[redacted] PROJECT PAPER & [redacted] 526-0050-17 ACE 1 43 PAGES

[redacted]

I. PROJECT TITLE

LIVESTOCK DEVELOPMENT

APPROVALS ATTACHED ☒ YES ☐ NO

2. PROJECT NO. (S.O. 1006.3) 526-15-110-050.3

3. RECIPIENT (Country)

☐ COUNTRY PARAGUAY

☐ REGIONAL _____ ☐ INTERREGIONAL _____

4. LIFE OF PROJECT

BEGINS FY 1968

ENDS FY 1978

5. SUBMISSION

☐ ORIGINAL _____ DATE

☒ REV. NO. 3 _____ DATE

CONTR./PASA NO. _____

II. FUNDING (000) AND MAN MONTHS (MM) REQUIREMENTS

A. FUNDING BY FISCAL YEAR	B. TOTAL $	C. PERSONNEL (1) $	C. PERSONNEL (2) MM	D. PARTICIPANTS (1) $	D. PARTICIPANTS (2) MM	E. COMMODITIES $	F. OTHER COSTS $	G. PASA/CONTR. (1) $	G. PASA/CONTR. (2) MM	H. LOCAL EXCHANGE CURRENCY RATE: $ US ____ (U.S. OWNED) (1) U.S. GRANT LOAN	(2) COOP COUNTRY (A) JOINT	(2) COOP COUNTRY (B) BUDGET
1. PRIOR THRU ACTUAL FY	2319	1831	763	268	402	202	18	1982	763			
2. OPRN FY 75	491	276	67	140	168	15	60	276	67			
3. BUDGET FY 76	454	252	61	150	180	25	27	252	61			
4. BUDGET +1 FY 77	440	240	58	130	156	25	45	240	58			
5. BUDGET +2 FY 78	322	162	39	80	84	25	55	162	39			
6. BUDGET +3 FY												
7. ALL SUBQ. FY												
8. GRAND TOTAL	4026	2761	988	768	990	292	205	2912	988			

9. OTHER DONOR CONTRIBUTIONS

(A) NAME OF DONOR	(B) KIND OF GOODS/SERVICES	(C) AMOUNT

III. [redacted] OFFICE CLEARANCE

1. DRAFTER MSNovins/SWWhite/GEllis	TITLE DRDO/RDO/NMSU	DATE 10 Feb 1975
2. CONTRACT OFFICER WPSchoux/OLSause	TITLE PO/DIR	DATE 10 Feb 1975

IV. PROJECT AUTHORIZATION

1. CONDITIONS OF APPROVAL

2. CLEARANCES

SUR/OFF.	SIGNATURE	DATE	SUR/OFF	SIGNATURE	DATE

3. APPROVAL AAs OR OFFICE DIRECTORS

SIGNATURE _____ DATE _____

TITLE _____

4. APPROVAL A/AID (See S.O. 1006.1 VI C)

SIGNATURE _____ DATE _____

ADMINISTRATOR, AGENCY FOR INTERNATIONAL DEVELOPMENT

RECORD COPY

I. INTRODUCTION

This project represents the reorientation of an ongoing project which has been in operation since 1969. The principal purpose of the original project was to create an institutional capability for education, research and information dissemination on livestock production.

Since its inception, the project has focussed almost exclusively on beef production, as this is the major source of foreign exchange earnings for Paraguay and as well is of vital importance in the nutritional base.

Some aspects of the project are proceeding satisfactorily. An educational base at the Faculty of Agronomy and Veterinary Sciences (FAV) has been effectively staffed and by 1976 will have professionals capable of producing a flow of technicians for Paraguay's future use. An institutional capability to conduct research has been established in the Ministry of Agriculture (MAG). In other aspects the project has not met its goals. Research in the MAG unit established for this purpose (PRONIEGA) is uncoordinated and ad hoc, although professionally performed. The most serious of the project shortcomings, however, is the failure to collect and disseminate research information in a form which will be useful to the cattle producer and related to his economics of production. Another problem has been a lack of coordination among various units concerned with beef cattle production and, although physical facilities exist as described below, a shortage of budgetary funds and arrangements to finance continuing research.

