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EVALUATION OF THE FARM MANAGEMENT PROJECT AND RECOMMENDATIONS FOR THE FUTURE

By

John K. Hatch

Aquiles Lanao Flores

March 10, 1978

Conducted under Contract AID-526-447 to Rural Development Services, Ann Arbor, Michigan, for USAID/Paraguay (2/15/78)

Interim report

I. Introduction

This report is the product of technical assistance provided by the authors as consultants to USAID/Paraguay and the Farm Management Project under Contract AID-526-447. The purposes of the contract were (1) to determine the relevancy of the data generated by the project as a planning tool for small farmers as well as for policy and planning guidance to SEAG; and (2) to insure that the most relevant results of the project are effectively incorporated into new and ongoing agricultural projects, especially the sector loan. In the following sections of this report we first provide a summary of the work accomplished under the contract. We then describe the principal issues and problems encountered in the project and specific recommendations for their solution within the context of the agricultural sector loan. Much of the specific content relating to our recommendations are contained in separate annexes to the report, several of which are still under discussion and development at the time of this writing and therefore are referenced for subsequent inclusion within a few days.

II. Work Accomplished During the Contract

Dr. Lanao arrived in Paraguay on February 23 and is scheduled to remain until March 21. Dr. Hatch arrived on February 27 and will depart on March 13. As of this writing the following activities have occurred. FIELD VISITS TO PROJECT PARTICIPANTS: From February 25 to March 3, and from March 5-9, Dr. Lanao made farm visits to 32 project participants in the regions of Caraguatay, San Pedro, General Aquino, Itacurubí, and San Pedro de Paraná. Meanwhile, March 2-3 Dr. Hatch visited 12 project participants in the regions of Ybycuí and Villeta. In almost all cases these farm visits were made in the company of SEAG or Peace Corps personnel assigned to the project and already well acquainted with the farmers

interviewed. The purposes of the visits were to determine the extent of farmer participation in farm management record-keeping (understanding of, entries in, and use of the system), the adequacy of outside supervision, whether records were up to date, and if the data were relevant to decision-making by farmers and outsiders. The results of the farm visits are presented in the following section. A complete list of the farmers and other individuals contacted by the consultants is contained in Annex A.

MEETINGS: The principal meetings held to date were (1) a working lunch in the home of Gerald Nehman (currently the Farm Management Project monitor), which was attended by Peace Corps and Gabinete Tecnico representatives associated with the project, to discuss and clarify project objectives, evaluate what had been learned on the field trips, and revise and simplify the project's data collection formats; (2) a meeting with the above individuals at the Gabinete Tecnico office to discuss the content of a training seminar for SEAG extension agents participating in the project, scheduled for March 13-14 in Caraguatay; and (3) a meeting with SEAG Director Juan Molinas to candidly discuss several logistical and administrative support problems which seriously hamper project effectiveness.

DESIGN ACTIVITIES: The consultants developed a variety of new formats for simplifying the collection and use (especially by farmer participants) of farm management data. These are explained in the following section and in Annex B. Additionally, the consultants completed a revised Project Description which includes a Logical Framework and an Implementation Plan which stresses short-run tasks required to complete the present farm management cycle and begin the 1978-9 cycle before sector loan approval or disbursements can be expected. These documents are contained in Annexes C and D.

TRAINING ACTIVITIES: Dr. Lanao will prepare an additional report, in Spanish, describing the content and results of the farm management training seminar to be held in Caraguatay on March 13-14. This report will also provide an up-dated list of field visits to participating farmers covering supervision activities scheduled March 15-20.

III. Issues, Problems, and Recommendations

A. General Conclusions of Field Trips

On the positive side, the Farm Management Project can cite a number of very significant achievements. In the first place, it has demonstrated that administratively the project can be fairly broadly replicated, with extension of coverage to significant numbers of farmers. From 25 farmers in Caraguatay in 1976-7, the project was expanded to 189 farmers in seven regions for the 1977-8 cycle. Because project effectiveness is highly dependent on a system of routine supervisory visits at the farm level (a monthly visit per participating farmer is considered a minimum prerequisite), the project is potentially quite vulnerable to logistical breakdowns (lack of vehicles, gas, etc.) and inclement weather. Lack of adequate supervision caused the loss of 7 participants in Caraguatay in 1976-7; however all of the remaining 18 are expected to complete their second year in the project—which assures that continuous data on two consecutive production cycles will be available and, in turn, will permit a dynamic analysis of farm capitalization, productivity, and net income for principal crop enterprises. Moreover, even estimating a participant loss rate of 25% among new farmers, some 130 of them can be expected to complete the year successfully for six of the seven project regions. This is enough to create an excellent baseline for the agricultural sector loan program. And provided SEAG can only maintain the present coverage level and carry farm management project activities into the

1978-9, not only baseline but continuous time series data of 2-3 years duration will already exist for well over 100 small farmers by the time the field research teams of the first regional development centers begin their work. In sum, the potential information benefits to SEAG, USAID, and other outside clients of the Farm Management Project are beginning to climb rapidly.

