Coffee Producers in Ecuador: A Comparison of Cooperative Members and Nonmembers

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Background

This study of coffee farmers in Ecuador has been undertaken as part of a series of studies on the Ecuadorean coffee sector. The United States Agency for International Development has been examining the role of coffee in the Ecuadorean economy. Coffee exports, once a major component of Ecuador's foreign exchange earnings, diminished in importance as exports of petroleum increased in the 1980s. As oil prices have tumbled over the past year, however, coffee has once again increased in importance. Unfortunately, although Ecuador is increasingly relying upon coffee for needed foreign exchange earnings, its production is being threatened by the recent appearance of coffee rust (La Roya) and the coffee berry borer (La Broca). This combination of disease and infestation threatens to reduce crop yields in a country whose coffee yields are already among the lowest in Latin America. While Ecuador's yields are not the lowest in the region, none of the countries with lower yields produces any significant amount of coffee. The information presented in the following table shows comparative yields and export volume:

Table 1. Coffee Yields in Latin America: 1981

Rank/Country	Quintales/Ha	% World Exports
1. Costa Rica	30.95	2.5
2. Martinique	26.40	0.0
3. Haiti	22.68	0.5
4. Guadeloupe	22.00	0.0
5. Bolivia	20.17	0.2
6. El Salvador	19.40	5.2
7. Brazil	17.67	17.9
8. Colombia	16.54	17.6
9. Guyana	16.13	0.0
10. Guatemala	15.00	3.5
11. Peru	14.94	1.4
12. Honduras	13.20	1.5
13. Nicaragua	12.61	1.3
14. Paraguay	11.55	0.0
15. Cuba	10.47	NA
16. Mexico	9.39	4.1
17. Ecuador	**7.44**	1.5
18. St. Vincent	7.33	NA
19. Dominican Republic	7.02	0.9
20. Surinam	6.60	0.0
21. Puerto Rico	5.79	NA
22. Jamaica	5.65	0.0
23. Panama	5.43	0.1
24. Venezuela	5.39	0.1
25. Trinidad and Tobago	4.36	0.0

Sources: FAO Production Yearbook, 1981, Vol. 35, pp. 183-184; World Bank, Commodity Trade and Price Trends, 1983-84, p. 23. Export figures are 1979-81 averages.

One component of the research on Ecuadorean coffee involved interviews with some 500 coffee farmers in the major producing zones. That study provided the first current information available on the socio-economic and demographic characteristics of coffee producers in Ecuador, as well as the patterns of land tenure and a profile of coffee cultivation (including varieties planted, use of improved farm practices, commercialization, labor use and crop yields). Interested readers should consult the report, "Small Farmer Coffee Cooperatives in Ecuador: A Profile of Socioeconomic Conditions and Technical Capacity," September 1986 by Mitchell A. Seligson.

The above-mentioned report, while providing a wealth of data on the coffee sector, was limited in its scope to coffee producers who were members of a coffee cooperative. The reason for that limitation was that initial plans for a possible project to help increase coffee yields was to be channeled through the national federation of coffee cooperatives, FENACAFE. Studies conducted by USAID/E revealed, however, that only some 4% of all coffee producers in Ecuador are members of FENACAFE-affiliated coffee cooperatives. This discovery led to two conclusions. First, if an assistance program is to be mounted, the number of cooperative-affiliated coffee farmers would ultimately have to be increased if the project were to have a direct impact beyond a restricted subset of coffee farmers.[1] To do this, it would be very important to know why such a large proportion of coffee producers have not joined cooperatives. Second, questions were raised about the representativness of the conclusions reached from the study that focused on the cooperative sector alone. If the characteristics of those producers were fundamentally different from the non-mebers, then the picture of the coffee sector based on the interviews of cooperative members would be a distortion of the national picture.

Because of the two concerns noted above, it was decided to interview a sample of coffee producers who were not members of cooperatives. This study reports on the results of those interviews. The first part of the report presents a comparison of the two samples, members of cooperatives vs. nonmebers, highlighting differences between the two groups. The second part of the report analyzes a series of questions asked the nonmebers that were designed to determine the reasons they have not joined a coffee cooperative.

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[1]Important indirect impacts, however, include the emulation of improved production practices by those not directly affected by the project.

Data

Sample Design

In July 1986, 506 coffee farmers, members of cooperatives affiliated with FENACAFE, were interviewed by a team of trained interviewers. The interviews were conducted in 25 coffee cooperatives selected from a list of 147 made available by FENACAFE. The cooperatives were distributed among six of the nine Departments in Ecuador that contain at least 2% of the country's coffee farms. The Department that had the largest number of coffee farms, Manabí, was the one in which the largest number of interviews were conducted.

The sample of coffee producers who are not members of coffee cooperatives was designed to mirror the first sample as closely as possible so that the only obvious difference between the two samples would be membership or nonmebership in a cooperative. To accomplish this task, the survey team was sent back to the same towns and villages that were included in the first sample, but with instructions to exclude from the sample any cooperative members. The number of interviews in each locale was based upon the same Probability Proportional to Size (PPS) methodology employed in drawing the cooperative sample. Readers interested in further details of the sample design should consult the earlier report.

The data in the following table show how the two samples compare. As can be seen in the table, the samples are nearly identical in terms of coverage. The only exception is that whereas a small number of cooperative interviews were conducted in Esmeraldas, specifically in the cooperative of Flor de Café, for logistical reasons it was not possible to conduct interviews in this Province in the second survey. Both

samples were drawn from the major coffee producing areas in Ecuador and therefore broadly represent the national pattern. The only cautionary note that should be injected is that since the samples do not cover the Provinces of Guyas or Mapo, which contain respectively 9.6 and 7.9% of the nation's coffee farms, it is not possible to generalize to all of Ecuador with absolute confidence. Nonetheless, there is no reason to believe that the coffee farmers in these areas differ from the national pattern in any ways that might be critical to the planning for a coffee technification project.

Table 2. Provincial Distribution of Coffee Farmers and Sample Interviews

Rank	Province	National % coffee farmers	Coop member % of sample	Nonmember % of sample
1.	Manabí	34.2	54.0	53.8
2.	Los Ríos	11.8	10.8	10.7
3.	Guayas[a]	(9.6)	--	--
4.	Mapo[a]	(7.9)	--	--
5.	Pichincha	7.9	5.3	6.0
6.	Loja	7.4	12.8	14.0
7.	Esmeraldas	5.7	2.2	0.0
8.	El Oro	4.9	14.8	15.3
9.	Bolívar[a]	(2.4)	---	---
	TOTALS[b]	71.9%	100.0%	100.0%

[a]The farms in these Departments are not included in the total displayed at the bottom of the table because no interviews were conducted in them.

[b]These totals exclude the "Zonas Litigio" (land whose ownership is contested with Peru).

Fieldwork

The second survey was conducted in essentially the same manner as the first. The interviewers were all experienced in survey research, having each participated in at least two rounds of the Sistema Estadístico Agropecuario Nacional (SEAN) studies. Training and field supervision was provided by Dr. Francisco Paez, professor of statistics of the Universidad Católica in Ecuador and former head of the Agrarian

Structure Office of IERAC, Ecuador's agrarian reform agency. Because of the illness of three members of the original team, the second survey was conducted by seven interviewers rather than the original ten. The interviewers for the second sample each conducted an average of 75 interviews. The interviews averaged 27 minutes each in duration, two minutes less than the first survey. The shortest interview was conducted in ten minutes and the longest took 50 minutes. The slightly shorter average interview time is most likely a function of the greater familiarity of the interviewers with the survey instrument.

Questionnaire Design

The questionnaire used in the second survey was almost identical to that use in the first and therefore there is no reason to repeat here the discussion contained in the first report. The interested reader should consult that report. The only major difference in the two questionnaires was the inclusion of a battery of items (included as the "M" series, beginning on p. 6 of the questionnaire). These items sought to determine why the coffee farmers had not joined a cooperative. It did so by asking about the advantages and disadvantages of coffee cooperatives and followed this by asking directly if the farmer was receptive to joining; is concluded with a questions on the reasons for not joining. The entire questionnaire used in the nonmember survey is included as an annex to this report.

Plan of Analysis

This paper reports on the response to each of the major items in the second survey, and compares them to the first survey. The univariate distributions for the entire nonmember sample are contained as an annex to this report. Throughout the discussion, comparisons of the two samples will be made with reference to the question of statistical significance, because a key objective of this analysis is to

determine if the two samples differ from each other in any substantively significant ways. In order to make this judgement, tests of statistical significance are employed so as to help sort out those differences between the two samples that are so small as to be entirely attributable to chance probable variation in sample error. That is to say, the results reported for each sample actually indicate a range of possible results (called the confidence interval) in which the true result lies. For example, the average age of the first sample was 50.0, but the true mean of the population of all coffee farmers from which this study was drawn lies somewhere between a number somewhat lower than 50.0 and a number somewhat higher than 50.0. That range is the confidence interval. If the mean age of the second sample falls within that same confidence interval, even though it may be higher or lower than 50.0, then we would conclude that the average age of the two sets of respondents does not differ significantly. However, if the mean of the second sample were to fall outside of that range, then we would conclude that the average age of the two samples do in fact differ significantly.

In much of the report that follows, the data being analyzed are continuous in nature (e.g, number of hectares of farm size, quintales of coffee per hectare) and therefore a difference of means test for two samples, known as the t-test, is the most appropriate test of statistical significance. For categorical data, the Chi-square test is applied. In all cases, the standard of significance is .05 or better (five or fewer times out of 100).

PART I: COMPARISON OF COOPERATIVE MEMBERS AND NONMEMBERS

Demographic Profile

Sex

Both samples found very few women formally designated as the farm owner. In the cooperative sample, only 14 of the respondents, 2.8% of the sample, were reported as the farm owners, whereas among the nonmember sample, 21 of the 496 respondents, 4.2%, were women. There is no statistically significant difference (t-test) between the two samples. As in the previous report, the number of women is too small to analyze profitably as a distinct group, and hence the analysis in this report will not distinguish between male and female respondents.

