

FD-AAA-80-A1



5190176 (3) O'Quinn

UNITED STATES DEPARTMENT OF COMMERCE
Bureau of the Census
Washington, D.C. 20233

rec'd 5/16/79

33p.

5190176005901

END OF TOUR REPORT

San Salvador, El Salvador
David P. McNelis
Statistical Surveys Adviser

Mr. McNelis of Overseas Consultation and Technical Services, International Statistical Programs Center, served in San Salvador, El Salvador, from November 1976 to October 1978 as the Statistical Surveys Adviser to the Surveys Research Section of the Ministry of Planning under the auspices of a Participating Agency Service Agreement between the Bureau of the Census and the Agency for International Development.

END OF TOUR REPORT

Introduction:

The tour to be described in this report began formally in November 1976 and ended in October 1978. It would be a mistake, however, not to include in the report some account of activities that preceded the tour and some that might be expected to follow it.

The project undertaken during the tour was the implementation of a continuing Multi-purpose Household Survey in El Salvador, C.A.-i.e., a permanent periodic survey of a sample of households from which estimates could be made for fairly small sub-national areas. The project had several management and technical goals over and above the production of data and/or reports. Most important among these were:

1. the creation of a permanent household survey capability, an organization of trained employees with the ability to operate, improve, expand, and adapt a multi-purpose household survey to the needs of the Government of El Salvador;
2. the technical design and implementation of a sample of households capable of yielding small area estimates and the development of survey materials such as questionnaires, manuals, table outlines, etc., to collect, process, and publish the many types of data needed by the Government of El Salvador.

Achievement of both these goals together with the actual conduct of data collection, processing, and publication on some regular periodic basis is intended to lead to institutionalization of the survey in GOES. The creation of a permanent capability of this type is really the major thrust of the whole project.

History:

In the following presentation, all footnotes are shown on pages 28 to 32 for easy reference.

Pre-project activities:

McNelis' participation in this project began in August-September of 1975 with the preparation of a written description (PID)¹ of the kind of survey that could be developed in El Salvador and the presentation of this paper to the AID Mission Director and the Minister of Planning. After receiving approvals from both the above, he prepared detailed budgets, staffing patterns, organizational suggestions, a logistical plan, and a timetable for the project. These were incorporated by McNelis into PRP² and PP³ documents which were presented at DAEC⁴ meetings in AID/W by the Mission Director and McNelis. Approval of the PP by the DAEC was received in January 1976.

The initial plan was to begin the project on July 1, 1976 but the starting date was postponed because of the change in the U.S. Federal Government's Fiscal Year-end from June 30 to September 30 and the AID moratorium on starting new projects during the 5th or interim quarter of that year.

In May 1975 McNelis visited El Salvador to present a long list of decisions and actions that would have to be taken by GOES prior to or immediately after the preparation and negotiation of the formal PROAG.⁵ Between May and September the Ministry of Planning leased a building and began to assemble a staff by obtaining, first on loan and later through reassignment, permanent professional staff from the Salvadoran Census Bureau, the Central Bank, and the Labor Ministry. By mid-summer, 1976, there were 5 such permanent professionals on the staff with previous experience in ad hoc labor force, fertility, and other types of surveys. A group of 30 temporary employees was transferred to the new unit from DIGESTYC⁶ during the summer along with their workload of 3 ad hoc surveys that were in progress at the time.

By September 1976 an embryonic secretarial/administrative staff was in place, two vehicles had been assigned with chauffeurs and the staff of SIM⁷ had grown to 5 permanent and about 50 temporary employees, 15 of whom were new and hired directly for this project. In September 1976 McNelis visited El Salvador on TDY and wrote and negotiated the PROAG, coordinating closely and carefully with counterpart personnel in SIM, with the Minister's principal assistants, and with USAID/ES. The PROAG had to be written twice because of a major AID-wide change in late September in the method of preparing PROAGS for grant projects.⁸ A fully agreed upon PROAG was ready for signature by mid-October 1976. Signature was delayed due to the resignation of the then-Minister of Planning; but it was signed by the new Minister of Planning on

October 21, 1976 and by the USAID Mission Director on the following day. AID-BUCEN participation in the project commenced with the release of allotments by AID/W late in October 1976. The Ministry of Planning continued improvising until January 1, 1977, the beginning of its Fiscal Year, at which time it came on-line in full with financial and other support.

