and non-adopters were interviewed in Barrio el Carmen and Costa de Pajaros in the proportions shown below.

	<u>Barrio el Carmen</u>	<u>Costa de Pajaros</u>	<u>Total</u>
Adopters	11	14	25
Non Adopters	<u>14</u>	<u>11</u>	<u>25</u>
TOTAL	25	25	50

CHARACTERISTICS OF RESPONDENTS

Prior Occupations

All respondents fished or dealt in the sale of fish. Data on their prior occupations are shown in Table 1. The two most prevalent types of prior occupations are farming and being a student. Farming is most prevalent in Costa de Pajaros, the remote shoreline village area, while being a student is most prevalent in Barrio el Carmen, the urbanized area within Punteranas. The former area has no fishermen with prior experience in business, while the latter has as many former laborers and businessmen as it has former students. The proportion having no prior occupation is about twice as great in Costa de Pajaros as it is in Barrio el Carmen (Table 1).

Being a student is the most prevalent prior occupation, followed by unskilled labor, among non-adopters; farming, followed by being a student, is the most prevalent prior occupation for adopters; adopters have the only case of prior business experience. The proportion having no prior occupation is about twice as great for adopters as it is for non-adopters (Table 1).

A greater proportion of respondents in Costa de Pajaros than in Barrio el Carmen had a prior occupation other than that of student; in this respect, adopters were more prevalent than non-adopters (Table 1).

The number of years in prior occupations varied by location and adopter status of the respondents. The mean number of years spent in prior non-student occupations by respondents in Barrio el Carmen

(5.8 years) was about one-half that for respondents in Costa de Pajaros (10.8 years); for non-adopters the mean number of years (6.3 years) was about two-thirds of that for adopters (9.3 years) (Table 2).

For respondents with prior non-student occupations, the number of years engaged in fishing since last employed otherwise also varied by location and adopter status. The mean number of years for such respondents in Costa de Pajaros (18.5 years) was about twice as large as that for Barrio el Carmen (9.9 years). In comparison, adopters (15.4 years) had only a slightly larger number of years than non-adopters (11.9 years) (Table 3).

Dependence on Income from Fishing

The households of most respondents were completely dependent on income from the respondents' fishing activity. The extent of this dependence was greater in Costa de Pajaros (100.0%) than in Barrio el Carmen (59.1%); it was also greater among adopters (83.3%) than among non-adopters (62.5%). However, most households depend on fishing for at least one-half of their income. For those partially dependent on income from non-fishing sources in Barrio el Carmen, 34.6 percent of the total amount of household incomes came from those sources. Among non-adopters, almost one-half (49.4%) came from non-fishing sources, while comparable income for adopters was 32.7% of the total amount of household incomes (Table 4).

Irrespective of degree of dependence on fishing for household income, with respect to mean household incomes, the larger ones are

in the less remote location (Barrio el Carmen) and among adopters. Mean household income was about twice as large in Barrio el Carmen as it was in Costa de Pajaros; comparable incomes were about 17.0 percent larger for adopters than for non-adopters.

All respondents in Costa de Pajaros were completely dependent on fishing for household income. In Barrio el Carmen, mean household income was larger for households completely dependent on fishing than for household partially dependent on fishing. Among non-adopters and adopters, however, the adopters who were completely dependent on fishing for household income had the largest mean household income; non-adopters who were completely dependent on fishing had the lowest. Among those partially dependent on fishing, adopters had a larger mean household income than non-adopters; the former also had a larger mean income from fishing. But there was greater similarity between non-adopters and adopters who were partially dependent on fishing than between non-adopters and adopters who were completely dependent on fishing. With one exception, mean household incomes were larger for households completely dependent on fishing than for households partially dependent on it; the exception was non-adopters (Table 5).

Age

Data show diversity in each location and in each adopter status category. When 10.0 percent of the total number of cases is used to reflect concentration in an age interval, ages are shown to cluster in intervals under 30 years and in the 40-44 year interval. While there are variations between the locations and between adopter status

categories with respect to concentration in age intervals between 15 and 29 years, only non-adopters have no concentration in the 40-44 year interval. The respondents in Barrio el Carmen are older, on the average, than those in Costa de Pajaros, and the average age of adopters is greater than that of non-adopters. Costa de Pajaros has the youngest non-adopters and the oldest adopters (Table 6A; Table 6B).

Education

Data show a greater diversity of educational experience among respondents in Barrio el Carmen and among non-adopters than among adopters and among respondents in Costa de Pajaros. With 10.0 percent of the total number of cases used to reflect concentration at a given educational level, the similarities and divergencies between locations and adopter status categories are shown. Respondents in Barrio el Carmen concentrate at the 2nd, 3rd, 6th, and 9th grades; in Costa de Pajaros they concentrate at the 0, 2nd, 4th, and 6th grades. Non-adopters concentrate at the 2nd and 6th grades, while adopters concentrate at the 0, 2nd, 3rd, 6th, and 9th grades. Respondents in Barrio el Carmen have a higher mean education than those in Costa de Pajaros; non-adopters have a higher mean education than adopters. Adopters in Costa de Pajaros have the least education, on the average, while non-adopters in Barrio el Carmen have the most (Table 7A; Table 7B).

Table 1. Respondents Classified by Prior Occupation, Location, and Adopter Status; 50 Artisan Fishermen, Gulf of Nicoya, Costa Rica: November, 1976

Prior Occupations	Location				Adopter Status			
	Barrio el Carmen		Costa de Pajazos		Non adopters		Adopters	
	No.	%	No.	%	No.	%	No.	%
None	2	7.1	4	16.0	2	7.7	4	14.8
Student	13	46.4	8	32.0	15	57.7	6	22.8
Farming	-	-	13	52.0	2	7.7	11	40.8
Unskilled labor	7	25.0	-	-	5	19.2	2	7.4
Skilled labor	5	17.9	-	-	2	7.7	3	11.1
Business	<u>1</u>	<u>3.9</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>3.7</u>
	28*	100.0	25	100.0	26*	100.0	27*	100.0

*Totals are greater than 25, since some fishermen had more than one prior occupation.

Table 2. Respondents Classified by Duration of Prior Non-student Occupations, Location, and Adopter Status; Gulf of Nicoya, Costa Rica; November, 1976.

Years Duration of prior occupations	Location				Adopter Status			
	Barrio el Carmen		Costa de Pajaros		Non- adopters		Adopters	
	No.	%	No.	%	No.	%	No.	%
1	1	7.7	-	-	1	11.1	-	-
2	1	7.7	-	-	1	11.1	-	-
3	3	23.1	-	-	1	11.1	2	11.8
4	1	7.7	-	-	1	11.1	-	-
5	3	23.1	1	7.7	2	22.3	2	11.8
6	1	7.7	2	15.4	-	-	3	17.6
-	-	-	-	-	-	-	-	-
9	1	7.7	2	15.4	-	-	-	-
10	-	-	1	7.7	-	-	3	17.6
11	-	-	1	7.7	-	-	1	5.9
12	-	-	2	15.3	1	11.1	-	-
13	1	7.7	1	7.7	2	22.2	2	11.8
14	-	-	1	7.7	-	-	1	5.9
-	-	-	-	-	-	-	-	-
16	-	-	1	7.7	-	-	1	5.8
17	<u>1</u>	<u>7.6</u>	<u>1</u>	<u>7.7</u>	<u>-</u>	<u>-</u>	<u>2</u>	<u>11.8</u>
	13	100.0	13	100.0	9	100.0	17	100.0
Mean	5.8 yrs.		10.8 yrs.		6.3 yrs.		9.3 yrs.	

Table 3. Respondents with Prior Non-student, Non-fishing Occupations Classified by Years of Fishing Since Leaving the Last Non-fishing Occupation, Location, and Adopter Status; Gulf of Nicoya, Costa Rica; November, 1976.

Number of years	Location				Adopter status			
	Barrio el Carmen		Costa de Pajaros		Non-adopters		Adopters	
	No.	%	No.	%	No.	%	No.	%
1	1	7.8	-	-	-	-	1	5.8
2	2	15.3	1	7.7	1	11.1	2	11.7
3	-	-	-	-	-	-	-	-
5	2	15.3	-	-	1	11.1	1	5.9
6	1	7.8	2	15.3	1	11.1	2	11.7
-	-	-	-	-	-	-	-	-
8	-	-	1	7.7	1	11.1	-	-
-	-	-	-	-	-	-	-	-
10	2	15.3	-	-	1	11.1	1	5.9
-	-	-	-	-	-	-	-	-
12	3	23.2	-	-	2	22.2	1	5.9
-	-	-	-	-	-	-	-	-
16	-	-	1	7.7	-	-	1	5.9
17	-	-	1	7.7	-	-	1	5.9
-	-	-	-	-	-	-	-	-
21	-	-	1	7.7	-	-	1	5.9
-	-	-	-	-	-	-	-	-
24	-	-	1	7.7	-	-	1	5.9
25	-	-	1	7.7	-	-	1	5.9
26	2	15.3	1	7.7	2	22.3	1	5.9
-	-	-	-	-	-	-	-	-
28	-	-	1	7.7	-	-	1	5.9
-	-	-	-	-	-	-	-	-
30	-	-	1	7.7	-	-	1	5.9
31	-	-	1	7.7	-	-	1	5.9
	13	100.0	13	100.0	9	100.0	17	100.0
Mean		9.9 yrs.		18.5 yrs.		11.9 yrs.		15.4 yrs.

