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<p>Presents an inventory of data sources on the rural poor of Central America (Costa Rica, Nicaragua, El Salvador, Honduras and Guatemala). The rural poor of these countries refers to subsistence farmers, renters of land, share-croppers, as well as wage laborers on cotton and sugar cane estates. One hundred and fifty-one variables (demographic, economic, agricultural, educational, migrational) are listed, and references to over 300 annotated data sources and their locations are provided. Also includes (1) a list of data sources by country on conditions of estate and plantation workers; (2) a list of data processing facilities by country; and (3) explanatory notes regarding the use of the inventory of data sources.</p>		
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A USER'S INVENTORY OF DATA SOURCES
ON RURAL POVERTY IN CENTRAL AMERICA

Arthur J. Dommen
Agricultural Economist

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"The only thing they [the local politicians] know about campesinos is what they see when they ride by in their big cars."

---A Honduran peasant woman (196, p. 133)

"It's hard doing farm surveys. You have to walk!"

---Dr. Damon Boynton, interview, Turrialba

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INTRODUCTION

The inventory of data sources that follows is the product of a trip through Costa Rica, Nicaragua, El Salvador, Honduras, and Guatemala from February 13 to March 24, 1976. The object of the trip, broadly put, was to find out what we know about the conditions of life of the rural poor---their income, their work, their use of land, their diet, their schooling, their health, their life expectancy, and so forth. There was no expectation of finding one source of information about all these things, for none exists. Nevertheless, various people in their own ways have been investigating one or more of these things and their relationship to each other; the sum total of their research is impressive. A great work of analysis remains to be done, and it is desirable that the generation of data, facilitated by modern means, not be allowed to outrun the work of analysis.

The assignment conjured up at the outset the question: Who are the rural poor? Perhaps the most easily conjured-up vision is of the "subsistence farmer" eking out a living for himself and his family from a milpa on a steep hillside. Indeed, he is part of the picture. His way of life has not changed much from that of his Classical Maya ancestors, who proceeded in the following steps in their cycle of cultivation of corn:

1. Localization of the field;
2. cleaning out of the underbrush;
3. cutting down of the trees;
4. burning of the clearing;
5. sowing the seed;
6. looking after the field;
7. cutting weeds in the field;
8. bending of the stems (in some places);
9. harvesting the early corn (in the ear);
10. harvesting the late corn;
11. putting the corn in storage (and shelling in some places);
12. distribution to family, relatives, and community.¹

The same description of the cycle of crop and occupation could be applied in many places of Central America today. But other groups of people as well have come to be included in the picture of what we talk of as the rural poor. Some are renters of land facing rising land values and rents. Others are sharecroppers facing eviction as agrarian relations change. Some are wage laborers on cotton and sugar cane estates. How well off are they? Some potentially illuminating research is under way, for instance, to test the hypothesis that the wage worker's children have a more adequate diet than the "subsistence farmer's."

John Becker, of USAID/Nicaragua, one of the many people on my trip with whom I discussed the problem of rural poverty, suggested that the problem of escaping from the vicious circle of poverty, insofar as the small farmer is concerned, be looked at in terms of offering him a choice which he now does not have. The idea is an interesting one, I think. The small farmer is constrained by his low ability to bear risk to put more than an optimum proportion of his land, labor and other resources into growing corn and beans, the staple crops of "subsistence agriculture."

In this view, helping the farmer to break out of the vicious circle would involve widening his choice of alternatives, allowing him to vary his cropping pattern from the large amount of corn and beans he has been forced to plant because of his predicament. Such widening of choice might be achieved by making the resources at his disposal more productive, or by making new resources available to him (new plant technology, a government grain stabilization scheme, etc.). This view is entirely consistent with recent theoretical discussions which have tended to look at the "subsistence farmer's" choices in terms of a problem of risk alleviation in the face of severe penalties attached to the wrong decisions.

The collection and analysis of data on the rural poor may help us to compensate for the advantage of long experience which is, after all, the exclusive possession of the "subsistence farmer" and the other members of the rural poor. With them, we may achieve some understanding. The banality "The poor are always with us" applies here, too. The historical perspective afforded by works like David Browning's study of man and land in El Salvador (originally published in English, and now available in a Spanish translation published by an enlightened Ministry of Education, San Salvador) help us better to understand the task confronting men in air conditioned offices in noisy, crowded, and polluted metropolises as they attempt to come to grips with land tenure, servitudes, technology, custom, and other legacies of the not-so-distant past.

This report contains a short note on the methodology followed in compiling the inventory, then the inventory itself, followed by brief notes on sources of data on conditions of estate and plantation workers not otherwise included, land registry, data processing capabilities in the Central American countries, and a recent attempt by SIECA to construct a profile of rural man which has involved as its first step a review of the data sources rather similar to my own effort.

I am grateful for assistance rendered and exchanges of views in the course of my trip on the part of the many people with whom I talked.

¹Medardo Mejía, Historia de Honduras. I: Sociedad Primitiva Precolombina Maya-Tolteca (Tegucigalpa: Editorial Andrade, 1969), p. 83.

II
EXPLANATORY NOTES

What follows is an inventory intended for users of data on the rural poor of Central America. I have chosen to arrange it by variables rather than by sources or their type (fully cognizant of the fact that in doing so I am leaving myself open to criticism of the necessary choice of certain variables for inclusion, leaving others out) for the following reasons: (1) I think it is more functional from the user's point of view; (2) It provides a concise way of conveying a rather large quantity of diverse information with a maximum of understandability; and (3) the method would seem to be susceptible of application to any country or group of countries, and can easily be computerized if judged necessary. Accordingly, in this inventory the variables precede the sources.

None of these variables is intended to be a measure of the condition of rural poverty in and of itself, obviously. While knowing the distance a farm is located from the nearest road may tell us something about the likelihood the family's children go to school (and therefore something about the whole nexus of conditions that ensue from education or lack of it), there may be other more important factors at work in the situation. A knowledge of rural poverty must flow from some combination of the variables.

In general, I have tried to stay as close as possible to defining the variables in their simplest form. Since, however, efficiencies are to be gained from combining "crude"

variables into more meaningful ones based on functional relationships, I have made this combination in some cases. For instance, data on home consumption of product by product by size category of operational holding (for which we need "crude" data on at least two variables) tells us a bit more about well-being of a population than simply home consumption of product per operational holding. Similar observations can be made about food purchases by level of income rather than simply by household, and many other such pairs.

Some of these variables in "crude" form can be used to derive a large number of functional variables (e.g. the cropping pattern variable, properly measured, can give us the percentage of cultivated land under "subsistence" and cash crops, another useful bit of information), so there is a trade-off here. I have attempted to strike a middle course, neither losing many "crude" variables nor cluttering up the inventory with many derived variables of few entries each.

It is a singular paradox that while the ultimate usefulness of this inventory must depend on the deciphering of cause and effect relationships among the variables, great care must be used in attributing cause and effect to the variables listed in isolation. For instance, a rise in the incidence of squatting is not necessarily an indication of a deterioration in social relations, a driving-down to subsistence, a rise in the scale of poverty. For example, in Costa Rica in recent years squatters have come in to lands owned by the banana companies.

There, they often grow vegetables and sell them to the workers on the banana plantations. Squatting is accepted in Costa Rica as the consequence it is of the difficulty of registering land titles legally by individuals. As this example shows, there are several benefits from this process: (1) transfer of use of land from growing bananas for export to growing fresh vegetables in an area of vegetable scarcity; (2) income generation of benefit to otherwise landless families; and (3) improvement in the nutritional status of the banana workers who use part of their salaries to purchase fresh vegetables. Similarly, a rise in the average wage for agricultural labor would not be interpreted as an improvement in the rural poverty situation if it coincides with a sharp reduction in the number of available jobs.

Data relating to observations made of a single primary unit (e.g. one household) have been excluded from this listing.

An inventory of data sources, to be useful, must not simply be a listing of bibliographic or word-of-mouth references, but should be the end product of a careful inspection of data sources for their value. In the inventory which follows I have tried to list only data sources with which I was able, in my all too brief visits to the countries, to familiarize myself personally. I was thus able to weed out references that turned out on inspection to have little real value to the investigator. This procedure has undoubtedly cost me a number of references that might be useful and I express my regret at this situation, unavoidable in the circumstances.

This is an inventory of data sources on rural poverty. The conditions and problems of the urban poor may have different manifestations from those of the rural poor, but as long as governments of the region pursue policies whose end result is the throwing off of the land of agricultural laborers (either due to unthinking subsidization of rapid mechanization or due to laws aimed at converting so-called "feudal" arrangements of provision of meals or loan of plots of land for private cultivation in part or whole payment of work to an all-cash basis¹) we can safely say that the root problem facing the poor in these countries is the same, and no matter what one does to make the urban poor less poor there will always be more of them, given the high rates of increase of the rural poor and the attractions of moving to the cities.

The inventory does not include studies criticizing the methodology of data generation, although some studies along this line are interesting in themselves.²

In the course of my trip I came across many persons, and many persons who know of many other persons, who affirmed they were doing research, to complete their thesis or in some other connection, in the field of rural poverty. Alas, it was not possible to obtain the details of data collection involved in all these efforts, no matter how worthy they seemed. Thus I have, with a single exception, avoided listing theses in process, giving only words of encouragement to their authors.

Furthermore, users are warned to take all references to surveys not actually completed with the usual caution. Currency of all such plans and projects is as of the date of my visit to the source. Surveys are notably subject to the whims of their supervisors and committees of one kind and another. In one instance the relevant questionnaire underwent substantive change between the time of my interview with the man responsible and a re-check I made a few days later.

Mindful of the danger of proliferation of such sources, a very small number of secondary sources have been included in the inventory because they were judged to add a new dimension to the primary data (as was the case with (215), e.g.) and were not simply tabulations or re-tabulations (which are useful when they are designed to make a point and are used as building blocks, but which often only seem to create confusion and sometimes lend an unwarranted authority to weak primary data).

Marketing studies, which in the Central American countries contain much information about the economy of the small farmer's world, have not generally been included. An example of a good study, however, is the one of staple grain marketing in Honduras done by F. F. Slaney and Co. Ltd. of Vancouver for the Canadian International Development Agency (CIDA) and the CONSUPLANE, published in February 1975. Similarly, epidemiological studies in rural areas often throw light on the customs and life styles of small farmers and landless laborers.

By the end of my trip, it became clear I was going to find little or no data on two data series I had included at the out-

set as being of relevance: household savings (V33) and incidence of alcoholism (V124). I took the opportunity of discussing this lack with persons of some experience in the field. Dr. Robert E. Klein of INCAP, Guatemala, probably was stating only the obvious when he said that his socioeconomic research unit had decided not to include a question on household savings in their questionnaires because the subject was too sensitive and might do damage to the rest of the data obtained. Dr. Miguel Guzman of INCAP pointed out to me that it was difficult enough to obtain reliable data on consumption of water (needed, for instance, in studies of intake of micro nutrients) without trying to get reliable data on consumption of alcoholic beverages. That is, the margin of error in the data obtained (depending, one supposes, on who the interviewee is: husband or wife) is simply too great to make the effort worthwhile.

The following are, obviously, either/or pairs of variables:

V37 and V38
V71 and V72 or V73
V79 and V80
V106 and V107
V108 and V109
V129 and V130
V131 and V132

Note also that V73 data may complement V107 data, since household food consumption surveys, even if based on actual measurement, may be restricted to food consumption within the house. Also, V112 has been defined so as to avoid imputation of value of home-produced consumption, always a risky business.

The collection of reliable data on farm-gate prices poses special problems in Central America. Under the prevalent system of marketing there, truckers contract to buy farmers' production ahead of the harvest and often pay in advance as an inducement, a form of credit provision. Lump-sum payments for production of corn and beans are common in Nicaragua while crops are still in the field. They also are used for onions and other vegetables and even for tree crops like avocado pears and mangoes. Actual weighing or other measurement of the quantity of the produce changing hands in these circumstances is almost impossible.

Data on infant mortality (V126) included herein vary considerably in reliability since in the cases of some studies they represent the rate calculated for the entire country population (censuses) and of others for a single village or a village sample (e.g. (122) is for a population of 29).

The references have been given in no particular order, except that they are listed roughly in the order in which they were consulted.

Lastly, let me point out that the inventory cannot pretend to be comprehensive. Others will no doubt be able to think of data sources that should be included, and notice of their additions will be welcomed.

¹As, for instance, a 1965 El Salvador law (Diario Oficial del Gobierno, San Salvador, May 5, 1965) cited by Browning.

²E.g. Albert G. Madsen, "Does El Salvador Agricultural Census of 1971 Reflect Current Size of Farm Characteristics?" San Salvador: USAID, Jan. 1975.

III
THE VARIABLES

Legend

- No underlining signifies a direct question or data responsive directly to the variable.
- x = Can be calculated from data reported in available publication or paper.
- x* = Data apparently recorded but not reported in available publication or paper.

V1 Number of members of household

4, 5, 12*, 13*, 73, 76, 84, 89, 99, 101, 104,
109, 115, 118, 121, 122, 126, 135, 137, 138, 139,
140, 141, 142, 146, 148, 158, 159, 161, 166, 170,
172, 176, 177, 178, 217, 219, 220, 221, 231, 239,
242, 247, 252, 254, 258, 262, 267, 276, 308, 313.

V2 Age composition of the household

5, 13*, 73, 84, 89, 99, 101, 109, 115, 118,
121, 122, 126, 135, 137, 138, 140, 141, 142, 146,
148, 158, 159, 161, 166, 170, 172, 176, 177, 217,
219, 220, 221, 231, 239, 242, 247, 252, 254, 258,
267, 308, 313.

V3 Sex composition of the household

5, 73, 84, 89, 99, 101, 104, 109, 115, 118,
121, 122, 126, 135, 137, 138, 141, 142, 146, 148,
158, 159, 161, 166, 170, 172, 176, 177, 217, 219,
220, 221, 231, 239, 242, 247, 252, 254, 258, 267,
308, 313.

V4 Per cent of self-employed agricultural households in the sample (1)

62*, 76, 104, 135, 137, 142, 146, 159, 161,
216, 222.

V5 Land ownership per household

4, 12*, 13*, 51-59(?), 63, 64, 76, 84, 89,
100, 101, 104, 105, 106, 107, 108, 115, 118, 124,
138, 141, 178, 180(2), 193, 208(2), 221, 239.

V6 Land rented in by household (3)

4, 12*, 13*, 76, 84, 89, 101, 104, 106, 107,
115, 118, 124, 135, 136, 138, 140, 141, 158, 159,
161, 171, 173, 174, 175, 178, 181, 210, 211, 212,
216, 219, 220, 221, 239, 242, 258, 262, 313.

V7 Proportion of operational holding rented in

125, 127, 129, 138, 158, 171, 173, 174, 175,
178, 210, 211, 216, 219, 222, 239, 242, 313.

- V8 Landlord's address (4)
137, 174, 175.
- V9 Absentee landlord?
173.
- V10 Land operated that is communal
262.
- V11 Size of operational holding
4, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42,
43, 44, 60, 62*, 76, 84, 89, 101, 104, 106, 107, 115,
118, 124, 125, 127, 128, 130, 140, 158, 167, 171, 173,
174, 175, 178, 179, 180, 181, 182, 183, 184, 210, 211,
212, 213, 214, 216, 219, 220, 221, 222, 239, 242, 262,
267, 269, 273, 274, 275, 301, 308, 313.
- V12 Land rented out by household
4, 76, 89, 101, 104, 106, 107, 124, 135, 137, 158,
162, 171, 173, 178, 181, 239.
- V13 Estimate of viable size of farm to support one family
65*, 132, 195, 209, 219.
- V14 Number of fragments per operational holding
4, 84, 118, 125(5), 127(5), 128(5), 138, 158, 171,
175, 178, 180(6), 181, 210, 211, 213, 214, 216, 222,
239, 262.
- V15 Ratio of total cultivated land to adult males in the
sample (7)
137, 180.
- V16 Percentage of landless households in the sample (8)
4, 76, 81, 89, 104, 132, 135, 137, 142, 158, 159,
161, 195, 215, 221.
- V17 Number of attached laborers (mozos colonos) per
operational holding
210.

- V18 Land hunger, general description by locality
65*, 75, 132, 195, 306.
- V19 Prevalence of sharecropping, general description
of magnitude by locality
65*.
- V20 Change in prevalence of sharecropping: 5-year
time period, general description of magnitude
by locality
65*.
- V21 Incidence of sharecropping per operational holding
4, 84, 89, 118, 135, 138, 159, 161, 178, 239, 262.
- V22 Prevalence of squatting: general description of
magnitude by locality
65*, 75, 132, 195, 196.
- V23 Change in prevalence of squatting: 5-year time
period, general description of magnitude by locality
65*.
- V24 Incidence of squatting per operational holding
4, 178, 239.
- V25 Passage of land into foreigners' hands: 5-year time
period, general description of magnitude by locality
65*.
- V26 Lack of deeds to attest land ownership: general des-
cription of magnitude by locality or by country
65*, 199.
- V27 Conversion of cultivated land to grazing land:
general description by locality
65*, 191.

- V28 Conversion of farm land to recreational development:
general description by locality
65*.
- V29 Consolidation of small holdings into large holdings:
general description by locality
65*, 195.
- V30 Degree of concentration of landholding
4, 76, 89, 106, 107, 125, 127, 128, 171, 174, 175,
195, 210, 211, 221, 259.
- V31 On-farm storage facilities
101, 120, 130, 136, 221, 262.
- V32 Quantity of staple grain in storage on farm
89, 136, 140, 178(9), 221, 239(9).
- V33 Amount of savings (in money or precious metal) per
household
Nil
- V34 Livestock inventory per operational holding
4, 6, 12*, 13*, 16, 76, 84, 104, 106, 107, 115,
118, 125, 127, 128, 130, 135, 138, 158, 162, 171, 173,
174, 175, 178, 180(6), 181, 182, 184, 210, 211, 212,
214, 216, 220, 221(10), 222, 239, 242, 248, 262, 267,
313.
- V35 Amount of debt per household
12*, 13*, 158, 170, 178, 208(6), 239, 267, 272(6).
- V36 Credit yes/no
12*, 13*, 73, 101, 135, 137, 155, 158, 159, 160,
161, 162, 171, 178, 180, 184, 196, 208, 216(11), 222(11),
239, 242, 262, 267, 269, 271, 273, 274, 275, 308, 313.
- V37 Identification of sources of credit by type
65*, 72, 73, 77, 84, 101, 115, 118, 137, 155,
184, 262.

- V38 Identification of sources of credit by type and amount
7, 125, 135, 136, 158, 159, 160, 161, 171, 178, 180, 208, 239, 242, 267, 308.
- V39 Percentage of houses in community having running water
9, 12*, 13*, 78, 103, 104, 110, 115, 120, 121, 129, 137, 141, 144, 158, 159, 170, 172, 210, 221, 247, 253, 255, 262, 312.
- V40 Percentage of houses in community having flushing toilet
9, 12*, 13*, 103, 104, 110, 115, 120, 121, 129, 137, 141, 144, 146, 158, 159, 170, 172, 178, 210, 221, 247, 253, 255, 262, 312.
- V41 Percentage of houses in community having electricity
9, 12*, 13*, 104, 110, 120, 121, 129, 137, 141, 144, 146, 158, 170, 172, 210, 221, 247, 253, 255, 262, 312.
- V42 Percentage of houses in community having refrigerator
66, 78, 104, 120, 121, 129, 141, 146, 158, 170, 172, 210, 221, 253, 255, 312.
- V43 Source of drinking water
65*, 73, 78, 99, 104, 110, 103, 120, 121, 129, 137, 141, 144, 146, 155, 170, 172, 178, 206, 210, 221, 253, 255, 262, 312.
- V44 Electrification of the community
65*, 73, 110, 115, 120, 121, 129, 144, 155, 172, 221, 247, 253, 255, 262, 312.
- V45 Description of shelter by physical aspect
12*, 13*, 62*, 104, 110, 115, 120, 121, 129, 137, 141, 144, 146, 158, 159, 170, 172, 178, 206, 210, 220, 221, 247, 253, 255, 262, 308.
- V46 Description of shelter by subjective aspect (good, average, bad)
12*, 13*, 65*, 196.

- V47 Intensity of agricultural input use by quantities by crop (all inputs except land and labor)
- 3, 4, 12*, 13*, 30, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 84, 104, 111, 112, 113, 114, 118, 124, 125(12), 127(12), 128(12,13), 131, 136, 138, 158, 167, 173, 178(14), 181, 197, 213, 216, 219, 222, 223, 239, 242, 250, 262, 267, 269, 271, 308, 313.
- V48 Input prices: fertilizer, pesticides, etc.
- 20, 27, 30, 135, 136, 159, 161, 167, 178, 197, 198, 239, 242, 250.
- V49 Irrigated land per operational holding
- 4, 84, 104, 108, 118, 125, 127, 128, 130, 135, 159, 161, 162, 171, 174, 178, 180(6), 181, 210, 211, 213, 216, 219, 222, 242.
- V50 Private or communal irrigation system
- 128, 162.
- V51 Input prices: irrigation charge per unit area
- 84, 118, 135, 136, 162, 178(15), 197, 239(15), 308.
- V52 Input prices: value of land
- 65*, 89, 137, 155, 162, 178, 197, 208, 216, 221, 222, 239, 273.
- V53 Input prices: change in value of land: 5-year time period
- 65*.
- V54 Input prices: land rent
- 84, 89, 101, 118, 124, 132, 135, 137, 140, 141, 155, 158, 159, 161, 178, 197, 216, 220, 222, 239, 308.
- V55 Change in input prices: land rent
- 138
- V56 Input prices: sharecropping rate by crop
- 124, 178, 213, 216, 222, 239, 242.

- V57 Input prices: days of work in payment of rent per unit area
216, 222.
- V58 Input prices: size of private plots whose use is granted to attached laborers (moxos colonos): total size per operational holding
210.
- V59 Input prices: cost of inputs furnished by landlord specified in monetary terms in case of land rent or sharecropping rate
178, 239.
- V60 Input prices: interest rate paid to private money-lenders
7, 65*, 73, 77, 135, 136, 158, 160, 161, 242.
- V61 Hired labor/family labor dichotomy specified
84, 118, 120, 130, 141, 158, 171, 174, 175, 178, 180, 185, 186, 197, 216, 218, 219, 222, 223, 239, 242, 246, 267, 269, 271, 273, 308, 313.
- V62 Permanent/casual hired labor dichotomy specified
130, 158, 173, 174.
- V63 Agricultural labor force per operational holding specified by age and sex, family and hired
125, 127, 128(16), 130, 135, 159, 161, 175, 219, 313.
- V64 Participation in agricultural labor force of members of household (per cent)
5, 13*, 62*, 73, 76, 84, 89, 101, 104, 118, 120, 135, 137, 141, 159, 161, 216, 218, 219, 222, 223, 267, 313.
- V65 Duration of agricultural work by members of household (hours per reporting period)
5, 13*, 49, 62*, 73, 84, 101, 118, 135, 159, 161, 178, 216, 218, 222, 223, 239, 242, 246(17), 250, 313.