On the negative side, the field trips demonstrated a variety of serious deficiencies. We will only list them here since they will be further described at length in the following pages:

1. The data collection instruments currently used are extremely sophisticated, so much so that they are not completely understood by extension agents, much less farmers.
2. Present formats require monthly summaries of labor use and cash flow for the entire farm, not by specific crop enterprises. Such information is of questionable use to the farmer for crop-specific planning and monitoring decisions.
3. Because of a late start for the 1977-8 cycle, no effort under the present system was directed at development of crop or farm plans—against which subsequent data on farm performance might be compared. None of the present instruments permit such comparisons to be made.
4. By attempting to record all economic transactions for the farm as a whole, sheer volume and complexity of data generated discourages analysis, and makes supervision of the acuracy of data for individual components of the whole almost impossible.
5. Partly because of the above factors, as well as for logistical reasons (cited below), farmer participation in the farm management system is negligible. With rare exceptions, farmers never make entries in the records, or even touch them (the folder) except when the extensionist comes to visit, because they consider the system to be the property of SEAG and their cooperation a contractual obligation.
6. Many farmer participants do keep other records (one or more notebooks) in which they keep track of labor use, expenditures, harvest labor payments, and other data requested by the farm management system. However, such notes tend to be disorganized and do not, per se, allow farm planning decisions to be made from them.

7. The large majority of farmers visited did not have up-to-date farm management records, which reflects an inadequate level of supervisory visits by extension staff and Peace Corps Volunteers associated with the project.

8. In one region (San Pedro) most participants will be lost because the extension agent resigned. No PCVs who voluntarily agreed to assist with supervisory visits (and were trained in the system) are currently participating in the project. PCVs formally assigned to the project (3) continue to participate however.

9. None of the 7 motorcycles donated to the project are yet available (still in duty exoneration tramites). None of the SEAG extension offices participating in the project have sufficient or adequate vehicles to perform required supervision visits.

10. Even if the motorcycles were in place, gasoline quotas and funds for their maintenance are insufficient to maintain intensive supervision.

11. Reimbursement to the project's National Supervisor for per diem expenses in visiting participating field offices have not been paid since December 1977.

12. While verbal expressions of commitment to the project are quite strong at both the field and central office levels of SEAG, the ability to confront and solve mentioned logistical problems is negligible within SEAG itself, which is blocked by the complex and inefficient administrative system of the Ministry of Agriculture.

B. The Design Problem: Conflicting Objectives

Many of the basic problems which hampered the Farm Management Project in its present 1977-8 cycle were also experienced in the previous cycle. Then as now the records contained in the participant's folder were too complicated and farmers treated them as the personal property of SEAG—making no entries in them. It was for this very reason that the authors, in our final report on technical assistance to the Farm Management Project dated April 29, 1977, recommended the elimination of whole farm accounting. This was represented by an instrument called the Registro del Predio

or Daily Farm Ledger, which bore close resemblence to the system subsequently developed for the 1977-8 cycle. In place of whole farm accounting we recommended that farmers keep single enterprise accounts for no more than two crops. Our reasons were several. For farmers not accustomed to record-keeping, their ability to keep track of even one principle commercial crop is itself an important breakthrough. Moreover, while the farmer must undoubtedly reach planning decisions keeping in mind the overall resources and objectives (subsistence and commercial) of the farm as a whole, at any given point he can only manipulate one enterprise at a time, and to do so he needs information on a crop-by-crop basis. Ideally, farm management decision-making deals both with the whole farm and its component enterprises. However, an information system designed to cope simultaneously with both decision-making areas should be considered a long-range management objective, not a prerequisite for effective management of the farm per se. To expect otherwise is like asking a man to write a novel before he has learned to read.