Table 4. Households Completely and Partially Dependent on Respondent's Income from Fishing, Classified by Location and Status of Respondents; Gulf of Nicoya, Costa Rica; November; 1976.

Degree of dependence	Location				Adopter Status			
	Barrio el Carmen		Costa de Pajaros		Non-adopter		Adopter	
	No.	%	No.	%	No.	%	No.	%
Complete	13	59.1	12	100.0	10	62.5	15	83.3
Partial	<u>9^a</u>	<u>40.9</u>	<u>0</u>	<u>-</u>	<u>6^a</u>	<u>37.5</u>	<u>3^a</u>	<u>16.7</u>
	22	100.0	12	100.0	16	100.0	18	100.0

a. Percentage of household income from non-fishing sources:
 Barrio El Carmen: 34.6; Non-adopters: 49.4 Adopters: 32.7.

Table 5. Mean Incomes (in colonies) for Households Completely and Partially Dependent on Respondents Income from Fishing, Classified by Location and Adopter Status of Respondents; Gulf of Nicoya, Costa Rica; November, 1976.

Degree of dependence	Location		Adopter Status	
	Barrio el Carmen Mean Income	Costa de Pajaros Mean Income	Non-adopters Mean Income	Adopters Mean Income
Complete	17,300	8,217	11,200	14,100
Partial	13,422 (7,578) ^a	-	13,183 (6,667) ^a	(9,400) ^a
All households	15,713	8,217	11,944	14,067

a. Mean household income from fishing.

Table 6A. Respondents Classified by Age, Location, and Adopter Status; Gulf of Nicoya, Costa Rica; November, 1976.

Age	Location				Adopter Status			
	Barrio el Carmen		Costa de Pajaros		Non-Adopters		Adopters	
	No.	%	No.	%	No.	%	No.	%
10-14	-	-	2	8.0	2	8.0	-	-
15-19	2	8.0	6	24.0	5	20.0	3	12.0
20-24	9	36.0	2	8.0	9	36.0	2	8.0
25-29	3	12.0	4	16.0	2	8.0	5	20.0
30-34	2	8.0	2	8.0	2	8.0	2	8.0
35-39	-	-	2	8.0	-	-	2	8.0
40-44	4	16.0	3	12.0	1	4.0	6	30.0
45-49	2	8.0	1	4.0	2	8.0	1	4.0
50-54	2	8.0	1	4.0	2	8.0	1	4.0
55-59	1	4.0	2	8.0	-	-	3	12.0
	25	100.0	25	100.0	25	100.0	25	100.0
Mean	31.1 yrs.		29.8 yrs.		26.1 yrs.		34.9 yrs.	

Table 6B. Mean Age of Non-adopters and Adopters in Barrio el Carmen and Costa de Pajaros; Gulf of Nicoya, Costa Rica; November, 1976

Location	Mean Age in Years	
	Non-adopters	Adopters
Barrio el Carmen	29.4 yrs.	33.6 yrs.
Costa de Pajaros	22.0 yrs.	35.9 yrs.

Table 7A. Respondents Classified by Education, Location, and Adopter Status; Gulf of Nicoya, Costa Rica; November, 1976.

Grades of education	Location				Adopter Status			
	Barrio el Carmen		Costa de Pajaros		Non-Adopter		Adopter	
	No.	%	No.	%	No.	%	No.	%
0	2	8.0	7	28.0	2	8.0	7	28.0
1	1	4.0	2	8.0	1	4.0	2	8.0
2	3	12.0	41	16.0	4	16.0	3	12.0
3	4	16.0	1	4.0	1	4.0	4	16.0
4	1	4.0	3	12.0	2	8.0	2	8.0
5	2	8.0	-	-	1	4.0	1	4.0
6	4	16.0	8	32.0	9	36.0	3	12.0
7	1	4.0	-	-	1	4.0	-	-
8	2	8.0	-	-	2	8.0	-	-
9	4	16.0	-	-	1	4.0	3	12.0
10	1	4.0	-	-	1	4.0	-	-
	25	100.0	25	100.0	25	100.0	25	100.0
Mean	5.0 grades		2.9 grades		4.8 grades		3.12 grades	

Table 7B. Mean Education of Non-adopters and Adopters in Barrio el Carmen and Costa de Pajaros; Gulf of Nicoya, Costa Rica; November, 1976.

Mean Education in Grades		
Location	Non-adopters	Adopters
Barrio el Carmen	5.4 grades	4.5 grades
Costa de Pajaros	4.1 grades	2.0 grades

SECTION II - A PARADIGM FOR TRANSITION IN DEVELOPMENTAL CHANGE

STRUCTURAL ASPECTS OF SELF-CONCEPTS: IDENTITY CONCEPTS

This section reports an analysis of characteristics of self-concepts for artisan fishermen related to concern about monetary accounts and to keeping records to those accounts; the characteristics are examined in relationship to non-adoption or adoption of the record keeping system and book mentioned above and to location in Barrio el Carmen or Costa de Pajaros. The concepts are being examined for characteristics which might be utilized in describing predisposition to change and adopt innovations, predicting adoption of innovations, and improving communication to facilitate the adoption of innovations.

Structural characteristics of self-concepts are reported here. Analysis was made of them to determine the relative prevalence of imagery components, expectations, and evaluations in those concepts. Data were collected by interview, as described above, with the following question transcribed in Spanish.

II Some fishermen write information about their fishing activity in a book so they can have a record of what they have done. Each time they come in from a fishing trip and have a catch of fish to sell, they write down such things as these:

- a. the number of pounds of each kind of fish they sell;
- b. the price per pound of each kind of fish they sell;
- c. the amount of money they get for the fish they sell.

Each time they spend money for something related to their fishing, they write that down too. They record the amount of money they spend and what they spend it for. For example:

- a. gas and oil
 - b. fishing gear;
 - c. repair of fishing gear and boats.
- A1. What are the characteristics (qualities) of a fisherman who would keep that kind of information about his own fishing activity? (What kind of person is he?)
- A2. What are the characteristics (qualities) of a fisherman who would NOT keep that kind of information about his own fishing activity? (What kind of person is he?)
- B1. What are the characteristics (qualities) of a fisherman who would put that kind of information about his own fishing activity in a book? (What kind of person is he?)
- B2. What are the characteristics (qualities) of a fisherman who would NOT put that kind of information about his own fishing activity in a book. (What kind of person is he?)

This technique lends itself to securing descriptions of fishermen's conceptualization of fishermen. The composite of imagery, expectations, and evaluations elicited is referred to as an identity concept. Identity concepts are viewed as systematically related to structured activity and as having significance for adoption or rejection of innovations.

IDENTITY CONCEPTS RELATED TO POSITIVE ACTIONS

General Relationships - (questions A1 and B1)

Positive action is regarded as concern about accounts and/or willingness to keep written records.

Despite the diversity among fishermen indicated in Section I, the data considered in this section show a high degree of similarity among the respondents with respect to their self concepts as fishermen. Tables 1 through 8 of this Section show that expectations are characteristically more prevalent in the self concepts of fishermen than images or evaluations. The exceptions to this are: a) the concept of fishermen concerned about their accounts as expressed by all non-adopters (Tables 8A, 8B) and as expressed by non-adopters in Barrio el Carmen (Tables 10, 12, and 14); b) the concept of fishermen who would keep written records as expressed by non-adopters in Barrio el Carmen (Tables 11, 12, and 14). Only in the concept of fishermen concerned about their accounts as expressed by all non-adopters (Tables 8A, 8B) are images more prevalent than expectations and evaluations; in each other exception, images and expectations are equally prevalent and are more prevalent than evaluations.

These relationships are listed below; "I" represents images, "Ex" represents expectations, and "Ev" represents evaluations. The symbols <, >, and = are used to show the general relationships among these components of identity concepts.

Structure of Identity Concepts of Fishermen

<u>Structure</u>	<u>Expressed by</u>	<u>Table</u>
A. Concerned about accounts:		
I<Ex>Ev	All adopters	8A, 8B
	Respondents in Barrio el Carmen	9A, 9B
	Respondents in Costa de Pajaros	9A, 9B
	Non-adopters in Costa de Pajaros	10, 12, 14
	Adopters in Barrio el Carmen	10, 13, 15
	Adopters in Costa de Pajaros	10, 13, 15
I>Ex>Ev	All non-adopters	8A, 8B
I=Ex>Ev	Non-adopters in Barrio el Carmen	10,12,14
B. Who would keep written records		
I<Ex>Ev	All-non adopters	8A, 8B
	All adopters	8A, 8B
	Respondents in Barrio el Carmen	9A, 9B
	Respondents in Costa de Pajaros	9A, 9B
	Non-adopters in Costa de Pajaros	11, 12, 14
	Adopters in Barrio el Carmen	11, 13, 15
	Adopters in Costa de Pajaros	11, 13, 15
I=Ex>Ev	Non adopters in Barrio el Carmen	11, 12, 14

However, data in Tables 8A and 8B indicate that fishermen who are concerned about accounts, and fishermen who would keep written records are not seen as significantly different by non-adopters and adopters. Similarly, fishermen who are concerned about accounts and fishermen who would keep written records are not seen as significantly different by respondents in the two locations examined, Barrio el Carmen and Costa de Pajaros. But the characteristics of greatest difference are those between locations as they pertain to identity concepts of fishermen concerned about accounts (Table 9B).