- V66 Duration of off-farm work (hours per reporting period)
62*, 73, 135, 137, 158, 159, 161, 178, 216, 218,
 222, 223, 239, 246(17).
- V67 Perceived demand for agricultural wage labor
65*, 73, 84, 118, 120, 130, 155, 195, 313.
- V68 Seasonality of agricultural wage labor
 155, 195, 197, 220, 221, 246, 313.
- V69 Origin of migratory agricultural laborers
 173, 220, 221, 246, 262, 281.
- V70 Estimated labor input requirement coefficient per crop
 48, 99(18), 101(18), 131, 136, 138(18), 158, 160, 162,
178, 185, 186, 197, 216, 218, 219, 222, 223, 239, 250, 269,
 271, 308, 313.
- V71 Input prices: wage rate (undifferentiated)
 5, 13*, 73, 81, 101, 111, 112, 113, 114, 124, 135,
 136, 138, 158, 159, 161, 162, 173, 180, 197, 221, 262,
 267, 269, 271, 300, 313.
- V72 Input prices: wage rate (in cash)
 17, 62*, 65*, 84, 89, 118, 132, 167, 178, 216, 218,
 220, 222, 223, 239, 242, 246, 258.
- V73 Input prices: wage rate (in kind and/or services)
 17, 62*, 65*, 84, 89, 118, 132, 167, 178, 216, 218,
 220, 222, 223, 239, 242, 246, 258.
- V74 Total cost of production
 10, 16, 19, 20, 22, 28, 30, 32, 33, 34, 35, 36, 37,
 38, 39, 40, 41, 42, 43, 44, 45, 60, 74, 90, 91, 92, 93,
 94, 95, 96, 99, 101, 111, 112, 113, 114, 135, 136, 137,
 141, 150, 160, 161, 162, 163, 167, 170, 178, 180, 197,
 239, 250, 260, 267, 273, 299, 313.

V75 Cropping pattern

12*, 13*, 84, 101, 104, 106, 107, 108, 111, 112,
 113, 114, 115, 118, 120, 121, 124, 125, 127, 128, 130,
 132, 135, 136, 138, 140, 158, 159, 161, 162, 167, 170,
 171, 173, 174, 175, 178, 180, 181, 183, 184, 210, 211,
 212, 213, 214, 216, 218, 219, 220, 221, 222, 223, 239,
 242, 248, 249, 250, 258, 267, 274, 275, 308, 313.

V76 Intercropping specified by crop and by area sown
to each crop

125, 127, 128, 132, 136, 167, 174, 181, 210, 211,
 212, 213, 216, 220, 221, 222, 242, 274, 275, 313.

V77 Change in cropping pattern

65*, 124.

V78 Major crops of the community

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V79 Area harvested by crop per operational holding

2, 3, 4, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41,
 42, 43, 44, 101, 104, 106, 107, 124, 125, 127, 128, 130,
 131(19), 132, 135, 136, 138, 158, 159, 161, 162, 173,
 174, 175, 178, 179, 210, 211, 212, 213, 216, 218, 219,
 220, 221, 222, 223, 239, 242, 248, 262, 267, 269(20),
 270(20), 271(20), 274, 275, 313.

V80 Area harvested by crop in aggregate

60, 84, 106, 111, 112, 113, 114, 115, 118.

V81 Number of coffee plants rejuvenated in year of
reference

125, 173, 175, 179.

V82 Age classes of coffee plants

128, 173, 175, 179.

V83 Average yield by crop (unweighted)

2, 3, 4, 30, 32, 33, 34, 35, 36, 37, 38, 39, 40,
 41, 42, 43, 44, 60, 84, 101, 104, 107, 108, 118, 124,
125, 127, 128, 130, 132, 135, 136, 155, 158, 159, 160,
161, 162, 173, 178, 197, 210, 211, 212, 213, 216, 218,
 219, 220, 221, 222, 223, 239, 242, 248, 262, 263, 267,
 273, 274, 275, 308, 313.

- V84 Average yield by crop (weighted by farm size)
4, 12*, 13*, 84, 118, 125, 127, 178, 239, 242.
- V85 Yield variability by crop (time series)
 138, 197, 262.
- V86 Farm-gate prices (non-livestock)
12*, 13*, 21, 33, 34, 35, 36, 37, 38, 41, 42, 43,
 44, 50, 101, 119, 124, 132, 136, 138, 141, 155, 156,
 157, 158, 160, 162, 168, 170, 173, 178, 197, 206, 216,
 218, 220, 221, 222, 223, 239, 248, 256, 265, 267, 308.
- V87 Livestock prices in selected markets
 6, 141.
- V88 Marketing of livestock by selected markets
 6.
- V89 Farm-gate price seasonality by crop or type of
 livestock
 33, 34, 65*, 84, 118, 160, 162, 173, 197, 248.
- V90 Calendar of sales of output by household
 138, 160, 173, 197, 248.
- V91 Farm-gate price variability by crop (time series)
197.
- V92 Farmer's subjective evaluation of riskiness of
 production by crop
 84, 118, 138.
- V93 Farmer's subjective evaluation of previous three
 years as good or bad
 178
- V94 Farmer's subjective evaluation of risk involved in
 "borrowing money for the crops"
 262

- V95 Moisture Availability Index (MAI)
29.
- V96 Distance farm-market
12*, 13*, 101, 108, 121, 122, 141, 173, 197,
242, 249.
- V97 Distance farm-motorable road
178, 239, 242.
- V98 Travel time to the next largest town
65*, 73, 76, 120, 242, 308.
- V99 Farm income (gross or net) specified in monetary terms
16, 20, 62*, 84, 89, 118, 132, 135, 137, 141, 142,
146, 158, 159, 161, 162, 167, 170, 178, 206, 219, 221,
239, 242, 258, 267, 273, 303, 308, 313.
- V100 Major source of farm income identified
125, 135, 140, 159, 161, 162, 167, 170, 178, 221,
239, 242.
- V101 Off-farm income specified in monetary terms
62*, 84, 89, 118, 132, 135, 137, 138, 141, 142,
158, 159, 162, 170, 178, 216, 219, 221, 222, 239, 242,
258, 308.
- V102 Work exchange with neighbors: number of days per year
138, 178, 216, 222, 239.
- V103 Days per reporting period spent in artisanal pro-
duction or fishing
158.
- V104 Days per reporting period spent in small trading
158
- V105 Income (gross or net) earned from handicrafts,
small trading, fishing, etc.
178, 216, 221, 222, 239, 302.

- V106 Home consumption of product by product (kg.) by size category of operational holding
4, 62*, 89, 104, 125(21), 140, 158, 178, 181, 213,
221, 239, 242.
- V107 Home consumption of product per household by product (kg.)
4, 25*, 26*, 62*, 101, 104, 124, 136, 138, 139,
158, 162, 170, 180(22), 197, 220, 258, 267, 308, 313.
- V108 Total expenditure by household for purchased food and fuel, purchased inputs, rent in cash and kind, debt obligations, gifts and donations, and replacement of used-up storage of staples, and animal feed
89, 221(23).
- V109 Same as V108, but only counting cash expenditures
135, 137, 159, 161, 170.
- V110 Proportion of income divided between consumption and production expenses
101, 135, 137, 159, 161, 170, 258.
- V111 Percentage of total household expenditure devoted to purchase of certain groups of foods (e.g. cereals and pulses)
25*, 26*, 101(24), 170, 258.
- V112 Percentage of total income spent for food purchases
62*, 89, 135, 137, 159, 161, 170, 242, 258.
- V113 Estimated income elasticities of demand of rural people for different categories of goods
207.
- V114 Intra-household distribution of food consumption, by food groups, by age group
195.

- V115 Total calories in diet per capita per day by socioeconomic class (however defined)
8(?), 66, 78, 83, 206.
- V116 Total grams of protein in diet per capita per day by socioeconomic class (however defined)
8(?), 66, 78, 83, 206.
- V117 Purchased consumption and home-produced consumption (in kg.)
25*, 26*, 89.
- V118 Total food consumption (kg.) by socioeconomic class (however defined)
62*, 66.
- V119 Frequency of consumption of meat, eggs, milk, fish
62*, 66, 76, 78, 83, 99, 117, 120, 139, 140, 152, 170, 262, 308.
- V120 Purchase prices of foodstuffs
78, 80, 89, 155(25), 158, 220, 221.
- V121 Purchase price of firewood
79, 221.
- V122 Household's awareness of an adequate diet
78.
- V123 Nutritional well-being of members of the household (anthropometry)
8, 11, 46, 66, 98, 152, 153, 154, 164, 165, 169, 201, 202, 203, 204, 205, 277, 314.
- V124 Incidence of alcoholism: general evaluation by locality
73, 103.
- V125 Crude birth rate
31, 68, 104, 120, 121, 122, 126, 135, 137, 143, 159, 161, 166, 172, 176, 217, 231, 252, 254.

- V126 Infant mortality rate
31, 67, 104, 116, 120, 121, 122, 126, 135, 137,
143, 158, 159, 161, 166, 172, 176, 217, 231, 252,
254, 311.
- V127 Number of registered births per reporting period
69, 85, 153, 217, 227, 231, 235.
- V128 Number of registered deaths per reporting period
69, 86, 153, 217, 227, 231, 235.
- V129 Literacy of adults in the household
5, 89, 104, 109, 115, 126, 135, 137, 141, 146,
148, 158, 159, 161, 166, 172, 177, 217, 220, 221, 231,
252, 254, 258, 267.
- V130 Literacy of the head of household only
12*, 13*, 99, 101, 178, 239, 242, 246, 262, 276.
- V131 Highest grade of school attained by each adult in household
5, 84, 89, 104, 109, 115, 118, 126, 141, 146, 148,
158, 159, 161, 166, 172, 177, 206*, 217, 220, 221, 231,
252, 254, 258, 308.
- V132 Highest grade of school attained by the head of household only
62*, 99, 101, 176, 178, 239, 246, 262.
- V133 Percentage of school-going children among girls of 5-14 age group
73, 89, 115, 135, 137, 146, 158, 159, 161, 177,
217, 221(26), 231, 252, 254.
- V134 Perceived need for schooling
12*, 13*, 65*, 82, 99, 137, 158, 159, 196, 221,
225, 229, 237.
- V135 Travel time household-school
146.

- V136 Measure of non-formal education
115, 137, 138, 146, 148, 162, 194, 217, 221,
229, 231, 237, 246, 262, 264, 265, 266, 308.
- V137 Travel time house-fields
221, 308.
- V138 Distance village-town
155, 228, 236.
- V139 Rural-urban migration: 5-year time period,
general description of magnitude by locality
65*, 104(27), 195, 261.
- V140 Rural-urban migration: 5-year time period,
change of place of residence
172.
- V141 Rural-urban migration: 2-year time period,
change of place of residence
126, 141, 158, 166, 170, 217, 225, 231, 234.
- V142 Rural-urban migration: 1-year time period,
change of place of residence
143, 158, 170, 176, 217, 226, 231, 234.
- V143 Rural-urban migration: departure from the
household for what reason
135, 159, 161, 176, 226, 234.
- V144 Rural-urban migration: displacement of the
whole household for what reason
158.
- V145 Rural-rural migration
276, 280.
- V146 Prevalence of cooperatives, campesino organiza-
tions, and/or labor unions
196, 65*, 132, 137, 138, 141, 158, 159, 160, 178,
208, 221, 239, 242, 246, 308.

- V147 Number of new latrines installed per reporting period
69, 151.
- V148 Number of houses improved per reporting period
69.
- V149 Number of water pumps installed per reporting period
69, 151.
- V150 Main type of illness in the family
135, 137, 141, 151, 159, 311, 314.
- V151 Incidence of requirement of modern medical treatment
221.

Footnotes

- 1 If other than 100 per cent.
- 2 Per collectivity.
- 3 Includes all forms of rental arrangements and colonato.
- 4 Permits calculation of incidence of absentee landlordism.
- 5 Within same municipio.
- 6 Per collectivity.
- 7 In cases only where sample represents a meaningful geographic entity, such as a village or community.
- 8 If other than 100 per cent or 0 per cent.
- 9 Proportion of each crop "kept to be sold later."
- 10 Value only.
- 11 For productive use only.
- 12 Manure and fertilizer only.
- 13 Area covered only.
- 14 Home-grown seed and chemical fertilizer only.
- 15 Irrigation and drainage costs aggregated.
- 16 No distinction of sex.
- 17 Household head only.
- 18 Hired labor only.
- 19 Area worked (trabajada).
- 20 Area sown.
- 21 Only for coffee.
- 22 Per collectivity; consumption, storage and waste aggregated under "consumption and other."
- 23 Investigator omitted to get data on number of agricultural laborers employed, but says he could get these data retrospectively.
- 24 Purchased foods listed, but no total household expenditure data elicited.
- 25 Bottled milk only.
- 26 Children aged 6-16.
- 27 Only in case the person(s) moved from one municipio to another.

IV
THE SOURCES

Legend

QI = Questionnaire included.
QNI = Questionnaire not included.

1 manzana = 0.69 hectare

1. Costa Rica. Ministerio de Economía, Industria y Comercio. Dirección General de Estadística y Censos. Segundo Inventario de las Estadísticas Nacionales, República de Costa Rica, 1970. San José, 1972.
2. _____. Encuesta Agrícola por Muestreo - 1969: Arroz, Frijol, Maíz. San José, Sept. 1969.
Co-ordinated by Banco Central de Costa Rica. Coverage: national. Time frame: agricultural year 1 May 1968 - 30 April 1969, and forecasts for the following agricultural year. Method: direct interviews of farmers. Sample: chosen from the following populations: "fincas grandes o especializadas" (100 per cent sample), and "fincas pequeñas (mayores de una manzana)". All data tabulated by "zonas," viz. "lechera; cultivos permanentes; cereales y ganadería."
3. _____. Encuesta Agrícola por Muestreo en las Regiones Agrícolas de Costa Rica, 1971: Arroz, Frijol, Maíz. San José: Aug. 1972.
Coverage: all census farms in country except those less than 0.7 ha., those located in census zones with less than 40 per cent rural population, and those located in Talamanca District (hab. Indians, difficult of access). Time frame: agricultural year 1 May 1971 - 30 April 1972. All data were tabulated by six "agricultural regions." Sample: chosen from the following populations: "fincas especiales" (100 per cent sample), farms with less than 7 ha. rice and corn, less than 3.5 ha. beans (two-stage sampling process except for Pacífico Seco where three stages used; no per centage given, but appears to have been 1:20). Method: interviews of farmers.
4. _____. Censos Nacionales de 1973. Agropecuario. Regiones Agrícolas. San José, June 1975.
National census results. Time frame: agricultural year 1 May 1972 - 30 April 1973 except for some questions which refer to day of interview. Method: interviews of farmers. Data are tabulated by country as a whole and by seven "agricultural regions." QI.
5. _____. Censos Nacionales de 1973. Población. San José, 2 vols., Dec. 1974 and April 1975.
National census results. Time frame: 14 - 19 May 1973. Tabulates participation in work force according to all persons of age 12 or more who worked at least one hour during the week of 7 - 12 May 1973. Defines literacy to be the ability to read and write a simple paragraph in any idiom. QI.
6. _____. Encuesta Pecuaria por Muestreo - 1970. San José, Sept. 1970.
Time frame: 1 April 1970.

7. Marco A. Escribano C. Crédito Rural: Algunos Aspectos. Instituto de Fomento y Asesoría Municipal (IFAM) and Acción Internacional Técnica, División de Acción Internacional (sic.) . San José, Dec. 1975.
Survey of a sample of 372 comunidades in 27 cantones in three regions of Costa Rica. Method: interview with questionnaire. Sample was stratified by population size of the comunidad as follows: (1) pop. less than 500; (2) pop. 501 - 2,000; (3) pop. more than 2,000.
8. J. Valverde and J. Quirós. Encuestas Nacionales en Costa Rica. Instituto Interamericano de Ciencias Agrícolas de la OEA, 1972.
A survey of food consumption and anthropometry for children 7-14 in 6 areas of Costa Rica. Includes food consumption and anthropometry for children aged 7-14.
9. Instituto de Fomento y Asesoría Municipal (IFAM) and Acción Internacional Técnica (AITEC), División de Acción Internacional. Estudio de Servicios Basicos en 30 Cantones. Parte I: Resumen General. San José, Sept. 1974.
Sample survey based on interviews in 453 comunidades in 30 cantones using (65). Data are not on computer tape.
10. Luis Fernando Escalante Soto. Análisis Económico del Costo de Producción de Frijol (Phaseolus Vulgaris L.). Unpublished thesis for Faculty of Agronomy, University of Costa Rica, 1974.
Sample survey of 257 operational holdings growing frijol selected from 6 provinces of Costa Rica (not including Heredia).
11. Instituto de Nutrición de Centro América y Panamá (INCAP). Oficina de Investigaciones Internacionales de los Institutos Nacionales de Salud (EEUU). Ministerio de Salubridad Pública. Evaluación Nutricional de la Población de Centro América y Panamá: Costa Rica. INCAP V-28. N.p., 1969.
A sample survey based on a 0.27 per cent sample of the total population of Costa Rica, divided into San José and non-San José. Techniques used included clinical nutritional examination of 4,065 persons, anthropometric measurements and description of the environment. Time frame: April - June 1966. See also (243).
12. Rafael Angel Rodriguez Picado. Bases para la Planificación del Desarrollo Pecuuario del Pacífico Sur. Unpublished thesis for Faculty of Agronomy, University of Costa Rica, 1973.
Survey of 917 fincas representing 7.14 per cent in the region of Pacífico Sur, Costa Rica. Method: interviews of farmers using questionnaire. QI.
13. Fernando Antonio Rivera Rodriguez. Estudio de la Problemática Agrícola del Pacífico Sur de Costa Rica y Bases para la Planificación de Su Desarrollo. Unpublished thesis for Faculty of Agronomy, University of Costa Rica, 1973.
Survey of 917 fincas representing 7.14 per cent in the region of Pacífico Sur. Method: same as (12) although question-

14. Costa Rica. Ministerio de Trabajo y Bienestar Social. Estudio Socio-Económico de la Región Noreste de Guanacaste. San José, July 1967.
Sample survey of both urban and rural population. The results would seem to have been rendered obsolete by the 1973 census.
15. "Balance de Recursos Alimenticios de la Población de Costa Rica, Disponibilidad y Necesidades, Según Calorías, Proteínas, Vitamin A, y Hierro de los Productos por Regiones Programáticas de Salud, Provincias, Cantones y Distritos."
Food balance sheets for Costa Rica, disaggregated down to district level, consisting of computer printout sheets.
16. Costa Rica. Ministerio de Agricultura y Ganadería. Análisis Económico de la Producción Lechera en la Zona de Monteverde, Puntarenas, 1970-1971. (Mimeographed bulletin)
Study of 14 dairies in the Santa Elena region. Time frame: July 1970 - June 1971. Method: interviews with operators.
17. Centro de Estudios Laborales Centroamericano. Análisis Comparativo sobre Sistemas de Salarios y Beneficios Sociales del Sector Azucarero en Centroamérica. Estudio No. 6. N.p. (San José?), 1975.
Tabulated data on wages of sugar cane field workers in each country of Central America and Panama. See also (71).
18. V. M. Esquivel Benavides. Análisis Económico del Costo de Producción de Maíz (Zea Mays L.). Unpublished thesis, University of Costa Rica, 1974.
19. J. Osborne, G. Alfaro, J. Craig Tinney, F. A. Villalobos. Estudio de Costos de Producción de Arroz, Pacífico Seco, Zona de Sardinal, 29 Fincas. San José: Ministerio de Agricultura, Departamento de Economía y Estadísticas Agropecuarias, Nov. 1974. (Mimeographed bulletin)
Time frame: July - Oct. 1973.
20. Banco Crédito Agrícola de Cartago, Sección de Tasaciones. Manual de Costos Básicos de Actividades Agropecuarias 1973. Cartago, 1973.
Contains cost of production data for a long list of crops.
21. S. Kenneth Shwedel, agricultural economist, unpublished list of farm-level potato prices in the main Cartago market, by weeks, Aug. 1974 - Oct. 1975.
22. Gregorio Alfaro Arguedas and Edwin Marín Torres. Costos de Producción de Café en Costa Rica. San José: Oficina del Café, 1968.

23. Hernán Andueza Acuña. Estudio Agro-Económico del Cultivo del Tabaco en Costa Rica. Unpublished thesis for the Faculty of Agronomy, University of Costa Rica, 1957.
24. Mario Córdoba L. Estudio Agro-Económico de 22 Fincas de Zaragoza de Palmares. Unpublished thesis for the Faculty of Agronomy, University of Costa Rica, 1958.
25. Instituto de Fomento y Asesoría Municipal (IFAM). Estudio sobre el Mercadeo de Alimentos y la Remodelación del Mercado Municipal en el Cantón de Puriscal. San José: IFAM, Programa Integral de Mercadeo Agropecuario, Serie Investigaciones 216. 1974.
A study of distribution and marketing of food in a market town 45 kms. southwest of San José based on interviews with 145 households (including rural) and 87 merchants. The report only summarizes the data on income and consumption, which are on questionnaires as of the present.
26. . Estudio sobre el Mercadeo de Alimentos, la Remodelación del Mercado Municipal y la Terminal de Autobuses en el Cantón de Naranjo.
Similar study as (25), this one for a market town northwest of San José.
27. Costa Rica. Ministerio de Agricultura y Ganadería. Departamento de Economía y Estadística Agropecuaria. Boletín Estadístico Agropecuario.
Quarterly bulletin. Contains input prices by "agricultural regions." Reliability of data reported to be doubtful.
28. Gregorio Alfaro, Kenneth Krause, Craig Tinney, and Arturo Villalobos F. Estudio de Costos de Producción de Yuca en la Zona Norte, Zona de San Francisco de la Palmera. San José: Ministerio de Agricultura y Ganadería, Departamento de Economía y Estadísticas Agropecuarias, June 1974. (Mimeographed bulletin)
Study based on interviews with 29 growers, average size of holding 22.8 manzanas. Time frame: 1973.
29. George H. Hargreaves, Utah State University. Computer printouts by country showing Moisture Availability Index (MAI) for meteorological stations with time series of recorded data.
Professor Hargreaves' work has been done under Contract No. AID/ta-c-1103. By March 1976, MAI will be available for all the Central American countries based on data from reporting stations ranging from 5 to 30 years' running.

30. Gregorio Alfaro, Roberto Pacholke, Rodrigo González and Fred Purdy. Estudio de Costos de Producción de Arroz en el Pacífico Sur, Zona de Parrita, Mayo-Octubre 1971. San José: Ministerio de Agricultura y Ganadería, Departamento de Economía y Estadísticas Agropecuarias, Nov. 1972. (Mimeographed bulletin)
Study based on interviews with 26 rice farmers, average size of holding 44 manzanas.
31. Costa Rica. Ministerio de Economía, Industria y Comercio. Dirección General de Estadística y Censos. Estadística Vital - 1972. San José.
32. Costa Rica. Ministerio de Agricultura y Ganadería. Departamento de Economía y Estadísticas Agropecuarias. Análisis Agroeconómico del Maíz en la Region de Cartagena, Canton de Santa Cruz, Guanacaste. San José, Sept. 1971. (Mimeographed)
Study of 11 farms, average size 22.5 manzanas. Gives yield range.
33. _____. Estudio Agroeconómico del Cultivo de la Papa en la Region de Zarcerero. San José, June 1972. (Mimeographed)
Study of 29 farms, average size 17.3 manzanas. Time frame: May - Oct. 1971. Gives yield range.
34. _____. Estudio Agroeconómico de Cultivo de la Papa en la Region de Cartago. San José, June 1972. (Mimeographed)
Study of 28 farms, average size 26.6 manzanas. Time frame: Oct. - Nov. 1971.
35. Gregorio Alfaro, Roberto Pacholke, Rodrigo González and Fred Purdy. Estudio de Costos de Producción de Okra en el Pacífico Sur, Region de Puerto Cortés. San José: Ministerio de Agricultura y Ganadería. Departamento de Economía y Estadísticas Agropecuarias, Sept. 1972. (Mimeographed)
Study of 12 farms, average size 27.0 manzanas. Time frame: Nov. 1971 - May 1972.
36. Costa Rica. Ministerio de Agricultura y Ganadería. Departamento de Economía y Estadísticas Agropecuarias. Estudio de Costos de Producción del Cultivo de Chayote en el Canton de Paraíso, Cartago. San José, June 1972. (Mimeographed)
Study of 10 farms, average size not given. Time frame: Feb. - May 1972. Gives yield range.
37. Gregorio Alfaro, Oscar Calle, J. Craig Tinney and Arturo Villalobos F. Estudio de Costos de Producción de Arroz en la Region del Pacífico Seco, Zonas de Liberia, Carrillo y Santa Cruz, 36 Fincas. San José: Ministerio de Agricultura y Ganadería. Departamento de Economía y Estadísticas Agropecuarias, Nov. 1973. (Mimeographed)
Study of 36 farms, average size 28.3 manzanas. Time frame: April - Dec. 1972. Gives yield range.