Marital Status

In both samples, the overwhelming majority families lived in family units. In the cooperative sample, 93.1% were married, compared to 91.8% in the nonmember sample. However, these figures hide an important difference between the two groups. Whereas common-law unions were found among 20.6% of the married cooperative respondents, 34.1% of the noncooperative respondents lived in such family unions. Put in other terms, the proportion of church-certified marriages was 72.5% among the cooperative members but fell to 57.7% among the nonmember coffee farmers. This difference is significant (Chi-square) at less than .001. The proportion of widows and divorced respondents was not notably different in the two samples.

The difference in the proportion of common-law unions is the first indication in this study that the two samples differ. Common-law marriages are more frequently found among poorer people in Latin America, especially in cases in which one or both

parties have had previous church-certified marriages. This is because a divorce is very difficult to obtain and usually beyond the means of the very poor.

Children

The surveys did not attempt to obtain complete information on family size since the study's concern was limited to the farm economy and therefore household size was of more direct interest. It was found that the number of children living with the cooperative members averaged 3.9, but dropped to 3.7 among the nonmembers, a difference which was not statistically significant. The number of households with no children living at home was 6.5 in the cooperative sample vs. 5.5% in the nonmember sample.

Differences between the two samples did emerge in terms of the number of children helping with the farm chores. In the cooperative sample, an average of 2.0 children helped with farm work related to the coffee crop, whereas the average number dropped to 1.4 in the nonmember sample (sig. at less than .001). In other terms, whereas 19.7% of the cooperative sample did not have their offspring helping with the coffee crop, nearly a third (30.2%) of the non-cooperative sample had no assistance from their children.

The greater participation of children in the farm workforce among the cooperative farmer needs to be placed within the context of the size of the overall workforce in order to assess its relative importance. The average number of full-time workers employed in coffee cultivation on the cooperative farms amounted to 4.3, with family labor accounting for 42.9% of all permanent labor needs on the farm. Among the nonmember farmers, the number of full-time workers was much lower, averaging 1.5. This means that among the nonmember farms, nearly all of the full-time labor is family labor. Hence, even though the number of children working on the cooperative

member farms is greater than on the nonmember farms, the contribution of family labor represents a greater proportion of all labor.

Age

The average age of the cooperative farmers was 50.0, and averaged 47.2, a difference that is significant at less than .001. The youngest person interviewed in the second sample was 22 and the oldest 85. The comparative distribution of age is presented in the following table. The distribution shows that a smaller proportion of the cooperative members are in the lower age cohorts than among the nonmember respondents.

Table 3. Age Distribution of Respondents

	Cooperative		Nonmember	
Age	(N)	%	(N)	%
20-29	13	2.6	21	4.2
30-39	64	12.6	123	24.8
40-49	163	32.2	130	26.2
50-59	174	34.4	128	25.8
60-83	92	18.2	93	18.8
TOTAL	506	100.0	495	100.0%

Note: There is one case of missing data in the nonmember sample.

Residential Stability

The study of the cooperative members found them to be very stable members of their communities. The nonmembers were even more stable. Despite their younger overall age, the nonmembers lived an average of 42.1 years in the cantón in which they were interviewed compared to 40.5 years among the cooperative members, but this difference is not statistically significant. The nonmember farmers did live on the farms in which they were interviewed for a significantly longer period, averaging 32.0 years vs. 24.8 years for the cooperative farmers. In short, while both groups are

quite stable in their residential patterns, those not belonging to cooperatives are significantly more so.

Socioeconomic Profile

Education

The study of Ecuadorean coffee farmers who were members of cooperatives found relatively high levels of education. Whereas approximately 83% of Ecuadorean adults were reported to be literate in 1985[2], 93.1% of the cooperative coffee farmers reported being able to read and write. Since rural literacy rates are almost always lower than national literacy rates, this high level of literacy among coffee farmers was surprising.

Comparison of the cooperative members with those who are not members of cooperatives shows that literacy among the former is significantly higher. Whereas 93.1% of the cooperative members were literate, only 80.4% of the nonmebers were, a difference that is significant at less than .001. The differential literacy rates is mirrored by overall levels of education in the two samples. Whereas the cooperative members averaged 4.5 years of schooling, the nonmember farmers averaged 3.7, a difference that is significant at less than .001. Whereas 68.2% of the cooperative farmers had more than three years of education, only 53.6% of the nonmember farmers did. In the first report on coffee farmers it was noted that although many of the respondents had levels of education adequate to allow them to read educational material that might be given to them in the context of a coffee technification program, 17.2% had not completed three years of education and thus would have difficulty with such material. Among the nonmebers, the proportion in this category

[2]See footnote 10 of Seligson, 1986 for details of estimates.

is substantially higher, 29.4%. The following table summarizes the comparative levels of education in the two samples.

Table 4. Number of Years of Formal Schooling Completed

Years	Cooperative (N)	%	Nonmember (N)	%
0	28	5.5	94	19.0
1	7	1.4	8	1.6
2	52	10.3	44	8.9
3	74	14.6	84	16.9
4	88	17.4	76	15.3
5	44	8.7	48	9.7
6	187	37.0	122	24.6
7	14	2.8	7	1.4
8	5	1.0	6	1.2
9	1	.2	--	--
10	2	.4	3	.6
11	--		1	.2
12	1	.2	--	--
14	1	.2	--	--
18	1	.2	3	.6
20	1	.2	--	--
TOTAL	506	100.0	496	100.0%
Mean		4.462	3.661	
Median		5.000	4.000	
Mode		6.000	6.000	

Levels of Living

The overall higher levels of education found among the cooperative members vs. non-cooperative members are reflected in the farmer's somewhat higher greater possession of material comforts. It was found in the study of the cooperative coffee farmers in Ecuador, that compared to most rural dwellers in Latin America, they were somewhat better off. Nonmember farmers seem to be living at a level more like that

found generally in Latin Americar. Details of some of the major characteristics demonstrating levels of living are summarized in the following table.

Table 5. Levels of Living

Indicator	Cooperative % Possessing	Nonmember % Possessing
Electric lights	49.6	52.9
Radio	96.4	94.3*
Television	50.2	43.8*
Sewing machine	69.2	63.7*
Refrigerator	39.9	28.2*
Indoor toilet	24.1	15.9*
Indoor water	24.1	14.5*
Car or truck	16.4	11.0*
Separate sleeping rooms	98.4	98.7

* Sig. at .01 or less.

The coffee farmers who were not members of cooperatives were significantly worse off in terms of levels of living on seven of the nine indicators employed. Only in the use of electric lights and the possession of separate sleeping rooms within the house did the nonmember farmers fare better, but the differences were not statistically significant. It was concluded in the study of the cooperative members that they seemed to be living better than many rural dwellers, but that the low incidence of indoor water and/or plumbing was a cause of concern from a public health standpoint. Among the nonmember farmers, these two amenities are found even less frequently (only about one-sixth of the homes). Yet, the presence of latrines in an additional 72.3% of the farms of the nonmembers does much to improve the public health standard of those homes despite their absence of indoor plumbing.

Patterns of Land Tenure

Several important issues arise in the study of land tenure patterns. These include fragmentation, size of farm, indirect tenancy, intensity of cultivation, and title security. Each of these topics will be treated in this section.

Fragmentation

Fragmentation of farms into many separate parcels can be a serious problem for farmers because they must travel long distances between their plots, expending time and energy in the process. In addition, farm equipment has to be transported from one plot to the other, further raising the cost of operations and often resulting in premature depreciation of the equipment.

The 1974 agricultural census found that the average number of parcels per farm unit (UPA) in Ecuador was 1.7. The cooperative coffee farms contained an average of 1.8, while the nonmember sample contained an average of 2.2, a difference that is statistically significant at less than .001. The total number of parcels owned among the 506 cooperative farmers was 917, whereas there were 1,069 parcels owned by the 496 nonmember coffee farmers. The distribution of parcels for both samples is contained in the following table. As can be seen, a substantially larger proportion of the cooperative farms consist exclusively of a single parcel (50.4% vs. 34.5%). Further, over a fifth of the nonmember farms consist of three parcels compared to less than a tenth of the cooperative farms. However, there are no non-cooperative farms fragmented into more than seven parcels, whereas there are a total of three such farms in the cooperative sample. In sum, the nonmember farms demonstrate a greater degree of fragmentation than the cooperative farms.

Table 6. Fragmentation of Farms

Number of parcels	Cooperative (N)	%	Nonmember (N)	%
1	255	50.4	171	34.5
2	166	32.8	155	31.3
3	46	9.1	111	22.4
4	23	4.5	47	9.5
5	7	1.4	7	1.4
6	3	.6	3	.6
7	3	.6	2	.4
8	1	.2	-	-
9	1	.2	-	-
10	1	.2	-	-
TOTAL	506	100.0	496	100.0
Mean	1.812		2.155	
Median	1.000		2.000	
Mode	1.000		1.000	
Sum (total parcels)	917		1,069	

Farm Size

The study of the coffee cooperatives revealed that the average farm size was considerably above the national average, and that a far smaller proportion of these coffee farms were smaller than five hectares, the minimum farm size considered by USAID to enable the land to "generate an adequate living standard."[3] The nonmember farms were, on average, smaller than the cooperative farms and therefore tended to follow the national pattern of land distribution more closely. As shown in the following table, the average cooperative farm was nearly 26 hectares compared to slightly less than 10 hectares for the nonmember farms. The "modal farm" among the cooperative sector was 10 hectares, whereas among the nonmebers it was only 2 hectares. Finally, the total land size encompassed by the 506 cooperative farms was nearly three times as large as that encompassed by the nonmember farms (13,141

[3]Background paper, "Agricultural Sector in Ecuador," USAID, 1984, p. 2.

hectares vs. 4,868). The largest concentration of non-cooperative farms falls between 5 and 10 hectares, whereas the cooperative farms are most heavily concentrated in the 10 to 50 hectare range. The largest nonmember farms was 186 hectares compared to 2,000 for the cooperative farms.