This "pre-project period" should be regarded as an important integral part of the project itself. The activities carried out set the stage for later events that would directly affect the likelihood of mounting a successful project. During this period, McNelis visited El Salvador on a quarterly basis on TDY and had meetings with Minister, senior officials, and working staff members in many Ministries which could be supposed or expected to have an interest in a Multi-purpose Household Survey. These included Education, Health, Agriculture, Treasury, Labor, Economic and Planning, and semi-autonomous agencies such as the Demographic Association and the Central Bank. These meetings provided an opportunity to explain multi-purpose surveys, to gauge the level of interest on the parts of potential users, and to estimate the management will to proceed. During this time McNelis and Earl Gerson, Chief, DSD, completed a short management survey of conditions in El Salvador that might influence the likelihood of success should such a project be undertaken. They submitted a joint report to the Director, US Census Bureau and Director, USAID in favor of such a project and recommending Bureau and AID participation. These were all very successful meetings which generated a lot

of enthusiasm and support for the project which continue to the date of this writing. These pre-project activities climaxed when, in April 1976, the Minister of Planning and El Salvador's Ambassador to the US visited the Director of the Census to reinforce personally their interest in and commitment to this project and to stress its importance to their country.

The enlistment of this kind of wide support throughout GOES at the outset undoubtedly contributed to the project's ability to survive, over the ensuing 2 years, a change in government, 3 changes in the Minister of Planning, 2 changes in Sub-Minister of Planning, 3 changes in US Ambassador, 2 changes in the Deputy Chief of Mission, 3 changes in AID Mission Director, 2 changes in Deputy AID Mission Director, and a host of changes in senior and working level officials in the Mission and GOES.

Project Activities:

With the activation of the project work began with intensive self-study of Atlantida materials by SIM personnel according to a plan of assignments written by McNelis, supplemented by extensive group discussion. He also compiled a comprehensive statistical and narrative description of El Salvador, recasting the best data available to put them on a consistent temporal and geographical basis, for later use by the sampling specialists. He identified the map resources available for later analysis by the geographer. He also arrived at agreement with key personnel of SIM and the Ministry on basic subject-matter content of the survey, organization of the office, and a detailed work plan and timetable for the first year's work, and started arrangements for short and long term participant training and for TDY assistance from specialists from BUCEN.

In January 1977, Henry Woltman and Floyd O'Quinn, Sampling Specialists, and Bob Durland, Geographer, arrived on a 3-week TDY and, jumping off from the above compilation, were quickly able to settle on a sample size and design that would yield the desired estimates with the desired level of quality and which would be based on a careful mapping of the segments selected in the sample. Durland evaluated the cartographic resources available in the country and wrote a report outlining a mapping procedure which could be followed. Portions of Durland's report, McNelis's compilation, a sample selection procedure written by O'Quinn, and a theoretical paper written by Woltman were then blended together in "A Sample Design for the Multi-purpose Household Survey in El Salvador."⁹ This important report, translated into Spanish by McNelis and Froilán Fernandez of GOES, guided the work of the first year. It is a model application of the Atlantida case study to this particular country.

Recognizing the size and complexity of the mapping job facing the Unit McNelis negotiated, unsuccessfully, with IGN¹⁰ and the USIAGS¹¹ adviser, to have IGN do the special kind of mapping required by the Unit. Press of their regular work prevented their helping us. Likewise, the IAGS aerial photographs and MAG's¹² mosaics proved useless to the project because, among other things, grassroofed dwelling units and dwelling units hidden by trees did not show on the photos. Neither did the mosaics show power lines, small streams, paths, ravines, and secondary/tertiary roads and similar natural features that would be useful for delimiting sample segments and enumerator assignments.

The Cadaster¹³ maps of the Ministry of Hacienda¹³ would have been useful; for they were based on recent field surveys, their scale was large and they were very professionally drawn; but as of that date, the Cadaster covered only about $\frac{1}{2}$ of the country. We got good cooperation from the Ministry of Health's Malaria Eradication Program which furnished us with hand-drawn sketches of every community in the country which had been treated against malaria. These sketches were crude, not done to scale, and showed no directional orientation; but they showed an approximate location for every dwelling unit in the country. It became obvious that SIM would have to do the mapping in-house. The Ministry of Planning purchased from all the above sources about 2500 maps and the Sub-Minister of Planning personally negotiated with the Minister of Defense to gain access to maps of the defense-sensitive area along the Honduras border. DIGESTYC supplied old (1971) maps of some urban places. Few of these proved usable. A team of 15 employees, a supervisor, and 4 chauffeurs worked full time from mid-March until August mapping the selected PSU's (Municipios) into smaller areas defined by natural boundaries such as rivers, roads, etc., and obtaining an associated measure of size (# dwelling units and size of population) for these segments--principally from the Malaria sketches. There are 105 Municipios in sample. This was a big, hard job because the source materials did not always agree with each other, for example, on which cantones or caserios were inside or outside a particular municipio and even where some municipio boundaries fell.¹⁴ Many trips were made to the field to verify maps and solve boundary problems either on the basis of local custom or statistical convenience. Some questions were

referred to IGN's Boundary Dispute Section for rulings, especially in cases where litigation was in process between adjacent municipios, both of which claimed jurisdiction over a canton.