Despite these shortcomings, however, work on beef cattle production has reached a point where a relatively limited effort in technical assistance and a more important effort in coordination and budgeting by the MAG would result in the development of a total system for beef cattle which, by no means ideal, would nevertheless be satisfactory for Paraguayan purposes and which would be self-perpetuating. As will be indicated below, it is the intention of the Mission to provide sharply reduced technical assistance through FY 1976 as related to beef production in order to terminate this phase of the project successfully.

The foregoing would thus contribute to a major effort for Paraguayan development. It does not, however, answer the problem of the many other kinds of livestock production which are taking place in Paraguay and which, in the main, take place in small and medium farm establishments of mixed crops. Paraguay has a sufficient base of knowledge and information to take care of the small farmer in the production of annual crops. It has no institutional capability to meet his needs for livestock production. A utilization of the existing organizational structure created by the livestock development project and oriented toward the small farmers' problems in the production of better pork, poultry, sheep, goat, dairy cows and beef would be an important adjunct to the small farmer development program which is now being undertaken. It is proposed to establish within the existing framework, utilizing the educational structure of the FAV and the facilities of PRONIEGA and the extension service, a program specifically oriented to meet the small farmers' needs. This will require: (a) some additional training at the FAV for specialists in production of smaller animals, (b) a retraining of extension agents helping the small farmer who are now focussing almost exclusively on annual crop production, (c) the development of production packages applicable and useful to the small farmer. In addition to the extension service, a natural system for the transmission of information now exists in the form of agricultural credit cooperatives.

In reorienting the project, the Mission is following many of the recommendations provided in the ATAC evaluation of the project,1/ performed at the direction of AID/W after review and conditional approval of a previous PROP revision submitted in May 1974. Among the ATAC report's general findings is the determination that the project is appropriate to Paraguay because, inter alia, (1) it has a significant potential impact upon a target group that includes a large proportion of the rural on-farm poor of Paraguay and, (2) it is positively supportive of an equity goal of maintaining an adequate supply of foodstuffs to middle and lower income urban and rural non-farm consumers.

The report also states that to realize the potentials of the project, substantial adjustments are required in project emphasis and priority within the present design parameters of (a) the livestock sub-sector, (b) applied research, (c) information dissemination, (d) target group, and (e) institutional development.2/

To satisfy these recommendations, the following adjustments are proposed:

a. the livestock sub-sector - the project has been almost exclusively oriented toward beef cattle production, with some dairy extension. The project will now expand into other areas of animal production and research, including swine, sheep, goats, dairy cows and poultry.

b. applied research - assistance will continue to FAV and PRONIEGA, however, emphasis in beef production will end in FY 1976. By that time, the two organizations will have the capability to plan and carry out beef cattle research without USAID assistance. However, assistance through FYs 1975-76 is required to complete participant and in-country training to assure this institutional capability has been reached. Beginning with FY 1975 funding, applied research will begin to focus on the livestock problems of the small farmer, with the small farmer the primary focus by FY 1977. Because of the scale of resources and production and the variety of small farm livestock, readjustment in applied research is required to address the small farmers' needs.

c. information dissemination - this has in the past been focused on the larger producers through extension agents, publications, and various demonstration practices carried out with 25 cooperator ranchers. These extension activities are close to being within the capabilities of the institutions charged with beef extension to small and medium ranchers. Information dissemination will be re-directed to the small farmer whose needs, resources, and receptivity are different from the project's previous primary target group.

d. target group - identification of the primary target group, the small farmer with livestock, has been one of the first steps in reorienting the project.

1/ Final report of an Evaluation of Livestock Development, Project 526-15-110-050.3, November 1974, American Technical Assistance Corporation, page 5.

2/ ibid, page 12.