38. Gregorio Alfaro, Lusk F. Robinson, Arturo Villalobos and J. Craig Tinney. Estudio de Costos de Producción de Papa en la Region de San Carlos - Sarapiquí, Zona de Zarcero, 30 Fincas. San José: Ministerio de Agricultura y Ganadería. Departamento de Economía y Estadísticas Agropecuarias, Nov. 1973. (Mimeographed)
Study of 30 farms, average size 23.6 manzanas. Time frame: Oct. 1972 - March 1973.
39. Gregorio Alfaro, Arturo Villalobos, Robert Pacholke, J. Craig Tinney and Peggy S. Barlett. Estudio de Costos de Producción de Frijol en la Region Meseta Central Oriental (Cartago), Zona de Puriscal, 51 Fincas. San José: Ministerio de Agricultura y Ganadería. Departamento de Economía y Estadísticas Agropecuarias, Aug. 1973. (Mimeographed)
Study of 51 farms, average size 12.4 manzanas. Time frame: April - Nov. 1972.
40. Gregorio Alfaro, Robert Pacholke, J. Craig Tinney, Peggy S. Barlett and Arturo Villalobos. Estudio Económico de Costos de Producción de Maíz en la Region Meseta Central Oriental, Zona de Puriscal, 63 Fincas. San José: Ministerio de Agricultura y Ganadería. Departamento de Economía y Estadísticas Agropecuarias, Sept. 1973. (Mimeographed)
Study of 63 farms, average size 11.5 manzanas. Time frame: April - Nov. 1972. Gives yield range.
41. Gregorio Alfaro, Robert Pacholke, Richard Burke, J. Craig Tinney and Arturo Villalobos. Estudio de Costos de Producción de Maíz en la Region Meseta Central Occidental, Zona de San Rafael de Ojo de Agua, 30 Fincas. San José: Ministerio de Agricultura y Ganadería. Departamento de Economía y Estadísticas Agropecuarias, July 1973. (Mimeographed)
Study of 30 farms, average size 6.2 manzanas. Time frame: May - Dec. 1972. Gives yield range.
42. Gregorio Alfaro, Robert Pacholke, Richard Burke and Arturo Villalobos. Estudio de Costos de Producción de Frijol en la Region Meseta Central Occidental, Zona de San Rafael de Ojo de Agua, 30 Fincas. San José: Ministerio de Agricultura y Ganadería. Departamento de Economía y Estadísticas Agropecuarias, July 1973. (Mimeographed)
Study of 30 farms, average size 6.2 manzanas. Time frame: Sept. - Dec. 1972.
43. . Estudio de Costos de Producción de Arroz, Zonas de Orotina, Labrador, Santa Rita y Jaco, 25 Fincas. San José: Ministerio de Agricultura y Ganadería. Departamento de Economía y Estadísticas Agropecuarias, June 1973. (Mimeo.)
Study of 25 farms, average size 94.8 manzanas. Time frame: June - Dec. 1972. Gives yield range.

44. Gregorio Alfaro, Robert Pacholke, Arturo Villalobos and Jesús A. Hernández R. Estudio de Costos de Producción de Arroz en el Pacífico Seco, Zona de Liberia, Guanacaste, 32 Fincas. San José: Ministerio de Agricultura y Ganadería. Departamento de Economía y Estadísticas Agropecuarias, May 1973. (Mimeographed)
Study of 32 farms, average size 91.6 manzanas. Time frame: May - Dec. 1972. Gives yield range.
45. Banco Central de Costa Rica. Departamento de Crédito de Desarrollo. Grupo Interbancario para Estudio de Avíos. Estimated detailed costs of production for cabbage, papa, sorghum, tobacco, yuca, plátano, cotton, frijol, rice, corn, sugar cane. (Mimeographed)
46. Ian Rawson. "Nutrition Research Project in San Ramón, Costa Rica." Unpublished summary interim report, Costa Rica, May 1974.
47. 1963 Population and Housing Census, Costa Rica.
48. Tenencia de la Tierra y Desarrollo Rural en Centroamérica. San José: Editorial Universitaria Centroamericana, Educa, 1973.
A volume of analysis with some tabulated data.
49. 1955 Census, Costa Rica.
50. 1963 Agricultural Census, Costa Rica.
51. Costa Rica. Instituto de Tierras y Colonización. Estudio Regional de la Zona Norte de Costa Rica. San José, 1966.
52. _____. Estudio Regional de la Zona Atlántico Norte de Costa Rica. San José, 1966.
53. _____. Estudio Regional de Paraíso, Ujarras, Urasca. San José, Dec. 1970.
54. _____. Estudio de Tenencia de la Tierra en la Provincia de Limón. San José, Jan. 1972.
55. _____. Estimaciones sobre Tenencia y Uso de la Tierra y Tamaño de la Parcela Familiar en el Valle Central. San José, March 1970.
56. _____. Estudio de la Región de Upala. San José, May 1964.
57. _____. Estudio de Uso y Tenencia de la Tierra en el Cantón de Jiménez. San José, Aug. 1973.

58. _____. Estudio de las Reservas Indígenas Boruca Terraba y China Kicha. San José, 1963.
59. _____. Estudio de las Reservas Indígenas de Salitre. San José, June 1966.
60. Heraclio A. Lombardo. Análisis de una Economía Agrícola dentro de la Meseta Central de Costa Rica. San José: Instituto Interamericano de Ciencias Agrícolas (IICA), 1965.
A survey of a rural community near Cartago, mixed small farmers.
61. S. Matmana-Medina. Encuestas Socioeconómicas en Zonas Agrícolas Seleccionadas de los Países Centroamericanos: Resultados y Análisis. Mexico, D.F.: Instituto Universitario Centroamericano de Investigaciones Sociales y Económicas, 1964(?).
62. Victor Hugo Céspedes S. Costa Rica: La Distribución del Ingreso y el Consumo de Algunos Alimentos. San José: Publicaciones de la Universidad de Costa Rica, Serie Economía y Estadística No. 45, 1973.
A national sample survey based on interviews with 3,100 families. QI. Financed by AID.
63. Costa Rica. Oficina de Catastro. Ministerio de Obras Públicas y Transportes.
64. Costa Rica. Ministerio de Hacienda. Registro Público de la Propiedad.
65. Convenio IFAM-AITEC. Instituto de Fomento y Asesoría Municipal. Estudio del Regimen Municipal, Servicios Básicos. Boleta.

The use of this questionnaire was explained by Jeffrey A. Ashe, AITEC Costa Rica, San José. This questionnaire has been applied in 860 comunidades in 57 rural cantones of Costa Rica, using a technique of collective interviews. The principal focus is on the infrastructural aspects of the rural people's well-being, but the questionnaire is very comprehensive and detailed, generating such primary data as wage rates and remuneration in kind prevalent in the community, product price variability, villagers' attitudes to problems, and some aspects of agrarian relations.

As a methodological document explains, the purposes of the survey include:

"To interview in a group persons who are locally considered to be knowledgeable about the community, instead of interviewing individuals selected by a sampling procedure. The time necessary for interview was thus reduced to three or four hours per community. An effort was made to include individuals from different social and economic levels in the group.

"To solicit opinions from the interviewees (with respect to the problems faced by the community, obtaining credit, state of health, marketing) and to make use of these in the analysis. These would supplement information obtained by more objective means as to the infrastructure in the community. It is assumed that the members of the community are capable of interpreting important aspects of their surroundings.

"To collect data on all aspects of the community's situation, sacrificing detail in order to arrive at a broader picture. With a good view of the general situation the specific needs and projects can be efficiently chosen. Later, on the basis of these data, detailed studies for each specific project can be carried out.

"To tabulate the data by hand, using simple means and avoiding heavy computer costs. . . It has thus been possible to edit a first report of analysis only three months following the completion of field work."

66. Costa Rica. Ministerio de Salud Pública. Unpublished national sample survey of nutrition, 1975.
This survey gathered data on: (1) anthropometric measures, (2) dietary habits, and (3) presence of a refrigerator in the house.
67. Costa Rica. Ministerio de Salud Pública. Departamento de Estadística. Mortalidad Infantil según Distritos y Cantones. San José, Jan. 1975.
Contains tabulated data for the years 1970 and 1973.
68. _____ . Mortalidad Bruta y Natalidad según Distrito. San José, March 1975.
Contains tabulated data for the years 1970 and 1973.
69. Costa Rica. Ministerio de Salud Pública. Questionnaire.
A monthly record kept by each of the approximately 80 health posts attached to the ministry throughout the country.
70. Costa Rica. Ministerio de Trabajo. Labor force survey, forthcoming 1976.
71. Centro de Estudios Laborales Centroamericano. Análisis Comparativo sobre Sistemas de Trabajo y Precio en la Rama de los Bananeros. San José, 1975.
Same type of investigation as (17). Covers all the Central American countries. As explained by an official of the Centro, the data contained in this publication were derived from review of contracts and reports of labor union leaders who attended a seminar on the subject of collective bargaining between labor unions and banana companies. A draft of the tabulated data was circulated to correspondents in all the countries covered, who made the necessary corrections and changes. It was published after further editing in the Centro.

72. Nick Amarteifio. "Agricultural Credit: The Role of Financieras and Prestamistas." Unpublished paper, Associated Colleges of the Midwest (ACM), San José, 1969.
Study based on interviews with borrowers and lenders. This paper and those that follow through (83) were made available for consultation through the kindness of Dr. Ridgway Satterthwaite, Program Director, ACM, San José.
73. Peggy Barlett. "The Use of Time in a Costa Rican Village." Unpublished paper, ACM, San José, 1969.
Study by an anthropology student of a village of 450 inhabitants in Nicoya, Guanacaste. Time frame: Sept. - Nov. 1968. Includes census of families, land use map of village, discussion of the village economy including inter-family exchanges, and a one-week-long time-motion study of the eight household members with whom she lived.
74. Jonathan Buswell and Robert F. Voertman. "Costos de Mano de Obra y Rumbo de Estos Costos para Diferentes Técnicas del Cultivo de Maíz en Costa Rica - Muestreo ACM/CAFP 1967." Unpublished paper, ACM, San José, 1967.
Reliability of original data not clear.
75. T. Edmund Downing and E. Jean Matterson. "Squatters: A Form of Spontaneous Colonization in Costa Rica." Unpublished paper, ACM, San José, 1965.
A study of squatters on two private farms in San Carlos and Nicoya. Time frame: Nov. 1964 - July 1965. Contains discussion of the legal procedure for titling land. Contains tables, map of Costa Rica showing density of squatter population. Contains text of a typical rental contract signed by squatters. QI.
76. Decky Fiedler. "The Patron - Peon System in Guanacaste - The Dissolving Bargain." Unpublished paper, ACM, San José, 1969.
A study of labor relations in a village in Nicoya, Guanacaste. Contains diet information for two families for one week. Also contains information on non-productive expenditure for two families.
77. Peter L. Goedecke. "Suppliers of Inputs as Sources of Agricultural Credit in Costa Rica." Unpublished paper, ACM, San José, 1969.
A study based on interviews.
78. Dinny Gottlieb. "Nutrition and Food Preparation in Santiago de Puriscal and Grecia." Unpublished paper, ACM, San José, 1974.
A study based on intensive interviews with 25 rural families in each locality. Time frame: Feb. - April 1974. QI. Uses INCAP conversion factors.

79. Nancy F. Jones. "The Use of Cooking Fuel in Costa Rica." Unpublished paper, ACM, San José, 1974.
80. Ellen O'Malley. "A Comparison of the Utilization of Locally Available Food Plants and Medicinal Plants in the Towns of Santiago de Puriscal and Grecia." Unpublished paper, ACM, San José, 1974.
Time frame: Feb. - April 1974.
81. Guita Modak. "The Rural Labor Situation in Part of Perez Zeledon." Unpublished paper, ACM, San José, 1973.
Interview study. QI.
82. Carol Sue Nordengren. "The Family of Marino Chaves Fernandez in San Rafael de Puriscal." Unpublished paper, ACM, San José, 1968.
83. Susan Sanborn. "The Nutritional Status of Children in Santiago de Puriscal and Grecia." Unpublished paper, ACM, San José, 1974.
This appears to be the other half of the survey described in (78).
84. CATIE/ROCAP Project Questionnaire. "Encuesta Preliminar a Pequeños Agricultores en la Region de _____, Costa Rica." Information was supplied by Dr. Damon Boynton, Project Principal Adviser, Turrialba, Costa Rica. The project falls into the category of those aimed at increasing productivity of small farmers by research into means for change in the cropping systems they follow. Baseline data are obtained by interviews with samples of small farmers using this questionnaire. Considerable care goes into the selection of the samples, for the aim is to cover as broad a range of agroclimatic and agro-socioeconomic conditions as possible. Desired sample size is 80 farmers. This questionnaire has already been used in pilot surveys. A follow-up series of surveys are planned to extend over a three-year period. Data processing will be carried out at the computer center of the Centro Agronómico Tropical de Investigaciones y Enseñanzas (CATIE) at Turrialba for this survey and for others planned under the project in other countries of Central America. The data are the property of the host governments, the project personnel working by prior agreement with personnel from various agencies of these governments or institutions in these countries. See also (118).
85. Birth Certificates, Costa Rica, 1968 - 1971.
86. Death Certificates, Costa Rica, 1968 - 1971.
87. Banco Central de Nicaragua. Ministerio de Economía, Industria y Comercio. Censos Nacionales 1971. Población. Vol. I. Características Generales. Vol. II. Características Educativas. Vol. III. Características Económicas. Managua, Oct.

1974. Población por Municipio. Vol. I. Características Generales. Managua, March 1975.
National census results. Time frame: April 20, 1971.
Questionnaire printed separately.
88. _____. Vivienda. Managua, Oct. 1974.
National census results. Time frame: April 20, 1971.
Questionnaire printed separately.
89. Nicaragua. Ministerio de Agricultura y Ganadería. División de Planificación Sectorial. Agropecuaria. Censo Nacional Agropecuario. Cuestionario para la Encuesta de Ingresos y Empleo Rurales. Managua, 1976.
Time frame: May 1975 - April 1976, except for stock questions which refer to week of interview. Being applied on a rotating regional basis.
90. Robert M. Finley. Analysis of Ajonjolí Production in Nicaragua: A Detailed Study of Cost and Returns. Columbia, Missouri: University of Missouri, Jan. 1974.
Sample: 55 farms producing sesame.
91. _____. Analysis of the Production of Frijoles in Nicaragua: A Detailed Study of Cost and Returns. Columbia, Missouri: University of Missouri, Jan. 1974.
Sample: 220 farms.
92. _____. Analysis of Livestock Farms in Nicaragua: A Detailed Study of Costs and Returns. Columbia, Missouri: University of Missouri, March 1974.
Sample: 160 farms.
93. _____. Analysis of Maize Production in Nicaragua: A Detailed Study of Costs and Returns. Columbia, Missouri: University of Missouri, Dec. 1973.
Sample: 293 farms.
94. _____. Analysis of Arroz Production in Nicaragua: A Detailed Study of Costs and Returns. Columbia, Missouri: University of Missouri, Feb. 1974.
Sample: 60 farms.
95. _____. Analysis of Sorgo Production in Nicaragua: A Detailed Study of Costs and Returns. Columbia, Missouri: University of Missouri, Feb. 1974.
Sample: 94 farms.
96. Philip F. Warnken. Production Costs and Returns for Major Agricultural Products of Nicaragua: Data Tables for 1972 and 1975. Columbia, Missouri: University of Missouri, Feb. 1975.
97. Nicaragua. Instituto Nacional de Comercio Exterior e Interior (INCEI). Boletín Informativo.
A monthly bulletin containing monthly prices to farmers,

- averaged, each for corn, beans, rice, and industrial sorghum.
98. Instituto de Nutrición de Centro América y Panamá (INCAP). Oficina de Investigaciones Internacionales de los Institutos Nacionales de Salud (EEUU). Ministerio de Salubridad Pública. Evaluación Nutricional de la Población de Centro América y Panamá: Nicaragua. INCAP V-27. N.p., 1969.
Sample size: 3,477 individuals, or 0.21 per cent of the total population of Nicaragua. Time frame: Jan. - March 1966. See also (243).
99. Nicaragua. Comité Nacional Agropecuario. Unidad de Análisis Sectorial. Encuesta Social a Nivel de Jefe de Familia.
A sample survey of 1,500 rural household heads. Time frame: 1973.
100. Nicaragua. Ministerio de Economía. Oficina de Catastro. Cadastral records in Nicaragua exist only for the Pacific side of the country.
101. Nicaragua. Comité Nacional Agropecuario. Unidad de Análisis Sectorial. Encuesta Socio Económica de la Empresa Agropecuaria. Aspectos Agrícolas.
Time frame: 1 May 1971 - 30 April 1972.
102. Nicaragua. Ministerio de Economía. Dirección de Estadística y Censos. Crecimiento de la Población Nicaragüense. Managua: Boletín de Información, Jan. - Feb. 1953, Vol. 1.
103. Nicaragua. Unidad de Análisis del Sector Salud. Questionnaire.
Time frame: Oct. 1975.
104. Nicaragua. Oficina Ejecutiva de los Censos. Manual del Enumerador. Censos Nacionales 1971. Vivienda, Población, Agropecuario. Managua, 1971.
Contains questions asked.
105. _____. Landholding survey, begun 23 Feb. 1976.
Sampling technique: area frame sample. Sample size: 20 per cent of segments in country.
106. Nicaragua. Ministerio de Economía. Dirección General de Estadística y Censos. Censos Nacionales 1963. Agropecuario. Características Generales de las Explotaciones Agropecuarias por Departamentos y Municipios. Managua, March 1966.
The results of the first census of agriculture. Time frame: 25 April 1963 - 31 May 1963. Data cover the agricultural year 1962 - 1963. Maps for corn, cotton, coffee, cattle. QNT.

107. Nicaragua. Ministerio de Economía. Dirección General de Estadística. Oficina Central de los Censos. Encuesta Agropecuaria Preparatoria para el Censo General Agropecuario Año Agrícola Mayo 1951 - Abril 1952. Forma EAP-3. Questionnaire.
Sample survey of 51,581 fincas of more than one manzana. No questions on form of land tenure or agricultural labor. Time frame: April 1952.
108. Nicaragua. Dirección General de Ingresos. Registro de Tasación Rural. Forma DV-H. Modificada el 8 de noviembre 1971.
109. Nicaragua. Ministerio de Economía. Dirección General de Estadística y Censos. Censo General de la Población de la República de Nicaragua. Mayo de 1950. Volumen XVII. Informe General y Cifras de la República de Nicaragua. Managua, Aug. 1954.
Census results.
110. Nicaragua. UNASEC. Two surveys on community and social infrastructure. One was for cabeceras municipales and the other for localidades.
111. Nicaragua. Ministerio de Agricultura y Ganadería. Centro de Gestión Agrícola. El Club de Agricultores de Pacayita. El Ciclo Agrícola de 1974. Managua, Feb. 1975.
This study and the ones through (114) were done by French coopérants of the Grupo de Gestión Rural (Farm Management Group) and their Nicaraguan counterparts in the ministry as part of a program of training. Paper written by Ing. Hubert Rischmann. Place: a community in the department of Masaya.
112. _____. Informe sobre el Grupo Agrícola de Boaquito: "La Unión". Managua, Aug. 1975.
Study written by Ing. Sergio Carot and Agr. Javier Matus Lazo.
113. _____. Informe sobre la Cooperativa Maria Auxiliadora Apompoa. Managua, March 1975.
Study report written by Ing. Gérard Barbeau and T. Ad. Francisco Guzmán Iglesias.
114. _____. Las Cuentas de la Cooperativa "La Unión" Ciclos 70/71. 71/72. 72/73. 73/74. Managua, Oct. 1974.
Study report written by Ing. Hubert Rischmann.
115. Nicaragua. Ministerios de Agricultura, Educación y Salud Pública. PRODESAR. Segunda Etapa 1976 - 1978. Plan Anual de Trabajo. Documento No. 4. Managua, Jan. 1976.

Contains results of a benchmark sample survey, "Estudio Socio-Económico de las Comunidades del PRODESAR." Sample size: 9,009 rural households in the departments of Masaya, Granada, Carazo and Masatepe. Average household size: 5.99. Literacy level of sample: 57 per cent. Questionnaire contains questions on radio listening and type of program listened to, which could be a measure of non-formal education.

116. Nicaragua. Unidad de Análisis del Sector Salud. Estudios de Morbilidad y Mortalidad. Managua, 1975.
These are unpublished tabulations in the hands of the U.A.S.S.
117. "Consumo Promedio de Alimentos entre Familias y Preescolares del Area Rural de Nicaragua - Resultados Obtenidos por el Método de Registro diario de 3 días." Unsourced table (unpublished INCAP data? GAFICA/FAO data?) found in a type-written report "Informe del Diagnóstico del Componente de Nutrición en el Sector Salud de Nicaragua; Documento Preliminar Sujeto a Revisión del Comité Técnico Específico de INCAP." (1975?)
118. CATIE/ROCAP Project Questionnaire. "Encuesta a Pequeños Agricultores de la Region de _____, Nicaragua." Feb. - March 1976.
Questionnaire used in a sample survey of 40 small farms in San Ramón and 40 others in La Trinidad, both in the department of Matagalpa. (Information supplied by Dr. Oscar Hidalgo, Ministerio de Agricultura y Ganadería, Managua.) Field work completed in February 1976. Data are to be sent to CATIE, Turrialba, Costa Rica, for processing. Plans are to carry out a similar survey in an area of Zelaya in 1977. See also (84).
119. Fundación Nicaragüense de Desarrollo (FUNDE). Office files.
120. Catherine Grace Strachan. A Nutritional Assessment of Pre-school Children in Rural Nicaragua. Yale University Master's Report, 1971.
An intensive study of the village of Tonalá, 20 miles from Chinandega. Contains good description of houses and environment of the village.
121. Robert S. Bell, Randall S. Kuhlmann and Ivan B. Schaller. Health Care in the Orinoco Region, Nicaragua. 2 Feb. 1976. (Mimeographed)
A study of the village of Orinoco in Zelaya. Q1. Good discussion of the difficulty of obtaining meaningful answers to standard questionnaire queries on births, deaths, etc.