Table 7. Distribution of Farms by Size (Hectares)

Farm Size	Cooperative (N)	%	Nonmember (N)	(%)
1.00 - 1.99	15	3.0	74	14.9
2.00 - 2.99	28	5.5	71	14.3
3.00 - 3.99	26	5.1	58	11.7
4.00 - 4.99	28	5.5	33	6.7
5.00 - 9.99	113	22.3	125	25.2
10.00 - 19.99	127	25.1	80	16.1
20.00 - 49.99	130	25.7	34	6.9
50.00 - 99.99	26	5.1	18	3.6
100.00 -499.99	11	2.2	3	0.6
500.00 and up	2	.4	0	0.0
TOTAL	506	100.0%	496	100.0%

Statistics based on ungrouped data:

	Cooperative	Nonmember
Mean	25.970	9.815
Median	11.330	5.000
Mode	10.000	2.000
Sum	13140.7	4868.1

Renting

Renting is no longer a common practice in Ecuador, and the 1974 agricultural census reports only 2.9% of the farms as rented. Among the cooperative farmers, 2.2% rented land from others compared to only 1.6% of the nonmember farmers. The average size of the cooperative farm rentals was 9.8 hectares[4] and 1.9 hectares among

[4]Note that in the 1986 report the mean is incorrectly given at .199.

the nonmember farmers, a difference that is significant at less than .05. The distribution of rented land is shown in the following table.

Table 8. Rented Land by Size

Number of hectares	Cooperative (N)	%	Nonmember (N)	%
None	495	97.8	488	98.4
.7	--	--	1	.2
1-2.00	1	.2	6	1.2
4.00	3	.6	-	-
5.00	2	.4	1	.2
9.88	1	.2	-	-
10.00	2	.4	-	-
12.00	1	.2	-	-
35.00	1	.2	-	-
TOTAL	506	100.0	496	100.0

Intensity of Cultivation

It was found among the cooperative members that a very high proportion (84.8%) of the land was being cultivated. An even higher proportion (92.4%) of the nonmember farms were being cultivated. Of the 4,868 hectares of farm land owned by the nonmember farmers, 4,514 hectares were being cultivated, compared to 11,149 hectares of the 13,141 owned by the the cooperative farmers. The average number of hectares cultivated per non cooperative farm was 9.1 vs. 22.0 for the cooperative farms.

Title Security

The problem of insecure land ownership, so serious in much of Latin America and in sections of Ecuador, was found not to be very common among the cooperative coffee farmers. Among those farmers, 78.9% reported that all of their land was titled, and an additional 13.4% reported that some of their land was titled. Since having title to land is generally a prerequisite for membership in a coffee cooperative, it was

thought that a major reason for some coffee farmers not joining cooperatives in Ecuador was the absence of title. In fact, the nonmebers were more likely to report not having a title to their land, a difference that is statistically significant at less than .001. It was found that 11.3% did not have any of their land titled vs. 7.5% for the cooperative members. Among the nonmember farmers, an additional 3.2% reported having title to some of their land, and 84.7% (higher than among the cooperative members) reported having title to all of their land. A small number of nonmember farmers did not respond to this question (4 farmers or .8% of the sample).

The substantive significance of these statistically significant findings have to be evaluated very carefully. If one wishes to make the case that the absence of title is what is constraining Ecuadorean coffee farmers from joining cooperatives, the reason could only be valid for less than 15% of the farmers. Thus, for the bulk of nonmebers, the ownership of proper title has not been converted into cooperative membership. For those who do not have title, this may be an important constraint, but there must be others since those who have title have not joined either. Hence, one would have to look elsewhere for a general explanation.

Coffee Cultivation

Land in Coffee Production

The farms of the nonmebers were smaller than those of the members, and therefore it is not surprising that the amount of land planted in coffee is lower among the former. The coffee cooperative members cultivated an average of 8.0 hectares each while the nonmebers cultivated only 3.2 hectares, a difference that is significant at less than .001. The total land under coffee cultivation among the cooperative farmers was 11,149 but dropped to 1,582 among the nonmebers. The following table summarizes the distribution of coffee land.

Table 9. Distribution of Land in Coffee Cultivation

Land (in hectares)	Cooperative (N)	%	Nonmember (N)	%
Less than 1 hect	4	.8	9	1.8
1.00-1.99	22	4.3	65	13.1
2.00-2.99	49	9.7	72	14.5
3.00-3.99	57	11.3	67	13.5
4.00-4.99	46	9.1	38	7.7
5.00-9.99	197	38.9	121	24.4
10.00-19.99	101	20.0	72	14.5
20.00-49.99	26	5.1	35	7.5
50.00-99.99	2	.4	14	2.8
100.00 and up	2	.4	3	.6
TOTAL	506	100.0	496	100.0

Statistics for ungrouped data:

	Cooperative	Nonmember
Mean	7.964	3.189
Median	5.285	2.000
Mode	5.000	2.000
Sum	4029.8	1581.693

Most but not all of the land planted in coffee was in production. Among the cooperative farmers an average of 7.55 hectares of their land was in production vs. 3.15 for the nonmebers. This difference is significant at less than .001.

Labor and Coffee Production

The cooperative farmers employed a total of 2,166 permanent laborers on their 506 farms, for an average of 4.3 workers per farm. Among the nonmember farmers, only 719 permanent laborers were hired, for an average of 1.5 laborers per farm, a difference that is significant at less than .001. The median number of workers on the cooperative farms was 3 compared to 1 for the nonmember farms. Although the permanent work force included a large proportion of family members for both samples, the proportion was higher among the nonmember farmers (65.8% vs. 44.0%). The

average number of family workers per farm was 1.0 for the nonmember farms and 1.8 for the cooperative farms, a difference significant at less than .001.

The cooperative farms used an average of 4.0 part-time hired laborers for performing various tasks related to coffee cultivation compared to 3.0 persons for the nonmember farms, a difference significant at less than .001. During the harvest, labor demands are the greatest, and it was found that the cooperative farm averaged 8.9 workers compared to 4.5 workers for the nonmember farms, a difference significant at less than .001.[5]

Types of Coffee Planted

Both surveys gathered data on the variety of coffee planted on the farms studied. The table below shows the distribution of the varieties most commonly found on these farms. While the variety "Arabica típica" is the most common for both groups of farmers, the proportion of cooperative farms growing the high-yielding "Arabica Caturra" was substantially higher among the cooperative members.

Table 10. Coffee Varieties Planted

Variety	%growing	% all trees	Mean no. trees
Cooperative farms:			
Robusta	20.2	11.3	726
Arabica típica	67.8	51.9	3339
Arabica Caturra	57.5	23.6	1515
Other arabicas	12.6	13.2	848
Nonmember Farms:			
Robusta	13.5	16.2	375
Arabica típica	84.0	78.6	1821
Arabica Caturra	7.1	3.0	71
Other arabicas	1.4	2.1	49

[5]Note that the data presented on cooperative farms was not contained within the text of the 1986 report, but was summarized in the appendix.

Crop Yields

The cooperative farmers harvested 40,479 quintales of coffee during the 1985 harvest compared to 15,147 quintales for the nonmember farmers. On a per hectare basis, this converts to an average yield of 10.6 quintales/hectare for the cooperative farms compared to 9.1 for the nonmember farms, a difference that is significant at less than .001. These figures are calculated on land in production. If yields are calculated in the traditional manner to include all land planted with the crop, then the comparative yields would be 10.0 vs. 8.9 quintales/hectare. These yields are higher than the national averages reported for Ecuador, but would only raise Ecuador's overall ranking from 17 to 15 if these numbers were more reflective of the true national averages than the official figures.

An important conclusion from these comparisons is that the coffee cooperative farmers do produce higher yields on their farms, but the differences are quite small and probably substantively insignificant. Membership in cooperatives is related higher yields, but the difference may be attributable to the greater efficiency that may be possible in the larger farms of the cooperative members.

Commercialization

As noted in the report on cooperative members, coffee in Ecuador is sold in different forms. These range from completely unprocessed cherries (cereza) to partially processed coffee (pergamino húmedo) to fully processed coffee (café oro). Rarely, however, do small farmers actually fully process their coffee and instead will sell it as "pergamino seco," or coffee that still has the parchment film attached to the bean but has been dried. Among the cooperative members, the most common form of

selling coffee was in this form of "pergamino seco," whereas the nonmebers were most likely to sell their coffee in its completely unprocessed form. Since the more processing that the farmer completes by himself the higher the price he will receive for his crop, these data suggest that cooperative members may receive a higher price than nonmebers. That question will be analyzed in more detail below.

Table 11. Form in which Coffee Crop Sold

	Coop members		Nonmebers	
Form	(N)	%	(N)	%
cereza	153	30.2	269	54.2
pergamino seco	187	37.0	143	28.8
pergamino húmedo	26	5.1	28	5.6
combination	135	26.7	56	11.3
none sold	5	1.0	0	0.0
TOTAL	506	100.0	496	100.0

The price per quintal that the producers received is displayed in the following table. It should be noted first that cooperative members sold most (72.2%) of their crop to the cooperative but also sold some to middlemen. The nonmebers, on the other hand, sold all of their coffee to middlemen. The most striking finding in this table is the dramatically higher price coop members received for their unprocessed (uva) coffee; the nonmebers received only 26.6% of the price that the members received for their unprocessed coffee. The coop members also received a higher price for their partially processed coffee, but the difference was not as dramatic. The significance of these findings is further highlighted by the fact that, as reported above, the nonmebers sell more of their coffee in its unprocessed state than do the cooperative members. The income received by the nonmebers from the sale of their

crop is a fraction of that received by members when the impact of the price they are paid is combined with the form in which they sell it.