There are 141,216 farm units in eastern Paraguay with less than 21 hectares of land, according to 1969 data utilized by the Ministry of Agriculture (MAG) in its annual production surveys. These small farms represent 87.4 percent of all farm units. Approximately one-half of all small farm units are larger than five hectares. Practically every small farm has chickens and pigs; most farms rely on oxen to till their fields, and oxen, burros, and horses are used to transport produce to market. Most farms have cattle which furnish a limited amount of milk for home consumption, and which provide beef for the table and for cash sales. According to the AID funded study of small farmers performed by a local consulting firm, out of a sample of 1,200 small farms, 90% received cash income from livestock which provided 18.9% of total gross income.

Although livestock are important to the small farmer, little systematic assistance has been provided to improve his production of livestock. The traditional practices used are wasteful of resources and result in low production and poor quality. Chickens and pigs are allowed to scavenge whatever they can consume; ruminants such as cattle, sheep, and goats eat such grass as is available. Much of this poor feeding system is wasted nutritionally; internal parasites compete with the host for nutrition. Improved practices such as parasite control, vaccination, selective breeding to improve quality, and better feeding practices would be of immediate benefit to the small farmer both for on-farm consumption and for sale.

A secondary target group is the beef producer whose herd provides the greater part of domestic beef production and all of the beef for export. USAID/Paraguay's assistance to the MAG's beef program has resulted in improvements which hold considerable potential for the production of beef. Because of progress made under this phase of the project, and because of AID's new emphasis on the poor majority, USAID assistance to the secondary target group will be reduced in FY 1975 and will terminate with FY 1976 funding.

e. institutional development - the project will continue to work with the same MAG institutions as before. The institutional base which has been developed represents the educational, research, and extension capability to assist the small and medium rancher, and has the potential to satisfy the needs of the small farmer with livestock. In reorienting the project, assistance will be provided to focus on the small scale and wide variety of small farmer livestock.

BRIEF HISTORY OF LIVESTOCK DEVELOPMENT PROJECT

A Livestock Development Project was initiated in 1968 to establish an institution capable of conducting and disseminating livestock research to livestock producers throughout Paraguay. Previous to 1968, in spite of the importance of the livestock sub-sector to the national economy and health and general welfare of the Paraguayan people, no organization existed for conducting livestock research. The Project was a joint undertaking by the Ministry of Agriculture and Livestock (MAG), the Faculty of Agronomy and Veterinary Sciences (FAV) and USAID/Paraguay. New Mexico State University (NMSU) was contracted to provide technical assistance to the project. When the project was initiated, research facilities and trained personnel were almost non-existent, SEAG (National Extension Service) did not have sufficient personnel trained in livestock production, and the FAV was poorly equipped both in terms of personnel and facilities. To deal most effectively with these conditions, the following project goals were identified.

1. Increase beef animal production through applied research, with emphasis on improved nutrition and ranch management.

2. Lower unit costs of production through efficient utilization of selected inputs.

3. Development of a self-sustaining institutional capacity within the MAG and the FAV to meet the continuing research and extension requirements of private ranchers.

MAJOR PROJECT ACCOMPLISHMENTS TO DATE

I. Ministry of Agriculture

A. Institutional Improvements

1. Establishment and organization (1969) of a National Livestock Research and Extension Program (PRONIEGA) within the MAG.

2. Construction of a headquarters facility for PRONIEGA in San Lorenzo (near Asuncion), completed in 1969.

3. Two Livestock Research Stations were established, one on the MAG demonstration ranch "Barrerito" near Caapucu, on a 1,000-hectare site, the other on a 2,200-hectare site at Km. 295 of the Transchaco Road. Construction and installation of basic equipment was completed in 1970. Long-term projects such as clearing land, planting pastures and fencing are continuing.