122. David A. Tomb. Demographic and Health Survey of Selected Miskito Indian Villages in Eastern Nicaragua. N.d. (Mimeo.) Study of 139 households in 4 villages using questionnaire.
123. Nicaragua. Ministerio de Economía, Industria y Comercio. Banco Central de Nicaragua. Oficina Ejecutiva de los Censos. Censos Nacionales. 20 Abril 1971. Agropecuario. Cifras Preliminares Recuento Manual. Boletín No. 2. Managua, March 1972.
 This is the only published volume of results of the 1971 census of agriculture, the second such census. As the introduction points out, a post-enumeration sample survey revealed non-sampling errors of 33 per cent, 34 per cent, and 42 per cent, respectively, in the data series on number of farms, area, and livestock inventory. The present volume contains, therefore, "adjusted" figures. There is general agreement that the results of the first census of agriculture (taken in 1963) (see (106)) were considerably more reliable than those of 1971. Officials at the census office attribute the existence of errors of significant magnitude in the 1971 census to a desire to proceed too rapidly, use of too many enumerators, and insufficient attention to the training of enumerators. The raw data, unedited, are on tapes at the census office. The reporting unit was changed from "unidad de explotación" within the same comarca in 1963 to "unidad de explotación" within the same municipio in 1971.
124. Encuesta Agrícola Granos Basicos (Primera Siembra 1974 - 75). Producción y Costo de Producción.
 Sample survey. Sample size: 2,500 farms. Data collected on corn, sorghum, beans, dry and wet rice Time frame: early crop 1974 - 1975.
125. El Salvador. Ministerio de Economía. Dirección General de Estadística y Censos. Tercer Censo Nacional Agropecuario 1971. Volumen I. Características a Nivel Nacional, Departamental y Municipal. San Salvador, Oct. 1974.
 Results of third census of agriculture, aggregated. Unit of reference: operational holding regardless of number of fragments and tenure. Contains some aggregated comparisons with second census of agriculture (127). Time frame: agricultural year 1 May 1970 - 30 April 1971 except for inventory questions which refer to 22 Aug. 1971. Method: interview of the operator or of someone who is identified as working on the operational holding. Q1. Income data restricted to a general question dealing with sales of types of products, although it is not clear from the explanatory notes whether "products" is meant to include household labor used off the farm. With respect to V14, the question asked yes/no if worked fragments in other municipios, and if yes, names of others and cross-reference numbers to question aires in those municipios, an improvement in methodology over (127).

126. Cuarto Censo Nacional de Población 1971. Volumen I. Características Generales. Características Educativas. Fecundidad. San Salvador, Dec. 1974.
Results of the fourth population census, aggregated. Time frame: 28 June 1971 - 12 July 1971 in rural areas. QI. Contains questions on birth place and residence two years previous.
127. Segundo Censo Agropecuario 1961. San Salvador, Dec. 1967.
Census results aggregated. Unit of reference: operational holding regardless of number of fragments and tenure. Time frame: 1 May 1960 - 30 April 1961 except for inventory questions which refer to 5 June 1961. Method: interview of the operator or of someone who is identified as working on the operational holding. QI. Includes two questionnaires: one marked A-F1 for the operator or someone identified as working on the holding, and one marked A-F2 for "productores que hayan trabajado una o más parcelas en calidad de colonos." With respect to V14, the questionnaire asked yes/no if he worked fragments located in other municipios as well.
128. Primer Censo Agropecuario. Octubre, Noviembre, Diciembre de 1950. San Salvador, Oct. 1954.
Census results, aggregated. Unit of reference: operational holding regardless of number of fragments or land tenure. Time frame: agricultural year 1 May 1949 - 30 April 1950. QI.
129. Tercer Censo Nacional de Vivienda 1971. San Salvador, Dec. 1974.
Census results, aggregated. Unit of reference: household. Time frame: 28 June 1971 - 12 July 1971. QI.
- 130 El Salvador. Ministerio de Agricultura y Ganadería.
and Dirección General de Economía Agropecuaria. División de
131. Estadísticas Agropecuarias. Encuesta para Determinación de Insumos Agropecuarios. Questionnaires.
Use of the questionnaires was explained by Lic. Manuel Vasquez Ramos, Ministerio de Agricultura y Ganadería, San Salvador. The country is divided into 500 segments, stratified by 10 types of predominant land use, using for this purpose aerial photographs. From these, a rotating sample of segments is selected at random for construction of an open segment area frame sample. The investigation then proceeds in two phases with use of questionnaires: (1) an investigation of structural data, using (130); (2) an investigation of input use per crop (called "estudio de casos"), using (131).
In the first phase, the unit of reference is the operational holding, disregarding number of fragments and land tenure. Accordingly, in (130) there are no questions on land tenure; cropped and non-cropped areas are disaggregated by cropping season. Questions on use of hired labor (permanent and casual) by season and by type are good.

In the second phase, which involves selection of a sub-sample, the unit of reference is the crop cultivated per cropping season by one cultivator. It is considered undesirable to include the same operational holding in the sub-samples selected more than once because of the problem of interviewee fatigue. In (131) the questions on labor utilization by cropping operation are particularly good. The questions about man-hours of labor per unit area per crop are separated into three levels of technology: tractor power, animal power, and man power.

Time frame: agricultural year 1975 - 1976.

A mimeographed publication has been issued: Encuesta Piloto San Rafael Obrajuelo; Ensayo del Sistema de Muestreo de Probabilidad de Area. San Salvador, Feb. 1975. This explains the pilot survey. QI.

Advocates of the method of area frame sampling (muestreo de probabilidad de área) maintain that it is suitable for the construction of valid samples for the collection of socioeconomic data even in the countries of Central America with their highly heterogeneous pattern of cultivation. No opinion is offered here on this matter. It is suggested, however, that close attention be paid to recent experience in the Dominican Republic, where the method has been tried. It is clear that area frame sampling, where the means (maps or aerial photographs) exist, provides a direct, relatively inexpensive, and easily controllable (at least with respect to area) method of sampling on a continuing basis, features that make it more attractive than the method of sample construction from lists of households which tend to get out of date between censuses due to migration and other factors. If the area frame sampling method can yield valid samples for collection of socioeconomic data, it would seem highly desirable to make use of it on a more extensive basis.

132. Allen LeBaron and Associates. Investigation of the Social and Economic Aspects of the Proposed Tenure and Production Program. Report No. 1. Findings of the Field Survey and Productivity of Target Families. (Preliminary, typewritten draft) Logan, Utah(?), June 1975.

An informative study of agrarian relations in El Salvador based on intensive interviewing of a stratified sample of 58 households from representative regions of the country. Interview form contained 77 questions. From census data, the authors calculate that the percentage of households of landless laborers (what they call "tenureless" laborers) is 37 per cent in Usulután Department, 35 per cent in La Paz, and 31 per cent in La Libertad Department (vs. national average of 25 per cent), giving some idea of the concentration of landholding in these provinces. The study documents the rise in land values and rents in the densely populated rural areas and the increase in the numbers of landless laborers over time. Poverty here is not manifested by low per capita gross income. The small renter may be in a worse predicament than the landless laborer (see the distribution

of gross income for a sample of households in La Libertad Department given under reference (137), below.

This study contains some tabulated data on farm budgets and household consumption, which are unfortunately inadequately explained. Some graphed data on attitudes toward work, children, cooperative membership, etc. are also poorly explained.

133. Albert G. Madsen and Mark H. Karns. Consumption Patterns of Selected Rural Families in El Salvador. San Salvador: USAID Food and Agriculture Division, Jan. 1975. (Mimeo.)
A study based on interviews with 500 vegetable producers.
134. Mark H. Karns, Albert G. Madsen and Ricardo Molina. An Intensive Study of Rural Consumption in El Salvador. San Bartolomé Perulapía, Department of Cuscatlán, El Salvador, November 1974. San Salvador, Dec. 1974. (Mimeographed)
135. El Salvador. Ministerio de Agricultura y Ganadería. Dirección General de Obras de Riego y Drenaje. Departamento de Estudios. Sección de Agroeconomía. Investigación Socioeconómica. Questionnaire.
Survey based on interviews with household heads. Samples chosen from families in 10 minor irrigation projects scattered throughout El Salvador. Field work completed and data in process of analysis. Time frame: Sept. - Oct. 1975.
136. _____. Estudio Agroeconómico de las Propiedades Incluidas en el Area del Proyecto de la Zona Costera. Questionnaire.
Survey based on interviews with cultivators, taking the operational holding as the reference unit. Questions framed in terms of "present cropping season," "previous cropping season," etc. Very good on labor utilization requirement per crop per operation. Time frame: Sept. - Oct. 1975. Data in process of analysis.
137. _____. Investigación Socioeconómica, Distrito de Riego y Avenamiento No. 1 Zapotitán. Febrero de 1971. San Salvador, n.d.
Browning's book gives the history of the distribution of the hacienda of Zapotitán, begun in 1943. It is not altogether clear from this study what relationship the area and its people bear to the original distribution, but the scope of the study covers an irrigated area of 4,580 ha. in La Libertad Department containing 598 households, of which 11.2 per cent are owner-operators, 41 per cent renters of one type or another, 31.9 per cent landless laborers, 10.2 per cent non-agriculturalists, and 5.7 per cent other. Time frame: calendar year 1970. Method: interviews with heads of households. QI. The stated aim was to obtain information on: demographic aspects of households, levels of health, education and employment, character of housing and possessions, well-being of households in relation to income, expenditure, and cost of living, media

exposure, and social participation.

Because of the heavy incidence of land renting and landlessness in the sample area, the data in this survey throw some light on the relative well-being of various categories of rural households. The following distribution table, assembled from these data, is an illustration (two separate stubs are required because of the manner in which the data are presented in the source):

NUMBER OF PERSONS IN SAMPLE BY CATEGORY
OF GROSS FAMILY INCOME PER YEAR
(COLONES)

Gross Family Income	Owner- Operators	Renters	Gross Family Income	Landless Laborers
0-500	1	13	0-500	10
500-1,000	12	53	500-750	30
			750-1,000	65
1,000-1,500	11	51	1,000-1,250	15
1,500-2,000	8	41	1,250-1,500	15
2,000-2,500	8	25	1,500-1,750	14
2,500-3,000	2	13	1,750-2,000	17
3,000-3,500	5	10	2,000-2,250	5
3,500-4,000	3	9	2,250-2,500	5
			2,500-2,750	3
			2,750-3,000	3
			3,000-3,250	5
			3,250-3,500	0
			3,500-3,750	3
above 4,000	10	23	above 3,750	0

Source: compiled from Tables 37 and 38.

Note: 2.5 Colones = US\$1

The distribution of per capita income showed a similar pattern.

138. Jesús Avilío Gutiérrez Tula. Diffusion of Hybrid Corn Technology: The Case of El Salvador. Unpublished Ph.D. dissertation, University of Wisconsin-Madison, 1975.

The writer gathered data by interviews from a country-wide sample of 303 farmers, average farm size 2.66 ha. Time frame: 1973(?). Q1. Includes questions on listening to agricultural extension programs on the radio. Also questions asked interviewees to classify years as good, bad, or average, and to estimate corn yields expected from each, and to forecast frequency distribution in coming ten years.

139. Albert G. Madsen y Mark Karns. Patrones de Consumo de las Familias Rurales Seleccionadas en El Salvador. San Salvador, Jan. 1975. (Mimeographed)
Spanish translation of (133). Data tabulated by size of household. Uses INCAP conversion factors for foods for estimating protein and calorie equivalents.
140. . Un Estudio Intensivo de Consumo Rural en El Salvador: San Bartolomé Perulapía, Departamento de Cuscatlán, Noviembre 1974. San Salvador, Jan. 1975. (Mimeographed)
Spanish translation of (134). A study of 16 families based on data recorded in families during 30 days. Questionnaire used but not included.
141. José Abilio Orellana Zelaya. Determinación de Niveles de Vida en Familias Cubiertas por Extensión Agrícola en Tonacatepeque. Unpublished thesis for the Facultad de Ciencias Agronómicas, Universidad de El Salvador, Oct. 1967.

Study of a sample of 35 cultivator families selected from 352 families covered by the extension service in Tonacatepeque, situated 16 kms. northwest of San Salvador. Time frame: 20-30 June 1967; crop and livestock sales 12 months previous to interview. Method: interview of heads of families. QI. Data were collected in following fields: demography, change of residence, occupation, income, land tenure, education, housing and possessions, means of transport, health and hygiene, public services, social participation.

After collecting his data, the writer applied the following formula to each data series (which he attributed to: G. Collazo-Collazo, J. Rios, and Ch. Ramsey, "Development of a Level of Living Scale for Puerto Rico Rural Families," Rio Piedras: University of Puerto Rico, Agricultural Experiment Station Bulletin No. 156, 1960.):

		posesión		
		si	no	
ingreso	alto	a	b	
	bajo	c	d	de donde

$$\phi = \frac{ad - bc}{(a+b)(c+d)(a+c)(b+d)}$$

where a, b, c, d are number of families having the characteristic. He then correlated ϕ with income and ranked the characteristics by degree of correlation.

142. El Salvador. Comisión Nacional de Población y Dirección General de Estadística y Censos. Muestra Nacional de Hogares. Encuesta de Mano de Obra. San Salvador, n.d.
Questionnaire. National sample survey of 3,600 urban and 2,800 rural households. First round: 1975. Two further rounds planned for 1976.

143. Muestra Nacional de Hogares. Encuesta de Migración Interna y Fecundidad. San Salvador, n.d.
Questionnaire. National sample survey of 3,600 urban and 2,800 rural households. First round: 1975. Two further rounds planned for 1976.
144. Muestra Nacional de Hogares. Características Generales de la Vivienda. San Salvador, n.d.
Questionnaire. National sample survey of 3,600 urban and 2,800 rural households. First round: 1975. Two further rounds planned for 1976.
145. El Salvador. Consejo Nacional de Planificación y Coordinación Económica (and) Dirección General de Estadística y Censos. Diseño de la Muestra Nacional de Hogares. Serie de Muestreo Publicación No. 2. San Salvador, Nov. 1975.
A methodological document.
146. El Salvador. Ministerio de Educación. Oficina de Planeamiento y Organización (ODEPOR). Análisis Sectorial de la Educación. Documento Estadístico de Trabajo No. 3. Estimaciones de Resultados de la Prueba Nacional de los Estudiantes de Educación Básica y Estimaciones de Factores Sociales, Económicos y Culturales de Sus Hogares - Basadas en una Sub-Muestra de Estudiantes. San Salvador, n.d.
Gives results of a large-sample survey of primary school students including from rural households. Time frame: Oct. 1974. QI. Contains questions on diet, exposure to media.
147. El Salvador. Consejo Nacional de Planificación y Coordinación Económica (and) Dirección General de Estadística y Censos. Algunas Características Educativas de la Población Salvadoreña. San Salvador, Jan. 1976.
Gives some results of (146) and some comparisons with 1971 census data.
148. El Salvador. Ministerio de Educación. Oficina de Planeamiento y Organización (ODEPOR). Análisis Sectorial de la Educación. Documento Estadístico de Trabajo No. 1. Resultados Estadísticos de la Encuesta de Audiencia. Muestreo por Cuotas. San Salvador, Nov. 1975.
Gives results of a large national sample survey of heads of 5,315 urban and 1,934 rural households dealing with exposure to media.
149. El Salvador. Comisión Nacional de Población y Dirección General de Estadística y Censos. National family budget sample survey, forthcoming.
Planned to take place in 1977. Questionnaire designed.

150. Banco de Fomento Agropecuario. Costos de Producción 1976-77. San Salvador. (Typewritten report)

Contains costs of production of: maíz (semilla, comercial, criollo), maicillo (tecnificado, criollo), frijol (solo, asociado), arroz, algodón, ajonjolí, sandía, melón, papa, cebolla, tomate, chile, cítricos, plátano (siembra, comercial), caña de azúcar (para establecimiento, para comercio).

151. El Salvador. Ministerio de Salud Pública y Asistencia Social. Questionnaire.

The health posts of the ministry forward data on a regular basis on the following data series: morbidity, new water pipes installed, new water outlets installed, new latrines installed, clinical measurement of nutrition.

152. U.S. Public Health Service, Center for Disease Control. Centro de Investigaciones de Enfermedades Tropicales en América Central (CIETAC)/Central American Research Station (CARS). Unpublished large-sample survey of nutritional status of La Paz Department, El Salvador.

Information was supplied by Dr. Fred Trowbridge, Plantel del I.V.U., San Salvador. Data collected at 120 sample sites. Time frame: Jan. - Feb. 1976. Sampling method: random sample using probability proportional to population (including both urban and rural). Anthropometric and diet data. Data in process at CDC, Atlanta. First results expected to be available at end of April 1976.

One of the purposes of this study was to test the hypothesis that a significant regional difference in incidence of malnourished children exists in La Paz Department. Clinical data of the Ministry of Public Health (see (151)) dating from 1972, 1974, and 1975 had revealed a systematic variation: people living in the hill belt in the north, a region of small "subsistence" farms with poor communications, showed a higher incidence of malnourished children than those living in the southern, coastal belt, a region where the main source of livelihood is wage labor on the cotton and sugar cane estates, and an even higher incidence of infant malnutrition than those living in the middle belt. The difference was thought to be attributable to the existence of the Coastal Highway, which runs east-west through the center of the middle belt; because of this highway and its feeder roads, no family living in the middle belt is distant more than 15 minutes by car from a government health post. (The data for 1973 were thrown away because the ministry had fallen so far behind in tabulating work. The data for 1972, 1974 and 1975 were punched on cards and sent to CDC, Atlanta for analysis.) Finding of non-significant difference would cast doubt on the value of recording clinical data as the ministry does now.

153. _____. Unpublished study of nutritional status of a population in La Libertad Department, El Salvador.
Information supplied by Dr. Trowbridge. This is an intensive study of 5,000 people living in the Toluca area of La Libertad. The population is under intensive demographic surveillance; births and deaths are registered, investigators track people's movements on a monthly basis. The survey will serve as a test of field methods comparing clinical measurements of malnutrition with anthropometry.
154. _____. Unpublished study of seasonal changes in the nutritional status of a population in La Libertad Department, El Salvador.
Information supplied by Dr. Trowbridge. Random sample of pre-school children selected from the same population as (153). Time frame: nutrition status is to be studied at the following intervals: June 1975, Sept. 1975, Dec. 1975, and March 1976. The study is expected to reveal the seasonal variation of malnutrition in children, if any, resulting from the fact that the population lives in an area of large cotton and sugar cane estates which provide wage labor at harvest time (October - January) and therefore concentrate the flow of income of landless laborers, possibly unbalancing their flow of expenditure on foods for family members.
155. El Salvador. Ministerio de Agricultura y Ganadería. Dirección General de Obras de Riego y Drenaje. Departamento de Estudios. Sección Agroeconomía. Formulario para Estudios de Comunidades.
Questionnaire used for preliminary study of communities where the ministry proposes to initiate irrigation and drainage projects. Used in 1975 in Chalchuapa - Atiquizaya.
156. El Salvador. Banco Central de Reserva. Unpublished data.
Typed sheets containing national average farm-gate prices, annually for 1950 - 1966.
157. El Salvador. Ministerio de Agricultura y Ganadería. Oficina Sectorial de Planificación Agropecuaria.
Reportedly has farm prices. Not verified.
158. Programa de Fomento y Cooperación Comunal por Esfuerzos Propio y Ayuda Mutua (FOCCO). Investigación sobre la Situación Económica y Social de las Familias Rurales en El Salvador. Comisión Nacional de Desarrollo Comunal, Proyecto ELS/73/003 Naciones Unidas, San Salvador, Oct. 1975.
Questionnaire. Method: interview with heads of households. Unpublished data. Time frame: agricultural year 1 May 1974 - 30 April 1975. Question on possession of a radio, but this alone was considered insufficient to be a measure of non-formal education. Sample size: 2,000 households distributed nationally.

159. El Salvador. Ministerio de Agricultura y Ganadería. Dirección General de Obras de Riego y Drenaje. Departamento de Estudios. Sección Agroeconomía. Investigación Agro-Socio-Económica, Proyecto Atiocoyo, Julio 1972. San Salvador, 1972.
 Report of a study based on interviews with heads of 619 households affected by an irrigation/drainage project on 3,668 ha. in Atiocoyo Department. Time frame: field work 17 July 1972 - 9 Aug. 1972 (22 enumerators), manual tabulation of data 10 Aug. 1972 - 9 Sept. 1972 (12 persons). This is a mixed farming area, growing corn, sorghum, rice and vegetables.
160. Investigación sobre Servicios de Apoyo a la Producción, Distrito de Riego y Avenamiento No. 1, Zapotitán. San Salvador, Aug. 1972.
 Despite title, this study contains valuable information on costs of production, prices, opinions of small farmers, flows to market, income, credit, labor input requirements, and so forth. The study is based on interviews with 412 cultivators. Time frame: field work 17 Sept. 1972 - 30 Sept. 1972 (7 enumerators), manual tabulation of data 2 Oct. 1972 - 18 Nov. 1972 (8 persons). See also (137).
161. Investigación Agro-Socio-Económica, Proyecto Sonsonate - Banderas. Agosto 1973. No. 5. San Salvador, Aug. 1973.
 Study based on interviews with heads of 1,198 households in a sugar cane and cotton growing coastal area of 8,040 ha. in Sonsonate Department, of which 5,054 ha. are irrigated. Time frame: field work, 23 July 1973 - 24 Aug. 1973 (12 enumerators), manual tabulation of data 27 Aug. 1973 - 28 Sept. 1973 (12 persons). QI.
162. Investigación Agro-económica, Proyecto de Riego y Avenamiento Sonsonate - Banderas. No. 6. San Salvador, Aug. 1973.
 Study based on interviews with 77 cultivators farming a total of 6,196 ha. (77 per cent of area of the project) in same general area as (161). A note states that more than one-quarter of this area was planted to sugar cane on a rental basis and at time of study no one was available to be interviewed. Time frame: field work 24 July 1973 - 11 Aug. 1973 (6 enumerators plus 1 supervisor), manual tabulation of data 28 Aug. 1973 - 26 Oct. 1973 (3 persons). QI. Questions refer to "present cropping season" and "previous cropping season."

163. El Salvador. Ministerio de Agricultura y Ganadería. Oficina Sectorial de Planificación Agropecuaria. Costos de Producción de Granos Básicos y Cultivos Tradicionales de Exportación. San Salvador, May 1975. (mimeographed)
 Costs of production of corn (3 levels of technology), sorghum (3 levels of technology), frijol (different crops), rice (3 levels of technology), coffee (3 levels of technology), cotton, and sugar cane (2 levels of technology).
164. Catholic Relief Services. Pre-School Malnutrition in Rural El Salvador. San Salvador, Jan. 1975. (Typewritten).
 Information supplied by Steve Otto, CRS, San Salvador. A study of 213 pre-school children in 5 rural communities in Santa Ana Department, El Salvador, based on anthropometric data. Analysis of the data revealed an incidence of 45 per cent of second and third degree malnutrition. The results compared unfavorably with the 1965 INCAP nutrition study of El Salvador (see (277)). The communities sampled were not particularly disadvantaged, however, in terms of their environment or history; in fact they had had the benefit of two or three years of the presence of village-level nutrition workers.
165. _____. Study of nutrition status of pre-school children, forthcoming.
 A study of a nation-wide sample of 2,250 children aged 4 years or less. Sample to be at least three-quarters rural. Data collection to start in March 1976 and to last two years. Method: recordings of body weight only to be made at six-month intervals in total of 45 centers (32 regular MCH centers plus 13 villages that have been in the nutrition education program supported for some time by CRS). Recordings to be made by a special team using a special scale, thereby ensuring control.
166. El Salvador. Ministerio de Economía. Dirección General de Estadística y Censos. Tercer Censo Nacional de Población 1961. San Salvador, June 1965.
 Census results. Time frame: 2 - 16 May 1961 in rural areas. QNI.
167. Instituto Interamericano de Ciencias Agrícolas de la OEA. Centro de Enseñanza e Investigación. Turrialba, Costa Rica. Cuestionario. Encuesta sobre Ingresos de los Negocios Agrícolas en la Zona del Proyecto de Riego y Drenaje de la Cuenca Baja del Río Grande de San Miguel, Usulután, El Salvador.
 Questionnaire. Time frame: 15 Feb. 1967 - 15 Feb. 1968.