As fast as the maps for each of the Municipios could be readied, the sample selection procedure was applied and ultimately 1164 segments were selected to be the 2nd stage units of the sample. These were expected to average out at about 50 dwelling units per segment--5 clusters of 10 households.¹⁵ One of the 5 would be selected as the 3rd stage cluster of households to be interviewed. See Woltman and O'Quinn for a detailed description of the procedure.

Field listing of the selected households began in July 1977 and continued through early January 1978. Twenty to 25 employees were occupied more or less full time in the field-listing operation, which was beset by numerous vehicle problems, accidents involving injuries to SIM staff, and delays due to the difficult terrain in rural El Salvador. Ultimately, more than 78,000 households were listed from among which approximately 10,000 were chosen as the final households to be interviewed. During this period McNelis arranged for an additional 10 passenger vehicle to be granted--in--aid from the Mission to SIM to help speed up the listing and for other uses on the project.

Throughout this time period a portion of SIM's staff completed the manual review, coding, correction, and key punching of the 1976 Mano de Obra and Family Budgets surveys and a small survey of commercial/industrial

establishments. These 3 jobs came to SIM with the transfer of the temporary employees cited earlier. Obtaining the employees for SIM was conditional on their completing their work on these surveys which had been started in DIGESTYC.

The period also saw final decisions made on content and layout of 2 basic and 4 supplementary questionnaires, preparation and/or updating of enumerator and coder manuals, listing instructions written, segment folders designed and printed and segment maps reproduced. A 14 drawer map file was constructed and the map files were systematized.

By July of 1977 McNelis had arranged for one long term participant to begin a year of study at ISPC. McNelis accompanied 3 participants on a 3-week observational training visit to the U.S. We visited Washington, J'ville, and Kansas City and spoke with more than 60 people in 28 units of Census, AID, and NCHS. Other contacts had to be foregone because GOES called the participants back a few days earlier than we had planned. Our interest focussed on the Current Population Survey, the U.S.'s Multi-purpose Household Survey.

McNelis' activities during the period also included participating in numerous meetings on behalf of either the AID Mission or SIM in San Salvador or Guatemala on Rural Poverty Indicators, Social Indicators, the AID-Michigan State "Standard Package" questionnaires, preparation of population

estimates, an AID sponsored family planning survey, a proposed survey of rural poverty, El Salvador's consumer price index, demographic projections, and similar subjects. He also spent considerable time with personnel of the U.N., OAS, FIECA, and other central american or CA-based organizations relating to possible future uses of the frame or the survey itself.

He also drafted a questionnaire and table outlines for a supplement covering dropouts from school. He wrote and presented to the Mission 7 PID's proposing solutions to the data processing problem in GOES, taught a short course in Decision Logic Tables and wrote DLT specifications for legality edits of the Housing Control Card and the Labor Force Questionnaire and made numerous visits to the field to observe the listing operation. He taught an introductory course in English to proposed becarios and was instrumental in obtaining the amicable agreement of the Ministry of Education to release to SIM a superior data processing specialist. He also prepared and delivered a paper describing the project to an OECD conference in Paris, France.

Survey I:

The original project design and timetable called for a 9 month start-up period followed by the initiation of Survey I in October, 1977. Due to slippage in the mapping and field listing, caused mostly by motor vehicle problems and SIM's consequent inability to field a full staff of listing personnel, Survey I was not ready to begin until late January 1978, 3 months behind schedule. SIM had grown to about 60 employees by then, most with

permanent appointments but some with 1-year renewable contracts jointly paid by the Ministry of Planning and the Central Bank and a few paid entirely by the latter.

In view of this schedule slippage, the fact that the MPHS was almost twice as large and dispersed as any sample survey ever attempted in El Salvador, the newness of the staff and some of the procedures, the large number of supplements which Survey I was to carry, and other considerations, we held numerous planning meetings during the period November 1977 and January 1978. The most significant decision taken during this period-- a decision shared unanimously--was to change the time span of Survey I so as not to try to complete the field/office work in 12 weeks (3 months) as originally planned but to spread it over 20 weeks (5 months) and to put Survey II back-to-back with Survey I if it proved feasible to do so. The over-riding concern was the feeling, shared by all, that to attempt to do Survey I in 3 months would require more manpower than we expected would be authorized easily by the new Minister of Planning (the 3rd in 13 months). And so the field work load was planned in such a way as to spread it over 20 weeks, beginning February 13, 1978, and running through July 7, 1978. One full week would be lost due to the Easter Week recess.