Somewhere--in the wisdom of the Farm Management Project advisor or Mission planners--it was decided that a partial farm accounting system was not worth bothering with, that it had to be the whole farm or nothing. Not only were the consultant's recommendations ignored, but their exact opposite implemented: indeed, no provision for individual crop summaries was made. Predictably, the system is something alien to farmer-participants; it is something designed by outsiders and is completely dependent not just on their periodic supervision but outright management.

In our opinion the present system will benefit farmer-participants very little, if at all. Moreover, because of its complexity the system is difficult to supervise, doubly sensitive to loss of data caused by breakdown in supervision, and therefore not very

reliable even as a mechanism of integral farm accounting. Hence it is not likely to be of much benefit to outsiders either. Without immediate simplification of data collection instruments, a return to crop enterprise accounting, and a diligent effort to convince farmers to write on and utilize the simplified formats, the Farm Management Project is not worth continuing.

RECOMMENDATIONS: It is proposed that the farm-level data-collection instruments be simplified as follows:

1. Farm Inventory: this will remain unchanged from the present system. It will be completed at the beginning and end of the management cycle (12 months), with the final inventory of one cycle to be the initial inventory of the following cycle.

2. Farm Notebook: to be kept by the farmer entirely (or a member of his household) to record on a weekly or daily basis his notes on expenditures, labor use, income, and other transactions on a single crop basis. No fixed foremat will be required.

3. Farm Plan and Performance Analysis, by Crop: this single-page summary sheet will be used at the start of the cycle to estimate costs of a proposed crop over four stages--(1)land preparation, (2) planting, (3) cultivations, and (4) harvest--plus expected yield, income, and net earnings. Then, at the end of each stage actual performance data will be listed and compared to the farm plan.

   On the other face of this summary sheet will be recorded the farmer's yield, net income, and production costs per hectare. These data will be compared with those of the best and worst performances by other farmers in his local vicinity who have grown the same crop. Finally, a list of practices conducted by the farmer with the best performance will be compared with those of the owner of the summary sheet to establish how their strategies differ.

   In sum, this instrument is both a (1) planning format, (2) performance monitoring format, and (3) comparative performance feedback analysis--all combined in a single sheet which can be folded and kept in the Farm Notebook for convenient consultation. See Annex B for a copy of the instrument as presently designed.

Annex B not attached

RECOMMENDATION: It is proposed that from this point in the project onward, all entries in any of the farm-level instruments previously identified must be in the hand of the farmer-participant or a member of his household. If necessary, the supervisor may instruct the farmer what number must be placed in which space, but the entry must not be performed by the supervisor.

These recommendations have been discussed with and approved by the project's USAID monitor, the Director of SEAG, the project's National SEAG Supervisor, and Peace Corps Volunteers assigned to the project. Extension agents assigned to the project will be given a two-day seminar on the proposed changes March 13-14. Implementation of the performance-summary sheet by crop enterprise (except for the planned performance column) will begin in each of the regions immediately. Data from existing entire farm accounts will be disaggregated for this purpose. Farmers whose records or notes are in arrears more than 10 weeks (i.e., have not been updated since January 1, 1978) will be dropped from this year's cycle.

C. The Logistical Support Problem

Even the simplest farm management system requires periodic supervision, and the more complicated the system the more supervision is required. While a schedule of routine supervisory visits to participating farmers is a general necessity, there are several times in the cycle when project activities must be implemented on a fairly narrow schedule; at such times the failure of a supervisor to reach the farmer can seriously damage the ability of the project to benefit the farmer at all. The two most critical occasions where the farmer must be reached on time are at the very beginning and very end of the production cycle.

BEGINNING OF THE CYCLE: Half the benefit of collecting farm management data in general, and crop enterprise data in particular, is lost if the farmer does not have a conscious production plan. Obviously, such a plan becomes especially important if the farmer is requesting credit with which to finance its execution. Normally, small farmers requesting credit from the Banco de Fomento are well advised to initiate their requests (including the credit plan) by August and even before if they hope to get it on time (before land preparation tasks begin) in September-October. Thus, if the Farm Management Project is to assist participants in establishing production plans, this assistance must begin on or about mid-year. For the 1976-7 cycle, project activities did not get off the ground until October; hence no possibility existed of involvement in farm plan assistance. Following this experience, the consultants recommended vigorous involvement in farm planning of potential project participants (credit applicants) beginning in July 1977 for the following production cycle. However, once again the start of project activities was delayed until October and a second opportunity for involvement in farm planning was lost. It is even doubtful that the 18 participants of the first cycle had received, much less applied, the results of that cycle's performance to production planning for the following cycle.