Relationships within Communities

Data in Table 10 and Table 11 show similarity between non-adopters and adopters in each location. Table 10 shows that in neither location, Barrio el Carmen nor Costa de Pajaros, do non-adopters and adopters have significantly different identity concepts for fishermen concerned about accounts. In Table 11, this lack of significant difference between non-adopters and adopters in each location is shown with respect to identity concepts for fishermen who would keep written records. The greatest difference, however, exists between non-adopters and adopters in Costa de Pajaros with respect to concepts of fishermen who would keep written records (Tables 10 and 11).

Data in Tables 12 and 13 also show similarities within each location. Table 12 shows that in each location the identity concepts of fishermen concerned about accounts and of fishermen who would keep written records are not significantly different for non-adopters. Table 13 shows this lack of significance for adopters. The greatest difference between the two identity concepts exists for adopters in Costa de Pajaros (Tables 12 and 13).

Relationships between Communities

Similarities between communities and one significant difference between them are shown in Tables 14 and 15. Data in Table 14 show that for non-adopters the communities are not significantly different with respect to identity concepts of fishermen concerned about accounts and those of fishermen willing to keep written records (Table 14). Table 15 shows that for adopters, the locations

differ significantly with respect to identity concepts of fishermen concerned about accounts. There is relatively greater prevalence of evaluations, and less prevalence of expectations and images, in Costa de Pajaros than in Barrio el Carmen. The two locations do not differ significantly with respect to identity concepts of fishermen willing to keep writtern records (Table 15).

Table 8A. Identity Concepts of Fishermen Concerned About Accounts and of Fishermen Who Would Keep Written Records, Expressed by Non-adopters and Adopters; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Fishermen				Total	
	Concerned about accounts		Would keep written records		No.	%
	No.	%	No.	%		
A. Expressed by non-adopters						
Images	12	41.4	12	29.3	24	34.2
Expectations	11	37.9	19	46.3	30	42.9
Evaluations	<u>6</u>	<u>20.7</u>	<u>10</u>	<u>24.4</u>	<u>16</u>	<u>22.9</u>
Total	29	100.0	41	100.0	70	100.0
$\chi^2=1.1537; df=2; P<0.70$						
B. Expressed by adopters						
Images	11	28.2	14	35.9	25	32.1
Expectations	19	48.7	18	46.2	37	47.4
Evaluations	<u>9</u>	<u>23.1</u>	<u>7</u>	<u>17.9</u>	<u>16</u>	<u>20.5</u>
Total	39	100.0	39	100.0	77	100.0
$\chi^2=0.6372; df=2; P<0.80$						

Table 8B. Identity Concepts of Fishermen Concerned About Accounts and of Fishermen Who Would Keep Written Records; Expressed by Non-adopters and Adopters; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Adopter Status					
	Non-Adopters		Adopters		Total	
	No.	%	No.	%	No.	%
A. Fishermen concerned about accounts						
Images	12	41.4	11	20.2	23	33.8
Expectations	11	37.9	19	48.7	30	44.1
Evaluations	<u>6</u>	<u>20.7</u>	<u>9</u>	<u>23.1</u>	<u>15</u>	<u>22.1</u>
Total	29	100.0	39	100.0	68	100.0
$\chi^2=1.3458; df=2; P<0.70$						
B. Fishermen who would keep written records						
Images	12	29.3	14	35.9	23	32.5
Expectations	19	46.3	18	46.2	37	46.2
Evaluations	<u>10</u>	<u>24.4</u>	<u>7</u>	<u>17.9</u>	<u>17</u>	<u>21.3</u>
Total	41	100.0	39	100.0	80	100.0
$\chi^2=0.6582; df=2; P<0.80$						

Table 9A. Identity Concepts of Fishermen Concerned About Accounts and of Fishermen Who Would Keep Written Records, Expressed in Barrio el Carmen and in Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica, November, 1976.

Identity concept	Fishermen				Total	
	Concerned about accounts		Would keep written records			
	No.	%	No.	%	No.	%
A. Expressed in Barrio el Carmen						
Images	15	41.7	15	38.5	30	40.0
Expectations	17	47.2	18	46.1	35	46.7
Evaluations	<u>4</u>	<u>11.1</u>	<u>6</u>	<u>15.4</u>	<u>10</u>	<u>13.3</u>
Total	36	100.0	39	100.0	75	100.0
$\chi^2=0.3090; df=2; P<0.90$						
B. Expressed in Costa de Pajaros						
Images	8	21.1	11	26.8	19	24.1
Expectations	19	50.0	19	46.4	38	48.1
Evaluations	<u>11</u>	<u>28.9</u>	<u>11</u>	<u>26.8</u>	<u>22</u>	<u>27.8</u>
Total	38	100.0	41	100.0	79	100.0
$\chi^2=0.3360; df=2; P<0.90$						

Table 9B. Identity Concepts of Fishermen Concerned About Accounts and of Fishermen Who Would Keep Written Records, Expressed in Barrio el Carmen and in Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Location				Total	
	Barrio el Carmen		Costa de Pajaros			
	No.	%	No.	%	No.	%
A. Fishermen concerned about accounts						
Images	15	41.7	8	21.1	22	31.1
Expectations	17	47.2	19	50.0	36	48.6
Evaluations	<u>4</u>	<u>11.1</u>	<u>11</u>	<u>28.9</u>	<u>15</u>	<u>20.3</u>
Total	36	100.0	38	100.0	74	100.0
$\chi^2=5.4469; df=2; P<0.10$						
B. Fishermen who would keep written records						
Images	15	38.5	11	26.8	26	32.5
Expectations	18	46.1	19	46.4	37	46.2
Evaluations	<u>6</u>	<u>15.4</u>	<u>11</u>	<u>26.8</u>	<u>17</u>	<u>21.3</u>
Total	39	100.0	41	100.0	80	100.0
$\chi^2=2.0595; df=2; P<0.50$						

Table 10. Identity Concepts of Fishermen Concerned About Accounts, Expressed by Non-adopters and Adopters in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punternas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Adopter Status					
	Non-adopter		Adopter		Total	
	No.	%	No.	%	No.	%
A. In Barrio el Carmen						
Images	8	42.1	7	41.2	15	41.7
Expectations	8	42.1	9	52.9	17	47.2
Evaluations	<u>3</u>	<u>15.8</u>	<u>1</u>	<u>5.9</u>	<u>4</u>	<u>11.1</u>
Total	19	100.0	17	100.0	36	100.0
$X^2=1.0511$; $df=2$; $P<0.70$						
B. In Costa de Pajaros						
Images	4	25.0	4	18.1	8	21.1
Expectations	9	56.2	10	45.5	19	50.0
Evaluations	<u>3</u>	<u>18.8</u>	<u>8</u>	<u>36.4</u>	<u>11</u>	<u>28.9</u>
Total	<u>16</u>	100.0	22	100.0	38	100.0
$X^2=1.3567$; $df=2$; $P<0.50$						

Table 11. Identity Concepts of Fishermen Who Would Keep Written Records, Expressed by Non-adopters and Adopters in Barrio el Carmen and in Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Adopter Status					
	Non-adopters		Adopters		Total	
	No.	%	No.	%	No.	%
A. In Barrio el Carmen						
Images	9	42.9	6	33.3	15	38.4
Expectations	9	42.9	9	50.0	18	46.2
Evaluations	<u>3</u>	<u>14.2</u>	<u>3</u>	<u>16.7</u>	<u>6</u>	<u>15.4</u>
Total	21	100.0	18	100.0	39	100.0
$\chi^2=0.3539$; $df=2$; $P<0.90$						
B. In Costa de Pajaros						
Images	3	15.0	8	38.1	11	26.8
Expectations	10	50.0	9	42.9	19	46.4
Evaluations	<u>7</u>	<u>35.0</u>	<u>4</u>	<u>19.0</u>	<u>11</u>	<u>26.8</u>
Total	20	100.0	21	100.0	41	100.0
$\chi^2=3.1615$; $df=2$; $P<0.30$						

Table 12. Identity Concepts of Fishermen Concerned About Accounts and of Fishermen Who Would Keep Written Records, Expressed by Non-adopters in Barrio el Carmen and in Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Fishermen					
	Concerned about accounts		Would keep written records		Total	
	No.	%	No.	%	No.	%
A. In Barrio el Carmen						
Images	8	42.1	9	42.9	17	42.5
Expectations	8	42.1	9	42.9	17	42.5
Evaluations	<u>3</u>	<u>15.8</u>	<u>3</u>	<u>14.4</u>	<u>6</u>	<u>15.0</u>
Total	19	100.0	21	100.0	40	100.0
$\chi^2=0.0318$; $df=2$; $P<0.99$						
B. In Costa de Pajaros						
Images	4	25.0	3	15.0	7	19.4
Expectations	9	56.2	10	50.0	19	52.8
Evaluations	<u>3</u>	<u>18.8</u>	<u>7</u>	<u>35.0</u>	<u>10</u>	<u>27.8</u>
Total	16	100.0	20	100.0	36	100.0
$\chi^2=1.2699$; $df=2$; $P<0.70$						