Recruitment went into high gear in January 1978 and 37 applicants were selected for training. Twenty-seven of these were hired and 10 were "held in reserve" -- i.e., given promises of future employment depending on personnel turnover or the possible raising of special surveys using SIM's sample frame and human or other resources.

Thirteen of the 27 new hires were interviewers, 7 of whom had previous household interviewing experience. The remainder were office coding, quality control, and administrative personnel. Seven days of concentrated training were scheduled, beginning February 2. McNelis borrowed portable videotape equipment, recently acquired by the Mission, and selected portions of the classroom training were recorded, mostly the "nuts-and-bolts" lectures and some 14 or 15 mock interviews. Later, the video tape equipment was taken to the field to record live interviews in respondents' households. Over the ensuing 4 months a total of 18 one-half hour, black and white video tape equipment was made. Because they were outside the written scope of the project, McNelis reviewed these tapes on nights, weekends, and holidays, foot by foot, and prepared 85 pages of notes on their contents. While there are problems with some of the tapes, there is much good footage that can be used directly for training of new SIM personnel or edited for documentary, or public relations purposes. Some of these tapes ought to be re-done perhaps in a studio with proper lighting and better control over sound recording and background noise. In addition, a few more tapes ought to be made in the field to round out the presentation of interviewing conditions in El Salvador--particularly, a few more urban interviews in the Capitol and one or two of the other cities; and a few interviews should be recorded in the eastern departamentos of Morazan, San Miguel, La Union, and Usulután. These tapes are an unexpected and unplanned by-product of this project.

During this same period, after Survey I had gone into the field, at the request of the Sub-Minister of Planning, McNelis made a verbal mid-project status report, later put in writing, which presented 18 recommendations for management consideration by the Ministry in the final 18 months of the project. Most of these were ultimately adopted by the Ministry. He also wrote and presented a Training Plan for SIM for the latter half of the project. He also re-wrote and re-presented 2 of the PID's he had submitted to the Mission the previous year on the subject of training for computer programmers.

Survey I actually took 30 weeks to complete, finishing up in the field September 16. The delay was caused by some interviewer turnover and illness, the drafting of one team of interviewers for a short period by the Central Bank's committee to revise the CPI, the ubiquitous vehicle problems, and the fact that interviewer production never did reach the hoped-for level of 7-per-day, especially in the Metropolitan San Salvador area. Even so, the qualitative production statistics are quite good as follows:

No. Interviews Attempted	9871	100%
Successful Interviews	9167	92.9%
Non-response-all types ¹⁶	704	7.1%
Type A	30	0.3%
Type B	553	5.6%
Type C	121	1.2%

The low, almost non-existent Type A rate is cause for jubilation and indicates the great energy put into call-backs by the field staff. Near the end of October the office coding and transcription, which SIM had deliberately lagged about 2 weeks behind the field effort, was being closed out and questionnaires were going to punch on a flow basis: 2 punchers were working 2 shifts per day. The programmers, using the first 30% of the file as a test deck, had seen output from the edits and were satisfied that computer programs to format, edit, and correct the file, to insert weights, and expand the data, impute, summary-recode, and tabulate the labor force employment/unemployment tables were ready or would be ready in November. They intended to edit the entire 9871 household records at the one time, try to make all corrections at one time, and produce the most important tables by November's end. I do not have a report on the fail-edit rate, but I overheard a programmer saying that about 6% of the records had one or more errors in them based on experience with testing the edit program on the 1st 30% of the file. Intuitively, I feel this 6% figure is low; but I have written SIM for a report on the matter. If 6% is the right figure, then I think they have done a superb job and hopefully we'll see data soon from Survey I, 1978.

Survey II:

Survey II went into the field on October 16, 1978, a month after close-out of field work on Survey I. Like Survey I, it is planned to be spread over 20 weeks. It will go to the same panel of households as was used for Survey I and will use the same Housing Control Card and Labor Force questionnaire. Survey II will carry 3 supplements: worker mobility, environmental sanitation and nutrition, and medical services. The same permanent staff will carry out the field and office work.

A sampling specialist visited El Salvador in January/February 1979 to advise on procedures for calculating variances and to discuss deferring the establishment of rotation groups for perhaps another year. Some problems evident in SIM's field workload were discussed and suggestions were made for rescheduling the field effort for Survey III which is to begin in April 1979. Through March 1979, two rounds of survey have been completed which carried a total of eight different supplements.

Beyond Survey II

As we watched the week-by-week progress on Survey I--the problems encountered and the unexpected delays--we had numerous discussions within SIM on the question of whether or not to try to shift the survey to a quarterly basis after Survey II. This was the original plan and is still written into Part II of the PROG (the part that can be amended in the field).