END OF THE CYCLE: Beginning a farm management cycle effectively requires therefore an efficient wrap-up of the previous cycle where consecutive participation by farmers is involved. Wrap-up activities include (1) an individual performance summary of the participating farmer, (2) a comparative performance summary, and (3) a final inventory. Inherent in the completion of tasks (1) and (2) is an analysis of the range of performance together with an attempt to explain why the best performance was so much higher than the average for each farmer group. For example, for Caraguatay farmers in 1976-7 the best cotton performance (kgs. per hectare) was

75% above the average yield of the group as a whole. The next highest yield was 56% above the average. In tobacco the best performance was 72% above the average; the next highest 28% above it. Such data are highly intriguing, for in the event that the data are reasonably accurate they suggest that some small farmers are already utilizing far more productive agricultural practices than their neighbors. The need for additional new technology inputs from the outside may be inferior to the opportunities for broader imitation of farming practices already available and tested at the local level. The Farm Management Project has a critical role to play in identifying and explaining the most successful farming practices in a given project region, and for working recommendations regarding such practices into the farm plans of less-successful project participants. But this analysis and feedback process must be completed quickly--roughly within the period of May-June--to have any impact on credit planning for the following cycle.

To date, in its first two years of activity, the Farm Management Project has demonstrated both an inability to complete required beginning and end-of-cycle tasks on time as well as maintain a reliable routine visit schedule to farmers during the cycle. Although hampered by a late start, the 1977-8 cycle promised to offer improved supervisory performance up through December 1977, when project funds were still under the administrative control of USAID. As of 1978 project financial administration passed to the Ministry of Agriculture; simultaneously timely logistical support to the project has all but collapsed (with the exception of salaries). SEAG can not be entirely blamed for this situation since it currently has no budgetary or financial autonomy and is continually victimized by the administrative ineptitude of the Ministry of Agriculture. The proposed agricultural sector loan is designed to redress this situation by giving SEAG direct control over its budget disbursements. However, when and if this happy event is achieved, from the point of view of the Farm Management Project there is a very real question as to whether such re-

relief for SEAG logistics will occur in time to save the project from premature demise.

SEAG must overcome not one but two obstacles. The first is simply managing to provide enough support to get the Farm Management Project through its present cycle--through June. It is likely that with some combination of verbal exhortations, flattery, and promises by Juan Molina, together with the release of the 7 long-awaited motorcycles and their respective gasoline quotas, the project will complete its second cycle. The project's ability to start a third cycle, however, and sustain it through into 1979 when sector loan disbursements might first begin to flow, is questionable at this time.

Whatever the outcome, the fact remains that farm management activities will always remain vulnerable to breakdowns in the supervisory structure, which in turn is highly dependent on timely logistical support. One answer--at least in the medium-term (since it can not yet be financed in the short-run, marginal as the cost may be)--lies in the gradual reduction of the project's dependency on "outside" supervisors (extension agents, PCVs) and an increasing dependency on specially-trained farmer paratechnicians, recruited from the ranks of the project participants. This solution has been tested for the 1977-8 cycle in Caraguatay, where 4 so-called farmer ayudantes have each been supervising up to 10 or more of their neighbors. On the positive side of the experience, it appears the timliness of supervision (and greater frequency of farm visits) is superior to the case of agents and PCVs. The ayudantes have successfully completed farm inventories and monthly crop summaries. Furthermore, the cost-effectiveness of the ayudantes is unquestionable since they work part-time and are content with an incentive wage of ₲100 per month per farmer supervised, plus ₲100 for every inventory taken. On the negative side, the fact that ayudantes receive a wage has caused some project participants to abandon all record-keeping tasks to their farmer-supervisor. Why, they argue, should

I do the work he is paid to do? Then too, ayudantes have not always been paid on time, and as payments have lagged so has the quality of their supervision.

RECOMMENDATION: It is urged that USAID/Paraguay apply all the diplomatic pressure it considers necessary to expedite the clearance of tramites in the Ministry of Hacienda for the release of project motorcycles. The potential of the project to effectively complete its present cycle, initiate the next on time, and survive until sector loan resources arrive will critically depend on the availability of these bikes.

RECOMMENDATION: In the event the motorcycles are not released within the month, USAID/Paraguay should do anything it can to make available to PCV and extension agent personnel assigned to the project any available field vehicles. Alternately, USAID should seek to coordinate all SEAG-related field travel by TDY and other staff with SEAG agencies in the project regions—this to assist project staff to reach the most remote farmer-participants.