Table 12. Sale Price (per quintal): by Form and Destination

Form	Coop members mean price (sucres/qq.)	Nonmembers mean price (sucres/qq.)
Cereza:		
Middlemen	4,989	1,325
Cooperative	4,316	----
Pergamino húmedo:		
Middlemen	5,047	3,835
Cooperative	6,775	-----
Pergamino seco:		
Middlemen	7,940	6,834
Cooperative	7,651	-----

What is puzzling is that the cooperative members received a higher price for their coffee than did the nonmebers even when both were selling to middlemen. Although it is not possible to determine exactly why this is so, presumably the coop members were able to drive a better bargain with the middlemen because they had an alternative buyer willing to take their coffee at official prices, whereas the nonmebers had no such alternative and therefore were at the mercy of the middlemen. Support for that conclusion is contained in the finding that the cooperative members were able to sell both their unprocessed coffee and their dry parchment coffee (pergamino seco) to middlemen at prices that were, on average, higher than that paid by the cooperatives. Apparently they were able to use their alternative marketing source as a powerful lever when dealing with middlemen.

Crop Diseases and Infestations

The respondents to these surveys were asked to report on the presence of diseases and infestations that have affected their coffee plantings. The following table summarizes the responses to these questions. The two samples vary considerably in the reported presence of disease and infestation, with a higher proportion of the nonmebers reporting being affected by La Roya, the Minador de Hoja and the Taladrador, while the cooperative members seem more heavily affected by the Broca, Ojo de Gallo, the Mancha de Hierro and the Aranera.

Table 13. Reported Presence: Coffee Disease and Infestation

Problem	Coop members % reporting	Nonmembers % reporting
La Roya	8.3	15.5*
La Broca	20.9	17.3
Ojo de Gallo	22.7	5.6*
Mancha de Hierro	22.7	8.1*
Minador de Hoja	16.6	26.2*
Aranera	24.1	10.9*
Taladrador	20.0	30.4*

*= Sig. at less than .05.

A clearer picture of the overall impact of disease and infestation is presented in the following table, one that shows what proportion of farms are free of these problems and what proportion are affected by more than one. The overall pattern of the two samples is similar except that a substantially higher proportion of nonmebers report having no diseases or infestations on their coffee farms.

Table 14. Total Reported Diseases or Infestations

Number:	(N)	%	(N)	%
none	84	16.6	146	29.4
1	158	31.2	187	37.7
2	195	38.5	115	23.2
3	50	9.9	44	8.9
4	19	3.8	3	.6
5	0	0.0	1	.2
TOTAL	506	100.0%	496	100.0%

Use of Improved Farm Technology

The study of the cooperative members found that although there was widespread knowledge of improved farm practices, few of the farmers were using the capital-intensive practices. The results are summarized in the following table. That is, practices such as fertilizer use and insect control are far less frequently employed than labor-intensive practices such as pruning.

Table 15. Knowledge and Use of Selected Farm Practices

	Coop members		Nonmebers	
Practice	Knowledge (%)	Use (%)	Knowledge (%)	Use (%)
Coffee pruning	98.8	86.4	97.0*	83.7
Shade pruning	98.8	82.6	88.5*	65.1*
Manual weeding	100.0	98.4	99.8	98.4
Chemical weeding	90.5	10.5	61.9*	2.6*
Replanting	98.4	76.1	94.6*	51.4*
Irrigation	92.7	4.9	58.8*	0.6*
Insect control	95.7	14.4	63.1*	3.2*
Disease control	95.7	11.3	59.3*	1.8*
Fertilization[a]	92.3	5.9	55.0*	5.4
Soil conservation	75.9	9.9	32.1*	0.6*

*=Sig. less than .05.

[a]The questionnaire used both the terms "fertilización" and "abonamiento" to include both chemical and organic fertilizer.

A striking contrast emerges in the comparison between the two samples. The nonmebers have less knowledge of and far lower use of nearly all of the modern farming practices listed. The cooperative farmers seem far more modern. The differences are statistically significant in almost every case.

Technical Assistance

Improvement of yields depends heavily upon the timely availability of technical assistance to farmers. The study of the cooperative members found, however, that many had received little or no such assistance. The following table compares the coop members and nonmebers as to source and frequency of technical assistance. In every case the average number of visits received by the coop members was significantly higher than for the nonmebers. Indeed, fewer than one quarter of the nonmebers had a visit from an agronomist in the two years prior to the survey compared with nearly half of the members. Even more striking is that fewer than one-fifth of the nonmebers had attended a technical lecture within two years prior to the survey compared with over three-quarters of the coop members.

Table 16. Technical Assistance: Frequency and Sources

	Coop members		Nonmebers	
Source	Av. annual Per year[a]	% no visits	Av. annual Per year[a]	% no visits
Coffee Program	.95	55.5	.30*	80.4
FENACAFE	.53	70.2	.05*	97.4
Min. of Agriculture	.62	68.8	.06*	96.0
Chemical salesmen	.08	94.1	.01*	99.4
Others	.13	92.7	.03*	98.8
Visit of agronomist in last two years	=49.4%		24.4%	
Attended a technical lecture in least two years	= 77.1%		19.8%	

[a]Includes those with zero visits.
*=Sig. at less than .001.

Credit

It was not surprising to find that some two-thirds of the cooperative members had requested credit and that the cooperative itself was the most frequently used source. The following table summarizes the requests for credit in the two samples. As can be seen, nearly two-thirds of the nonmebers, twice as many as the members, had never requested credit.

Table 17. Credit Applications

Requested credit:	Coop-member (N)	%	Nonmember (N)	%
Alone	274	54.2	158	31.9
In a group	62	12.3	10	2.0
Both	6	1.2	0	0.0
No	160	31.6	328	66.1
Don't recall	4	.8	0	0.0
TOTAL	506	100.0	496	100.0

The sources of credit for the two samples are presented in the following table. The cooperative disappeared as a source of credit for the nonmebers. The major source for both samples was the BNF, but half as many nonmebers as coop members received loans from this source. Informal channels were more popular for nonmebers than for members, but even with these sources in use, only one-third of the nonmebers had received any credit in the two years previous to the survey, half as many as for the cooperative members. The total amount of credit received from all sources by nonmebers was only about one-third of that received by members.

Table 18. Credit: Sources and Average Amounts

Source (sucres)	Coop members % receiving	Coop members Mean amount (sucres)	Nonmebers % receiving	Nonmebers Mean amount
Cooperative	31.7	54,884	0.0	0
BNF	30.8	104,109	16.9	96,077
Private banks	3.0	102,591	.2	6,000
Family/friends	2.4	57,083	4.2	8,943
Loanshark	.8	64,250	4.2	19,810
FENACAFE	.6	10,000	.2	25
Middlemen	.2	50,000	2.0	20,322
All sources:	64.2	54,375	33.7	19,348

Interest rates

The range of interest rates paid by nonmebers varied from as low as 2% to as high as 50%, but averaged 20%. The range among the coop members was even wider, ranging from a low of 1% to as high as 70%, but the average was 18.5%. Although the nonmebers paid a higher average rate of interest for their loans, the difference was not statistically significant. The average interest that respondents said that they would be willing to pay for readily available credit was 13% for members and 12% for nonmebers, a difference that was not statistically significant.

Cooperatives and Participation

The study of the cooperative members found that almost all attended meetings of their cooperative an average of nearly 7 times a year. Further, over one-sixth were members of the board of directors of their cooperatives. The members were also quite active in peasant associations, with nearly 50% attending meetings of such organizations. The following table compares participation of members with nonmebers in various key local organizations.

Table 19. Participation*

Organization:	% attending		Average meetings attended yearly		Active member		Member of board of directors	
	Memb	Non	Memb	Non	Memb	Non	Memb	Non
Coffee cooperative	99.6	8.3	6.9	0.1	96.4	0.0	16.2	0.0
Agricultural assn.	15.4	2.4	0.6	0.1	12.3	0.6	0.8	0.2
Parents assn.	49.6	17.5	2.5	0.5	41.5	6.7	4.5	1.4
Peasant league	9.9	9.9	0.5	0.2	8.9	1.2	0.6	0.4

*All differences between members and nonmebers are statistically significant at less than .05 except for average meetings attended of agricultural associations, attendance at meetings of peasant leagues and membership on the board of directors of a peasant league.

Since the samples were designed to include cooperative members in one and nonmebers in the other, it is not surprising that attendance at cooperative meetings is so much higher in the first sample. The small percentage of nonmebers who report having attended cooperative meetings is likely a result of those who have expressed some interest in joining a cooperative but had not done so by the time of the interview. More surprising is the significantly higher participation in organizations other than cooperatives among the members. Members are significantly more active in agricultural associations and parents associations. They are also significantly more likely to be active members of peasant leagues.

Two explanations could be postulated to explain the greater level of organizational participation among cooperative members. One is that even before joining, cooperative members are more interested in community associations and other forms of local participation than nonmebers. The act of associating oneself with a cooperative, therefore, is merely an extension of this orientation. On the other hand, it is possible that once one joins a cooperative one is stimulated to join other organizations as a result of positive experiences and/or social contacts made via the coopera-

tive. It is not clear from the data which of these explanations is the correct one, and indeed both may be partially true. However, the differences in socioeconomic and demographic characteristics reported in the beginning of this study suggest that coop members and nonmebers may differ in some fundamental ways that help explain their organizational proclivities. Further insight into this question is contained in the second part of this paper that deals directly with the attitudes of nonmebers toward cooperatives.

Predictors of Coffee Yields

In the report on cooperative members it was found that a number of factors were significantly related to increased coffee yields on the farms studied. In particular, it was found that applying modern technology (especially pruning, weeding and soil conservation), visits of agricultural extentionists, organizational activism and education by FENACAFE were all related to higher yields.

The following table displays the significant correlates of coffee yields in the nonmember sample.