SIM's staffing level has been hovering around 90 employees, more or less, of which 25 are authorized as field interviewers and supervisors. This size organization was able to deliver the 10,000 interviews of Survey I in 30 weeks of field work. It is not unreasonable to suppose that twice as large a field staff, 50 persons, could deliver the same product, 10,000 interviews, in half the time, 15 weeks. To service such field effort would probably require an additional 10 or more coders, 2 or 3 more control and quality control clerks, at least 2 additional key punchers, 4 additional drivers (and 4 vehicles), 2 or 3 additional analysts, 2 or 3 experienced programmers, and perhaps, 3 additional secretarial/administrative support personnel--perhaps as many as 53 additional people in all. A larger building would be required, plus an increase in the

logistical support service level (lots of which is hidden in other offices like payroll, the motor-pool maintenance crew, etc.). In all, what will be required is a significant increase in the GOES investment in the survey.

My experience in El Salvador tells me that SIM will get the resources it needs to go quarterly but slowly. I am not optimistic that an increase of the magnitude required will come all at once and at this time.

As of late October 1978 SIM personnel were still hoping and planning on shifting the survey's timing to a quarterly basis immediately after Survey II, just as the PROAG calls for; but I am personally pessimistic now that it can happen that fast and I have so advised SIM's leadership. I believe in consolidating what has been done a while longer. It will not be a disaster if the survey is kept on a 2-a-year basis for another year or so. By that time, many of its end-products should be in print, which should excite some of the potential sponsors who are waiting to add their supplements and who are also excited by the prospects of paying only the incremental costs of adding their supplements to the basic CONAPLAN¹⁷--financed vehicle. There are many such potential sponsors. I could be wrong; but, in my opinion, the resources necessary for growth are more likely to come quickly through the sponsor route than through what the Ministry of Planning will probably regard as a fairly massive infusion of funds into something that has yet to prove its basic value.

Nonetheless, SIM remains more optimistic than I. Sometime between now and the end of Survey II clarification will come on whether or not it is going to be possible to shift to quarterly timing.

ODDS AND ENDSFinancing

This project was initially set up on a 3 year basis. Part II of the PROAG contains budget detail which, projected over the 3 year period, totals costs of \$1.7 million (US) dollars, divided between GOES and AID as follows:

GOES	\$1.350,000	US
USAID	<u>380,000</u>	US
	\$1.730,000	US ¹⁸

Of the USAID contribution, \$80,000 is for participant training. The balance, \$300,000 is for costs of 1 long term resident adviser and a scatter-ation of TDY's by samplers, a geographer, a demographer, and various data processing personnel. The \$380,000 consists entirely of grant funds and, technically the grant was made to BUCEN under a PASA. It includes customary BUCEN over-heads.

It can be seen from this division of costs that the commitment of GOES to this project is quite strong, 3 or 4 to 1 in dollar terms. This commitment was re-stated and re-inforced by Lic. Jorge Escabor, Sub-Minister of Planning and Lic. Fausto Betancourt, Chief of the Planning and Evaluation Office of the Ministry at my final close-out meetings with them. I had similar expressions of commitment and support from officials of CONAPLAN's Demographic and Human Resources Unit, the Demographic Society, and the Ministry of Education.

Needless to say, personnel of SIM are absolutely committed to the survey. They are a little overwhelmed at what has been and is happening to their role in the GOES planning process and the responsibilities they are assuming for providing good and timely data for multiple purposes. It would be useful if the Bureau or USAID could arrange for some high ranking official of the US Census Bureau to visit them from time to time to show fraternity and support. This will go a long way towards strengthening their resolve when they waver (and they do need their confidence "bucked-up" on occasion) and increasing their visibility, thereby strengthening the confidence of the Ministries in general and CONAPLAN in particular.

The Sample Frame:

The 10,000 household sample frame was put in place at a cost of about \$120,000 or \$12.00 per household. These costs include personal services of US advisers (only those costs related to designing and installing the frame) and SIM's costs for the mapping and listing and related operations (but excluding all other costs such as those for questionnaire design, writing manuals, etc.). In the Spring of 1978, USAID wished to mount 2 small surveys, one of about 1500 and the other of 3000 households. Had custom-tailored samples been designed, de novo, for these surveys we estimate that \$52,000 and \$64,000 respectively would have been incurred to put those samples in place. Instead, SIM drew subsamples from the 10,000 MPHS frame at costs of \$4400 and \$8800 respectively--a total cost avoidance of almost \$103,000. Another use or two of the sample frame in this manner and it will be fair to say that the implementation of this sample will have paid back its costs of installation through cost avoidance.