168. Honduras. Ministerio de Recursos Naturales. Dirección de Planificación Sectorial. Departamento de Economía Agrícola y Estadísticas Agrícolas. Questionnaire.

Information supplied by Lic. Jorge Hernán Galéas, DEAEA, Comayagüela. Use of this questionnaire, complete with instructions to the extension agents who are expected to fill it out and forward it to the ministry on a monthly basis, represents a major effort to collect farm-gate prices. It has been under way on a trial basis since Aug. 1975. Prices are obtained by asking farmers what were the maximum, minimum, and most frequently observed prices during the month. Questionnaire lists corn, beans, sorghum, and rice, and leaves space for listing other crops. The price questions have been added to the production questionnaire. Here, all crops are categorized by three levels of technology: "tradicional," "semi-tecnificada," and "tecnificada." The first means no use of machinery, chemical fertilizer, improved seed, or pesticides. Data series refer to area sown to each crop, estimated area of crop failure, area already harvested, and area to be harvested; expected yield, and total production expected, aggregated for the area of the extension agent's responsibility. No attempt is made to identify cultivators. A final question in this section refers to the month in which most of each crop is expected to be harvested. The reliability of the data collected by this survey would seem to be subject to the usual caveats about using extension agents as investigators.

169. Instituto de Nutrición de Centro América y Panamá (INCAP). Oficina de Investigaciones Internacionales de los Institutos Nacionales de Salud (EEUU). Ministerio de Salud Pública y Asistencia Social. Evaluación Nutricional de la Población de Centro América y Panamá. Honduras. INCAP V-29. N.p., 1969.

A multi-faceted survey based on a 1.8 per cent sample of the total population of Honduras, divided into San Pedro Sula as "representative of the urban population" and other localities said to be representative of the "rural population." Techniques used included clinical nutritional examination of 3,654 persons, 17 different anthropometric measurements, and description of environment. Also a biochemical study of a sub-sample. Also two questionnaire methods of diet study applied to 5 families in each of what I deduce to be 28 localities representative of the "rural population." Time frame: Sept. - Nov. 1966.

Diet data were collected by (1) recordatorio de 24 horas and (2) método de registro de 3 días.

The smaller sample size involved in the diet component of the survey has led observers to deduce that those data are less reliable than the biochemical and clinical-anthropometric data generated. Criticism has been made of the preparation, training and supervision of the field interviewers. The volume, which forms one of a series (see also 243), is unfortunately weak on discussion of methodology chosen and sample construction.

170. Honduras. Secretaría de Economía y Hacienda. Dirección General de Estadística y Censos. Consejo Superior de Planificación Económica. Instituto de Investigaciones (Ministerio de Trabajo). Instituto de Investigaciones Económicas (Facultad de Economía, Tegucigalpa). Banco Central de Honduras. Encuesta de Presupuestos Familiares. Questionnaire.

A questionnaire used in a national sample survey of 1,760 households, rural and urban. Time frame: April 1967 - April 1968. Method: the questionnaire was applied to an "informante." Also it identified the head of the household. Food purchases detailed for each day of one week. For rural households, the questionnaire gets data on production and disposal, including home consumption.

"It is probably the most comprehensive and precise socio-economic study of the Honduran family to date." (Bastiaan Schouten, written comment, June 1975)

According to (309), the preparation and field work alone cost \$63,000 and involved about 27 man-year equivalents of qualified personnel, of which 21 man-years were spent in interviewing.

The methodology is described in C. E. Osorio, Investigación por Muestreo de Ingresos y Gastos de las Familias en Honduras, unpublished thesis for Facultad de Ciencias Económicas, Universidad Nacional Autónoma de Honduras, 1969.

See also (187).

171. Honduras. Secretaría de Economía. Dirección General de Estadística y Censos. Censo Nacional Agropecuario 1974. Questionnaire.

This is the third agricultural census. Method: interview of the operator of the holding (la finca censal) with notation of relationship of informant to operator if other. Time frame: 1 May 1973 - 30 April 1974. Land tenure classes in Honduran censuses are discussed in a separate note at the end of this inventory. The results of this census are expected to be published "in two or three months." One volume of preliminary tabulations has been published: Ministerio de Economía, Dirección General de Estadística y Censos. Tercer Censo Nacional Agropecuario Agosto 1974. Cifras Preliminares. Maíz, Frijol, Arroz y Maicillo: Superficie Sembrada y Producción. Ganado Bovino y Porcino. Por Departamento y Municipio. Tegucigalpa, Jan. 1975.

172. Honduras. Ministerio de Economía. Dirección General de Estadística y Censos. Censo Nacional de Población y Vivienda Marzo de 1974. Questionnaire.

This is the population census. Time frame: March 1974. A volume of preliminary results has been published: Secretaría de Economía. Dirección General de Estadística y Censos. Censo Nacional de Población y Vivienda Cifras Preliminares. Tegucigalpa, Jan. 1975.

173. Honduras. Secretaría de Economía. Dirección General de Estadística y Censos. Instituto Hondureño del Café. Censo Nacional Cafetalero 1973. Questionnaire.
Method: interview of operator of coffee-producing holding. Time frame: agricultural year 1972 - 1973. Data series inventories refer to coffee crop only, except for cropping pattern. Harvest and sales data disaggregated by month. Wages specified in terms of quantities harvested. This is a very detailed questionnaire.

174. Honduras. Secretaría de Economía y Hacienda. Dirección General de Estadística y Censos. Segundo Censo Agropecuario 1965 - 66. N.p., n.d.
This is the published volume of the results of the second agricultural census. Method: interview of the operator of the holding. Time frame: 1 May 1965 - 30 April 1966. QI. Contains a very clear set of instructions to enumerators.

175. Honduras. Ministerio de Gobernación, Justicia, Sanidad y Beneficencia. Dirección General de Censos y Estadísticas. Departamento de Censos. Primer Censo Agropecuario 1952. San Salvador (sic.), Dec. 1954.
This is the volume of published results of the first agricultural census in Honduras. QI. Time frame: 15 March 1951 - 14 March 1952. Method: same as (171). Also gives computer card punching key.

176. Honduras. Secretaría de Economía y Hacienda. Dirección General de Estadística y Censos. Encuesta Demográfica Nacional (EDENH) 1970 - 1972. Questionnaire.
Published results from this survey have been published as follows by the Centro Latinoamericano de Demografía (CELADE), San José (Costa Rica): Fascículo I, Guillermo A. Macció, Informe General (Jan. 1975), QI; Fascículo II, Jorge L. Somoza (and) Abel Packer, Resultados y Elaboración de Datos (April 1975); Fascículo III, Zulma C. Camisa, Fecundidad y Nupcialidad (May 1975); Fascículo IV, Antonio Ortega (and) Manuel Rincón, Mortalidad (Aug. 1975); Fascículo V, Jorge Arévalo, Migraciones (Oct. 1975); Fascículo VI, Albino Bocaz, Descripción de la Muestra (Oct. 1975); a seventh volume, titled Análisis de Preguntas Retrospectivas, was not seen.
This was a sample survey of 11,268 urban and 23,176 rural persons from all areas of Honduras except the eastern third of the country and the Islas de la Bahía. Method and time frame: repeated interviews with heads of sample households during the period 7 Dec. 1970 - 31 Oct. 1972. Personnel used: 8 enumerators, 4 supervisors, 1 UN resident adviser, 1 national director. Costs: see below.

COSTS OF THE EDENH
(In US\$)

Item	Preparatory Phase	First Visit	Second Visit	Third Visit	Fourth Visit	Total
Salaries	5,225	6,600	6,600	8,800	8,800	36,025
Food and lodging	5,770	5,458	5,458	5,458	5,458	27,602
Material, equipment and transportation	1,700	1,481	2,267	1,528	2,380	9,356
Tabulating and publishing	2,767	5,950	4,600	4,200	8,900	26,367
Sub-Total	15,462	19,439	18,925	19,986	25,538	99,350
UN adviser's salary at \$24,000 p.a.						52,000
Other technical assistance (CELADE)						6,000
TOTAL						157,350

Source: Fasciculo I, p. 44, Table 10.

177. . Censo Nacional de Honduras. (Unnumbered volume) Características Generales y Educativas de la Población. Abril 1961. Tegucigalpa, Dec. 1964. (Unnumbered volume) Características Económicas de la Población. Abril 1961. Tegucigalpa, Dec. 1964.
Results of the 1961 census.
178. ATAC. Investigación sobre Pequeños Agricultores. 1975. Questionnaire.
A policy-oriented survey being done in Honduras by ATAC under contract with AID/ Explanatory information was provided by William H. Rusch, ATAC, Comayagüela, and Dr. Ronald V. Curtis, USAID/Honduras. Time frame: agricultural year 1975.
Contains question: "Who is the farm manager?" with alternative answers: head of household (male); head of household (female); both; other man; other woman; manager outside the household. Sharing of cost of non-land inputs (seed, fertilizer, etc.) derivable from data generated on rent/sharecropping arrangements. Also question on squatting. Question on estimated total capital value of farm, including land. Disaggregates labor input for each crop by family/ hired labor and by age and sex for household members. Same for off-farm work performed by household members, and income of each from each type of such work is specified. Contains question on migratory work by household members. Much thought has obviously been given to the elaboration of this questionnaire. One minor fault, however, would seem to be the failure to distinguish between production credit and credit for consumption purposes: the relevant questions ask total borrowings, presumably for all purposes (33 and 35) and total debt at time of interview, excluding business other than agriculture as well as urban investments (36).
Total 516 data fields. Data collection in progress. Data processing will be done out of country.
Initial benchmark survey covers 5 groups: (1) model asentamientos (chosen by the government; complete census); (2) non-model asentamientos; (3) cooperatives; (4) individual credit users; (5) control group (no credit use). After one year a re-survey is planned of model asentamientos. After two years a re-survey of model asentamientos and new model asentamientos and cooperatives. After three years a re-survey of model asentamientos and non-model asentamientos. After four years a re-survey of model asentamientos, new model asentamientos, non-model asentamientos, cooperatives, individual credit users, and the control group.
179. Honduras. Secretaría de Economía. Dirección General de Estadística y Censos. Instituto Hondureño del Café. Encuesta de Pronóstico de Cosecha. Café. Questionnaire.
Annual survey. Time frame: three times per year coinciding with phases of crop. Includes question aimed at identifying producers and measuring sales and purchase of coffee groves as well as coffee crop forecast.

180. Honduras. Ministerio de Recursos Naturales. Efectos de la Mecanización Agrícola en Cooperativas y Asentamientos. Boleta de Campo.

Questionnaire for a sample survey of some 300 of these collectivities. Time frame: field work presently in progress; data analysis expected in May 1976. Unit of reference: the asentamiento or cooperative. Information on methodology furnished by Felipe Vinicio Espinoza Guzmán, actuarial statistician, Banco Central de Honduras. Personnel recruited by the Ministerio de Recursos Naturales include 6 enumerators. Sample size: 300 asentamientos, representing about half of the total number of asentamientos in the three regions under investigation: Norte, Sur, Olancho. The attempt is to stratify by size of holding and to get 100 sample asentamientos in each of 3 categories of technology: hand power, animal power, and tractor (at least one tractor operation per crop) power. AID financing is involved here.

181. Honduras. Ministerio de Economía. Dirección General de Estadística y Censos. Ministerio de Recursos Naturales. Dirección General de Desarrollo Rural. Dirección General de Agricultura y Ganadería. Encuesta Agrícola 1971. (Granos Basicos, Inversiones en la Agricultura e Insumos). Questionnaire.

Questionnaire used in a national sample survey of 10,000 cultivators representing about 5 per cent of the population defined by the agricultural census of 1965. Contains question who manages farm. Time frame: agricultural year 1971. Much space devoted to capital investment of the farm. No questions on agricultural labor.

182. Honduras. Ministerio de Economía. Dirección General de Estadística y Censos. Sección Agropecuaria. Encuesta de Tasas Ganaderas (1975 - 1976). Questionnaire.

Basically a survey of livestock and livestock products intended to permit calculation of mortality rates and other technical matters. Method: four consecutive visits to each producer.

183. Honduras. Ministerio de Recursos Naturales. Dirección de Planificación Sectorial. Departamento de Estadísticas Agrícolas. Ministerio de Economía. Dirección General de Estadística y Censos. Departamento de Estadísticas Agropecuarias. Encuesta de Pronóstico de Cosechas de Granos Basicos. Questionnaire.

A questionnaire used for surveying producers of beans, corn, rice, and sorghum, but also including questions on production of other crops. Method: interview of cultivators. Questions on use of improved seed. Brief (3 pages). Data presently being gathered.

184. Honduras. Ministerio de Economía. Dirección General de Estadística y Censos. Departamento de Estadísticas Agropecuarias. Encuesta de Daños Causados por el Huracán "Fifi". Questionnaire.

Survey of producers designed to measure impact of Hurricane Fifi in 1974. Time frame: questions refer to state of affairs as of 1 Sept. 1974 (before the hurricane) and 15 Sept. 1974 (after). Compares areas sown with areas expected to be harvested, livestock inventory before and after, and permanent agricultural labor force (family and hired) before and after. Results not evaluated, but would appear to show a capability for fielding a farm survey operation at short notice. Publication: Cifras de los Daños Causados por el Huracán Fifi en el Sector Agropecuario March 1975.

185. Honduras. Secretaría de Economía. Dirección General de Estadística y Censos. Tomate. Questionnaire.

Questionnaire used in a survey of tomato producers. Time frame: agricultural year 1 May 1971 - 30 April 1972. Contains questions on calendar of production, labor utilization.

186. _____ . Cebolla. Questionnaire.
Similar to (185).

187. Honduras. Secretaría de Economía y Hacienda. Dirección General de Estadística y Censos. Encuesta de Hogares. Mano de Obra. Formulario No. 400. Questionnaire.

Questionnaire for a labor utilization survey evidently forming part of a larger survey. Method: interview of head of household obtaining data on each member of household. Marco Tulia Cortés, DGEC, Comayagüela, says this was undoubtedly part of the same survey as (170), but as he was not in charge then he cannot be absolutely certain.

188. Honduras. Ministerio de Economía. Dirección General de Estadística y Censos. Household survey, forthcoming.

Information supplied by Angel Díaz, FAO adviser to DGEC, Comayagüela. Data series to be collected include income and food consumption. Work expected to begin in late 1976. New questionnaire is to be designed.

189. Patronato Nacional de la Infancia. El Niño Hondureño. Las Condiciones Bio-Psico Sociales del Niño de 0-15 Años en Honduras. Estudio del Niño. Informe Final. Tegucigalpa, 3 vols., April 1975.

Only 3 of 4 planned volumes have been published as of this date. The fourth, containing results, has been withheld, reportedly because of the controversial nature of the findings. A commission is said to have been appointed to study the matter. Sample: national. Sample Size: 2,901 households in

20 municipios, of which more than 1,000 are in the municipios of Tegucigalpa and San Pedro Sula. Method: the data series sought by the investigators were very ambitious; these included application of the following tests (by age groups): Evolution of Gessel (0-3); Lorenzo Filho (5-8); Inventory of personal adaptation of Rogers (8-15); Raven (5-15); N.E.M.I. (3-15). Time frame: field work April 1974 - Nov. 1974.

Vol. I contains a description of the survey and discussion of methodology. Vol. II (missing) contains discussion of results. Vol. III (misnumbered II on outer jacket) contains tables of data. Vol. IV (misnumbered III on outer jacket) contains tables of data.

190. Organization of American States (OAS). Mapa Parcial de Honduras. Clasificación de la Tierra. 1962.

This is said to be the best land classification map of Honduras at present. INA is working on a new cadastral survey of Honduras which will make possible a detailed land use map.

191. Melba Zúñiga. La Familia Campesina. Tegucigalpa: Instituto de Investigaciones Socio-Económicas, Jan. 1975.

The author gives us an impressionistic account of the peasant's view of the world and family life, including many quotes and an account of a typical day, gleaned from her travels through southern Honduras.

192. USAID/Honduras. Study of rural pilot schools in 3 villages in Honduras, forthcoming.

In 1972 the government of Honduras began a program of establishing rural pilot schools in which the curriculum at the primary level was geared to agriculture. This is a planned study of such schools by John Kelly, anthropologist, and Marcie Bernbaum, psychologist. The study is to form part of a USAID education sub-sector assessment due for completion by April 30, 1976.

193. Honduras. Catastro Nacional.

This is the repository of juridical data on landholding in Honduras.

194. Robert A. White. The Adult Education Program of Acción Cultural Popular Hondureña. An Evaluation of the Rural Development Potential of the Radio School Movement in Honduras. Full Report. St. Louis, Missouri: Department of Anthropology and Sociology, St. Louis University; Tegucigalpa: Centro Loyola. 2 vols. Oct. 1972.

Report of the results of a survey of a sample of 613 individuals in 15 communities "which was judged to represent various degrees of success of the radio schools" (Vol. I, p. 197). Method: questionnaire interview. QI.

195. Rodney C. Stares. La Economía Camesina en la Zona Sur de Honduras 1950 - 1970; Su Desarrollo y Perspectivas para el Futuro. Report presented to the prelatura of Choluteca, Sept. 1972. (Mimeographed)

Stares is an economist. He has produced a thorough study of the economic evolution of a large rural region comprising the departments of Choluteca and Valle. Contains analysis based on Stares' unpublished study, Estudio de Ingresos y Gastos Familiares en la Zona Sur de Honduras, Choluteca, Oct. 1971; on unpublished data collected by the Equipo Socio-Económico-Religioso Choluteca in 1970, and on White's data (see (207)). Maps. Contains many insights into the vicious circle of rural poverty.

196. Gretchen Eoff. Evaluation Study of the Impact on Campesinos of the Instituto Nacional Agrario/International Development Foundation Agrarian Reform and Social Development Programs in Honduras. Tegucigalpa, Sept. 1970. (Mimeographed)

Reports verbatim conversations with campesinos who were included in a random sample of 591 heads of households in 4 widely separated regions of Honduras by 4 interviewers. Method: unstructured and semi-structured interviews, census taking, observation, and participation. Interviews lasted from 15 minutes to several hours each. Includes illustrative sketches of rural poor households encountered.

197. Honduras. Ministerio de Recursos Naturales. Dirección de Planificación Sectorial. Departamento de Análisis Sectorial Agrícola. Proyecto de Análisis del Sector Agrícola. Boleta de Encuestas. Forma A.S.A. 1. 27/11/75.

Building on previous experience of cost of production surveys in Honduras and attempting to systematize these, the D.A.S.A. has since March 1975 been carrying out cost of production surveys intended to generate data for sector analysis. The methods used were explained by Carlos Andrés Zelaya, D.A.S.A., Comayagüela.

The method used is called judgment sampling. A small region of the country is selected for survey work. Within this small region, sub-regions consisting of a number of ecologically relatively homogeneous agricultural zones are defined. For data collection on the main crops, a greater number of rather narrowly defined zones are defined within the sub-region. For less important crops, a lesser number of more broadly defined zones are defined. In other words, crops exhibiting different levels of technology are further distinguished. The size of the sampling frame varies among crops and the unit of reference within the sampling frame is the crop defined by level of technology. Cropwise the number of sample units is roughly proportional to the importance of the crop within the sub-region. Within each sampling frame, 6, 8, or 10 questionnaires are completed by means of interviews with cultivators. Data relate to one crop year. Data series include calendar of input use (including family and hired labor), input quantities and prices of all inputs including land rent (in cash only,

unfortunately!) and wages, output and disposal of output (with calendar) and output prices. Data would have been more useful if they had included a series on beginning and end inventories of crops stored on farm. Generally speaking this level of disaggregation makes the results more useful than national averages, e.g. (163). Data processing takes place in country.

198. _____. Honduras: Precios de Insumos y Maquinaria Agrícola 1972 - 1974 Proyectados a 1975. Tegucigalpa, Jan. 1975. (mimeographed)
A very complete typewritten list, 10 pages long (single spaced) giving input prices obtained directly from commercial outlets of supply to farmers. Many are obviously of little relevance to small farmers, but on the other hand a machete No. 864/24 Tuncos cost 3.90 Lempiras in Nov. 1974.
199. AID. Capital Assistance Paper for Honduras. Loan 024. Annex II, Exhibit 18. Letter from Planning Council dated May 6, 1974.
This 10-page, single spaced typewritten document is the best description of the state of land registry and other records in Honduras that I saw. The document has been included in a capital assistance paper for a loan-financed project presently under way following passage by the government of a law in Dec. 1974 providing for reorganization of the land registry system.
200. Honduras. Ministerio de Recursos Naturales. Dirección de Planificación Sectorial. Departamento de Economía Agrícola y Estadísticas Agrícolas. Agricultural labor survey, forthcoming.
Lic. Jorge Hernán Galéas, director of DEAEA, Comayagüela, said his department has plans to undertake an agricultural labor survey which would gather data on, among other things, wages.
201. Honduras. Ministerio de Salud Pública. Departamento de Nutrición. Evaluación Nutricional de los Grupos Campesinos del Valle del Bajo Aguán. 1975.
Unpublished height and weight data from a survey of 773 children in 5 rural localities in Colón Department. Information supplied by Lic. Indira de Beausset, head of the Department of Nutrition; also for (202 through 204).
202. _____. Evaluación Nutricional del Municipio de Colomoncagua, Itibucá. June 1974.
Unpublished height and weight data from a survey of 104 children in a rural locality of Itibucá Department.
203. _____. Evaluación Nutricional en los Municipios de Nueva Ocotepeque, Trinidad y Naranjito. 1972.
Unpublished height and weight data from a survey of 946 children in rural localities in the departments of Ocotepeque, Copán, and Santa Bárbara.

204. . Evaluación Nutricional del Departamento de Santa Bárbara. 1972.

Unpublished height and weight data from a survey of 413 children in rural Santa Bárbara Department.

205. Universidad Autónoma de Honduras. Facultad de Medicina Preventiva. Evaluación Nutricional de los Municipios de San Sebastián y Lamarí (Comayagua). 1974.

Unpublished height and weight data from a survey of 233 children in Comayagua Department.

206. Guillermo Arroyave, Miguel Guzmán, and Marina Flores. Socioeconomic Level of the Family and Nutrition in the Rural Area of Central America and Panama. Unpublished chapter scheduled for publication in Archivos Latinoamericanos de Nutrición (Caracas).

Information from Drs. Miguel Guzmán, INCAP, and Alfredo Méndez, Universidad del Valle, Guatemala.

The authors of this paper were members of the INCAP survey team and according to their written account (p. 7) this study was based on data from a sub-sample of approximately one-half, or 1,841 families, of the total sample in all the six countries surveyed (see (243)). As they state: "The families in whom biochemical and dietary studies were done are included in this group. The basic data for calculating the socioeconomic index were obtained by direct interview of the head of the family conducted by properly trained and standardized field workers." (p. 7)

The data series used by the authors to construct their socioeconomic index were: (1) Housing (ownership, type of floor, roof, and kitchen facilities), (2) living space (number of rooms, number of bedrooms and beds in relation to members of the family), (3) sanitary conditions (type of bed, drinking water source, wastage disposal system, disposal of excreta of domestic animals in premise), (4) food production at the family level (quantities of product converted to total value by applying relevant prices obtained in the local market), (5) income in cash and total, (6) occupation of the family head, (7) scholasticity (ratio of total number of years of schooling possessed by members of the family to the total number of years of schooling stipulated by law for persons of similar ages), (8) exposure to communication (radio, television, newspapers, magazines) (Table 2).