4. Institutional arrangements were made for the use of MAG facilities for research and demonstration activities: the Barrerito Ranch* for breeding studies, the Artificial Insemination Center as a source of semen, and the Agronomic Institute at Caacupe and the Regional Education Center (CREA) at San Juan Bautista for small-plot forage tests and seed multiplication. Arrangements were also made to use the FAV research laboratories, i.e. Animal Nutrition, Parasitology, Microbiology, Entomology, Soils, Agricultural Economics Research and Statistics Center, and the Veterinary Hospital.

5. There are now twelve technicians working with the Program; five have Master's degrees, and three are currently in the United States studying for M.S. degrees.

6. Formation of a Livestock Advisory Council was completed in 1969 and is composed of one representative from (1) MAG's Department of Agricultural Research and Extension, (2) PRONIEGA, (3) FAV, (4) USAID, (5) NMSU, (6) BNF, (7) Fondo Ganadero (an organization for the disbursing of IBRD livestock loan funds), and (8) the Rural Association of Paraguay (an organization of ranchers concerned with improving livestock production). The functions of the Council are to (1) advise the Director of PRONIEGA on administrative, fiscal and policy matters, (2) coordinate the use of personnel and facilities for the mutual benefit of all organizations represented on the Council, (3) coordinate livestock development activities such as field demonstrations, short courses, expositions, etc., of each organization, (4) advise PRONIEGA technicians of problems confronting the livestock industry for possible solution through research and extension, and (5) conduct an annual review of all research projects and suggest changes.

B. Research Program

A long-range research program was initiated in 1969. The plan has been in operation for six years and should be revised and updated. This is contemplated in the proposed reoriented project.

II. Faculty of Agronomy and Veterinary Sciences

The accomplishments shown below are the results of technical assistance provided under this project and under Project No. 526-11-660-053.2. The latter project, initiated in 1964 and terminated in 1968, provided one technical advisor to the FAV.

A. Institutional Improvements

1. A program was initiated in 1965 to provide salary supplements to some professors so that they could work full-time for the FAV. These salaries were later absorbed into the national budget. As a result of this program, the FAV went from zero full-time professors to the present nineteen.

2. The administrative organization was greatly improved. Several key administrative personnel were sent to the United States and other countries to observe administrative procedures. A system was devised for keeping an up-to-date inventory of all FAV property.

3. An improved curriculum was adopted and implemented in May 1973. The new curriculum gives the students a better background in the basic sciences and provides the flexibility needed to orient students toward certain specializations. It is being implemented in progressive stages starting with first year students and will be in complete operation by CY 1978. During CY 1974 the GOP increased its regular budget contribution by ₡s 638,000 ($51,000), which will assure the continuation of the new curriculum.

4. A program to upgrade the professional staff of the FAV began in 1964. To date 14 professors have been trained to the M.S. level, 1 to the B.S. level and 4 are presently in training for M.S. degrees. Five more have received non-academic training.

5. Simultaneously with the training program, the project participated in the improvement of the physical facilities of the FAV. The philosophy being followed is to select priority areas needing improvement, train the professors, and to provide them with the necessary physical facilities for teaching, research and extension. Utilizing PL 480 Title I funds, the following physical facilities have been constructed. The facilities were equipped using grant funds from USAID and other donors and IDB loan funds.

a. Laboratories for soils, plant pathology, entomology, microbiology, parasitology, anatomy, animal nutrition, poultry pathology and forage crops and audiovisual aids, were constructed and equipped.

b. Animal Science office space and classroom buildings were constructed.

c. The existing animal hospital facilities were improved and equipped.

d. An Agricultural Economics Research and Statistics Center was established.

e. A greenhouse was constructed.

f. Swine feeding pens were constructed and equipped.

g. A grain dryer was constructed.

h. The dairy unit was remodeled and milking equipment installed.

i. A feed manufacturing plant was constructed.

j. The farm shop was remodeled and equipped.

k. A new electrical system was installed.

l. A new water system was installed.

m. Library improvements were made and textbook sales and rental service established.