Quite apart from the above, the mere existence of the sample frame itself is cause for considerable interest and enthusiasm among potential sponsors of surveys or impact studies. To date, supplements have been carried out, using the entire 10,000 frame, for the Demographic Society (fertility), the Population and Human Resources Unit (births, deaths, migration), Labor Department (professional development), the Central Bank (cottage industries). Survey II will carry supplements for Department of Health (environmental cleanliness and nutrition), Department of Labor (migrant workers during the harvests), and Department of Health (health care delivery). Survey III is tentatively scheduled to carry Department of Education's "Drop-outs and Repeaters" supplement.

There seems to be no lack of sponsors of supplements. The appearance of this sample frame operated by a permanent, trained organization such as SIM and the possibility of obtaining estimates for frequently encountered characteristics at the Departamento level has opened up a whole new world of socio-economic research possibilities for El Salvador.

In my opinion, the creation of the frame is a major event in survey work in El Salvador, perhaps the most important single contribution that can emerge from this project.

The Maps

To its everlasting credit GOES held still for the mapping exercise, a big, expensive, time-consuming job that was absolutely necessary if later operations

were to succeed but which produced no immediate products of value and which, indeed, had no intrinsic value to GOES in and of itself. SIM made excellent maps of the segments which will be updated each time the segments are visited by the field staff. Master copies are maintained in the office and working copies are included in the segment folders. These maps, periodically updated, lend permanency to the sample. In my opinion, they constitute an important planning resource of uncalculable value.

The Survey Materials

Agreement was reached early-on in the project that the first Survey would follow the Atlantida model, would consist of labor force-housing content, would be as simple as possible, and would use materials (questionnaires, manuals, etc.) with which at least some of SIM's staff members had some familiarity. The ultimate publication of data, while certainly an important goal, was secondary to finding out whether we could design a sample, map it, list it, recruit, organize, train and supervise a large staff, adopt orderly office procedures, etc. In many ways Survey I was regarded as a proving ground or a dress rehearsal. This was a good attitude with which to approach Survey I which, as noted earlier, was twice as large as any sample survey ever attempted in El Salvador and was proposed to be carried out in 1/2 to 1/3 the time used in the past for surveys half its size. In about July 1978, while Survey I was in the field, a serious effort was begun in SIM to re-do the format and layout of the questionnaires (but not the content, definitions, or classifications) to make them more self-coding, which would reduce greatly the manual processing

in the office. These revised materials were to be used in Survey II or III, depending on when they could be ready and printed. SIM is fully aware that improvement in the forms is possible and desirable and is moving on this matter.

Publications Planning, Design, Layout

In past years it has been common practice throughout El Salvador to put all the tables derived from a survey between two covers with no narrative treatment of any kind. The result is usually a thick, heavy, rather intimidating book of tables that the user must wade through in search of what he wants. Usually this book has been accompanied by a thinner report describing the methodology of the survey and related matters. There is nothing wrong with the practice except that it needs to be supplemented by various smaller series of reports dealing with one subject--or at best a few related subjects--at a time. These should include, at a minimum, factual and objective narrative presentations of obvious relationships in key numbers and statements of the sources and limitations of the data. One can easily envision specialized series on (1) Population Characteristics; (2) Housing Characteristics; (3) Employment, unemployment and the economically active population; (4) Occupations and Industries; (5) Literacy, etc. Such reports would, I believe, gain wider readership than the above-described bulky compendia of tables. Development of a model report of this type is one of the tasks McNelis had planned as a personal assignment during the third and last year of the project. It is still needed and should be carried out in some other way.

There are also some problems, though they do not appear to be numerous, in technical table design: it is sometimes hard to determine what exactly the numbers mean in the cells of some tables. McNelis left with SIM the Bureau's book (very hard to get) on standards for table design, which was furnished graciously by Publications Services Division, US Census Bureau. A good reading of this book, which is in English, will go a long way toward clearing up the fuzziness that appears in some tables.

Data Processing

SIM has made substantial progress in this area since the project began, enough so that the data processing staff was predicting, as of late October 1978, that "the most important tables from Survey I would be ready for review by analysts in late November . . ." That may be so; but, nonetheless, data processing, in every aspect, remains the largest, gravest problem area confronting this project.

SIM is not alone with this problem. It is a problem for every public sector agency of El Salvador that uses computers for any purpose. The general problem, however, is beyond the scope of this report except to observe that in SIM, as is true in other Ministries, the root of the problem is the scarcity of trained manpower, the absence of a GOES-sponsored training program to produce new skilled manpower, and payment of salaries to data processing personnel which, while comparable to or even above those paid to public service professionals in other disciplines, are too low to retain the data processors in public service. It is a seller's market in El Salvador and the private sector consistently outbids GOES for these people, particularly programmers.

SIM had, in October 1978, 12 employees in its Data Processing group: 6 programmers, 2 key punchers, and 4 quality control clerks. SIM had no computer of its own and operates by purchasing time from the Social Security Administration. This is not a satisfactory arrangement because not enough time is available and the scheduling is at undesirable periods, either late at night, very early in the morning, or on weekends.