Table ???. Correlates of Coffee Yields

Variable	r
Fragmentation	.43**
New coffee plantings last year	.09*
Knowledge of coffee pruning	.11*
Use of coffee pruning	.15**
Knowledge of shade pruning	.18**
Use of shade pruning	.33**
Knowledge of herbicides	.38**
Knowledge of replanting	.11*
Use of replanting	.38**
Knowledge of irrigation	.39**
Knowledge of insecticides	.36**
Knowledge of fungicides	.37**
Knowledge of fertilizer	.38**
Knowledge of soil conservation	.32**
Knowledge of drying patio	.17**
Use of drying patio	.22**
Knowledge of sprayers	.15**
Knowledge of wooden plow	.22**
Knowledge of metal plow	.20**
Visits from agronomists	.22**
Visits from Coffee Program	.23**
Sex	.13**
Literacy	.18**
Years of formal education	.26**
No. of contract laborers	.38**
No. of harvest laborers	.28**
Daily wage paid to male pickers	.27**
Daily wage paid to fem. pickers	-.20**

* = sig. at .05 or better
** = sig at .001 or better

The single strongest factor related to high yields is farm fragmentation. This finding is totally unexpected. Fragmentation of farms normally has several negative consequences for the farmer, including loss of time in traveling from parcel to parcel, difficulties in moving farm equipment from one parcel to the other, and loss of economies of scale in application of modern technology. Consequently, it is not at all obvious why respondents whose plots are more heavily fragmented would have higher yields. Further analysis was conducted to determine if the number of hectares per

parcel was linked to yields, but no significant relationship emerged from that exploration. The possibility that this relationship was a spurious one still remained, however. That is to say, the association between high yields and fragmentation could be an artifact of the association of fragmentation with some other factor that in turn is linked to yields. This hypothesis was partially confirmed when fragmentation and yields were examined department by department. It was found that fragmentation tended to be substantially above or below the mean for the sample as a whole in departments in which yields were also higher or lower than the norm. For example, the highest average number of parcels was found in Santo Domingo (mean of 3.0 vs. sample mean of 2.2), an area that had the second highest average yield (13.0 qq./hectare vs. sample mean of 8.9). Puyango, the Department with the second highest level of fragmentation (mean of 2.6) had the highest average yield (14.3). A similar pattern emerged in other departments. Since this writer does not have access to other data that might explain the variation in yield by department (e.g., soil quality, rainfall, etc.), it is not possible to exclude the possibility that it is fragmentation itself that is responsible for higher yields, but the departmental variation suggests that at least some if not all of the variation is spurious. Further research should clarify this finding.

The remin associations are all in line with expectations. Farmers who have higher levels of replanting and those who have greater knowledge and or use of improved farm practices achieve higher yields. It is important to note, however, that knowledge of improved practices is more frequently associated with increased yields than is actual use. The probable explanation for this anomaly is that farmers who have wider knowledge of improved practices in Ecuador often do not apply those

practices for lack of resources. Moreover, when applied, the improved practice is not always used correctly.

Education is clearly associated with higher yields. Literacy and formal education are significantly associated with higher yields as is informal education received via talks and visits from agronomists.

The only demographic factor associated with higher yields is sex. Females have somewhat lower yielding farms. Further analysis could be conducted on this finding, but the limited number of women in the sample presents some obstacles. In all likelihood, the females, many of whom are single parents and widows, have lower knowledge of improved practices and do not have sufficient resources (especially labor) to achieve yields equal to that of the men.

Finally, the greater the number of contract laborers and pickers, the higher the yield. This correlation is likely an effect, not a cause, of the higher yields in that higher yielding farms require the employment of non-family labor in order to conduct a successful harvest.

PART II: ATTITUDES TOWARD COOPERATIVES OF NONMEMBERS

The first part of this paper compared the two samples of coffee producers. Many differences were found, but these differences were not associated directly with the question of why the nonmebers had not joined a cooperative.

Knowledge of Cooperatives

One possible reason that such a small proportion of Ecuador's coffee farmers have joined cooperatives may be that they simply have not heard about cooperatives as an institution. Thus, it was important to determine what proportion of those who had not joined a cooperative had in fact heard of the institution.

The survey of nonmebers found that 97.8% had in fact heard of coffee cooperatives. This is not surprising since the sample was drawn in areas that all had at least one coffee cooperative. The importance of the item, however, is that the widespread awareness of cooperatives among nonmebers means that one cannot attribute their nonmebership to ignorance of the institution.

Perceived Advantages/Disadvantages of Cooperatives

Being aware of the existence of cooperatives and believing that they are institutions that are likely to benefit their members are two very different questions. So, as a follow-up to the question of awareness of cooperatives, the nonmebers were asked if they believed that there were advantages to being a member of a cooperative.

The responses to this item were very revealing. A majority of the respondents, 56.9% to be exact, responded in the negative. An additional .4% said that they did not know. Only 42.7% said that there were advantages to cooperative membership.

The questionnaire probed further the opinions of both those who perceived advantages and those who perceived disadvantages. The respondents who said that

they perceived advantages were asked an "open ended" question, that is one in which no specific replies were suggested, in order to tap their specific perceived advantages to cooperative membership. The following table lists, in descending order of frequency of mention, the major perceived advantages of cooperatives.

Table 20 Perceived Advantages of Cooperative Membership

Advantage	% naming*
Access to credit	68.5
Higher coffee prices	42.7
Technical assistance	38.6
Marketing	28.8
Tax exemptions	5.2
Provides farm supplies	5.2
Farmer unity	4.3

*Includes only those who saw some perceived advantages. Respondent could name as many as seven, so percentages total more than 100%.

The most frequently mentioned advantages of cooperative membership among these nonmebers was access to credit, followed closely by the view that cooperatives can pay higher prices for the coffee sold to them. Two other frequently mentioned advantages were the availability of technical assistance and marketing. Although cooperatives are exempt from a portion of the export taxes, this was not an advantage mentioned by many respondents. However, this factor may be subsumed under the advantage of higher prices since the tax exemption translates into higher prices for producers.

The respondents were next asked to list any disadvantages they saw in becoming a cooperative member. The following table summarizes those responses, listing them from most frequently mentioned to least frequently mentioned. A total of five possible disadvantages could have been listed.

Table 21. Perceived Disadvantages of Cooperative Membership

Advantage	% naming*
Poor services	42.9
Don't trust administration	41.8
Poor organization	36.3
Pay low prices	29.0
Cost of membership	19.8

*Includes only those who perceived some advantages. Respondent could name as many as five, so percentages total more than 100%

The disadvantages perceived were highly centered on problems of organization. The cooperatives are perceived as providing poor services to their members and being poorly organized. In addition, nonmebers have reason to distrust the management of cooperatives, perhaps because of actual or rumored malfeasance. A lower proportion of the nonmebers saw the cooperatives paying low prices for the coffee they buy. Interestingly, the cost of membership, so often mentioned as a major deterrent to joining coffee cooperatives in Ecuador was mentioned by fewer than one-fifth of those interviewed.

The final items in this battery of questions was the most direct. They first asked the nonmebers if they wanted to join a cooperative, and they then asked them to state specifically why they had not joined.

Close to three-fifths (59.1%) of those interviewed stated that they did not want to join a cooperative. This figure corresponds closely to the 56.9%, noted above, who said that they did not see advantages in joining a cooperative.

The specific reasons for not joining a cooperative are listed in the following table. Apparently the most serious obstacle to joining a cooperative is not the cost but the "red tape" (tramites) involved in doing so. This is not surprising if one reads the rules the govern membership. The Government of Ecuador has established ten

separate and complex requirements for membership, almost any one of which is enough to discourage all but the most ardent individual from even attempting to become a member. These include: 1)having a title to one's farm; 2)making a sworn declaration, signed by a judge, that the potential member is not a member of any other cooperative; 3)completing a socioeconomic survey filled out by a promoter of the National Coffee Program (PNC) or a promoter from the Ministry of Agriculture; 4)obtaining a certificate of inspection from the PNC certifying that the applicant is a coffee grower; 5)completing a form certifying the purchase of cooperative shares and signed by the local Jefe Político, the manager of the cooperative and a technician from the PNC; 6)completing a certificate attesting to the completion of a course on cooperatives, signed by a promoter of the PNC; 7) obtaining a signed copy of the cooperative's minutes showing approval of the cooperative; 8)obtaining the written permission of the cooperative; 9) obtaining a certificate of residence signed by the Jefe Político and; 10) obtaining a copy of the property title of the cooperative.

Table 22. Reasons for Not Joining a Cooperative

Reason	% naming*
"red-tape"	42.6
cost	34.3
hasn't been asked	34.2
pay low prices	23.9
no land title	9.4

*Respondent may mention as many as five, so percentages total more than 100%.

Other reasons given by a substantial proportion of the respondents include the cost of joining, the absence of a direct invitation to join, and the low prices paid by cooperatives for the coffee they buy. The problem of not having a land title was not

a serious obstacle to this sample of nonmebers since, as noted in the section of this report dealing with land tenure, only 11.4% did not have title to any land they farm.

Correlates of Attitudes toward Cooperatives

Throughout this report it has been shown that cooperative members differ from nonmebers in a variety of ways. Many of these factors are, no doubt, responsible for explaining why one coffee farmer has joined a cooperative while another has not. Within the subset of the nonmebers, however, there are some individuals who are nonetheless favorable toward joining a cooperative. Using simple correlation analysis, it is possible to highlight the factors that distinguish those members who are favorable toward cooperatives from those who are not.

The survey utilized two questions to help determine the receptivity of the nonmember respondents to joining a cooperative. It first asked, "In your opinion, are there advantages in joining a coffee cooperative?" The overall responses to that item were discussed above. There it was noted that 43.1% of the respondents saw advantages in joining while the remainder did not.[6] The second question asked the respondent directly if he/she was interested in joining a cooperative, and a total of 40.9% of said that they were.