Table 13. Identity Concepts of Fishermen Concerned About Accounts and of Fishermen Who Would Keep Written Records, Expressed by Adopters in Barrio el Carmen and in Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Fishermen					
	Concerned about accounts		Would keep written records		Total	
	No.	%	No.	%	No.	%
A. In Barrio el Carmen						
Images	7	41.2	6	33.3	13	37.2
Expectations	9	52.9	9	50.0	18	51.4
Evaluations	<u>1</u>	<u>5.9</u>	<u>3</u>	<u>16.7</u>	<u>4</u>	<u>11.4</u>
Total	17	100.0	18	100.0	35	100.0
$\chi^2=1.0516$; $df=2$; $P<0.70$						
B. In Costa de Pajaros						
Images	4	18.1	8	38.1	12	27.9
Expectations	10	45.5	9	42.9	19	44.2
Evaluations	<u>8</u>	<u>36.4</u>	<u>4</u>	<u>19.0</u>	<u>12</u>	<u>27.9</u>
Total	22	100.0	21	100.0	43	100.0
$\chi^2=2.6827$; $df=2$; $P<0.30$						

Table 14. Identity Concepts of Fishermen Concerned About Accounts and of Fishermen Who Would Keep Written Records, Expressed by Non-adopters in Barrio el Carmen and in Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Location					
	Barrio el Carmen		Costa de Pajaros		Total	
	No.	%	No.	%	No.	%
A. Concerned about accounts						
Images	8	42.1	4	25.0	12	34.3
Expectations	8	42.1	9	56.2	17	48.6
Evaluations	<u>3</u>	<u>15.8</u>	<u>3</u>	<u>18.8</u>	<u>6</u>	<u>17.1</u>
Total	19	100.0	16	100.0	35	100.0
$\chi^2=1.1571; df=2; P<0.70$						
B. Would keep written records						
Images	9	42.9	3	15.0	12	29.3
Expectations	9	42.9	10	50.0	19	46.3
Evaluations	<u>3</u>	<u>14.2</u>	<u>7</u>	<u>35.0</u>	<u>10</u>	<u>24.4</u>
Total	21	100.0	20	100.0	41	100.0
$\chi^2=4.4844; df=2; P<0.20$						

Table 15. Identity Concepts of Fishermen Concerned About Accounts and of Fishermen Who Would Keep Written Records, Expressed by Adopters in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Location					
	Barrio el Carmen		Costa de Pajaros		Total	
	No.	%	No.	%	No.	%
A. Concerned about accounts						
Images	7	41.2	4	18.1	11	28.2
Expectations	9	52.9	10	45.5	19	48.7
Evaluations	<u>1</u>	<u>5.9</u>	<u>8</u>	<u>36.4</u>	<u>9</u>	<u>23.1</u>
Total	17	100.0	22	100.0	39	100.0
$X^2=8.6996; df=2; P<0.02$						
B. Would keep written records						
Images	6	33.3	8	38.1	14	35.9
Expectations	9	50.0	9	42.9	18	46.2
Evaluations	<u>3</u>	<u>16.7</u>	<u>4</u>	<u>19.0</u>	<u>7</u>	<u>17.9</u>
Total	18	100.0	21	100.0	39	100.0
$X^2=0.2047; df=2; P<0.95$						

IDENTITY CONCEPTS RELATED TO NEGATIVE ACTIONS
(Questions A2 and B2)

General Relationships

Negative action is regarded as a lack of concern about accounts and/or a lack of willingness to keep written records. Reference is made to fishermen not concerned about accounts and to those who would not keep written records.

The structure of identity concepts elicited with the negatively oriented questions A1 and B2 indicated above (page 17) is shown with the following list of relationships among images (I), expectations (Ex), and evaluations (Ev) associated with the concepts of fishermen not concerned about accounts and of fishermen who would not keep written records.

Structure of Identity Concepts of Fishermen

Structure

A. Not concerned about accounts:

I<Ex>Ev	All non-adopters	16A, 16B
I=Ex>Ev	All adopters	16A, 16B
	Adopters in Barrio el Carmen	18, 21, 23
I=Ex<Ev	Adopters in Costa de Pajaros	18, 21, 23
I>Ex>Ev	Respondents in Barrio el Carmen	17A, 17B
	Non-adopters in Barrio el Carmen	18, 20, 22
I<Ex<Ev	Respondents in Costa de Pajaros	17A, 17B
	Non-adopters in Costa de Pajaros	18, 20, 22

B. Would not keep written records:

I<Ex>Ev	All adopters	16A, 16B
	Respondents in Barrio el Carmen	17A, 17B
	Respondents in Costa de Pajaros	17A, 17B
	Non-adopters in Barrio el Carmen	19, 20, 22
	Adopters in Barrio el Carmen	19, 21, 23
	Adopters in Costa de Pajaros	19, 21, 23
I=Ex>Ev	All adopters	16A, 16B
I>Ex<Ev (=I)	Non-adopters in Costa de Pajaros	19, 20, 22

These data show that, with respect to the structure of identity concepts, there is more uniformity in concepts of fishermen who would not keep written records than in concepts of fishermen who are not concerned about accounts. Despite this, fishermen who are not concerned about accounts and fishermen who would not keep written records are not seen as significantly different by non-adopters and

adopters, as shown in Tables 16A and 16B. Neither are these images significantly different as indicated by respondents in Barrio el Carmen and in Costa de Pajaros; but the characteristics of greatest difference are those between locations as they pertain to fishermen not concerned about accounts (Table 17B).

Relationships within Communities

Data in Table 18 and in Table 19 show similarities between non-adopters and adopters in each location. Table 18 shows that in neither location, Barrio el Carmen nor Costa de Pajaros, do non-adopters and adopters have significantly different identity concepts for fishermen concerned about accounts. In Table 19, this lack of significant difference between non-adopters and adopters in each location is shown with respect to identity concepts of fishermen who would not keep written records. The greatest difference exists between non-adopters and adopters in Costa de Pajaros with respect to concepts of fishermen who would not keep written records (Tables 18 and 19).

Data in Tables 20 and 21 also show similarities in each location. Table 20 shows that in each location, the identity concepts of fishermen who are not concerned about accounts, and of fishermen who would not keep written records, are not significantly different for non-adopters. Table 21 shows this lack of significant difference for adopters. The greatest difference between the two identity concepts exists for non-adopters in Costa de Pajaros (Tables 20 and 21).

Relationships between Communities

Similarities between communities and one significant difference between them are shown in Tables 22 and 23. Data in Table 22 show that non-adopters in Barrio el Carmen and Costa de Pajaros are significantly different with respect to identity concepts of fishermen not concerned about accounts. The concepts in Barrio el Carmen have images most prevalent, evaluations least prevalent, and expectations of intermediate prevalence; for the concepts in Costa de Pajaros, images are least prevalent and evaluations are most prevalent. Non-adopters in the two locations are not significantly different with respect to concepts of fishermen who would not keep written records (Table 22). Data in Table 23 show that for adopters the locations are not significantly different with respect to concepts of fishermen concerned about accounts and of fishermen who would not keep written records (Table 23).

Table 16A. Identity Concepts of Fishermen Not Concerned About Accounts and of Fishermen Who Would not Keep Written Records, Expressed by Non-adopters, and Adopters; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concepts	Fishermen				Total	
	Not concerned about accounts		Would not keep written records		No.	%
	No.	%	No.	%		
A. Expressed by non-adopters						
Images	11	30.6	13	36.1	24	33.3
Expectations	15	41.7	13	36.1	28	38.9
Evaluations	<u>10</u>	<u>27.7</u>	<u>10</u>	<u>27.8</u>	<u>20</u>	<u>27.8</u>
Total	36	100.0	36	100.0	72	100.0
$\chi^2=0.3098$; $df=2$; $P<0.90$						
B. Expressed by adopters						
Images	14	34.1	12	31.6	26	32.9
Expectations	14	34.1	18	47.4	32	40.5
Evaluations	<u>13</u>	<u>31.8</u>	<u>8</u>	<u>21.0</u>	<u>21</u>	<u>26.6</u>
Total	41	100.0	38	100.0	79	100.0
$\chi^2=1.7262$; $df=2$; $P<0.50$						