One of the six programmers is very well qualified, two are qualified and experienced, and 3 are somewhat less qualified but are beyond raw trainee status. Several other staff members have taken a COBOL course, taught by Mrs. Mary Bernheisel in June 1978.

Since December 1977, when Carlos Garcia reported full-time as Chief of Data Processing, the group has had, and has largely disposed of, a large programming workload: the complete editing and tabulation of the 1976 Labor Force, Family Budgets, and commercial/industrial establishment surveys in addition to the design and execution of a complete processing system for Survey I of the Multi-purpose Household Survey of 1976.

We tried several ways of augmenting the programming staff--borrowing from Costa Rica, Colombia, Peace Corps volunteers with programming training, and TDY's from the US. We investigated local private firms and Central America-wide non-profit firms to see if they could or would assist in the work. For one reason or another none of these avenues proved fruitful. The issues were presented to the Sub-Minister of Planning, in late Spring 1978, whose decision

was to authorize additional hiring, if suitable new hires could be found, and to continue to try to build up SIM's internal capacity for data processing rather than to go in any of the other directions.

The entire data processing problem is documented in (1) the Krall Management Consultants Report, dated August 1975, which shows how widespread and serious the problem is and how long ago it was recognized as a problem, and; (2) a memorandum to the files, prepared by McNelis in April/May 1976, which shows that despite considerable effort, the situation has not improved in recent years. These materials can be found in the files of the USAID mission as well as in those of SIM.

Notwithstanding, Mr. Garcia took full charge of the group and pushed through an extraordinary amount of programming in his first nine months on the job, including the re-doing of much work which he felt had not been done correctly in the first place. He expected the first output tables from Survey I in late November 1976.

SIM's Staff and Organization

As noted earlier, SIM's staff has been hovering at about 90 employees, sometimes more, sometimes less. One hundred would be a better figure, in my judgment.

The organization has evolved from the highly fluid structure of the first year to a more formal division of labor which consists of:

- Chief's Office
- Administrative Group (including Motor Pool)
- Methods Group (including Mapping group)
- Surveys Group (including Field and Office groups)
- Reports Group (including Analysts and Report Writers)
- Data Processing Group (all aspects)

This is satisfactory during the near term; but some changes should be made for the future. These are detailed in McNelis's mid-project management recommendations to the Sub-Minister, cited earlier (paper is in the files of the Mission and SIM).

The oldest employee of SIM is about 37. The average age of SIM employees, I would guess, is 25-26. Turnover has been far less than I would have expected in an organization of this size and has occurred principally in the Administrative group.

Looking upward, organizationally, CONAPLAN, has agreed to create an OMB-type "referee" function, in the person of the Sub-Minister, himself, to deal with user-Ministries desiring to add supplements to the Survey. This will take the negotiating pressure off SIM, which really doesn't have the clout to negotiate these matters, and permit SIM to concentrate on its technical responsibilities.

Looking horizontally, organizationally, SIM has close professional ties with UPYRH.¹⁹ SIM continues to maintain its separate status and identity from DIGESTYC, which more and more looks like a good idea. If SIM were a part of

DIGESTYC it is likely that SIM's resources, human and otherwise, would be diverted to the 3 major Censuses which are upcoming between now and 1981 (Agriculture, Economic, and Population/Housing). That could happen, anyway; but I think it will be a little harder to do with the two organizations in different Ministries (Planning and Economia). The next year or two should tell.

Also, horizontally, it remains as a future task for SIM to regularize and formalize somewhat its dealings with approved sponsors in the working out of technical details of supplements. I feel sure this will come as a matter of course. At present SIM and MPHS are still new and a manner of dealing with user-clients still has to evolve. It is very informal at present.

The Future

A lot of important things have happened or have been made to happen in El Salvador in less than 2 years. Large steps have been taken toward the realization of the two goals set out on page 1 of this report.

The GOES' policies and behavior in the area of statistics seem to me not to have changed in the past 3-5 years: they are grounded very firmly in a recognition of the need for and utility of data and I expect this recognition will continue. For this reason, I think support for SIM and the survey will continue.

On the other hand, periods of major change in key personnel, such as Ministers, are always worrisome and filled with uncertainty. One worries about a change in policy that might de-emphasize a program such as SIM/MPHS in favor

of some other, more preferred development activity, with consequent damage to what has been accomplished to date. I hope this doesn't happen. It probably won't. As mentioned earlier, SIM/MPHS have weathered a number of major changes in the past two years. I feel confident that, with interest running high in many Ministries as it presently is, SIM/MPHS will prosper.