RECOMMENDATION: Because of funding constraints, a discontinuance of the use of farmer paratechnicians for project supervision is recommended until the 1979-80 cycle. Thereafter their use should be substantially increased. According to the Inputs projections of the Project's Logical Framework, farm management activity can easily absorb 14 ayudantes in 1979, gradually increasing to a stabilization level of 48 (supervising some 500 farmers) in 1983. This expansion will gradually lower the direct costs of project supervision by SEAG from their present level of about $60 per farmer-participant to about $40 in the first year of project stabilization.

D. The Program Evaluation Problem

Undoubtedly, one of USAID/Paraguay's primary interests in supporting a farm management project is to achieve a mechanism for measuring changes in net farm income for the target population of its programs in the agricultural sector. The question must therefore be asked: will the use of a partial (crop-specific) instead of a whole farm accounting system yield the kind of income data that the Mission wants and needs?

We believe the answer to this question is yes. It is necessary to explain that even though crop enterprise accounting will only yield partial farm income figures, the initial and final inventory taken each year will measure the result of income flows for the whole farm operation. Thanks to the farm inventory it will be possible to estimate for every farmer-participant (1) change in the net worth of the farm operation, (2) increases in productive capacity (investment in productive assets), (3) growth of individual asset and liability accounts, and (4) changes, if desired, in the relative importance of these accounts over time. The advantage of using such measures is that they are universally accepted indicators of business performance; and the small farm is indeed a business undertaking. Admittedly, the annual inventory is not a very precise measurement instrument in the case of a mixed subsistence-commercial farm proprietorship—especially because there are so many imputed values involved, such as the worth of land under different levels of use or improvement. But then, in an incipient effort at farm record-keeping, in programs where the income impact of rural development activities have never been measured before, the establishment of even rough estimators—with a potential for gradual refinement over time—is an important achievement.

E. Other Uses of Farm-level Data

The authors are particularly intrigued by the possibility of using project-generated data as a basis for the development of a series of linear programs—adapted to mini-computers operated off mobile power sources—for providing technical assistance to small farmers in the development of farm plans. Different programs could be designed for farmers with different constraint patterns, and program objectives (profit maximization, risk minimization, etc.) could be adapted to the expressed wishes of clients. The kind of data presently collected by the Farm Management Project is ideally suited to linear programing methodology. Recent and rapid advances in mini-computer hardware have now made it possible to carry portable computers into the home of the campesino himself. Some systems can be rented for a field test period exceeding six months. What is missing is a specialist skilled in farm data analysis, minicomputer applications, and modeling of linear programs who—at reasonable cost—would be available for up to two years to design, field-test, and implement such a farm planning service.

A unique opportunity to acquire such a specialist for Paraguay presently exists. His name is Andrew Hogan, a graduate student in Agricultural Economics at the University of Wisconsin, who is seeking a place to do his dissertation research on the design of planning models for small farmers and agricultural decision-makers based on mini-computer and remote terminal technology. Mr. Hogan has been occupied, for the last two years, creating linear programing models from farm data collected by Dr. Hatch—using a farm management system similar to that for Paraguay—from 30 peasant farmers in northern coastal Peru. Moreover, Mr. Hogan served as a Peace Corps Volunteer in Central America for four years and is fluent in Spanish. He seeks to establish an overseas research commitment lasting through two agricultural crop cycles. Currently Mr. Hogan is under consideration by

several sources of research fellowship financing. If any one of these accepts him, the costs of procuring Hogan's services for Paraguay would be negligible. However, if no such financing becomes available, USAID/Paraguay would not need to spend more than $12,000 (including travel) for a two-year grant to finance Hogan's research.

For its part, Rural Development Services would commit itself to (1) working out with Hogan, his Graduate Committee, and the Mission a final research proposal suitable to all parties; (2) renting at its own expense any minicomputer equipment needed to field-test a computerized farm planning service in Paraguay; and (3) provide Hogan with occassional field supervision and any required logistical support (including equipment maintenance, replacement, and parts) not available in Paraguay.

F. Opportunities in Farm Mechanization

A significant component of the proposed agricultural sector loan is to develop new farm machinery adapted to the needs of small farmers. As described in the loan paper, the primary source of machinery prototype development will be a unit located at the Agricultural Experimentation Station at Caacupé. The above appears to be based on the assumptions that (1) small farmers are not capable of generating their own machinery prototypes, and therefore (2) prototype innovation must come from the outside.