The analysis proceeds by examining the correlates of these two items. There is, however, considerable overlap in the two questions. For example, only 31 respondents, or 6.2% of all nonmebers, said that they were interested in joining a cooperative but did not think that there were any advantages in doing so. To simplify the

[6]After this question came a follow-up item on the specific advantages and disadvantages perceived in cooperative membership. The results of that item were discussed above.

analysis, the results of the answers to the two items are combined into a single index that measures the overall attitude toward coffee cooperatives among the nonmember sample. The following table lists the variables in the survey with which there was a significant correlation with this overall index.

The demographic correlates show that the longer the farmer has lived on his/her farm and the longer he/she has lived in the area in which the interview was conducted, the more negative the individual will be towards coffee cooperatives. Further, older respondents are also more negative. Finally, the less extensively the farmer relies on his/her children for farm labor and the more extensively on hired labor, the more negative the attitude toward cooperatives.

Table 23. Correlates of Attitudes Toward Cooperatives

Variable	r
Demographic:	
Years on farm	-.17**
Years in cantón	-.13*
Age	-.09*
Children help cultivate	.12*
Children help harvest	.12*
No. contract laborers	-.21**
No. pickers	-.13*
Land tenure:	
No. parcels	-.29**
Title to farm	-.12*
Title to coffee land	-.15**
Coffee cultivation:	
Prices for crop improving	.24**
Farm practices:	
Index of knowledge[a]	-.22**
Index of use	-.11*
Technical assistance:	
Attended lectures on coffee	.12*
Credit:	
Interest rate paid for	.21**
Crop disease:	
La Roya	.19**
La Broca	.10*
Ojo de Gallo	-.15*
Aranera	-.24**
Organizational activism:	
Attends coop meetings	.13*
Attends PTA	.12*
Member of PTA	.08*
Attends peasant league	.15*

[a]This is summated index of practices in items D1 to D25 in questionnaire.
* = Statistically significant at .05 or better
** = Statistically significant at .001 or better

Taken together, these demographic correlates suggest that the longer a farmer has lived without a cooperative, the less positively predisposed he/she will be toward joining one. Perhaps this can be explained by the adage, "One can't teach old dogs new tricks." After all, joining a cooperative implies considerable shifts in the way a farmer conducts his/her business, and those shifts may become harder to make the older one grows. The older farmers, ones who have spent many years developing their land, may also be more adverse to risk and thus express negative views on cooperatives. But for whatever reason, a program aimed at increasing cooperative membership is likely to be more successful among younger farmers, especially ones who have more recently acquired their farms.

Fragmentation of the farm is among the strongest correlates of negative attitudes toward cooperatives. The more fragmented the holding, the more likely that the farmer will not be interested in joining a cooperative. It is important to note that overall size of holding is not significantly associated with attitudes toward cooperatives; it is fragmentation itself that is responsible. One possible explanation for this association might be that the farmers whose lands are highly fragmented find it difficult to meet certain requirements imposed by cooperatives (e.g., delivery of the harvest to a single collection point).

Although a land title is generally required for cooperative membership, the correlates reveal that there is a tendency for possession of title to be negatively associated with a favorable attitude toward cooperatives. Since most of the farmers in this survey had their farms fully or partially titled, one should not exaggerate the importance of this weak association. A possible explanation for it is that the farmers who were older are also the ones more likely to have obtained title, and therefore it

is the demographic factor rather than factor of title that is responsible for this finding.

There were no significant correlates of attitudes toward cooperatives and the amount of coffee land farmed or the type of coffee planted. It was found, however, that the nonmebers who stated that the price they had received for their most recent harvest was better than in years past were more positive on cooperatives. Perhaps these farmers saw the cooperatives as being able to help them continue to receive a better price for their crop.

A surprising finding emerged from the correlation of the knowledge and use of improved farm practices attitudes toward cooperatives. It was expected that since the cooperative members as a group had significantly higher use of modern farm practices, the more modern farmers among the nonmebers would be the ones more interested in joining cooperatives. What was found instead was that the greater the use of improved practices, the more likely that the farmer would hold negative attitudes toward cooperatives. Perhaps the farmers who employ more modern farm practices are ones who feel that they already have many of the benefits a cooperative can bring. Among those who do join cooperatives, however, the greater access to these practices helps boost their use to levels above that of nonmebers as a group.

Technical assistance proved to have no significant relationship with attitudes toward cooperatives except in one area. Farmers who had attended more technical talks on coffee were significantly more likely to be positive toward cooperatives. By implication, positive interest in cooperatives could be generated through an active program of talks to groups of farmers.

The amount of credit a farmer received was not significantly associated with attitudes toward cooperatives. The interest rate he/she paid for the credit used was,

however, linked to those attitudes. The correlations show that the higher the rate of interest paid the more likely that the farmer would hold a positive attitude toward cooperatives. The explanation for this finding is probably that farmers who pay high interest rates for their credit perceive cooperatives as being able to get them more reasonable rates. An implication of this finding is that promotional campaigns for cooperatives should stress their advantages in providing reasonably priced credit.

Farmers who report that their coffee plantations are affected by La Roya and La Broca are more likely to hold positive attitudes toward cooperatives. This is a very important finding since the proposed coffee technification program is in part designed to improve yields of farmers whose production is being damaged by these two ills. A membership campaign directed at these farmers, therefore, stands a good chance of being heard by sympathetic listeners. Reports of other diseases and infestations have no significant association with attitudes toward cooperatives except for Ojo de Gallo and Aranera. Both are negatively associated with favorable attitudes toward cooperatives and hence demonstrate the opposite pattern from that found among farmers affected by La Roya and La Broca. It is possible that there may be a regional pattern to these findings that may help explain the apparently anomalous results.

Nonmebers who have attended coffee cooperative meetings are more positive on cooperatives, a result that is predictable. The nonmebers who attend such meetings, no doubt, are more favorably disposed toward cooperative membership and that attitude propels them to attend coop meetings. But it was also found that other forms of organizational activism are positively associated with favorable attitudes toward cooperatives. Attendance at PTA (Parent Teacher Association) meetings and peasant league gatherings also correlate with positive attitudes toward cooperatives. Apparently, individuals who are more active in organizations are also more favorably

inclined toward cooperatives. A promotional campaign to expand cooperative membership would likely meet with some success if conducted via existing community organizations.

The final set of correlates explored were between interest in joining a cooperative and individual reasons given for not doing so. One clear finding stood out. Nonmebers who saw cooperatives as paying low prices for the coffee they buy were not interested in becoming members. Although, as noted above, only about one-fifth of the respondents perceive cooperatives as not paying high enough prices, those who hold this view are unlikely to become members.

A final step in the analysis was to subject the individual correlates to a multiple regression analysis. The purpose of this analysis was to see which variables remain significantly associated with positive attitudes toward cooperatives when all of the individual correlates are examined simultaneously. The analysis is a complex one since some 25 variables were entered into the equation at the same time. While this is not a desireable approach to the analysis, the absence of a structural model that would allow a more refined effort precludes other approaches. The results showed that when all variables are entered at the same time, only fragmentation and the presence of La Roya remain as significant predictors of attitudes toward cooperatives. That is to say, a lower degree of fragmentation and a higher reported incidence of La Roya are two factors that seem relatively strongly associated with a positive interest in cooperative membership.

SUMMARY

This paper has compared a sample of 506 members of Ecuador's coffee cooperatives to a similar sample of 496 coffee farmers who are not members of cooperatives. The basic profile of the coffee cooperative members was presented in a previous report and will not be repeated here.[7] Rather, a central purpose of this report is to highlight the numerous statistically significant differences among the two samples. The principal ones are as follows:

1. There is a higher proportion of common-law unions among nonmembers than members.
2. The cooperative members had a higher average number of children helping with the farm chores even though the number of children per household in the two samples was not significantly different.
3. The cooperative farmers were significantly older than the nonmembers.
4. Nonmembers have greater residential stability than members.
5. Levels of education were higher among cooperative members.
6. Levels of living were higher among cooperative members.
7. Fragmentation of farms was higher among nonmembers.
8. Cooperative members farms averaged nearly three times the size of the nonmembers.
9. Nonmembers were significantly more likely not to have title to their land than members.

[7] "Small Farmer Coffee Cooperatives in Ecuador: A Profile of Socioeconomic Conditions and Technical Capacity," September 1986 by Mitchell A. Seligson.

10. Land in coffee production was more than twice as great among cooperative members as nonmembers.

11. Cooperative members employed nearly three times as many permanent laborers as nonmembers.

12. Cooperative members were far more likely to be cultivating improved coffee varieties.

13. Crop yields among cooperative members was significantly higher than among nonmembers.

14. Cooperative members sell a higher proportion of their crop in processed form than do the nonmembers.

15. Cooperative members received much higher prices for their unprocessed and partially processed coffee than nonmembers, even when the members sold coffee to middlemen rather than the cooperative.

16. Nonmember farms were more likely to be affected by Roya and Broca than member farms.

17. Members have significantly more knowledge of and make greater use of improved farm technology than nonmembers.

18. Cooperative members receive far higher levels of technical assistance than non-members.

19. Cooperative members received more than twice as much credit as nonmembers.

20. Cooperative members exhibited significantly higher levels of community and organizational participation.

The overall conclusion that emerges from this comparison is that the cooperative members are the larger, more successful farmers in Ecuador. This comes as somewhat of a surprise since throughout Latin America, cooperative members tend to be small producers who have joined together to obtain the benefits of collective production and/or collective sale of their crop. In Ecuador, these data show, it is the larger coffee farmers who are members of cooperatives. It is impossible to say from these data if the higher greater use of improved farm technology, larger size and higher yields was a function of cooperative membership or if the more advanced farmers were the ones who were more likely to join cooperatives in the first place. To determine that, some in-depth interviewing would be needed. Hence, it may be that it was membership in the cooperative that stimulated certain improvements to take place for the members, or it may be that better-off farmers joined cooperatives and membership itself had little or no effect. Indeed, some combination of situations may prove to be the correct explanation. That is, somewhat more modern farmers joined cooperatives and that their membership boosted them further.