"Each criterion was scored on a scale of 1.00 (the lowest) to 3.00 (the highest). Maximum total score was 24.00 (8 x 3.00) and minimum 8.00 (8 x 1.00). For the analysis of the dietary and biochemical data the total group of families was subsequently divided into quartiles. Families in the lowest and highest quartiles were labeled "low" and "high" socioeconomic index respectively. The rest were classified as "medium." A similar procedure was needed for the integration of socioeconomic groups for evaluating the anthropometric data, but in this case tertiles were used. The scoring of the different items used in calculating the

socioeconomic index of necessity was based on country specific characteristics invalidating comparisons of the index values between countries, since an index value of 1.5 in Guatemala does not mean the same as a 1.5 value in Costa Rica." (pp. 7-8)

Dr. Guzmán says that the socioeconomic index values calculated did relate to biochemistry, dietary intake, and anthropometry. "It was uncanny."

The methodology of the calculation of the socioeconomic index is reported in Alfredo Méndez, "Método para Medir la Situación Socio-cultural de las Familias Rurales Centro-americanas y Su Aplicación a los Programas de Salud," Archivos Latinoamericanos de Nutrición, Vol. XX, No. 3, Sept. 1970, pp. 281-291; and Guillermo Arroyave, Alfredo Méndez y Werner Ascoli, "Relación entre Algunos Índices Bioquímicos del Estado Nutricional y Nivel Socio-Cultural de las Familias en el Área 'Rural' de Centro América," ibid., Vol. XX, No. 2, June 1970, pp. 195-216.

207. Robert White, S.J. Estudio de la Capacidad Comunitaria de Tomar Decisiones Colectivas. 1971. (Mimeographed)

Unpublished study based on data gathered in Cholulteca Department in interviews with 666 individuals in 13 communities.

208. Fundación Hondureña de Desarrollo (FUNHDESA). Ficha de Investigación de Solicitud de Crédito.

Information supplied by Lic. Fernando D. Montes, Executive Director, FUNHDESA, a privately run foundation affiliated with the Pan American Foundation. It provides credit to farmer cooperatives which encounter difficulties in obtaining credit elsewhere and which prove they intend to use the funds for worthwhile purposes, including the growing of a particular crop. FUNHDESA also provides credit to some individuals upon ascertaining their background. The procedure is well organized and standardized. The documentation lists the main information required of the prospective borrower, including indebtedness and value of land. Sometimes the loan is repayable in a share of the crop; in this case, another form, Comprobante de Recibo de Cosecha, is given in receipt.

209. El Salvador. Instituto de Colonización Rural. Política Económica del Instituto de Colonización Rural y Política de Desarrollo del Instituto de Colonización Rural. San Salvador, 1961.

The ICR was a predecessor of the Instituto Salvadoreño de Transformación Agraria (ISTA), the present agrarian reform institute. This document contains a detailed study of the size of farm necessary to sustain one rural household.

210. Guatemala. Ministerio de Economía. Dirección General de Estadística. II Censo Agropecuario 1964. Guatemala, 5 vols.

Results of the second agricultural census. Reference unit: operational holding. Method: interview of cultivator. QI. DGE No. 381, with note that agricultural establishments "dedicated to the raising of (large) animals or production of animal products" would be investigated using another questionnaire, II Censo de Vivienda, DGE No. 379, also included. Time frame: agricultural year 1 May 1963 - 30 April 1964.

Question on attached workers (mozos colonos) defines them as follows: "todo aquel que vive permanentemente en una finca y que puede a no gozar de una o más parcelas sin pago alguno; pero con el compromiso de trabajar durante todo o parte del tiempo en la finca donde tiene su vivienda, recibiendo en pago por su trabajo parte en especie (raciones) y parte en efectivo, pudiendo ser también sólo en efectivo."

Vol. I, Características Generales, Concentración y Tenencia de la Tierra, Jan. 1968, contains in addition to tables, maps and graphs, a series of Lorenz Curves showing concentration of landholding nationally, regionally, and by department, for 1950 and 1964.

Vol. II, Uso de la Tierra, Cultivos, April 1971, contains tables, maps, charts.

Vol. III, Ganadería, Jan. 1969, contains tables, maps, charts.

Vol. IV, Aves de Corral, Colmenas, Productos Pecuarios, Equipo y Vehículos, Abono y Riegos, Energía en Labores Agrícolas, Mozos Colonos, Apendice, April 1969, contains tables, maps, charts. The departments with the largest numbers of mozos colonos, in order, are Alta Verapaz, Suchitepéquez, Escuintla.

Vol. V, Panorama de la Estructura Agropecuaria de Guatemala, Compendio General, March 1971.

211. Guatemala. Dirección General de Estadística. Censo Agropecuario 1950. Tomo I. Agricultura. Tomo II. Ganadería. Guatemala, Dec. 1954 and Aug. 1955.

Results of the first agricultural census. Vol. I contains an interesting set of Lorenz Curves showing concentration of landholding in Guatemala as a whole, Izabal, Totonicapán. Also excellent maps of the distribution of major crops.

212. Guatemala. Ministerio de Economía. Dirección General de Estadística. Encuesta Agropecuaria. Julio 1973. Questionnaire. Form DGE No. 538.

Information supplied by Lic. Marina Calderón of this office. This is one form used in a sample survey implemented once or twice yearly from 1970 through 1973 using a sample of 5,900 farms. According to Lamar Merk's investigation of this data source in 1975, the field work was done by senior students at the Instituto Técnico de Agricultura and by the mayors of the municipios. Sample selection procedure is

described in Descripción del Plan de Muestreo para la Encuesta Agropecuaria 1965. Unit of reference: operational holding. Time frame: 1 May 1972 - 30 April 1973.

213. Guatemala. Ministerio de Economía. Dirección General de Estadística. Ministerio de Agricultura. INDECA. Encuesta Agrícola de Granos Básicos Mayo 1975. Questionnaire. Form DGE No. 548.
This was one of two survey forms that replaced (212) beginning in 1974 (used in May and Nov. 1974 and in May 1975); the other was (214).
Unit of reference: operational holding (finca censal o unidad de explotación). Method: interview of cultivator. Time frame: Nov. 1974 - April 1975.
214. Guatemala. Ministerio de Economía. Dirección General de Estadística. Encuesta de Ganado y Productos Pecuarios 1975. Questionnaire. Form DGE No. 542.
Unit of reference: operational holding
Used in Jan. 1974 and Jan. 1975.
215. Two maps of Guatemala showing (1) gross value of agricultural production per rural inhabitant; and (2) the arithmetic sum of (a) number of farms of less than 2 manzanas per 100 ha., and (b) the number of landless laborers per 100 ha. by municipio using differential coloring.
Data for each of 324 municipios were derived from 1964 agricultural census (210), and 1974 prices were used. Data shown on maps also exist in tabulated form.
216. Instituto de Nutrición de Centro América y Panamá (INCAP). Division of Human Development. Tenancia de la Tierra de la Familia Nuclear o Extenso. Questionnaire. Formulario Vida Retrospectiva de Hombres.
Description of survey provided by Tim Farrell, anthropologist, INCAP, Guatemala. The survey uses several sources. A complete census of four villages in El Progreso Department, a semi-arid area of small farmers in central Guatemala. Data are at the household level within the aldea. Method: interview with head of household using questionnaire (216) to obtain male retrospective data, supplemented by data generated from a variety of other questionnaires, listed below. Time frame: 1974.
217. _____ . Census.
Same sample as (216). Time frame: 1967-75.
218. _____ . Ingreso y Riqueza. Questionnaire.
This is a second-year follow-up to (216) with same sample. The main interest in designing this questionnaire was to generate data about cropping pattern changes on a year-to-year basis.

219. Manuel Gollas. Surplus Labor and Economic Development: The Guatemalan Case. Madison, Wisconsin: Land Tenure Center, Research Paper No. 39, Jan. 1970.

A production study of 348 small farms (average size of holding 3 ha., average family income earned in the family's own community \$196.50) selected in a number of Highland departments.

220. Lester Schmid. The Role of Migratory Labor in the Economic Development of Guatemala. Unpublished Ph.D. dissertation, University of Wisconsin, 1967.

A study based on interviews with a purposive sample of 120 seasonal workers on 42 large coffee, sugar and cotton growing estates in Guatemala, obtaining data on the background and living conditions. Time frame: field work Dec. 1965 - March 1966.

221. Tim Farrell. Evaluation of Economic Growth and Community Development in a Highland Guatemalan Town. Department of Anthropology, UCLA, dissertation in process.

This is an intensive study of the village of San Lucas Tolimán on the shore of Lake Atitlán. Land tenure data were derived from consistency checks among accounts provided by the older people in the village, who sometimes produced private documents attesting to their ownership of land in the village. All public documents relating to land tenure were destroyed in a fire in the 1940's. Private property in the village dates from the 1860's, when some Indians, with government encouragement, began planting coffee on communal land. This led to conflict with corn growers, with some uprooting of coffee trees taking place. The issue was settled when, under the pressure of the coffee planters, the entire land of the village was surveyed and deeded to members of the community in private ownership.

Farrell has had personal acquaintance with the village and its inhabitants since 1969, when he arrived to do field work for his master's thesis. Method: interview with questionnaire. Size of sample: 85 Indian heads of households and 28 Ladino heads of households. Data series are many and include measures of media exposure including measure of understanding, social participation, political awareness, cash expenditures on gifts and religious obligations, participation in coffee cooperative, occupational histories, expenditures on food, fiesta expenditures (average \$54 per year; range: \$3 to \$350), civil obligations (average \$44.50 per year), time spent per day in direct economic endeavor (average 10.9 hours).

222. Instituto de Nutrición de Centro América y Panamá (INCAP). Division of Human Development. Tenencia de la Tierra de la Familia Nuclear o Extenso. Questionnaire. Formulario Vida Retrospectiva de Hombres.

The same questionnaire as (216), applied to the village of Petapa south of Guatemala City. The village is characterized by considerable mobility. Time frame: 1974 - 1975.

223. _____. Ingreso y Riqueza. Questionnaire.
Same questionnaire as (218), applied to Petapa.
Time frame: 1975.
224. _____. Time Budget Questionnaire.
Same sample as (216). Method: panel approach. Time
frame: 1975.
225. _____. Parents' Expectation Questionnaire.
Same sample as (216). Method: cross-sectional. Time
frame: 1975 - 1976.
226. _____.
227. _____. Morbidity Survey Questionnaire.
Same sample as (216). Method: fortnightly. Time
frame: 1969 - 1976.
228. _____. Community Survey Questionnaire.
Same sample as (216). Method: cross-sectional. Time
frame: 1975.
229. _____. Social Stimulation Questionnaire.
Same sample as (216). Method: cross-sectional. Time
frame: 1974 - 1975. Data reported to be of poor quality.
230. _____. Female Retrospective Questionnaire.
Same sample as (216). Time frame: 1974.
231. _____. Census.
Same questionnaire as (217), applied to Petapa.
Time frame: 1973 - 1975.
232. _____. Time Budget Questionnaire.
Same questionnaire as (224), applied to Petapa.
Time frame: 1975.
233. _____. Parents' Expectation Questionnaire.
Same questionnaire as (225), applied to Petapa.
Time frame: 1975 - 1976.
234. _____.
235. _____. Morbidity Survey Questionnaire.
Same questionnaire as (227), applied to Petapa.
Time frame: 1969 - 1976.
236. _____. Community Survey Questionnaire.
Same questionnaire as (228), applied to Petapa.
Time frame: 1975.
237. _____. Social Stimulation Questionnaire.
Same questionnaire as (229), applied to Petapa.
Time frame: 1974 - 1975. Data reported to be of poor quality.

238. _____. Female Retrospective Questionnaire.
Same questionnaire as (230), applied to Petapa.
Time frame: 1974.
239. William H. Rusch, Fred L. Mann, and Eugene Braun. Rural Cooperatives in Guatemala: A Study of their Development and Evaluation of A.I.D. Programs in their Support. McLean, Va.: American Technical Assistance Corporation (ATAC), Nov. 1975.
- Although the introduction to this report states that the survey was "designed primarily to serve the needs of program managers for practical information useful in the further development and administration of rural cooperative programs in Guatemala," the survey generated a wealth of data on small farmer income and production, land tenure, use of credit, labor utilization, and other matters of vital importance to researchers on the rural poverty problem. The survey was carried out under AID contract No. AID/CM-otr-c-73-198 W.O. 15. The data were edited, tabulated and analyzed in the U.S., and copies of some of the more important computer printouts were furnished to USAID/Guatemala, in addition to the multi-volume final report. The 29-page questionnaire was consulted in the office of Carl Koone, RDO, USAID/Guatemala. (A separate section of the questionnaire dealt with co-ops.)
- Method: The sample was selected in a two-stage process: (1) selection of co-ops randomly by department; (2) selection of co-op members randomly. Sample size: 601 small farmers who were members of co-ops in the altiplano of Guatemala and who had received credit and 200 members of match groups (neighbors of co-op members with farms of similar size). Interviews of farmers using questionnaire. Time frame: field work 1975. Data correspond to the agricultural year 1974.
- Comment: The questions on land tenure have been designed in a very sophisticated manner (the method has been carried over to the design of (178) as well). Small farmers in the altiplano own over 90 per cent of the land they farm. The balance is largely rented for cash and only to a slight extent in sharecropping or labor exchange arrangements, although the last is found to some extent in Chimaltenango. The survey methodology shows value of work performed on the landlord's farm as "non-family farm income" and the equivalent figure is shown as a cost of land rental in the family farm accounts.
240. Guatemala. Ministerio de Agricultura. Dirección General de Servicios Agrícolas (DIGESA). Unpublished data on costs of production, yields, and gross income of production of corn, beans, rice, wheat, sorghum, and sesame, tabulated by regions and sub-regions, size of operational holding, and cost components, by IBM, Centro de Servicio de Datos. Also tables on labor input requirements for each operation, tabulated by regions and sub-regions, and size of operational holding.

241. _____. Unpublished frequency distributions of planned and actual input usages, and yields by regions and sub-regions, and size of operational holding for each of the crops listed in (240), printout from IBM, Centro de Servicio de Datos.

The data in (240) were derived from DIGESA's normal follow-up field reports on its clients (see (267)) and covered a sample of about 1,700 farms. Time frame: agricultural year 1974 - 1975 (1 April 1974 - 30 Mar. 1975). In an effort to evaluate the reliability of these data, data on yields and input use from these same farmers' farm plans filed at the time of making credit applications were tabulated side by side with actual observed yields and actual observed inputs used. The discrepancies of input usage are significant in some cases. As the data are disaggregated by crop and by region and sub-region, it is a hypothesis capable of being tested that these discrepancies are the result of diversion of high-value inputs like fertilizer from "subsistence" crops to cash crops.

242. Guatemala. Encuesta del Sector Público Agrícola. Enero 1974. Questionnaire. Form LASA-AG-1 (1-15-74).

Questionnaire used in a policy-oriented large-sample survey of about 1,600 small farms in Guatemala. Time frame: data relate to the agricultural year 1973. Questionnaire printed and pre-coded; bound booklet of 47 pages.

Methodology: Since one of the principal aims of those who conducted the survey (the Consejo Nacional de Planificación Económica with AID support) was to assess the impact of the small-farmer credit program of the rural development bank, BANDESA, the sample was constructed on the basis of matched "credit farms" (i.e. those accepting credit from BANDESA) and "non-credit farms." An enumeration of "credit farms" was made from BANDESA records of loan applications. These farms were matched one for one by local officials in each of the 16 sub-regions covered by the survey (these excluded the Petén) on the basis of four characteristics of the "credit farms" recorded at the time they made applications for loans: (1) area covered by the principal crop; farm size; (3) farmer's age; (4) distance from the nearest town. A random sample of 50 such pairs of farms was then selected in each sub-region for investigation. (Note: although BANDESA data show that most of the bank's loans go to large farmers, the bank's small-farmer credit program is operated from a trust fund and is separate.)

Field work occupied two months in the spring of 1974. Interview times ranged from 45 minutes to two and a half hours. Much attention was paid to training of the enumerators, who were regular DIGESA promotores, and to supervision of field work. A remarkable total of 774 out of 800 pairs of questionnaires were found to be useable.

The questionnaire contains 958 data fields. Data editing and processing occurred in the U.S. Key to tape processing required only one week, and the error rate was reported to

be less than one half of one per cent. Average punching time per questionnaire was reported to be 9 minutes.

243. Institute of Nutrition of Central America and Panama. Nutrition Program, Center for Disease Control, U.S. Department of Health, Education, and Welfare. Nutritional Evaluation of the Population of Central America and Panama: Regional Summary. Guatemala, 1971.
A summary of results derived from (11), (9), (169), (244), and (277), as well as of a similar study in Panama.
244. Instituto de Nutrición de Centro América y Panamá (INCAP). Oficina de Investigaciones Internacionales de los Institutos Nacionales de Salud (EEUU). Ministerio de Salud Pública y Asistencia Social. Evaluación Nutricional de la Población de Centro América y Panamá: Guatemala. INCAP V-25. N.p., 1969.
Time frame: Feb. - April 1965. Sample size: 4,113 individuals, or 0.9 per cent of the total population of Guatemala.
245. Guatemala. Death Certificates, 1964.
246. Guatemala. Consejo Nacional de Planificación Económica. División de Recursos Humanos. Questionnaire.
This is the questionnaire for a labor force survey planned to have taken place in March-April 1976, but which was put off, probably for at least a year, because of the earthquake of Feb. 3, 1976. The sample had been selected, consisting of about 7,000 households both rural and urban, and the questionnaire was already pre-tested in both areas. According to Lic. Miguel von Hoegen, CNPE, there exists a view that the sample is no longer valid following the changes in residence caused by the earthquake and it may have to be re-designed. The budgeted cost for field work, using enumerators of the Dirección General de Estadística, plus some to be newly recruited and trained, is \$130,000. The questionnaire contains many questions on non-formal education, and in addition to the basic questionnaire is used to generate specifically rural data.
247. Guatemala. Secretaría del Consejo Nacional de Planificación Económica. Dirección General de Estadística. Banco Nacional de la Vivienda. Municipalidad de Guatemala. Universidad de San Carlos de Guatemala. Censo de Hogares y Condiciones de Vivienda como Consecuencia de los Sismos de Febrero de 1976. Questionnaire.
This is the questionnaire of a special housing survey made immediately following the Feb. 3, 1976, earthquake in Guatemala City and also in each cabecera municipal and departamental (where conditions are much closer to "rural" than "urban"), using university students as enumerators.

248. Guatemala. Instituto Nacional de Comercialización Agrícola (INDECA). Departamento Investigación Capacitación y Extensión de Mercadeo. Algunos Aspectos de Producción y Comercialización de Maíz y Frijol en Varias Regiones del País. Guatemala, June 1971.

As part of a marketing study of corn and beans in Guatemala, the INDECA used a farm-level questionnaire to gather data on production, sales, calendar of sales, farm prices, etc. Sample: 10 to 20 per cent of "parcelamientos existentes en la región escogida" and similar number of non-"parcelamientos." Time frame: agricultural year 1970 - 1971.

249. Michael Joseph Rowan. Marketing Systems in a Plural Peasant Society: A Guatemala Case Study. Unpublished master's thesis, University of Georgia (Athens), 1971.

A study of Huehuetenango Department in terms of Central Place Theory, using a variety of primary and secondary data sources, including questionnaires administered to vendors, shoppers, and persons at home. Time frame: field work summer of 1969. QI.

250. David T. Johnson. Income Potential of Small Farms in Guatemala. Unpublished Ph.D. dissertation for Iowa State University, Aug. 1974.

Part of the data cited in this study came from a crop production questionnaire. Sample size: 62 small farmers in 26 different municipios in 8 Highland departments. Time frame: field work March - June 1973.

251. Guatemala. Dirección General de Estadística. Balances de Disponibilidad/Utilización de Maíz - Maicillo, Frijol, Arroz, Trigo; Estimaciones Preliminares. Guatemala, Feb. 1976.

A study motivated by the earthquake of Feb. 3, 1976. Production data for period 1 May 1975 to 31 Oct. 1975 derived from a sample survey run by the DGE, Departamento de Censos, in Nov. - Dec. 1975, using same sample as used in (213), according to Felipe Zaghi Luna, DGE, Punto Focal Nacional. This survey also generated data on forecast production for period 1 Nov. 1975 to 30 April 1976. Demand was estimated on the basis of FAO coefficients.

Sample: The design of the sample is described as follows: Selection based on lists of (1) parcelamientos and (2) other operational holdings. A random sample was selected from (1). (2) was stratified according to size of holding, as follows: (a) larger than 100 manzanas (100 per cent sample); (b) 30 - 100 manzanas; and (c) less than 30 manzanas. For sampling (2b), municipios in each department were selected proportionately to the square root of the total area harvested for all crops except cotton; within theselected municipios, a complete enumeration was effected. For (2c), using maps each selected municipio was divided into smaller units with well defined boundaries, and in each a predetermined number of operational holdings was selected based on the 1973 population census.

252. Guatemala. Ministerio de Economía. Dirección General de Estadística. VII Censo de Población 1964. Vol. I. Metodología. Población Total por Sexo, Edad, Grupo Etnico, Urbano-Rural y Estado Civil. Guatemala, Aug. 1971.
Results of census. Questionnaire DGE No. 380. QI. Time frame: 18 April 1964 - 27 April 1964.
As the numbering of Guatemalan population censuses is rather confusing, here is the historical series:
- | | |
|------|------|
| I | 1778 |
| II | 1880 |
| III | 1893 |
| IV | 1921 |
| V | 1940 |
| VI | 1950 |
| VII | 1964 |
| VIII | 1973 |
253. _____, Vol. II. II Censo de Vivienda 1964. Viviendas Particulares. Guatemala, June 1973.
Results of housing census. Questionnaire DGE No. 379. QI. Time frame: 18 April 1964 - 27 April 1964.
254. _____, VIII Censo de Población 26 de Marzo de 1973. Series III, Vol. I. República: Población Total, Población Indígena. Guatemala, Aug. 1975.
Census results. QI. Time frame: 26 March 1973 - 7 April 1973 in rural areas.
255. _____, III Censo de Vivienda 26 Marzo de 1973. Viviendas Particulares, Numero de Hogares. Guatemala, Feb. 1976.
Census results. Questionnaire is to be found in (254). Time frame: 26 March 1973.
256. _____, Estadísticas Agropecuarias Continuas 1974 - 1975. Guatemala, Nov. 1975.
This publication contains 2 tables of average farm prices of 13 crops and 7 other agricultural products, by month of 1974 and by department. No explanatory notes as to sources of data or methodology.
257. Carol Ann Smith. The Domestic Marketing System in Western Guatemala: An Economic, Locational, and Cultural Analysis. Unpublished Ph.D. dissertation, Department of Anthropology, Stanford University, 1972.
A study of market places in the framework of Central Place Theory.
258. Universidad de San Carlos, Instituto de Investigaciones Económicas y Sociales. Encuesta sobre Ingresos y Gastos de la Familia del Campesino Asalariado de Guatemala, 1966. Guatemala, n.d.
A study of agricultural wage laborers. Method: interviews using questionnaire. Sample size: 1,800 families on

300 farms, stratified by crop. QNI, but list of data series included. Time frame: field work Sept. 1966 - Jan. 1967 using 17 full-time enumerators plus 10 part-time enumerators.