Quite by accident, the consultants in their field trips stumbled across some evidence that suggests the above assumptions may be invalid in many cases. To begin with--thanks to Don Ruben Dario Benites, a small farmer from the Compañia of Naranjaisy in Villeta--we learned that farmers have for many years been altering the depth and width of cut of their moldboard walking plows by the attachment of metal plates fashioned out of truck leafsprings. These pieces are cut in different lengths and given an edge and bolt holes by local blacksmiths. The labor cost is about ₲500, but the savings in mano de obra for carpida and similar opera-

tions are considered well worth the investment in plowshare modification. At least in the Villeta area, use of the modified plow is so generalized that a separate name has been given to this activity—known as "carancheada".

Later in the day in the Compañia of Cymbarity (also Villeta) we had our second encounter with home-made small farmer machinery. Here we met José Bonusi Ojeda, a small farmer who had built his own oxen drawn 8-disc cultivator. It was complete with a tractor seat, a gear for raising and lowering the depth of the disks, and could be easily driven by the inventor's 7-year-old son. Bonusi had fashioned his machine on a simple forge and with basic tools. In his back yard was a collection of rusty junk—machinery structures and parts pirated from different places over the years--which Bonusi used to build or repair his prototypes. He too was into carancheada, and had fashioned a V-shaped caranchа which was twice as wide as the single-plate modifications we had seen earlier in the day.

The two experiences suggest that there may exist a more sophisticated farm machinery expertise in rural Paraguay than has been recognized by sector loan planners. It would probably be worthwhile to conduct a survey of blacksmiths—in rural villages and small towns—to identify what kinds of tasks farmers ask them to do in relation to modification or repair of their implements. It may also be worthwhile to consider providing financial assistance to these craftsmen so that they might improve their forges, their tools, and perhaps their raw materials so that they might produce--under contract to the program —machinery prototypes simple enough to be built locally. Finally, with small farmer-inventors like Bonusi, there exists an opportunity for creating an authentic techology dialogue between farmers and outside engineers concerning (1) what kinds of implements farmers most need, and (2) how such implements can built best to meet that need effectively and reliably and (hopefully) inexpensively.

Anexo A

Agricultores Visitados por Aquiles Lanao Flores

I. Caraguatay: (25 y 26 de Feb.)

Compañía Alfonso Loma

1) Hilario Villagra
2) Prudencio Silva - Ayudante

Compañía General Garés

3) Heri Ayala - Ayudante
4) Atilio Galeano

Compañía Vera Costa

5) Pablo Fleitas - Ayudante
6) Antonio Verón

Compañía Jhuguá Guazú

7) Guillermo Cabrera

II. Villa de San Pedro (27 y 28 de Feb.)

Compañía Yatebu

1) Eligio Cabrera

Compañía Picada Antequera

2) Aniceto Venialgo

Compañía Correa Ruguá

3) Pedro Nuñez

4) Herminoo Britez

5) Pedro Fernandez

6) Victorio Diaz

III. General Aquino (1o. al 3 de Marzo)

Compañía 1º de Marzo

1) Victor Martinez
2) Vicente Bobadilla
3) Angel Gregor

Compañía Jhugua Poí

4) Gerardo Pedrozo

Compañía Redondo

5) Angel Gonzalez

Compañía Santa Clara

6) José García
7) Ramón Centurión

Compañía Mandyyúby-Cué

8) Liborio Sánchez
9) Félix Fretes

IV. Itacurubí de la Cordillera (5 de Marzo)

1) Francisco Jiménez
2) Jorge Ovando
3) Quintín Espínola
4) Tranquilino Leon
5) Catalino Rotela
6) Emerenciano Jara

V. San Pedro del Paraná (7 a 9 de Marzo)

Compañía Costa Ruiz

1) Inocencio Ruiz
2) Erasmo Ruiz
3) Leonor Ruiz

Compañía Ibarra-Cué

4) Juan B. Figueredo
5) Miguel A. Peralta
6) Juan de la Cruz Benitez

Agricultores Visitados por John K. Hatch

I. Ybycuí (2 de Marzo)

Compañía Santa Angela I

1) Mamerto Rojas
2) Victor Cáceres
3) Luís Cáceres

Compañía Santa Angela II

4) Brígido Cuéllar
5) Pedro Franco
6) Silvio López
7) Aurelio López

II. Villeta (3 de Marzo)

Compañía Naranjaisy

1) Rubén Benitez
2) Eladio Baez

Compañía Cambáraity

3) José Bonusi
4) Patricio Avalos
5) Fabián Avalos

10-3-78

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