From the perspective of project design, it would seem that the cooperative members would be the ideal target of any effort to improve yields. This is so for three reasons. First, cooperative members are, on average, the larger farmers and therefore might serve as role models for the smaller farmers. Second, the cooperative farmers as a group have demonstrated greater use of improved farm practices and therefore might be more willing adopters of new technology. Third, despite of the comparatively higher yields produced on the cooperative farms, the yields are quite low by international standards. As reference to the Latin American yield data presented in Table 1 shows, if all of Ecuador were to produce coffee with the same

yields as that produced by the cooperative members, Ecuador's ranking would only move up from 17th to 16th on the list.

The second part of the report explored the reasons why the nonmembers had not joined cooperatives. The following major findings were reported:

1. Almost all of the nonmembers had heard of cooperatives and thus were not ignorant of them.
2. About two-fifths of the nonmembers saw that there were advantages to cooperatives.
3. The major advantages named were access to credit, higher coffee prices, technical assistance and marketing.
4. A little over half of the nonmembers said that there were no advantages to cooperative membership.
5. The principal disadvantages of cooperative membership mentioned were poor services, lack of trust in the administration, poor organization, and low prices paid to producers.
6. The most frequently named specific reasons for not joining cooperatives were "red-tape," the cost, the failure to be invited to join, low pay and lack of land titles.
7. Coffee yields among nonmembers were higher for those who used improved farm practices, had higher levels of education and had more farm laborers.

In conclusion, one might summarize the overall conclusions of this report by emphasizing two findings. First, members of coffee cooperatives in Ecuador are larger, more modern farmers who, nonetheless, exhibit very limited use of modern

farm practices. Second, nonmembers are aware of some of the major advantages in joining a cooperative but many would prefer not to because of perceived disadvantages. A promotional campaign that seeks to increase membership will find elements of receptivity and resistance. Reducing the "red-tape" that was so frequently mentioned as a major reason for not joining ought to be a fundamental precondition to the commencement of any such campaign.

This report represents only one "cut" at the extensive data base at hand. The concern here was to compare cooperative members and nonmembers. Several more analyses could be conducted in which different question could be asked of the data. Such further analysis would be far easier to conduct than has been possible thus far because the time-consuming work of data collection and file preparation have been concluded.

Encuesta de Base: No Miembro de Cooperativa
Proyecto de Tecnificación
FENACAFE/AID

Número de encuesta (llenar en la oficina) _____ ID /__/__/__/__/
Nombre de Departamento _____ /__/__/
(6)

Hora de comienzo de la entrevista __:__

(Leer a todos). Buenos días, me llamo _____. Estamos haciendo un estudio sobre el café. Ando visitando a los productores de café de este lugar y otros lugares de esta región para conocer mejor su situación y conversar sobre varios temas. Nos gustaría conversar con Ud. por unos 20 minutos. Toda la información que Ud. nos dé se manejará en forma confidencial, por su puesto, y su colaboración es completamente voluntaria.

Primero, quisiera saber si Ud. tiene algo de café cultivado en su finca? (Si contesta que no, pedir disculpas y buscar el próximo entrevistado.)

Es usted miembro de alguna Cooperativa de Café? (Si responde que si pasar enseguida a buscar otro entrevistado)

Migración

A1. Cuanto tiempo tiene usted de vivir en esta propiedad_____ (años) /__/__/
(Codificador: menos de 6 meses= 0); 6 meses hasta 12 meses= 1)

A2 Y en este cantón? _____ (años). /__/__/
(Codificador: menos de 6 meses= 0); 6 meses hasta 12 meses= 1)

****

Tenencia de la Tierra

B1. Ahora, hablando de su propiedad, cuántas parcelas posee Ud. en total? ____ /__/__/

B2. Cúantas hectáreas tiene en total? ____,_____ hect.
(enteros) (fracciones)
(Anotar fracciones: P.E. 1/4 hect. = ,25 1/3 hect. = ,33
1/2 hect. = ,50 2/3 hect. = ,66
3/4 hect. = ,75 /__/__/__/ /__/__/
(17)

B3. De esta tierra tiene título (o sea escritura pública) para toda, alguna parte o nada?
1. toda titulada 2. alguna parte 3. nada 8. NS /__/

B4. Qué cantidad de hectáreas de terreno alquila Ud. de otras personas?
_____, _____ hect.
(enteros) (fracciones): P.E.= 1/4 hect. = ,25 1/3 hect. = ,33
1/2 hect. = ,50 2/3 hect. = ,66
3/4 hect. = ,75 /__/__/__/ /__/__/
(23)

B5. En total, cúantas hectáreas está cultivando este año incluyendo todas sus parcelas (propias y ajenas)? _____, _____ hect.
(enteros) (fracciones):
(Anotar fracciones) /__/__/__/, /__/__/ (28)

B6. De estas hectáreas cultivado, cuántas tiene sembradas con café? _____, _____ hect.
(enteros) (fracciones): /__/__/__/, /__/__/ (33)

B7. De estas hectáreas cultivado con café, todas tiene título, algunas tiene título, o ninguna tiene título?
1. todas tituladas 2. algunas tituladas 3. ninguna 8. NS /__/

B8. De estas hectáreas sembrado con café, cuantas están en edad de producción? _____, _____ hect.
(enteros) (fracciones): /__/__/__/, /__/__/ (39)

****

Cultivo de café

C1. Cuántas plantas (matas) de café sembró Ud. el año pasado? _____ /__/__/__/__/

C2. Cúantas plantas (matas) de café sembró Ud. el año antepasado _____ /__/__/__/__/ (47)

En toda la finca, incluyendo plantas viejas y nuevas, cuántas plantas tiene sembrado de café de los distintos tipos:
C3. Robusta _____ plantas /__/__/__/__/__/
C4. Arábica típica _____ plantas /__/__/__/__/__/
C5. Arábica caturra _____ plantas /__/__/__/__/__/
C6. Otras arábicas _____ plantas /__/__/__/__/__/ (67)

C7. Cúantos quintales de café en cereza (uva) cosechó en la última cosecha, o sea la cosecha de 1985? _____ qq. (redondear)
Si es otra unidad, anotar unidad aquí _____ /__/__/__/__/
(Codificador: convertir todo a quintales.)

C8. Cómo vendió Ud. su café de esta cosecha de 1985? Lo vendió en cereza, en pergamino seco, en pergamino húmedo o en varias formas?
1. cereza 2. perg. seco 3. perg. húmedo 4. combinación /__/ (72)

(Fin tarjeta 1)

(Sólo para los que venden algo en cereza:)
De estos quintales cosechado en cereza, cuánto vendió y a qué precio a:

	Cantidad (redondear todas)		Precio (promedio)	
C9. Un intermediario	_____ qq. cereza	/__/__/__/	C10. S._____	/__/__/__/__/__/
C11 Una cooperativa	_____ qq. cereza	/__/__/__/	C12. S. _____	/__/__/__/__/

C13 En su opinión, cuáles son los problemas que afectan su producción de café? _____ (14)

(Sólo para los que venden algo en pergamino seco:)
De estos quintales cosechado en pergamino seco,
Cúanto vendió y a qué precio a:

	Cantidad (redondear todas)		Precio (promedio)	
C14. Un intermediario	_____ qq. perg. seco	/__/__/__/	C.15 S. ____	/__/__/__/__/__/
C16. Una cooperativa	_____ qq. perg. seco	/__/__/__/	C.17 S. ___	/__/__/__/__/__/ (28)

(Sólo para los que venden algo en pergámino húmedo:)
De estos quintales cosechados en pergámino húmedo,
Cuántos vendió y a qué precio?

	Cantidad (redondear todas)		Precio (promedio)	
C18. Un intermediario	_____ qq. perg. húmedo	/__/__/__/	C.19 S. ____	/__/__/__/__/__/
C20. Una cooperativa	_____ qq. perg. húmedo	/__/__/__/	C.21 S. ___	/__/__/__/__/__/

C22. Diría Ud. que este año el precio fue más alto de lo corriente, fue más bajo de lo corriente o fue más o menos como siempre?
1. más alto 2. más bajo 3. como siempre 8. NS /__/ (42)

C23. Que hizo usted el año pasado con el café que no vendió
1. Embodegó 2. Regaló 3. Botó 4. Otro _____ /__/ (44)

****

Uso de prácticas, insumos y equipo de producción

Cúal de las siguientes prácticas e insumos ha oído Ud. nombrar y cuales acostumbra utilizar Ud. en el cultivo de café en su finca:

Prácticas	Oído		Utiliza	
D1. Poda del café	0. No 1. Si	/__/	D2. 0.No 1.Si	/__/
D3. Poda de sombra	0. No 1. Si	/__/	D4. 0.No 1.Si	/__/
D5. Deshierbas manuales	0. No 1. Si	/__/	D6. 0.No 1.Si	/__/
D7. Deshierba química	0. No 1. Si	/__/	D8. 0.No 1.Si	/__/
D9. Resiembra	0. No 1. Si	/__/	D10. 0.No 1.Si	/__/ (54)
D11. Riego (inmersión o por aspersión)	0. No 1. Si	/__/	D12. 0.No 1.Si	/__/
D13. Control de plagas	0. No 1. Si	/__/	D14. 0.No 1.Si	/__/
D15. Control de enfermedades	0. No 1. Si	/__/	D16. 0.No 1.Si	/__/
D17. Fertilización o abonamiento	0. No 1. Si	/__/	D18. 0.No 1.Si	/__/
D19. Conservación de suelos	0. No 1. Si	/__/	D20. 0.No 1.Si	/__/ (64)

Insumos y equipo

			Utiliza		
D21. Patio de concreto para asolear café	0. No 1. Si /__/		D21A	0. No 1. Si	/__/
D22. Despulpadora de café	0. No 1. Si /__/		D22A	0. No 1. Si	/__/
D23. Bomba de fumigar	0. No 1. Si /__/		D23A	0. No 1. Si	/__/
D24. Arado de madera	0. No 1. Si /__/		D24A	0. No 1. Si	/__/
D25. Arado de hierro	0. No 1. Si /__/		D25A	0. No 1. Si	/__/ (74)