Table 16B. Identity Concepts of Fishermen Not Concerned About Accounts and of Fishermen Who Would Not Keep Written Records, Expressed by Non-adopters and Adopters; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Adopter Status					
	Non-adopters		Adopters		Total	
	No.	%	No.	%	No.	%
A. Fishermen not concerned about accounts						
Images	11	30.6	14	34.1	25	32.5
Expectations	15	41.7	14	34.1	29	37.7
Evaluations	<u>10</u>	<u>27.7</u>	<u>13</u>	<u>31.8</u>	<u>23</u>	<u>29.8</u>
Total	36	100.0	41	100.0	77	100.0
$\chi^2=0.4720$; $df=2$; $P<0.80$						
B. Fishermen who would not keep written records						
Images	13	36.1	12	31.6	25	33.8
Expectations	13	36.1	18	47.4	31	41.9
Evaluations	<u>10</u>	<u>27.8</u>	<u>8</u>	<u>21.0</u>	<u>18</u>	<u>24.3</u>
Total	36	100.0	38	100.0	74	100.0
$\chi^2=1.0481$; $df=2$; $P<0.70$						

Table 17A. Identity Concepts of Fishermen Not Concerned About Accounts and of Fishermen Who Would Not Keep Written Records, Expressed in Barrio el Carmen and in Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concepts	Fishermen					
	Not concerned about accounts		Would not keep written records		Total	
	No.	%	No.	%	No.	%
A. Expressed in Barrio el Carmen						
Images	17	42.5	13	32.5	30	37.5
Expectations	16	40.0	18	45.0	34	42.5
Evaluations	<u>7</u>	<u>17.5</u>	<u>9</u>	<u>22.5</u>	<u>16</u>	<u>20.0</u>
Total	40	100.0	40	100.0	80	100.0
$\chi^2=0.9010; df=2; P<0.70$						
B. Expressed in Costa de Pajaros						
Images	8	22.9	12	35.3	20	29.0
Expectations	13	37.1	13	38.2	26	37.7
Evaluations	<u>14</u>	<u>40.0</u>	<u>9</u>	<u>26.5</u>	<u>23</u>	<u>33.3</u>
Total	35	100.0	34	100.0	69	100.0
$\chi^2=1.8083; df=2; P<0.50$						

Table 17B. Identity Concepts of Fishermen Not Concerned About Accounts and of Fishermen Who Would Not Keep Written Records, Expressed in Barrio el Carmen and in Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Location					
	Barrio el Carmen		Costa de Pajaros		Total	
	No.	%	No.	%	No.	%
A. Fishermen not concerned about accounts						
Images	17	42.5	8	22.9	25	33.3
Expectations	16	40.0	13	37.1	29	38.7
Evaluations	<u>7</u>	<u>17.5</u>	<u>14</u>	<u>40.0</u>	<u>21</u>	<u>28.0</u>
Total	40	100.0	35	100.0	75	100.0
$\chi^2=3.8538; df=2; P<0.20$						
B. Fishermen who would not keep written records						
Images	13	32.5	12	35.3	25	33.8
Expectations	18	45.0	13	38.2	31	41.9
Evaluations	<u>9</u>	<u>22.5</u>	<u>9</u>	<u>26.5</u>	<u>18</u>	<u>24.3</u>
Total	40	100.0	34	100.0	74	100.0
$\chi^2=0.3413; df=2; P<0.90$						

Table 18. Identity Concepts of Fishermen Not Concerned About Accounts, Expressed by Non-adopters and Adopters in Barrio el Carmen and in Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Adopter Status					
	Non-adopters		Adopters		Total	
	No.	%	No.	%	No.	%
A. In Barrio el Carmen						
Images	10	45.5	7	38.9	17	42.5
Expectations	9	40.9	7	38.9	16	40.0
Evaluations	<u>3</u>	<u>13.6</u>	<u>4</u>	<u>22.2</u>	<u>7</u>	<u>17.5</u>
Total	22	100.0	18	100.0	40	100.0
$\chi^2=0.5420$; $df=2$; $P<0.90$						
B. In Costa de Pajaros						
Images	1	7.1	7	30.4	8	21.6
Expectations	6	42.9	7	30.4	13	35.1
Evaluations	<u>7</u>	<u>50.0</u>	<u>9</u>	<u>39.2</u>	<u>16</u>	<u>43.3</u>
Total	14	100.0	23	100.0	37	100.0
$\chi^2=2.7445$; $df=2$; $P<0.50$						

Table 19. Identity Concepts of Fishermen Who Would Not Keep Written Records, Expressed by Non-adopters and Adopters in Barrio el Carmen and in Costa de Pajaros; Barrio el Carmen (Punteras) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Adopter Status					
	Non-adopters		Adopters		Total	
	No.	%	No.	%	No.	%
A. In Barrio el Carmen						
Images	8	34.8	5	29.4	13	32.5
Expectations	10	43.5	8	47.1	18	45.0
Evaluations	<u>5</u>	<u>21.7</u>	<u>4</u>	<u>23.5</u>	<u>9</u>	<u>22.5</u>
Total	23	100.0	17	100.0	40	100.0
$\chi^2=0.1186; df=2; P<0.95$						
B. In Costa de Pajaros						
Images	5	38.5	7	33.3	12	35.3
Expectations	3	23.0	10	47.6	13	38.2
Evaluations	<u>5</u>	<u>38.5</u>	<u>4</u>	<u>19.1</u>	<u>9</u>	<u>26.5</u>
Total	13	100.0	21	100.0	34	100.0
$\chi^2=2.5667; df=2; P<0.30$						

Table 20. Identity Concepts of Fishermen Not Concerned About Accounts and of Fishermen Who Would Not Keep Written Records, Expressed by Non-adopters in Barrio el Carmen and in Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Fishermen					
	Not concerned about accounts		Would not keep written records		Total	
	No.	%	No.	%	No.	%
A. In Barrio el Carmen						
Images	10	45.5	8	34.8	18	40.0
Expectations	9	40.9	10	43.5	19	42.2
Evaluations	<u>3</u>	<u>13.6</u>	<u>5</u>	<u>21.7</u>	<u>8</u>	<u>17.8</u>
Total	22	100.0	23	100.0	45	100.0
$\chi^2=0.7440$; $df=2$; $P<0.70$						
B. In Costa de Pajaros						
Images	1	7.1	5	38.5	6	22.2
Expectations	6	42.9	3	23.0	9	33.3
Evaluations	<u>7</u>	<u>50.0</u>	<u>5</u>	<u>38.5</u>	<u>12</u>	<u>44.5</u>
Total	14	100.0	13	100.0	27	100.0
$\chi^2=3.9097$; $df=2$ $P<0.20$						

Table 21. Identity Concepts of Fishermen Not Concerned About Accounts and of Fishermen Who Would Not keep Written Records, Expressed by Adopters in Barrio el Carmen and in Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Fishermen				Total	
	Not concerned about accounts		Would not keep written records		No.	%
	No.	%	No.	%		
A. In Barrio el Carmen						
Images	7	38.9	5	29.4	12	34.2
Expectations	7	38.9	8	47.1	15	42.9
Evaluations	<u>4</u>	<u>22.2</u>	<u>4</u>	<u>23.5</u>	<u>8</u>	<u>22.9</u>
Total	18	100.0	17	100.0	35	100.0
$\chi^2=0.3497$; $df=2$; $P<0.90$						
B. In Costa de Pajaros						
Images	7	30.4	7	37.3	14	31.8
Expectations	7	30.4	10	47.6	17	38.6
Evaluations	<u>9</u>	<u>39.2</u>	<u>4</u>	<u>19.1</u>	<u>13</u>	<u>29.6</u>
Total	23	100.0	21	100.0	44	100.0
$\chi^2=2.3698$; $df=2$; $P<0.50$						

Table 22. Identity Concepts of Fishermen Not Concerned About Accounts and of Fishermen Who Would Not Keep Written Records, Expressed by Non-adopters in Barrio el Carmen and in Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept	Location					
	Barrio el Carmen		Costa de Pajaros		Total	
	No.	%	No.	%	No.	%
A. Not concerned about accounts						
Images	10	45.5	1	7.1	11	30.5
Expectations	9	40.9	6	42.9	15	41.7
Evaluations	<u>3</u>	<u>13.6</u>	<u>7</u>	<u>50.0</u>	<u>10</u>	<u>27.8</u>
Total	22	100.0	14	100.0	36	100.0
$\chi^2=8.2088; df=2; P<0.02$						
B. Would not keep written records						
Images	8	34.8	5	38.5	13	36.1
Expectations	10	43.5	3	23.0	13	36.1
Evaluations	<u>5</u>	<u>21.7</u>	<u>5</u>	<u>38.5</u>	<u>10</u>	<u>27.8</u>
Total	23	100.0	13	100.0	36	100.0
$\chi^2=1.8840; df=2; P<0.50$						

Table 23. Identity Concepts of Fishermen Not Concerned About Accounts and of Fishermen Who Would Not Keep Written Records, Expressed by Adopters in Barrio el Carmen and in Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concepts	Location					
	Barrio el Carmen		Costa de Pajaros		Total	
	No.	%	No.	%	No.	%
A. Not concerned about accounts						
Images	7	38.9	7	30.4	14	34.1
Expectations	7	38.9	7	30.4	14	34.1
Evaluations	<u>4</u>	<u>22.2</u>	<u>9</u>	<u>39.2</u>	<u>13</u>	<u>31.8</u>
Total	18	100.0	23	100.0	41	100.0
$\chi^2=1.4795; df=2; P<0.50$						
B. Would not keep written records						
Images	5	29.4	7	33.3	12	31.6
Expectations	8	47.1	10	47.6	18	47.4
Evaluations	<u>4</u>	<u>23.5</u>	<u>4</u>	<u>19.1</u>	<u>8</u>	<u>21.0</u>
Total	17	100.0	21	100.0	38	100.0
$\chi^2=2.1835; df=2; P<0.30$						

Conclusions

Significant Relationships and Identity Concept Structure

As indicated above, Barrio el Carmen and Costa de Pajaros are significantly different in the structure of identity concepts of:

- 1) fishermen concerned about accounts, as expressed by adopters (Table 15);
- 2) fishermen not concerned about accounts, as expressed by non-adopters (Table 22).