Costs of the survey, not including data processing, are given as follows:

A. Personnel	
Enumerators	Q 10,654.67
Jefes de Revisión y Revisores	10,643.50
Supervisors	1,490.00
B. Training	312.00
C. Field Work	
Food and lodging	10,583.00
Transport	1,991.00
D. Transport and Lodging of Technical Personnel	862.85
E. Miscellaneous	5,088.50
TOTAL	Q 41,625.52

(Note: Present exchange rate. Q1 = US\$1)

259. Comité Interamericano de Desarrollo Agrícola (CIDA). Tenencia de la Tierra y Desarrollo Socio-Económico del Sector Agrícola: Guatemala. Washington, D.C., Pan American Union, 1965.

This study contains valuable information on the history of land tenure in Guatemala and also CIDA-generated data on recent changes in land tenure.

260. Gilberto Rios Saenz. Costos de Productos Agrícolas Financiados por el Banco Nacional Agrario. Guatemala, 1968.

Time frame: 1967(?).

261. Frederico Fahsen, Ricardo Goubaud, and Andrew J. Sherman. Summary of the Study: The Process of Urbanization and its Impact on a Developing Economy - Guatemala. Guatemala, July 1973.

This is a summary of a larger, multi-volume report made under an AID contract.

262. Basic Village Education. Questionnaire of base-line interview and follow-up interviews.

Details of (262) through (266) supplied by Dr. Howard E. Ray, Program Leader, Guatemala. The BVE is an experimental program currently operating in two areas of Guatemala: (1) a southeast Highlands area, largely Ladino by population, and (2) an altiplano area, largely Indian. It is a valuable source of data for two reasons: (1) it has a heavy evaluation component, and (2) the sample for evaluation is limited to small farmers. It is still fairly recent, however, as it has operated in area (1) just 2 years now, and in area (2) 6 months.

01.

Methodology: Panel approach. The aim is to arrive at a sample size of about 100 for each of the four groups in each area at the end of the experiment. The four groups are: (1) group exposed to purposive radio broadcasts; (2) group exposed to purposive radio broadcasts plus action of monitors; (3) group exposed to purposive radio broadcasts plus action of monitors plus agricultural technical assistance in the form of demonstration plots; and (4) control group. The sample is chosen from the population of adult male heads of households who have decision control over an (owned or rented) operational holding of between 0.5 and 12.0 manzanas. The four sample groups are kept distinct by their geographical separation within each area of the experiment, as in different valleys.

The base-line interview is administered to the entire sample at the beginning of the experiment. Follow-up interviews of the entire sample are done each year, using the same questionnaire.

Data processing and analysis are currently in the hands of the University of Florida, Tampa and Gainesville, under AID contract. Duplicate tabulations are shipped to BVE, Guatemala. Analysis reportedly includes efforts to construct indices of change. So far, 63 "evaluation reports" on specific correlations of variables involved and 4 "working documents" have been produced. The latter are:

Basic Village Evaluation. Guatemala Evaluation Reports. Working Paper No. 1. The General Characteristics of Subsistence Farmers in the Department of Jutiapa, Guatemala. Tampa, Florida: University of Florida, Oct. 1974.

_____. Working Paper No. 2. The Agricultural Characteristics of Subsistence Farmers in the Department of Jutiapa, Guatemala. Tampa, Florida: University of Florida, Feb. 1975.

_____. Working Paper No. 3. Evaluation of Changes in Knowledge, Attitude and Practices among Subsistence Farmers in the Department of Jutiapa, Guatemala: A Time Sampling Methodology. Tampa, Florida: University of Florida, May 1975.

_____. Working Paper No. 4. Summary of the 1974 Year-End Survey of Subsistence Farmers in the Quezada Experimental Area. Tampa, Florida: University of Florida, Dec. 1975.

263. _____. Production Questionnaire.

A one in four or five sub-sample of the sample in (262) is interviewed as soon as possible after the harvest to determine crop output per farm.

264. _____. Radio Listener Survey Questionnaire.

Information is obtained on what radio programs the interviewee listens to, likes, why, etc. The sample for this survey is not limited to the sample in (262). Frequency: three or four times per year in each of the two areas of the experiment.

265. _____ . Weekly Report from Monitors.

These forms are one means for generating feedback from monitors and the agronomists who provide technical assistance. The form is a brief, 3-page one with open-ended questions on environmental factors (e.g. presence of drought in the experiment area), prevailing prices, farmer comments picked up in weekly sessions, etc. Other feedback generators are tape recordings made by monitors, and Friday meetings of monitors with the field agronomist in their area.

266. _____ . Direct Test of Felt Need for Education.

Since Oct. 1975 the experiment has been using a direct test of felt need for education, including measurement of visual and audio messages, applied at farmers' meetings and individually.

267. Guatemala. Sector Público Agrícola. Ministerio de Agricultura. Dirección General de Servicios Agrícolas (DIGESA). Plan Nacional de Desarrollo Rural. Ficha de Identificación del Agricultor Participante.

This is a tightly-spaced, two-page form consisting of data blanks used by DIGESA in 1974 and 1975 (and planned for use in 1976) to obtain data from its agents in the field, who are called promotores de producción agrícola. There are presently 244 of these. The use of the form was explained by Dr. Sterling Nichols, adviser, DIGESA, Guatemala, who also made available the relevant instruction sheets.

DIGESA looks on its data collection system essentially as a management tool. The cataloguing of information is one of the routine tasks of the promotor in his field work. DIGESA works with farmers who have operational holdings of less than 30 ha. and who have a farm plan worked out in conjunction with the promotor. These number about 20 per cent of the total number of farmers in the case of corn growers. Three phases of farmer development are distinguished and DIGESA aims to put every farmer it works with through the three phases. Up to this year, however, it has worked only with farmers in the second phase. Beginning this year, a new system will be implemented covering all three phases and data collection will involve sampling farmers in each phase. In the case of farmers in the first phase, each promotor will work with 120 to 180 farmers. In the case of farmers in the second phase, each promotor will work with about 70 farmers.

The ficha (267) will be filled in for sample farmers in all phases on the basis of interviews with the operator. Additionally, separate forms will be used for farmers in the three phases beginning in 1976 (see (268), (269), (270), and (271)).

The data obtained for 1974 and 1975 were found to be of such poor quality as to be a "wipe-out," according to Nichols.

268. Reporte de Actividades. Fase de Formación. Proyecto Agricultores. No. 3.

This is a crop reporting form. The sample for the information on this form is drawn from the four to six groups of 30 operators which each promotor is responsible for in this, the first, phase. The data on the form relate to one such group and the form provides space for the "aggregated total in hectares of all the areas that the members of the group possess individually" (I take this to mean "operate"), the aggregated area sown to the crop indicated at the top of the form, the aggregated area of this crop "maintained," and the aggregated area of this crop harvested.

269. Reporte de Actividades. Fase de Promoción. M. No. 4.

The sample of farmers in this, the second, phase is drawn rather differently. Each promotor works with 60 to 70 farmers. Of these he is responsible for selecting a sample of 16 (M = muestra). Again, the form covers one crop, indicated at the top, but this time the information relates to an individual cultivator. The promotor is instructed to select his sample of 16 in proportion to the area sown to each crop: e.g. if corn, beans, rice and sorghum are all sown to equal areas, he will select four farmers to represent each crop; if there are five crops sown, he will select four farmers to represent the most important crop and three to represent each of the other four. The data to be collected here include not only areas but also use of inputs by quantity (including labor and credit) by each operator. On the other hand, the form contains no space for yield or output information. The form also provides for official sanctioning of BANDESA credit in specific amounts for specific uses in connection with the cultivation of this crop by the sample farmer.

270. Reporte de Actividades. Fase de Promoción. FM. No. 4-A.

For the 44 to 54 operators excluded from the sample (FM = fuera muestra) in (269), the only information required is the area sown and the total credit received, for the recording of which the promotor has the choice of listing them singly or as a group by crop; in the latter case he must still list the names of all the operators in the group. This form also has space for official sanctioning of production credit from BANDESA.

271. Reporte de Visita al Agricultor. Fase de Seguimiento. M. FM. (check one). Fase de Formación. M. No. 5.

Here we are back to the first phase. The promotor is instructed to select a sample of 6. The form is for an individual grower of one crop, unlike the collective form of (268).

This form also doubles for reporting data on a sample of farmers in the third phase. Each promotor works with about 150 operators in this phase. He has the choice of

recording data individually or collectively; in the latter case he must select a farmer who he thinks "is representative of the same group." The total sample size is 16 farmers, covering all represented crops. For non-sample farmers, only a portion of the data series are required.

272. . Fase de Seguimiento. Unidad de Cooperativas. No. 6.

This is a form to be filled in by the promotor with the cooperative as the unit of reference.

273. . Unpublished data on small farmers.

The data here correspond to the data generated by (267), and relate to 1972 and 1973. The quality is said by Nichols to be good. Notes were taken for inventorying purposes from computerized tabulations rather than from questionnaire.

274. Guatemala. Sector Público Agrícola. Instituto Nacional de Comercialización Agrícola (INDECA). Encuesta de Producción de Granos Básicos. INDECA-UPE-260-75. Questionnaire dated Sept. 2, 1975.

Information supplied by Otto René Celada C., Unidad de Programación, INDECA, Guatemala. INDECA, the government cereals purchasing and marketing agency, has since 1971 carried out a twice-yearly national sample survey of production of basic grains covering all departments except the Petén. Each survey gathers data on the previous harvest and forecasts of the coming harvest of corn, beans, rice and sorghum.

Method: interviews of cultivators using a simple, 2-page questionnaire. Sample size: about 4,200. Sampling method: the country is divided into four ecological zones, roughly corresponding to the four points of the compass. A number of attributes (e.g. simple vs. multiple cropping; human vs. animal vs. mechanical traction) are used to classify farms growing basic grains, and then from this "mosaic" a total of 30 farms are selected to represent each group of attributes. The sample is scattered about the country using inference from the 1964 agricultural census (210), and 307 municipios are included. About 20 per cent of the sample is formed of parcelamientos. Randomness of the sample is achieved by interviewing small farmers at the entry points to market towns; large farmers, however, are interviewed on their farms. The survey is carried out in July-August and in November-December. Speed of obtaining results is considered to be important. A professional staff of 5 enumerators takes an average of 15 days to complete the field work. Tabulation by manual means takes another 15 days on average.

In comparison with the sample used by the DGE (see description under (251)), INDECA's sample covers a larger number of municipios but has a smaller number of sample farms. Celada's view is that the construction of the sample frame is the most important problem in carrying out a production survey in a country of heterogeneous producers like Guatemala. He believes that to be valid a sample segment should consist of no more than 20 cultivators. He says INDECA is going to experiment with the DGE's sampling method for carrying out the July-August 1976 survey, but he is not too hopeful of improvement. He says INDECA is also talking to the Instituto Nacional de Geografía about the possibility of using aerial photography to construct the sample frame.

As a matter of interest, I asked Celada for his estimate of the proportion of total production of basic grains in Guatemala accounted for by small farmers. For corn, he said it had been 95 per cent up to 1975, when a combination of shifting land on the south coast out of cotton and into corn production and the opening of newly cleared lands in the Petén had resulted in a lowering of this figure to about 80 per cent in the 1975 - 1976 agricultural year.

275. Encuesta de Producción de Granos Básicos. INDECA-UPE-260-75. El Petén. Questionnaire dated Sept. 2, 1975.

During the 1975 - 1976 agricultural year INDECA carried out a survey of basic grains production in the department of El Petén, using the same questionnaire as (274). Sample size: 4,430 cultivators. Numerous problems were encountered and Celada considers the data obtained of doubtful reliability.

276. Roy A. Clifford and Erwin Flores J. Algunos Aspectos de las Migraciones de los Beneficiarios de Transformación Agraria de Guatemala. Guatemala: Instituto Interamericano de Ciencias Agrícolas (IICA), Dirección Regional para la Zona Norte. 1972.

Study of beneficiaries of land redistribution based on data collected and supplied by the Departamento de Colonización y Desarrollo Agrario, Instituto Nacional de Transformación Agraria (INTA), Guatemala.

277. Instituto de Nutrición de Centro América y Panamá (INCAP). Oficina de Investigaciones Internacionales de los Institutos Nacionales de Salud (EEUU). Ministerio de Salud Pública y Asistencia Social. Evaluación Nutricional de la Población de Centro América y Panamá: El Salvador. INCAP V-26. N.p., 1969.

Time frame: Sept. - Nov. 1965. Sample size: 3,231 individuals, or 1.1 per cent of the total population of El Salvador.

278. Wilbur Jiménez. Chap. IV. Movimientos Migratorios Internos Registrados por el Censo de 1950. Aumento de la Población durante el Periodo Comprendido entre 1927 y 1950.
A study of migration in Costa Rica based on census data.
279. _____. "Esquema de la Evaluación Demográfica de Costa Rica." Revista de Estudios y Estadísticas (San José), No. 1 (1961), pp. 5-14.
280. Richard N. Adams. Migraciones Internas en Guatemala; Expansión Agraria de los Indígenas Kekchíes hacia El Petén. Guatemala: Centro Editorial "José de Pineda Ibarra," Ministerio de Educación, 1965.
281. Richard P. Applebaum. San Ildefonso Ixtahuacán, Guatemala: Un Estudio sobre la Migración Temporal, Sus Causas y Consecuencias. Guatemala: Seminario de Integración Social Guatemalteca, 1967. Cuaderno 17.
282. Jorge Arias B. "Aspectos Demográficos de la Población Indígena de Guatemala." Boletín Estadístico (Guatemala, DGE), No. 1-2 (1959), pp. 18-38.
283. _____. "Migración Interna en Guatemala." Estadística (Washington), Sept. 1962.
284. _____. "La Concentración Urbana y las Migraciones Internas." Problemas de la Urbanización en Guatemala. Guatemala: Seminario de Integración Social Guatemalteca, 1965, pp. 19-45.
285. Susan N. Oxnard. Expanding Settlements in the Pacific Lowlands of Guatemala. Unpublished master's thesis for Faculty of Political Science, Columbia University, 1968.
286. Roy A. Clifford. El Estudio de la Situación Social de la Comunidad Rural de Nueva Concepción, Guatemala. Guatemala: IICA, 1968.
A confidential study of a large parcelamiento of about 35,000 inhabitants using interviews with questionnaire done for the Guatemalan government.
287. Roy A. Clifford and Gregorio Alfaro. Informe de la Investigación Preliminar Socio-Económica para el Proyecto Piloto de Cooperativas Rurales. San José: Banco Nacional de Costa Rica, Publicación No. 10, 1955.
288. Roy A. Clifford, Neptali Monterroso, and Francisco Vera López. Estudio Sociológico de la Finca Sabana Grande, Departamento de Escuintla, Guatemala. Guatemala: IICA, 1968.

289. Comité Interamericano de Desarrollo Agrícola (CIDA). Inventario de la Información Básica para la Programación del Desarrollo Agrícola en la América Latina: Centroamérica. Washington: Pan American Union, 1965.
290. El Salvador. Instituto de Colonización Rural, Departamento Social. Estudio Socio-Económico, Hacienda La Reforma. San Salvador, 1966.
291. Humberto Flores Alvarado. Las Migraciones Internas en Guatemala. Guatemala: Instituto Indigenista, 1961. (Mimeo)
292. Miguel Angel Funes C. Movimiento Migratorio. Honduras, March 1968. (Typescript)
293. Honduras. Instituto de Investigaciones Económicas y Sociales. Tierras y Colonización. Tegucigalpa: Universidad Nacional Autónoma de Honduras, Facultad de Ciencias Económicas, 1961.
294. Charles P. Loomis and Reed M. Powell. "Sociometry Analysis of Class Status in Rural Costa Rica: A Peasant Community Compared with an Hacienda Community." Sociometry, 12.
295. Sanford A. Mosk. "Economía Indígena en la América Latina." Cultura Indígena de Guatemala. Guatemala: Seminario de Integración Social Guatemalteca, No. 1, 1959, pp. 67-99.
296. Raymond Stadelman. "Maize Cultivation in Northwestern Guatemala." Contributions to American Anthropology and History, VI (33), June 1, 1940, pp. 82-263.
297. M. Tosco et al. Aprovechamiento y Dominio de las Tierras en 1950-51. Tegucigalpa: Banco Central y Banco Nacional de Fomento, 1951.
298. B. O. Williams. The Subsistence Agriculture of Lake Yojoa. Tegucigalpa, 1957.
299. Oscar Arguedas Madrigal. Costos de Producción de Frijol en Tres Tipos de Siembra en la Zona de Alajuela. Unpublished thesis for the Faculty of Agronomy, Universidad de San Carlos de Guatemala, 1971.
300. José Francisco Castillo Cajas. Estudio Económico de la Mano de Obra en la Finca Sabana Grande. Unpublished thesis for the Faculty of Agronomy, Universidad de San Carlos de Guatemala, 1971.
301. Roberto Fonseca Robles. Estudio Económico del Parcelamiento "Los Angeles". Unpublished thesis for the Faculty of Agronomy, Universidad de San Carlos de Guatemala, 1973.

302. Flavio Rodolfo Leal López. Municipio de Cabricán - Quezaltenango. Tema: Estructura y Grado de Desarrollo. Sub-Tema: Artesanía. Unpublished thesis for the Faculty of Economic Sciences, Universidad de San Carlos de Guatemala, 1973.
303. Meyer Solano Conejo. Estudio Agro-Económico de Una Unidad de Productores de Campesinos. Unpublished thesis for the Faculty of Agronomy, Universidad de Costa Rica, 1966.
304. Alvan O. Zarate. Principales Patrones de Migración Interna en Guatemala, 1964. Guatemala: Seminario de Integración Social Guatemalteca, 1967.
305. Alfred John Hagan. An Analysis of the Hand Weaving Sector of the Guatemalan Economy. Unpublished Ph.D. dissertation, University of Texas, 1970.
A study based on interviews with owners and owner-operators of artisanal weaving firms using questionnaire. QI.
306. Ridgway Satterthwaite. Campesino Agriculture and Hacienda Modernization in Coastal El Salvador: 1949 to 1969. Unpublished Ph.D. dissertation, University of Wisconsin, 1971.
307. Lawrence H. Feldman. A Tumpine Economy: Production and Distribution Systems of Early Central-East Guatemala. Unpublished Ph.D. dissertation, Department of Anthropology, Pennsylvania State University, 1971.
308. Gary Howland Smith. Income and Nutrition in the Guatemalan Highlands. Unpublished Ph.D. dissertation, Department of Economics, University of Oregon, 1972.
The study states: "During the months of October, November, and December 1969, and at various times during 1970, the writer interviewed a number of farmers in the Guatemalan Highlands departments of Chimaltenango and Sacatepequez. The purpose was to determine what systematic relationships exist between levels of per capita income and the amount consumed per capita of specific foods regularly eaten by members of farm families near the level of subsistence." QI. Sample size: 55.
309. Carlos O'B. Fonck. Modernity and Public Policies in the Context of the Peasant Sector: Honduras as a Case Study. Unpublished Ph.D. dissertation, Cornell University, 1972.
A careful and innovative analysis based largely on the rural portions of the data contained in (170). The writer's major hypothesis is the following: "Significant political and technical conflicts---sources of social strain---can be identified by examining the characteristics of the peasant sector and of its linkages with other socio-economic strata in the light of the current agricultural policy. This hypothesis carries the assumption that the limits to agricultural modernization are primarily social, not physical or biological." (p. 64)

310. James Robert Taylor, Jr. Agricultural Settlements and Development in Eastern Nicaragua. Unpublished Ph.D. dissertation, University of Wisconsin, 1968.
A study based on interviews with persons in 272 farm units in the Rama area, average per capita income \$98.
311. Guatemala. Ministerio de Salud Pública. Directorate of Planning, Evaluation and Statistics. Unpublished data in files.
These data include morbidity and mortality data from rural areas at municipio level.
312. Guatemala. Ministerio de Salud Pública.
Paramedical auxiliaries perform a village survey as part of their training at the training school at Quiriguá and also survey the village they are assigned to on their arrival there. Consequently, there exists a body of data in the files of the health centers, area chiefs, etc. of the ministry giving infrastructural data of a large number of villages.
313. Guatemala. Instituto de Ciencia y Tecnología Agrícolas (ICTA). Sección de Socioeconomía Rural. Unpublished data.
Information supplied by Dr. Peter Hildebrand. Since 1975, this section of ICTA has been building a wealth of information on small farmers in Guatemala. The basic purpose of the information is to allow ICTA to design cropping systems that stand a chance of being adopted by small farmers. For this purpose the data are of a micro nature and cover a wide range of socioeconomic variables.
Method: The focus is on the cropping system of the marginales, or marginal farmers. A team of the section arrives in a region with the purpose of making a sondeo, looking particularly for a traditional, relatively homogeneous agriculture manifested by existing cropping practices so as to get at a similar group of constraints in operation (e.g. resources, social barriers). This sondeo in effect serves to delimit the population to be investigated.
From this population, a sample is selected. The approach is closer to the case study than the large-sample survey. Members of the team go through the entire cropping season with individuals in the sample, noting down the practices, calendar followed, etc. Why does the farmer do what he does? Is planting labor the most constraining factor? Or is he merely following tradition? The members use a questionnaire to elicit data, but try to keep their talks with farmers informal, using a tape recorder, in some cases to preserve the farmer's own words without the formality of taking notes on what he says. The data collected include some on diet, and Hildebrand says the family's consumption of tortillas and beans provides a good rough indicator.

In a second phase, team members give the sample farmers a single sheet containing data spaces to be filled in, making entries daily. ICTA summarizes the recording sheets monthly, and tabulates them on a crop by crop basis annually.

A further source of information are the records kept by the técnicos who constitute ICTA's production teams. The focus is on improving productivity per man, and improving the productivity of labor used in planting especially.

The data are being tabulated manually and will appear in ICTA's reports and publications.

It seems clear that ICTA's main emphasis is on the "subsistence" crops. Hildebrand says ICTA's sample estimates of production of these crops have compared favorably with INDECA's (see (274)), in the relatively few areas where ICTA has collected such data so far. Carl Koone, USAID/Guatemala, ranks ICTA's emphasis as follows: 1. corn and beans; 2. rice and sorghum, 3. vegetables and swine.

314. Catholic Relief Services (CRS) - U.S.C.C. Central American Regional Training Program for Workers in Preschool Feeding Programs. Part I. General Report. 1972.

This reports the results of a 1969 survey of the nutritional status of 820 children aged 6 months to 5 years who were from the worse-off sections and of a follow-up survey in 1970 of 468 of the same children, the data being recorded at feeding centers in Guatemala, El Salvador, Nicaragua, Costa Rica, and Panama. Data series include dietary information, medical histories, results of physical exams, clinical tests, and anthropometric measurements (using INCAP standard weights as reference). Also Gomez classification.