D26. Cúal es el motivo principal para no haber utilizado más de estos insumos y técnicas para mejorar su producción? Es qué no tiene dinero, o no sabe utilizarlos o es otro motivo?
1. dinero 2. conocimiento 3. Otro _____ /__/ (75)
(Especificar y codificar)

(Fin tarjeta 2)

****

Asistencia Técnica

E1. Cree que es necesario para usted recibir asistencia en la forma de producir café.
1. Si 2. No /__/ (1)

E2. Hay agrónomos que lo han visitado durante los últimos dos años?
1. Si 2. No 3. NS /__/

En los últimos dos años ha recibido asistencia técnica de las siguientes instituciones:

Institución	Promedio de visitas al año (0= ninguna)	
E3. Programa del Café	_____	/__/
E4. FENACAFE	_____	/__/
E5. Ministerio de Agricultura	_____	/__/
E6. Vendedores de Químicos	_____	/__/
E7. Otro _____ especificar	_____	/__/

E8. Há asistido a charlas de asistencia técnica durante los dos últimos años sobre el café?
1. Si 2. No 3. NS /__/

****

Crédito

F1. Ha recibido Ud. algún tipo de asesoría sobre crédito agrícola en los últimos dos años?
1. Si 2. No 3. NS /__/

F2. Ha solicitado Ud. crédito agrícola alguna vez, solo o en grupo?
1. Solo 2. en grupo 3. Los dos 4. No 8 NS /__/ (10)

(Si insiste en no, por qué no? (Anotar) _____

_____

Cúanto crédito ha recibido de los siguientes fuentes durante los últimos dos años? (Si es en grupo, calcular y anotar crédito por persona.)

	Monto (redondear)	Lo usó para café		
F3. Una cooperativa	_____	F4. 0. No 1. Si	(17)	/__/
F5. FENACAFE	_____	F6. 0. No 1. Si	(24)	/__/
F7. B.N.F.	_____	F8. 0. No 1. Si	(31)	/__/
F9. Banco Privado	_____	F10. 0. No 1. Si	(38)	/__/
F11. Intermediario	_____	F12. 0. No 1. Si	(45)	/__/
F13. Comerciante	_____	F14. 0. No 1. Si	(52)	/__/
F15. Prestamista	_____	F16. 0. No 1. Si	(59)	/__/
F17. Familiar Amigo	_____	F18. 0. No 1. Si	(66)	/__/

F19. Cúanto ha pagado usted de interés por el Préstamo? _____ /__/__/

F20. Cúanto estaría usted dispuesto a pagar de interés si él crédito fuera suficiente, oportuno y fácil? _____ /__/__/ (70)

****

Enfermedades de café

Favor de indicar cúales de las siguientes plagas o enfermedades está afectando su cafetal:

G1. La Roya	0. No	1.Si	(71)	/__/
G2. La Broca	0. No	1.Si		/__/
G3. Ojo de Gallo	0. No	1.Si		/__/
G4. Mancha de Hierro	0. No	1.Si		/__/
G5. Minador de Hoja	0. No	1.Si		/__/
G6. Mancha de Hierro	0. No	1.Si		/__/
G7. Aranera	0. No	1.Si		/__/
G8. Taladrador	0. No	1.Si	(78)	/__/

G9. Cúal sería la mejor forma de mejorar su cafetal en su opinión?
(Leer alternativas y sólo marcar una)
1. Renovación por siembra
2. Renovación por recepa y repoblación (79) /__/

(Fin tarjeta 3)

****

Participación y Cooperativas

De las organizaciones que le voy a mencionar, me gustaría que me dijera si asiste a reuniones de ellas, si es miembro de ellas, y si Ud. forma parte de la Directiva de ellas:

Asiste a reuniones de:
Cooperativa de café:

H1. Asiste _____ veces al año (promedio) (00=ninguna vez; 01= una vez) /__/__/
H2. Es miembro? 0. No 1. Si /__/
H3. Es miembro de la directiva? 0. No 1. Si /__/

Asociación agrícola:

H4. Asiste _____ veces al año (promedio) (00=ninguna vez) /__/__/
H5. Es miembro? 0. No 1. Si /__/
H6. Es miembro de la directiva? 0. No 1. Si (8) /__/

Asociación de padres de familia:

H7. Asiste _____ veces al año (promedio) (00=ninguna vez) /__/__/
H8. Es miembro? 0. No 1. Si /__/
H9. Es miembro de la directiva? 0. No 1. Si /__/

Asociación de campesinos:

H10. Asiste _____ veces al año (promedio) (00=ninguna vez) /__/__/
H11. Es miembro? 0. No 1. Si /__/
H12. Es miembro de la directiva? 0. No 1. Si (16) /__/

H13. Omitido /_9/_9/_9/ (19)

H14. Omitido
H15. Omitido

Cúales de los siguiente servicios ha recibido?

H16. Préstamos 0. No 1. Si /__/
H17. Comercialización 0. No 1. Si /__/
H18. Insumos 0. No 1. Si /__/
H19. Educación 0. No 1. Si (23) /__/

****

M1. Ha oído usted sobre cooperativas de café? 1. Si 2. No /__/

M2. En su opinión, hay ventajas en ser miembro de una cooperativa de café
1. Si 2. No /__/

(Sólo para quienes responden que si arriba).

M3. En su opinión, cúales son las ventajas en ser miembro de una cooperativa de café?
(Ojo! No leerle ni mencionarle las ventajas aquí anotadas) (Sólo anotar todos aquellos que la persona mencione) (Utilice código 9 para los que respondan no en la pregunta M2.)

1. Si __ 2. No __ A. Acceso a Crédito (26) /__/
1. Si __ 2. No __ B. Comercialización /__/
2. Si __ 2. No __ C. Asistencia Técnica /__/
2. Si __ 2. No __ D. Insumos /__/
2. Si __ 2. No __ E. Mejores Precios /__/
2. Si __ 2. No __ F. "La unidad hace la fuerza" /__/
2. Si __ 2. No __ G. Exempto de impuestos (32) /__/

M4. En su opinión, cúales son las desventajas en ser miembro de una cooperativa de café?
(Ojo! no leerle ni mencionarle las desventajas aqui anotadas) (solo anotar todos aquellos que la persona mencione)

1. Si __	2. No __	A. Significa un costo (Ej. cuota de membrecia)	/__/
1. Si __	2. No __	B. Pagan precios bajos	/__/
2. Si __	2. No __	C. Desconfianza en administración	/__/
2. Si __	2. No __	D. No dan servicios adecuados	/__/
2. Si __	2. No __	E. Falta de organización (37)	/__/

M5. Le interesa a usted ser miembro de una cooperativa de café? 1. Si 2. No /__/

M6. Por que no es usted miembro de una cooperativa de café?
(Ojo! No leerle ni mencionarle las razones aquí anotadas. Sólo anotar todas aquellas que la persona mencione).

1. Si __	2. No __	A. No tiene título legalizado de propiedad	/__/
1. Si __	2. No __	B. Hay que pasar por demasiados trámites	/__/
2. Si __	2. No __	C. Nunca me lo han pedido	/__/
2. Si __	2. No __	D. Representa un cierto costo	/__/
2. Si __	2. No __	E. Pagan precios bajos por el café (43)	/__/

****

Composición familiar y educación

J1. Sexo del entrevistado: 1. Hombre 2. Mujer (44) /__/

J2. Es usted soltero o casado?
1. Viudo 2. Casado 3.Unión Libre 4.Soltero 5. Divorciado (45) /__/

J3. Cúantos años tiene usted? _____ años /__/__/

J4. Sabe leer y escribir? 0. No 1. Si (48) /__/

J5. Hasta qué grado llegó en la escuela? _____
(no asistió = 0; 1 de secundaria = 7;4 de secundaria = 10, etc.) /__/__/

J6. Cuántos hijos tiene viviendo con Ud. ahora? _____ hijos /__/__/

J7. De estos hijos cúantos le ayudan en su cultivo de café? _____ /__/__/

J8. Cúantas personas permanentes necesita usted para su sembrío de café? _____ /__/__/

J9. De éstos, cuántos son de la familia? _____ /__/__/

J10. Cúantas personas contrata usted para el cultivo del café? _____ /__/__/

J11. Cúantas personas contrata usted para la cosecha del café? _____ /__/__/

J12. Cúanto paga diario usted a los hombres contratados? _____ /__/__/__/
(65)

J13. Cúanto paga usted diario a las mujeres contratadas? _____ /__/__/__/

J14. Cúantos cambia brazos o presta manos utilizó usted los últimos doce meses? _____ /__/__/ (70)

Nivel de Vida

K1. Con qué alumbra Ud?
1. Espermas 2. Lámpara gas o canfin 3. Luz eléctrica (71) /__/

K2. Tiene un radio?	0. No 1. Si	/__/
K3. Tiene un televisor?	0. No 1. Si	/__/
K4. Tiene una máquina de coser?	0. No 1. Si	/__/
K5. Tiene una refrigeradora?	0. No 1. Si	/__/
K6. Tiene servicio?	0. No 1. Letrina 2. Sanitario	/__/
K7. Tiene carro o camión?	0. No 1. Si	/__/
K8. Cómo obtiene el agua?	0. Río 1. pozo público 2. pozo privado 3. llave pública 4. agua potable en casa	/__/
K9. Su casa está dividida en cuartos?	0. No 1. Si	/__/ (79)

****

Muchas gracias, estas son todas las preguntas que tengo.

(Fin tarjeta 4)

Hora de terminar la entrevista ___:___

Ll. Duración de entrevista en minutos ____ /__/__/

Firma del entrevistador_____ código _____ /__/__/

(4)

Observaciones (usar el dorso si es necesario):

(3387G)