The structure for adopters in each location is $I<Ex>Ev$, which is the prevailing structure among respondents who are concerned about accounts and would keep written records. The difference between the two structures is represented by a X^2 of 8.6996, for which $P<0.02$. The structure for non-adopters in Barrio el Carmen is $I>Ex>Ev$, while in Costa de Pajaros it is $I<Ex<Ev$. X^2 for the distributions is 8.2088; $P<0.02$.

The data support the idea that adopters have an $I<Ex>Ev$ identity concept structure with respect to which there may be internal variation, even though the structure is maintained. There is no existing adequate explanation for variation which exists between the two structures for non-adopters. In Barrio el Carmen, images are most prevalent and evaluations least prevalent; in Costa de Pajaros, these relationships are reversed.

Four influences could contribute to this difference:

- 1) cultural differences between the two locations;
- 2) differences in local social structure and respondents' positions in them;
- 3) differences with respect to stages of an "adoption process."
- 4) differences with respect to stages of a "decision-making process."

On the basis of the evidence at hand, it is impossible to identify the relative influence of each, even though their possible impingement is recognized.

The relationships have other implications in addition to those associated with identifying significant differences between respondents in the two locations. Adopters show significant differences among respondents with concern about accounts, while non-adopters show significant differences among respondents with no concern about accounts; the consistency between the positive associations and between the negative ones can be interpreted as indicating a high degree of "ego-involvement," with implications for identity concepts, in the experience of being concerned about accounts. These characteristics can have bearing on a fisherman's readiness for and/or resistance to changes; the decision to be concerned systematically about accounts may be made with ease or difficulty, depending upon the fisherman's "ego-involvement" and the structure of his identity concepts.

Non-significant Differences and a Paradigm of Transition in Developmental Change

While not statistically significant, differences for which $P < 0.30$ and $P < 0.20$ have implications for description of identity concept structure in the context of developmental change. Despite variations, where non-significant differences of the above magnitudes exist, there is indication that:

A. Positive action --- concern about accounts and willingness to keep written records --- is related to an I<Ex>Ev identity concept structures in adopters.

1. Fishermen concerned about accounts and those who would keep written records, as seen by adopters in Costa de Pajaros (Table 13).

Concerned about
Accounts

Would Keep
records

I<Ex>Ev

I<Ex>Ev

$\chi^2 = 2.6872; P < 0.30$

B. Positive action can be related to an I<Ex>Ev structure, expressed by non-adopters and adopters.

1. Fishermen who would keep written records, as seen non-adopters and adopters in Costa de Pajaros (Table 11).

Non Adopters

Adopters

I<Ex>Ev

I<Ex>Ev

$\chi^2 = 3.1615; P < 0.30$

C. Positive action can be related to varying identity structures expressed by non-adopters.

1. Fishermen who would keep written records, as seen by non-adopters in Barrio el Carmen and Costa de Pajaros (Table 14).

Barrio el Carmen

Costa de Pajaros

I=Ex>Ev

I<Ex>Ev

$\chi^2 = 5.7064; P < 0.20$

D. Negative action --- no concern about accounts and no willingness to keep written records --- can be related to an I<Ev>Ex structure in adopters and to a different structure in non-adopters.

1. Fishermen who would not keep written records, as seen by non-adopters and adopters in Costa de Pajaros (Table 19.)

<u>Non-adopters</u>	<u>Adopters</u>
I>Ev<Ex	I<Ev>Ex
$X^2=2.5667; P<0.30$	

2. Fishermen not concerned with accounts and those who would not keep written records, as seen by non-adopters in Costa de Pajaros (Table 20).

<u>Not concerned about accounts</u>	<u>Would not keep records</u>
I<Ev<Ex	I>Ev>Ex
$X^2=3.9097; P<0.20$	

3. Fishermen who would not keep written records, as seen by adopters in Barrio el Carmen and in Costa de Pajaros (Table 23).

<u>Barrio el Carmen</u>	<u>Costa de Pajaros</u>
I<Ev>Ex	I<Ev>Ex
$X^2=2.1835; P<0.30$	

To the extent that the above differences represent aspects of an over all transition with respect to developmental change among fishermen in the two locations examined, they are a basis for the following paradigm of relationships between adopter status and identity concept structure as they relate to a fisherman's adoption of innovations. The paradigm stands as an hypothesis and is subject to extensive examination.

Identity Concept Structure	Adopter Status	
	Adopter	Non-adopter
I<Ex>Ev	ADOPTS (6 cases)	MAY ADOPT (2 cases)
Other	MAY TERMINATE (0 cases)	NOT APT TO ADOPT (4 cases)

In addition, this kind of paradigm has implications which need to be examined for transitions in relationships among images, expectations, and evaluations in the course of decision making among fishermen involved in making adoption or non-adoption decisions.

The above relationships are seen as having pertinence for two purposes of this study: 1) describing predisposition to change and to adopt innovations; 2) predicting adoption of innovations.

SECTION III - RELEVANCE FOR COMMUNICATION

QUALITATIVE ASPECTS OF SELF-CONCEPTS

General Relationships

In addition to the structure of identity concepts, qualitative characteristics of identity concepts associated with positive action and with negative action were examined. This examination entailed consideration of the data presented in Section II with a different system of classification. The categories used for qualitative characteristics were developed inductively from the data.

With respect to describing qualities of fishermen who were concerned about accounts and those who would keep written records, four broad categories were used:

1. Is orderly and has control of activities;
2. Has knowledge and relevant personal characteristics;
3. Evaluates his activities and use of money;
4. Has concern for and interest in his activities; thinks of the future and plans.

With respect to describing qualities of fishermen who were not concerned about accounts and those who would not keep written records, these four categories were used:

1. Satisfied; unconcerned;
2. Has no knowledge; has relevant personal characteristics;
3. Is not orderly; does not evaluate activities;
4. Has no time for keeping records.

Consideration was given to respondents classified by location and by adopter status. In addition, qualities were classified according to the structural context --- images, expectations, evaluations --- in which they were expressed.

Positive Action

Respondents Considered by Location and Adopter Status

Respondents did not differ with respect to qualities, irrespective of their classification by location or by adopter status (Tables 24, 25, 28, and 29). Regardless of variations by location and by adopter status, a consistent system of relationships is shown among qualities reported for fishermen concerned about accounts and for those who would keep written records. The most prevalent qualities are those of being orderly and having control of activities; least prevalent is the type of concern and interest which leads to thinking and planning for the future. Having knowledge and relevant personal characteristics has an intermediate prevalence, as does the tendency to evaluate activities and use of money.

Qualities within Structural Categories

The statistical significance of differences between images, expectations, and evaluations with respect to qualities has not been examined because of the consistently small number of cases. Despite this, there is a consistent system of relationships among the qualities in the structural categories. Being orderly and having control of activities is consistently more prevalent among images than among expectations; concern, interest, plans,

and thought for the future are consistently more prevalent among expectations than among images. Images and expectations tend to vary with respect to the prevalence of knowledge and relevant personal characteristics. Evaluation of activities and use of money is the only quality in the structural category of evaluations (Tables 26, 27, 30, and 31).

Negative Action

Respondents Considered by Location and Adopter Status

With respect to not being concerned about accounts and not being willing to keep written records, respondents did not differ significantly in qualities, irrespective of their classification by location or by adopter status (Tables 32, 33, 36, and 37).

However, for negative action, there is a less consistent system of relationships among qualities than that which exists for positive action. For fishermen not concerned about accounts, satisfaction and lack of concern is most prevalent, while lack of time is least prevalent (Tables 32 and 36). For fishermen who would not keep written records, however, lack of knowledge and relevant personal characteristics predominate; satisfaction is almost as prevalent as lack of knowledge. Lack of time is mentioned least frequently (Tables 33 and 37).

Qualities within Structural Categories

With respect to the distribution of qualities among identity concept structures, there is no completely consistent pattern of relationships. This reflects the diversity of identity concept structure held by respondents with respect to fishermen whose action was negative in association with being concerned about accounts and keeping written records (Tables 34, 35, 38, and 39).

Conclusions

The data presented in Section III show consistency with relationships shown in Section II. The largest differences between locations and between non-adopters and adopters are in concern about accounts; those differences are not statistically significant for identity concept qualities as they were for identity concept structures.