V

LOCATION OF PRINTED SOURCES

1-6 Biblioteca, DGEC, C. 2 A. 6, San José.
 7,9,10 USAID, RDO, San José.
 11, 98,169, 244,277 National Institutes of Health, Rockville, Md. 20862;
 and INCAP, Carretera Roosevelt, Zona 11, Guatemala.
 12-16 USAID, RDO, San José.
 21,25,26 USAID, RDO, San José.
 22-24 Biblioteca, IICA, Turrialba.
 27,28 MAG, San José.
 32-44 MAG, San José.
 51-59 ITCO, San José.
 62 Office of Prof. Cespedes, Fac. Ecs., U. of C.R., San José.
 65 IFAM, C. 1 A. 3, San José.
 66-68 MSP, San José.
 17, 71 CELCA, San José.
 72-83 ACM, San José.
 84 Office of Dr. Boynton, CATIE, Turrialba.
 90-96 USAID, RDO, Managua.
 99,101,124 DIPSA, Km. 12, Carretera Norte, Managua.
 104 OCE, Managua.
 97 INCEI, Managua.
 106-109 USAID, Program Office, Managua.
 111-114 MAG, Km. 12, Carretera Norte, Managua.
 115 USAID, Education Office, Managua.
 116 UASS, Managua.
 98,117,120-2 USAID, Public Health Office, Managua.
 118 Dr. Hidalgo's office, MAG, Km. 12, Carretera Norte, Man.
 119 FUNDE, Managua.
 123 USAID, Mr. H. Bustamente, Program Office, Managua.
 125-129 DIGESTYC, Biblioteca, C. Arce 953, San Salvador.
 130-131 MAG, DGEA, DEA, San Salvador.
 132 USAID, Agriculture Office, San Salvador.
 135-137 MAG, DGRD, San Salvador.
 138 Dr. Cutié's office, U. Centroamericana José Simeón
 Cañas, San Salvador.
 139-140 IICA, San Salvador.
 141 Biblioteca, Fac. Ci. Agr., U. El Salvador, San Salvador.
 142-146,148 USAID, Education Office, San Salvador.
 147 DIGESTYC, San Salvador.
 150 BFA, C. 6 Poniente A. 15 S., San Salvador.
 151 MSPAS, OE, 15 A. Sur 114, San Salvador.
 152-154 " USPHS, CDC, Atlanta.
 155, 159-63 MAG, DGRD, San Salvador.
 156 BC, San Salvador.
 157 MAG, OSPA, San Salvador.
 158 FOCCO, San Salvador.
 164-165 CRS, San Salvador.
 166 DIGESTYC, San Salvador.
 167 Biblioteca, CONAPLAN, Casa Presidencial, San Salvador.
 168 MRN, DPS, DEAEA, Blvd. Toncontin, Edificio Desagro
 Casa No. 1534 (frente euracao), Comayagüela.
 170 USAID, Health Office, Tegucigalpa.
 171-5,179-87 DGEC, Comayagüela.
 178 ATAC, Banco Nacional de Fomento, 7th flr., Comayagüela.

176,177 DGEC, Biblioteca, Comayagüela.
 189 PANI, 3 A. 4 C., Tegucigalpa.
 190,191 IISE, 4 C. 4+5 A., Altos de la Urbana, Tegucigalpa.
 193 CN, Tegucigalpa.
 194-196 USAID, Education Office, Ave. La Paz, Tegucigalpa.
 197-198 MRN, DPS, DASA, Blvd. Toncontin, Comayagüela.
 199 Office of P. Lucas, Edificio Jiménez Talavera, 2nd.
 flr., 8 A. 11+12 C., Comayagüela.
 201-204 MPH, DN, Tegucigalpa.
 205 UNAH, Tegucigalpa.
 206 USAID, Education Office, Tegucigalpa (typescript).
 207 Casa Cural, Choluteca.
 208 FUNHDESA, 4 C. 4+5 A., Altos de la Urbana, Tegucigalpa.
 210-214 DGE, Dept. Censos y Encuestas, Aurora, Zona 13, Guatemala.
 215 USAID, RDO, Office of Carl Koone, Guatemala.
 216-18 INCAP, Carretera Roosevelt, Zona 11, Guatemala.
 219 LTC, U.Wis., Madison.
 221 Office of T. Farrell, INCAP, Guatemala.
 222-238 INCAP.
 239 USAID, RDO, Office of Carl Koone, Guatemala.
 240-241 DIGESA, 12 A. 19-01, Zona 1, Guatemala.
 242 LA/DR, AID/Washington.
 246-247 CNPE, Banco de Guatemala, Zona 1, Guatemala.
 248,274-5 INDECA, 11 C. 3-23, Zona 9, Guatemala.
 249-50 ROCAP Library, Guatemala.
 251-256 DGE, Punto Focal Nacional, 8 A. 9-12, Zona 1, Guatemala.
 258-261 ROCAP Library, Guatemala.
 262-6 BVE, 2 A. 8-53, Zona 1, Guatemala.
 267-273 DIGESA, 12 A. 19-01, Zona 1, Guatemala.
 276-298 IICA, DRZN, 8 C. 1 A., Zona 9, Guatemala.
 299-303 Biblioteca, Fac. Agronomía, U. San Carlos de G., Guatemala.
 305-310 ROCAP Library, Guatemala.
 311-312 MSP, Guatemala.
 313 ICTA, Salón Internacional, Zona 13, Guatemala.
 314 CRS, 11 A. 31-86, Zona 5, Guatemala.

VI
LOCATION OF DATA

4,5,47,50 LADB, U. of Florida (computer tapes).
 85-88,127 " " " "
 130-131 MAG, San Salvador (Data just starting to come in
 from preliminary surveys).
 9 AITEC, San José.
 125,126,129,
 142-4,166 DIGESTYC, San Salvador.
 135-6 MAG, San Salvador.
 150 Files, EPA, San Salvador.
 152-4 USPHS, CDC, Atlanta.
 159 MAG, San Salvador.
 177 LADB, U. of Florida.
 179,181-6 DGEC, Comayagüela (Files of completed questionnaires
 are stored in a 2nd. flr. room marked "Archivos")
 170 DGEC, Comayagüela (computer tape).
 180 Office of Felipe Vinicio Espinoza Guzmán, BCH, 5th Flr.
 197 MRN, DFS, DASA, Comayagüela (cards + orig. questionnaires)
 206 INCAP, Guatemala.
 215 AID/Washington (on tape).
 216-8,222-38 INCAP, Guatemala.
 239 ATAC, 7655 Old Springhouse Rd., McLean, Va. 22101.
 240-241 DIGESA, Guatemala.
 242 CNPE, Guatemala; AID/Washington
 11,98,169,
 243,244,277 INCAP, Guatemala.
 245 LADB, U. of Florida.
 311 MSP, Guatemala; Dr. E. Croft Long, USAID/Guatemala,
 also says he has copies at home.

VII
SOURCES OF DATA ON THE CONDITIONS
OF ESTATE AND PLANTATION WORKERS

Costa Rica

1. Camara Nacional de Bananeros, San José. Tel. 227891
2. Camara de Productores de Caña del Pacífico, San José.
Tel. 445154
3. Camara Nacional de Cafetaleros, San José. Tel. 218207
4. Camara de Azucareros, San José. Tel. 212103
5. Asociación Bananera Nacional S.A. (ASBANA), San José.

El Salvador

1. Compañía Salvadoreña de Café S.A., 2 C. Ote y 6 A. Sur,
San Salvador.
2. Cooperativa Algodonera Salvadoreña Limitada, 7 A. Norte 418,
San Salvador.
3. Cooperativa Azucarera Salvadoreña Ltd., 9 A. Norte 212,
San Salvador.

Honduras

1. Asociación Hondureña de Productores de Café, 6 C. 10 A.,
Tegucigalpa.
2. Asociación Nacional de Campesinos Honureños (ANACH),
San Pedro Sula.
3. Unión Nacional de Campesinos, 5 C. 2 A., Tegucigalpa.

Guatemala

1. Asociación Nacional de Café (ANACAFF), Edificio Etisa,
4th flr., Plazuela España, Zona 9, Guatemala.
2. Asociación de Azucareros de Guatemala, 12 C. A 2-41, Zona 1,
Guatemala.
3. See reference (220).

VIII

A NOTE ON DATA PROCESSING FACILITIES

Costa Rica (as of Nov. 1975)

1. Dirección General de Estadística y Censos.
 - a) IBM 1401 16 K 6 tape units.
 - b) Anticipates arrival of excess property IBM 1401 12 K 2 tape units with console inquiry.
 - c) DGEC will most certainly seek means to beef up above configuration to 16 K (\$250/mo.) and 6 tape drives (\$1,000/mo.). This would leave DGEC with two complete 1401 systems which would take care of their present and future needs into the 1980's.
2. Universidad de Costa Rica.
 - a) IBM 360/40 $\hat{=}$ 392 K 4 tape units various disc drives.
 - b) According to UCR technicians there is very little time available for outside work.
 - c) IBM 1620.
3. Ministerio de Hacienda.
 - a) IBM 370/135 $\hat{=}$ 392 K 4 tape units 3330 disc drives remote terminal capacity to service the Ministerio de Gobernación's land titling function.
 - b) At present time the computer is being used to maximum.
4. Instituto Interamericano de Ciencias Agrícolas (IICA).
 - a) IBM 1130 8 K with disc drives no tape units.
5. Banco Central
 - a) IBM 1401 12 K 4 tape units
 - b) For 1976-77, IBM 370/115.
6. Instituto Nacional de Seguros.
 - a) Same as for Banco Central.
7. Banco Nacional de Costa Rica.
 - a) IBM 360/25 32 K with tape drives.
8. Banco de Costa Rica.
 - a) Basic four.
9. Banco Crédito Agrícola de Cartago.
 - a) Basic four.

Nicaragua

1. Dirección de Planificación Sectorial Agropecuaria (DIPSA).
 Currently DIPSA uses the computer of the Ministerio de Haciends. This year DIPSA has a fixed-price agreement with IBM. Next year, DIPSA hopes to have its own computer. I was told that in three or four years DIPSA hopes to be processing all public sector information. A more important constraint at the present time than lack of computers is said to be lack of trained programmers.

El Salvador

1. Dirección General de Estadística y Censos (DIGESTYC).
 - a) IBM 360.
2. Ministerio de Hacienda.
 - a) IBM 360/30 64 K 4 disc drives, 2 magnetic tape units 2401, 2 printers 1403N-1 and 1 printer 2540.
3. Instituto de Seguro Social Salvadoreño.
 - a) 380.
4. Ministerio de Educación.
 - a) H-P mini-computer and tape unit, high speed printer.
5. Universidad de El Salvador.
 - a) H-P.

Honduras

1. Dirección General de Estadística y Censos (DGEC).

DGEC has its own (rather old) computer, adequate for present purposes. Census data are stored on punch cards or tapes, and are being transferred to discs.

Guatemala

1. Dirección General de Estadística (DGE). (as of June 1975)
 - a) IBM 360/25 with a disc operating system and four tape drives with channel selector. Assembler. RPG. Autocoder. Also adapter for 1401.
 - b) Units of core: 32 K.
 - c) Three trained and experienced full-time computer operators.
 - d) Four trained and experienced full-time computer programmers.
2. Dirección General de Servicios Agrícolas (DIGESA).
 - a) DIGESA will get a tie-in with the computer of the Ministerio de Hacienda under a new agreement.
3. INCAP.
 - a) 1620. This is described as inadequate.
 - b) Expects to receive a H-P 3000 by June 1976 which should allow all data to be processed on site.

IX

A NOTE ON LAND REGISTRY IN
CENTRAL AMERICA

The governments of the Central American countries are still grappling with the legacy left by three centuries of Spanish rule, the Spanish Crown and its colonists having replaced the communal land ownership of the original inhabitants with a new system based on the concept of private property (or, in the case of the Crown, Crown property). The process and its resulting confusion has been well described by David Browning as it occurred in El Salvador, where it culminated in the abolition of ejidal land in 1882 following the speculative rise in land values for coffee growing.

The present state of land registry is chaotic in all the Central American countries. The situation has been described for Honduras in a recent agricultural sector assessment by the USAID Mission there:

"Compounding these problems . . . is the chaotic system of deeds and titles in Honduras, with about fifteen types of tenure imposed on top of the traditional Spanish private and public land grant system. According to cadaster experts familiar with Latin American land tenure and title systems, Honduras has probably the most inefficient and thoroughly antiquated property registry system in the hemisphere, lacking such basic items as an index of the registry. Deed registry is rarely done, being regarded by many as an unnecessary formality. The result is that scattered land invasions, as have occurred in the past few years, are almost impossible to resolve for lack of clear proof of rights to the ownership or usufruct of the land. Even the GOH cannot precisely identify national and municipal lands that should be available for distribution under agrarian reform programs."

This situation makes any attempt to deduce from the land tenure records in existence to the implications of socio-economic well-being relevant to a poverty index hazardous. The first Honduras agricultural census (175), for instance, in its question on land tenure distinguished ejidal lands (terreno ejidal) from land owned in full title (terrenos propios). In the second agricultural census (174) a third form of land tenure, national land (terrenos nacionales) was distinguished. The definitions given were as follows:

"Terrenos ejidales

"Los ejidos son terrenos de propiedad del municipio y solamente las municipalidades pueden disponer de los mismos. Cuando un vecino del lugar solicita a la municipalidad, se le concede permiso para usar una determinada parcela de terreno, la municipalidad mediante una constancia concede dicho permiso siempre y cuando lo estima conveniente; el solicitante adquiere el dominio útil sobre dicho terreno, pero no puede venderlo ni hipotecarlo."

"Terrenos nacionales

". . . son de propiedad del Estado . . . El Estado da estos terrenos a las personas o sociedades para que las . . ."

As becomes evident from the census definitions, in Honduras national and ejidal lands are awarded under various types of leasing arrangements, including lifetime leases, and therefore the simple classification of land tenures according to three juridical categories fails to give an accurate idea of the actual degree of control over land. It follows that questions on land tenure, to have meaning for a rural poverty investigation, must be very carefully thought out. Even so, such data are based on personal declarations, and there may be interest on the part of the interviewee in concealing the actual state of tenure (particularly where there is a tax on agricultural land, as in Costa Rica). Moreover, concealed tenure under the well-known devices of having land registered under various relatives and friends of the actual owner operates here, as it does in India and elsewhere, further complicating the researcher's task.

In none of the Central American countries do cadastral surveys provide complete coverage of the country at the present time.

X

THE SIECA PROJECT LIST OF VARIABLES

ANNEX No. 1

(To the C.A. Vice-Ministers of Agriculture Acta, Sept. 26, 1975)

OUTLINE FOR THE STUDY ON LIVING CONDITIONS OF RURAL MAN IN THE
INTEGRATED RURAL DEVELOPMENT OF THE CENTRAL AMERICAN COUNTRIES

1. Introduction: Objectives and Purpose of the study.
2. Living standards in rural Central America.
 - 2.1. Rural demographic characteristics
 - 2.1.1 Rural population
 - 2.1.2 Birth and death rates in the rural areas
 - 2.1.3 Age distribution of the rural population
 - 2.1.4 Rural life expectancy
 - 2.1.5 Urbanization of the rural population
 - 2.1.6 Rural-urban and rural-rural migration
 - 2.1.7 Economically active rural population
 - 2.2 Social conditions in the rural area
 - 2.2.1 Rural education
 - 2.2.1.1 School population in the rural area
 - 2.2.1.2 Rural elementary education
 - 2.2.1.3 Rural middle education
 - 2.2.1.4 Agriculture training systems
 - 2.2.1.5 Government expenditures
 - 2.2.1.6 Rural education
 - 2.2.2 Nutrition and health in the rural area
 - 2.2.2.1 Quality of rural nutrition
 - 2.2.2.2 Deficiencies in rural nutrition (Calories, protein, vitamins)

- 2.2.2.3 Rural medicine
- 2.2.2.4 Principal causes of mortality in the rural population
- 2.2.2.5 Health services and drinking water in the rural area
- 2.2.2.6 Rural social security and welfare services
- 2.2.3 Housing and urban centers in the rural sector
 - 2.2.3.1 Type and quality of living quarters of the rural population
 - 2.2.3.2 Crowding and precarity in the rural sector
 - 2.2.3.3 Energy services in the rural area
 - 2.2.3.4 Characteristics of rural population centers
- 3. Quality of life of the Central American rural population
 - 3.1 Social structures and classes in the rural society
 - 3.1.1 Ethnic groups in the rural area
 - 3.1.2 Fundamental criteria for the distribution of social groups in the rural sector
 - 3.1.3 Social mobility in the rural society
 - 3.1.4 Leading classes in the rural sector
 - 3.2 Social integration and rural aspirations
 - 3.2.1 National integration of the rural society
 - 3.2.2 Self awareness of rural man
 - 3.2.3 Social aspirations of rural man
 - 3.2.4 Attitude of the campesino toward women
 - 3.2.5 Social position of peasant women
 - 3.3 Social and associative participation of rural man
 - 3.3.1 Political participation of the rural man
 - 3.3.2 Participation of rural man in religious and community life

2.3.2 Peasant participation in rural associations

4. Determinants of the economic and social conditions of rural man

4.1 Judicial systems

4.1.1 Land tenure systems

4.1.1.1 Full ownership

4.1.1.2 Rental systems

4.1.2 Labor legislation in the agricultural sector

4.1.2.1 Contracting system for day laborers

4.1.2.2 Minimum wages in the rural area

4.1.2.3 Company stores (company stores) and their applicable legislation in the agricultural sector

4.1.2.4 Working hours in the rural area

4.1.2.5 Working conditions in agricultural firms

4.1.2.6 Social welfare systems in the rural area

4.2 Concentration of property in the agriculture sector

4.2.1 Concentration of land ownership

4.2.2 Concentration of agricultural capital

4.2.3 Concentration of agricultural capital

4.2.4 Farmers' access to technology

4.3 Distribution of income in the rural sector

4.3.1 Productivity of land according to use and according to size of farms

4.3.2 Margoveruse capacity of agricultural firms

4.3.3 Functional distribution of rural income

4.3.3.1 Value-added, by individual agricultural activities

4.3.2.2 Wages of the agricultural laborer

- a) Nominal wages and actual wages of the agricultural laborer
- b) Total family income of salaried agricultural laborers
- c) Cost of living for the campesino
- d) Composition of agricultural wages (payments in kind, cash payments)
- e) Contracting systems in the rural area
- f) Working conditions of paid laborers in the rural area (comparison among the various crops, and comparison with small farmers)
- g) Comparison of wages among various agricultural activities and zones, and among countries and products
- h) Influence of international price levels of agricultural products on level of salaries
- i) Living conditions of paid rural laborers
 - i) Education level in the rural area
 - ii) Feeding, nutrition and health of the campesino
 - iii) Rural housing
 - iv) Public services in the rural sector
 - v) Influence of income on the levels of education, food consumption and nutrition, health, and housing levels in the rural area
- j) Index of rural poverty (salary for capita/cost of goods required to maintain a minimum level of life for the typical campesino laborer and his family)

4.3.2.3 Return on rural capital

- a) Composition of benefits of agricultural capital (real and attributed income, payments made or attributed to capital, income or profits) by types of farmers (small, medium and large), by products and by zones (relationship of income to property value).
- b) Financing of farmers

- i) Self-financing and private financing, business financing, private banks, government banks, and others.
 - ii) Terms of agricultural credit (short, medium and long-term)
 - iii) Areas of concentration of agricultural financing, (types of crops; by types of producers, small, medium and large, by zones and regions)
 - iv) Limitations on agricultural financing
 - v) Elements on which agricultural financing depends
 - vi) Impact of the different rate on agricultural production
- c) Agricultural profits and capital formation
- i) Income of farmers, concentration of the agricultural income, distribution of the agricultural income, (value-added-salaries) of farmers, according to size
 - ii) Relationship between return on capital and amount of capital, among different strata of agricultural producers
 - iii) Formation of agricultural capital (new investments and their composition)
 - iv) Impact of investments, on employment, and on salaries paid by agricultural firms
 - v) Financing of new investments in agriculture (own resources, loans)
 - vi) Impact of international prices on agricultural investments
- d) The public sector in agriculture
- i) Public sector investment in the rural sector
 - ii) Expenditures of the public sector in the rural sector (Social welfare, health, education, etc.)
- e) Level and quality of life of the campesino and some of their determinants
- i) Factors influencing the food intake and nutrition levels of the campesino, (Level of income, cultural and other factors)
 - ii) Factors influencing the rural educational level
 - iii) Factors influencing life expectancy and mobility in campesino groups
 - iv) Factors determining housing and shelter conditions in the rural area

v) Factors determining campesino social classes, social integration and participation

5. Agricultural Income Transfer Processes

5.1 Central American agriculture and the foreign sector

5.1.1 Evaluation and analysis of agricultural exports

5.1.1.1 Quantity

5.1.1.2 Value

5.1.1.3 Prices

5.1.2 Evaluation of total imports

5.1.2.1 (Quantity, value, total prices)

5.1.2.2 Agricultural inputs, and machinery and equipment for agricultural work

5.1.2.3 Imports outside the agricultural sector

5.1.3 Behavior of gross and net terms of interchange in Central America

5.1.4 Exporting capacity of each one of the principal agricultural exports

5.1.5 Structure of the import market for agriculture and livestock-originated raw materials and of the export market for industrial products

5.1.5.1 Agricultural import monopoly

5.1.5.2 Subsidies to agricultural production in developed countries

5.1.5.3 Speculation in agriculture and livestock-related raw materials

5.1.5.4 Monopoly and oligopoly in industrial products exports

5.1.5.5 Large and small agricultural and industrial units

5.1.5.6 The struggle for control of raw materials production and markets, in non-market activities. (Behavior of large transnational enterprises)

5.1.6 Effect of increases in productivity on international prices

5.1.6.1 In the agricultural sector

5.1.6.2 In the industrial sector

5.2 Central American agriculture in the internal market

5.2.1 Goods produced by the agricultural sector for the internal market of the region

Identification of some, evolution of the quantity value and process of agricultural production. Price fluctuations in the short and long term.

5.2.2 Goods acquired by the agricultural sector (Machinery, equipment, inputs and consumer goods). Identification of products, volume changes, prices and value

5.2.3 Gross and net interchange terms of agricultural products, and of the purchasing capacity of the principal agricultural products for internal consumption. Also, changes in the purchasing power of the ~~population~~, per capita income

5.2.4 Other mechanisms for the transfer of income from the rural sector to the urban centers

5.2.4.1 Purchases by businessmen

5.2.4.2 Purchases by carriers

5.2.4.3 Sales of inputs and agricultural machinery

5.2.4.4 Lack of marketing information in the rural sector

5.2.4.5 Agriculture financing systems

5.2.5 Effects of increases of agriculture production for internal consumption

5.3 Internal relationships in the agricultural sector

5.3.1 Productivity of agricultural resources, by products and by zones within countries

5.3.2 Relationship between increases in manpower productivity and agricultural salaries in various activities and products

5.3.3 Rural employment and unemployment. Causes of same

- 5.3.3.1 Capacity of manpower absorption without technological changes
- 5.3.3.2 Influence of mechanization on agricultural production, wages, employment and unemployment in the rural area
- 5.3.3.3 Concentration of agricultural capital and its influence on rural employment and unemployment
- 5.3.3.4 Cultural causes of employment and unemployment in the rural area
- 5.3.4 Determination of income of the agricultural laborer and of small agricultural owners
- 5.3.5 Comparison of salaries in various structures of agricultural production (Free laborers, small owners, laborers on large dairy farms and plantations, laborers on middle-sized properties with partners and agrarian cooperatives) (Comparison for various agricultural products)
 - 5.3.5.1 Influence of contracting systems in the rural area on salary levels of agricultural laborers
- 5.3.6 Salaries of union agricultural laborers vs. non-union agricultural laborers
- 5.3.7 Income from land in monetary terms vs. income in kind, in partnership

6. Conclusions and Recommendations

- 6.1 Measures being applied to resolve the situation of rural man
- 6.2 Programs, policies, ~~measures~~ measures and actions already under way
- 6.3 Conclusions, recommendations and guidelines for the formulation of an Improvement Plan for the level and conditions of life of rural man.