FOOTNOTES

- (1) Project Identification (PID) is a rough initial idea paper proposing some kind of development activity. It is the first stage in AID's system for identifying, developing, evaluating, and approving proposed projects.
- (2) Project Review Paper (PRP) is a more fully developed idea paper containing enough detail that the proposed project can be discussed and evaluated by a specially convened committee in AID (W). It is the second stage in AID's system.
- (3) Project Paper (PP) is a fully developed description of the projected development activity including budgets, staffing, commodities, training, timing, etc. It is the third and final stage of AID's system. It will be formally considered by a meeting of the DAEC (see (4) below).
- (4) Development Action Executive Committee (DAEC) is a formal body convened to discuss and evaluate, approve or disapprove finally the proposed development activity which, by this time, is thought of as a "project."
- (5) Project Agreement (PROAG) is a formal contractual agreement, in 3 parts, between two governments jointly to carry out a development activity. Part I is the contract, stated in legal terms, spelling out the responsibilities of both parties, funding levels, time span, and any special conditions. Once signed, Part I may be amended only with consultation

and guidance of legal counsel representing both parties (i.e., may not be amended "in the field"). Part III consists of AID's "Standard Provisions: which are part of every AID contract. Part III may not be altered in the field. Part II, "Project Description," is the heart of the PROAG. It is a detailed description of what is to be done. In practice it resembles largely the PP minus the justification and analytical material. It may be amended in the field in order to facilitate the practical prosecution of the project; but amendments to Part II may not change the basics spelled out in Parts I and III.

- (6) Direccion General de Estadistica y Censo is the Bureau of the Census of El Salvador.
- (7) La Seccion de Investigaciones Muestrales (literally the Sample Research Section) is the name given to the new organization being established in the Ministry of Planning. Sometimes the word "Unit" is substituted for "Section" and the acronym used, then, is UIM. In the early stages of formulating this project, it was GOES intention to centralize all sample survey work of the GOES in this organization regardless of subject matter. This sensitive subject has not come up since the creation of SIM, for which all were thankful for the time being.
- (8) The mechanics of documenting and administering grant projects, which formerly were fairly simple and straight forward, were changed to make them similar to the more complex procedures for handling loans.

- (9) The Spanish version of this report shows Woltman, O'Quinn, and Fernandez as authors. The English shows only Woltman and O'Quinn. This was a very difficult report to translate and Fernandez, a very talented mathematical statistician, contributed much to making it intelligible in Spanish.
- (10) Instituto Geografico Nacional is the GOES Agency charged with making all official maps. It is also the official repository of all cartographic source materials.
- (11) Inter American Geodetic Survey, a US Government Agency, has one US Technical Adviser assigned to IGN under a PASA.
- (12) Ministerio de Agricultura y Ganaderia is the Ministry of Agriculture and Livestock. MAG had, a year earlier, mapped an area frame for sample surveys of crop production in collaboration with USDA. This frame is excellent for its intended purpose but had no value for SIM for many reasons.
- (13) Ministry of Hacienda is the equivalent of the Treasury Department in the US. The National Cadaster is a project to map and describe real property by parcel in anticipation of valuation for a (presently non-existent) property tax.

- (14) The administrative subdivision of El Salvador is into Departamentos (equivalent to States in the US), Municipios (equivalent to Counties in the US), Cantones (equivalent to Municipalities in the US), and Caserios (literally, "rivers of houses") usually thought of as extensions of and belonging to the nearest Canton.
- (15) The actual average was between 42 and 43 dwelling units per segment or 5 clusters of 8 + d.u.'s. For the 1164 segments this yielded a final sample size of 9871 households, slightly smaller than the anticipated 10,000.
- (16) Type A includes "no one home at time of call; respondents temporarily absent; refusal; interview not obtained because of quarantine, illness, impassable roads; no qualified respondent available." Type B includes "unit temporarily vacant; temporarily occupied by persons with usual residence elsewhere. Type C includes "units no longer in existence such as demolitions; units converted from residential to business use, and; units outside the boundaries of the listing area."
- (17) CONAPLAN - Committee for National Planning. The original name of the Ministry of Planning. In 1976 CONAPLAN was officially re-named the Ministry of Planning and given Cabinet status and membership. Nonetheless, names die hard. The Ministry is still known widely as CONAPLAN.

- (18) These amounts have changed upwards slightly for both parties through the addition of a commodities budget for USAID and an increased payroll both for regular and overtime on GOES' part. While I do not have the numbers at hand for this report, I suspect the proportional inputs remain unchanged at about 3 or 4 to 1 in favor of GOES.
- (19) Unidad de Poblacion y Recursos Humanos - (Population and Human Resources Unit) is a demographic group which produces GOES' official population data. This Unit will provide SIM with the independent population controls required by the MPHS estimating procedure.