In addition, the data presented in Section III have implications which are pertinent for communication. First, there is a much greater degree of consistency in relationships among qualities associated with positive action than among those associated with negative action. The degree of consistency among those associated with positive action suggests that there is a system of identity concept qualities associated with adoption of the record keeping system and book used in this project; further, effective communication of this association could facilitate the promotion and acceptance of the innovation to which they are related. Second, the degree of inconsistency in relationships among the qualities associated with negative

action indicates the diversity of identity concepts which would have to be modified, through communication and experience, subject to the influence of immediate situations, for non-adopters to conceptualize themselves as associated with adoption of the innovation which is being promoted. (See the paradigm for transition in developmental change on page 51 above).

Beyond this, much of potential interpretation is speculative. The relationship between identity concept qualities and identity concept structures associated with positive action suggests the relative extent to which given qualities could be presented in given structural form in message design for effective communication relative to the innovation concerned.

For the development of understanding based on this prospect, there is need for knowledge about the interplay of qualities, in the context of interplaying structures, in a "decision-making process" that reflects an "adoption process" occurring at a position within a social structure with a given cultural orientation (See page 48).

Table 24. Identity Concept Qualities of Fishermen Concerned About Accounts, Expressed by Respondents in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976

Identity concept qualities	Location					
	Barrio el Carmen		Costa de Pajaros		Total	
	No.	%	No.	%	No.	%
Is orderly; has control	20	55.6	14	36.8	34	45.9
Has knowledge; relevant personal characteristics	8	22.2	8	21.0	16	21.6
Evaluates his activity and money	4	11.1	11	29.0	15	20.3
Has concern and interest; thinks of future; plans	<u>4</u>	<u>11.1</u>	<u>5</u>	<u>13.2</u>	<u>9</u>	<u>12.2</u>
Total	36	100.0	38	100.0	74	100.0

$\chi^2=4.4297; df=3; P<0.30$

Table 25. Identity Concept Qualities of Fishermen Who Would Keep Written Records, Expressed by Respondents in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976

Identity concept qualities	Location					
	Barrio el Carmen		Costa de Pajaros		Total	
	No.	%	No.	%	No.	%
Is orderly; has control	21	61.8	28	59.6	49	60.5
Has knowledge; relevant personal characteristics	6	17.6	4	8.5	10	12.3
Evaluates his activity and money	4	11.8	13	27.7	17	21.0
Has concern and interest; thinks of future; plans	<u>3</u>	<u>8.8</u>	<u>2</u>	<u>4.2</u>	<u>5</u>	<u>6.2</u>
Total	34	100.0	47	100.0	81	100.0

$\chi^2=4.3326; df=3 P<0.30$

Table 26. Identity Concept Qualities of Fishermen Concerned About Accounts Expressed by Respondents in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept qualities	Identity Concept Structure					
	Images		Expectations		Evaluations	
	No.	%	No.	%	No.	%
A. Barrio el Carmen						
Is orderly; has control	10	66.6	10	58.8	-	-
Has knowledge; relevant personal characteristics	4	26.7	4	23.5	-	-
Evaluates his activity and money	-	-	-	-	4	100.0
Has concern and interest; thinks of future; plans	<u>1</u>	<u>6.7</u>	<u>3</u>	<u>17.7</u>	-	-
Total	15	100.0	17	100.0	4	100.0
B. Costa de Pajaros						
Is orderly; has control	5	62.5	9	47.4	-	-
Has knowledge; relevant personal characteristics	2	25.0	6	31.6	-	-
Evaluates his activity and money	-	-	-	-	11	100.0
His concern and interest, thinks of future; plans	<u>1</u>	<u>12.5</u>	<u>4</u>	<u>21.0</u>	-	-
Total	8	100.0	19	100.0	11	100.0

Table 27. Identity Concept Qualities of Fishermen Who Would Keep Written Records, Expressed by Respondents in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976

Identity concept qualities	Identity Concept Structure					
	' Images		Expectations		' Evaluations	
	No.	%	No.	%	No.	%
A. Barrio el Carmen						
Is orderly; has control	11	73.3	10	67.6	-	-
Has knowledge; relevant personal characteristics	3	20.0	3	18.7	-	-
Evaluates his activity and money	-	-	-	-	4	100.0
Has concern and interest; thinks of future; plans	<u>1</u>	<u>6.7</u>	<u>3</u>	<u>18.7</u>	-	-
Total	15	100.0	16	100.0	4	100.0
B. Costa de Pajaros						
Is orderly; has control	12	100.0	16	72.7	-	-
Has knowledge; relevant personal characteristics	-	-	4	18.2	-	-
Evaluates his activity and money	-	-	-	-	13	100.0
His concern and interest, thinks of future; plans	-	-	<u>2</u>	<u>9.1</u>	-	-
Total	12	100.0	22	100.0	13	100.0

Table 28. Identity Concept Qualities of Fishermen Concerned About Accounts, Expressed by Non-adopters and Adopters in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept qualities	Adopter Status					
	Non- adopters		Adopters		Total	
	No.	%	No.	%	No.	%
Is orderly; has control	17	48.6	17	43.6	34	45.9
Has knowledge; relevant personal characteristics	9	25.7	7	17.9	16	21.6
Evaluates his activity and money	6	17.1	9	23.1	15	20.3
Has concern and interest; thinks of future; plans	<u>3</u>	<u>8.6</u>	<u>6</u>	<u>15.4</u>	<u>9</u>	<u>12.2</u>
Total	35	100.0	39	100.0	74	100.0

$\chi^2=1.5532; df=3; p<0.50$

Table 29. Identity Concept Qualities of Fishermen Who Would Keep Written Records, Expressed by Non-adopters and Adopters in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976

Identity concept qualities	Adopter Status					
	Non- Adopters		Adopters		Total	
	No.	%	No.	%	No.	%
Is orderly; has control	25	60.9	24	60.0	49	60.5
Has knowledge; relevant personal characteristics	4	9.8	6	15.0	10	12.3
Evaluates his activity and money	10	24.4	7	17.5	17	21.0
Has concern and interest; thinks of future; plans	<u>2</u>	<u>4.9</u>	<u>3</u>	<u>7.5</u>	<u>5</u>	<u>6.2</u>
Total	41	100.0	40	100.0	81	100.0

$\chi^2=1.1485; df=3; P<0.70$

Table 30. Identity Concept Qualities of Fishermen Concerned About Accounts, Expressed by Non-adopters and Adopters in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976

Identity concept qualities	Identity Concept Structure					
	<u>Images</u>		<u>Expectations</u>		<u>Evaluations</u>	
	No.	%	No.	%	No.	%
A. Non-adopters						
Is orderly; has control	8	66.7	9	52.9	-	-
Has knowledge; relevant personal characteristics	4	33.3	5	29.4	-	-
Evaluates his activity and money	-	-	-	-	6	100.0
Has concern and interest; thinks of future; plans	=	---	3	17.7	=	---
Total	12	100.0	17	100.0	6	100.0
B. Adopters						
Is orderly; has control	7	63.6	10	52.6	-	-
Has knowledge; relevant personal characteristics	2	18.2	5	26.3	-	-
Evaluates his activity and money	-	-	-	-	9	100.0
Has concern and interest; thinks of future; plans	2	18.2	4	21.1	=	---
Total	11	100.0	19	100.0	9	100.0

Table 31. Identity Concept Qualities of Fishermen Who Would Keep Written Records, Expressed by Non-adopters and Adopters in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976

Identity concept qualities	Identity concept structure					
	Images		Expectations		Evaluations	
	No.	%	No.	%	No.	%
A. Non-Adopters						
Is orderly; has control	12	100.0	13	68.5	-	-
Has knowledge; relevant personal characteristics	-	-	4	21.0	-	-
Evaluates his activity and money	-	-	-	-	10	100.0
Has concern and interest; thinks of future; plans	-	-	2	10.5	-	-
Total	12	100.0	19	100.0	10	100.0
B. Adopters						
Is orderly; has control	11	73.3	13	72.2	-	-
Has knowledge; relevant personal characteristics	3	20.0	3	16.7	-	-
Evaluates his activity and money	-	-	-	-	7	100.0
Has concern and interest; thinks of future; plans	1	6.7	2	11.1	-	-
Total	15	100.0	18	100.0	7	100.0

Table 32. Identity Concept Qualities of Fishermen Not Concerned About Accounts, Expressed by Respondents in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen(Punteranas) and Costa de Pajaros, Costa Rica; November 1976.

Identity concepts qualities	Location					
	Barrio el Carmen		Costa de Pajaros		Total	
	No.	%	No.	%	No.	%
Satisfied; unconcerned	20	50.0	15.0	40.6	35	45.4
No knowledge; relevant personal characteristics	9	22.5	7	18.9	16	20.8
Not orderly; does not evaluate	10	25.0	8	21.6	18	23.4
No time	<u>1</u>	<u>2.5</u>	<u>7</u>	<u>18.9</u>	<u>8</u>	<u>10.4</u>
Total	40	100.0	37	100.0	77	100.0

$\chi^2 = 5.7064; df=3; P < 0.20$

Table 33. Identity Concept Qualities of Fishermen Who Would Not Keep Written Records, Expressed by Respondents in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica, November, 1976.

Identity concept qualities	Location				Total	
	Barrio el Carmen		Costa de Pajaros		No.	%
	No.	%	No.	%		
Satisfied; unconcerned	14	35.0	10	27.8	24	31.6
No knowledge; relevant personal Characteristics	11	27.5	17	47.2	28	36.8
Not orderly; does not evaluate	9	22.5	5	13.9	14	18.4
No time	<u>6</u>	<u>15.0</u>	<u>4</u>	<u>11.1</u>	<u>10</u>	<u>13.2</u>
Total	40	100.0	36	100.0	76	100.0

$\chi^2=3.4950$; $df=2$; $P<0.50$

Table 34. Identity Concept Structures and Qualities of Fishermen Not Concerned About Accounts, Expressed by Respondents In Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept qualities	Identity Concept Structure					
	Images		Expectations		Evaluations	
	No.	%	No.	%	No.	%
A. Barrio el Carmen						
Satisfied; unconcerned	11	64.8	9	56.3	-	-
No knowledge; relevant personal characteristics	3	17.6	5	31.2	1	14.3
Not orderly; does not evaluate	3	17.6	2	12.5	5	71.4
No time	-	-	-	-	1	14.3
Total	17	100.0	16	100.0	7	100.0
B. Costa de Pajaros						
Satisfied; unconcerned	4	50.0	11	84.6	-	-
No knowledge; relevant personal characteristics	4	50.0	2	15.4	1	6.2
Not orderly; does not evaluate	-	-	-	-	8	50.0
No time	-	-	-	-	7	43.8
Total	8	100.0	13	100.0	16	100.0

Table 35. Identity Concept Structures and Qualities for Fishermen Who Would Not Keep Written Records, Expressed by Respondents in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept qualities	Identity Concept Structures					
	Images		Expectations		Evaluations	
	No.	%	No.	%	No.	%
A. Barrio el Carmen						
Satisfied; unconcerned	5	38.5	8	44.5	1	11.2
No knowledge; relevant personal characteristics	5	38.5	6	33.3	-	-
Not orderly; does not evaluate	3	23.0	2	11.1	4	44.4
No time	-	-	2	11.1	4	44.4
Total	13	100.0	18	100.0	9	100.0
B. Costa de Pajaros						
Satisfied; unconcerned	4	33.3	6	40.0	-	-
No knowledge; relevant personal characteristics	8	66.7	9	60.0	-	-
Not orderly; does not evaluate	-	-	-	-	5	55.6
No time	-	-	-	-	4	44.4
Total	12	100.0	15	100.0	9	100.0

Table 36. Identity Concept Qualities of Fishermen Not Concerned About Accounts, Expressed by Non-adopters and Adopters in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punternanæ) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept qualities	Adopter Status					
	Non- adopters		Adopters		Total	
	No.	%	No.	%	No.	%
Satisfied; unconcerned	22	61.1	16	39.0	38	49.3
No knowledge; relevant personal characteristics	4	11.1	9	22.0	13	16.9
Not orderly; does not evaluate	5	13.9	13	31.7	18	23.4
No time	<u>5</u>	<u>13.9</u>	<u>3</u>	<u>7.3</u>	<u>8</u>	<u>10.4</u>
Total	36	100.0	41	100.0	77	100.0

$\chi^2=6.6565; df=3; P<0.10$

Table 37. Identity Concept Qualities of Fishermen Who Would Not Keep Written Records, Expressed by Non-adopters in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept qualities	Adopter Status					
	Non- adopters		Adopters		Total	
	No.	%	No.	%	No.	%
Satisfied; unconcerned	11	28.9	13	34.2	24	31.6
No knowledge; relevant personal characteristics	14	36.8	14	36.8	28	36.8
Not orderly; does not evaluate	8	21.1	6	15.8	14	18.4
No time	<u>5</u>	<u>13.2</u>	<u>5</u>	<u>13.2</u>	<u>10</u>	<u>13.2</u>
Total	38	100.0	38	100.0	76	100.0

$\chi^2 = 0.4521; df=3; P < 0.95$

Table 38. Identity Concept Structures and Qualities of Fishermen Not Concerned About Accounts, Expressed by Non-Adopters and Adopters in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept qualities	Identity Concept Structure					
	Images		Expectations		Evaluations	
	No.	%	No.	%	No.	%
A. Non-adopters						
Satisfied; unconcerned	9	81.8	13	86.7	-	-
No knowledge; relevant personal characteristics	1	9.1	2	13.3	1	10.0
Not orderly; too little income	1	9.1	-	-	4	40.0
No time	-	-	-	-	5	50.0
Total	10	100.0	15	100.0	10	100.0
B. Adopters						
Satisfied; unconcerned	7	50.0	8	57.1	1	7.7
No knowledge; relevant personal characteristics	5	35.7	4	28.6	-	-
Not orderly; too little income	2	14.3	2	14.3	9	69.2
No time	-	-	-	-	3	23.1
Total	14	100.0	14	100.0	13	100.0

Table 39. Identity Concept Structures and Qualities of Fishermen Who Would Not Keep Written Records, Expressed by Non-adopters and Adopters in Barrio el Carmen and Costa de Pajaros; Barrio el Carmen (Punteranas) and Costa de Pajaros, Costa Rica; November, 1976.

Identity concept qualities	Identity Concept Structure					
	Images		Expectations		Evaluations	
	No.	%	No.	%	No.	%
A. Non-adopters						
Satisfied; unconcerned	4	30.8	7	46.7	-	-
No knowledge; relevant personal characteristics	7	53.8	7	46.7	-	-
Not orderly; does not evaluate	2	15.4	1	6.6	5	50.0
No time	-	-	-	-	5	50.0
Total	13	100.0	15	100.0	10	100.0
B. Adopters						
Satisfied; unconcerned	5	41.7	7	39.0	1	12.5
No knowledge; relevant personal characteristics	6	50.0	8	44.4	-	-
Not orderly; does not evaluate	1	8.3	1	5.5	4	50.0
No time	-	-	2	11.1	3	37.5
Total	12	100.0	18	100.0	8	100.0

SECTION IV - SUMMARY

This study was undertaken to find out if self-concepts of artisan fishermen have characteristics with potential for use in:

- 1) describing predisposition to change and adopt innovations;
- 2) predicting adoption of innovations; and
- 3) Improving communications to facilitate the adoption of innovations.

Characteristics of self-concepts were examined for artisan fishermen in two locations on the gulf of Nicoya in western Costa Rica. Half of these fishermen were adopters of an experimental innovation --- a record keeping system and book --- while half had not adopted it. Evidence indicates that adoption of the innovation is associated with a predominance of expectations in self-concepts; non-adoption is associated with a variety of self-concept structures. Imagery and evaluations were the other self-concept components considered.

Personal qualities associated predominantly with the adoption of this innovation were those of being orderly and keeping control of one's activities; associated predominantly with its non-adoption were relevant personal characteristics and a lack of necessary knowledge. Least frequently mentioned, for both adopters and non-adopters, were time orientations and related attitudes; these qualities varied, however, from concern for the future for adopters to lack of time for non-adopters.

The structural characteristics, i.e. imagery, expectations, and evaluations, and the qualities of self-concepts suggest: 1) a paradigm for identifying fishermen with varying potential for adopting an innovation; 2) potential guidelines for the design of messages to potential adopters of an innovation; in this design use would be made of self-concept structures and qualities associated with adoption of the innovation. Each of these suggestions needs refinement and further examination.

SECTION V - FUTURE WORK

The complexity of adoption processes provides a wide range of options among next steps in continuing investigation of identity concepts and adoption of innovations. However, this type of research is meaningless outside the context of an ongoing diffusion operation, a change agent/target audience relationship. Consequently, the exact next undertaking is contingent upon next steps taken in Central America or Southeast Asia in an overall program of continued developmental change. Nevertheless, it is possible to delineate a general objective which needs to be achieved through sequential contributing studies.

The overall objective is learning to predict acceptance or rejection of an innovation with statistically significant accuracy. The validity and reliability of one's predictive techniques need to be checked with a study of prediction in a field operation. Prior to undertaking that study, however, one needs necessarily to learn what changes in the organization of identity concept structures and qualities are components of a decision to adopt an innovation. Initial insights into these changes can come from a repetition of the type of study reported here, used to determine the structure and qualities of identity concepts associated with adoption and/or rejection of different types of innovations.

In connection with this last point, we need to know, for example, whether or not the organization of identity concept structure and qualities associated with the book and symbol system introduced at the Gulf of Nicoya is different from

that associated in the same situation with a tool such as a net, line, a lure, or a boat. We need, also to know whether these characteristics of difference or similarity are culture specific or whether they are similar and uniform cross culturally.

Consequently, there is justification for working closely with project personnel, target groups, and related personnel in ongoing diffusion operations, regardless of the location of the undertaking. I would make two major recommendations for the next contributing study, in light of the long-range objective.

- 1) Repetition of the type of study reported here, with consideration given to a different type of innovation; my preference would be for the innovation to be a tool, if the Central American setting is retained. If project work is undertaken in Southeast Asia, work could be done with any needed innovation.

- 2) Use of a larger number of cases to allow for adequate checking of statistical significances. Doubling the number of cases used in analysis would be appropriate for continued exploration of relationships reported above.

The conclusions from this study and subsequent related ones will provide a basis for the design of the predictive field study in which the adequacy of predictive techniques can be examined.