B. Research Program

The project has assisted the FAV research program by providing salary supplements, later absorbed into the regular FAV budget, summer scholarships to students to assist research professors, technical assistance from permanent and TDY staff and through two special projects (PL 480 funded). The special projects were to conduct swine feeding trials to determine the nutritive value of Paraguayan feedstuffs.

II. GOAL STATEMENT

The goal of this project is to improve resource use efficiency in animal/poultry production by the small farmer target group.

Efficiency and efficient production are used in the context of fewer total resources used per animal/poultry produced, whether or not aggregate production increases.

MEASURES OF GOAL ACHIEVEMENT

Within the small farmer target group, the project will focus on 1,500 farmer members of the USAID assisted credit union organization CREDICOOP, which provides supervised credit and technical assistance. The figure of 1,500 small farmers is based on a realistic estimate of the outreach of extension agents working with CREDICOOP. We estimate that for each farmer reached directly by extension agents, four of his neighbors will improve resource use efficiency through the multiplier

effect in the transfer of technology. Based on previous experience, the Mission believes that a 4:1 multiplier can be achieved. An AID funded survey of small farmers performed by a local consulting firm determined that the multiplier was 5:1 in the case of insecticide usage, so that the ratio used in this livestock project is considered conservative and realistic. In addition to the 1,500 farmers reached directly, an additional 6,000 farmers will be served indirectly for a total of 7,500 small farmers. Using this sample of 7,500 farmers, the goal will be considered achieved if the following conditions are achieved:

1. An increase in income from the base of $625 for farmers with less than 5 hectares and $976 for farmers with 5-20 hectares, through reduced production costs and higher meat/poultry yield for the market.

2. An increase in small farmer equity capitalization-through upgrading the quality and value of his livestock. Little baseline data presently exist for small farmer livestock investment, but this information will be developed within CY 1975.

3. An increase in small farmer employment - livestock husbandry will fill part of the seasonal under-employment and unemployment. According to a study performed by the Ministry of Justice and Labor, the small farmer is employed on-farm approximately 800 hours per year.

4. An improvement in nutrition for the small farmer's family - through more and better quality livestock and poultry products for home consumption. Baseline data is provided in the Nutrition Survey performed by the U.S. Department of Health, Education and Welfare in 1965.

5. The supply of meat and poultry is adequate for the nutritional needs of middle and lower income urban and rural non-farm consumers. At this time, the Mission does not have sufficient information to place numerical targets for the gains expected in paragraphs 1 through 5 above, however, we believe that the project will result in these benefits. After the proposed CY 1975 study (described below) of small farm resource use, specific targets can be provided.

MEANS OF VERIFICATION

1-4. In CY 1975 a study will be performed to provide baseline information on basic economic production, costs, income, consumption and management data on the small farmer target group. The outline of the study will be prepared by Mission and MAG personnel; the study itself will be conducted by MAG extension agents and a local contract consulting firm. Follow-up studies will be performed in CYs 1977 and 1979 to measure the rate and degree of change.

5. "Adequate nutrition" is a relative term; for this project if the supply of livestock and poultry for the domestic market is sufficient to meet accepted standards for per capita animal protein consumption, and if the prices are within the reach of the "typical" blue collar worker, the measure of goal achievement will have been verified. UN and MOH reports record animal protein consumption; consumer prices and per capita income are reported by the Mission Economist.

/ASSUMPTIONS

1. Target group will adopt practices recommended by the MAG/SEAG and other agricultural/home economics extension agents, as guided by animal, poultry and related activity specialists from PRONIEGA; the SEAG, MAG Agr. Extension Unit; FAV, the Faculty of Animal Science and Veterinary Medicine; Fondo Ganadero and other Paraguayan entities.

2. Price relationships will encourage adoption of improved practices.

3. Sufficient agricultural credit will be available.

4. That natural disasters or severe political changes will not occur.

III. PURPOSE

The purpose of this project is to institutionalize within the GOP the capability to transfer livestock technology to the farmer.

EOPS

1. FAV

a. By the end of FY 1976 the new curriculum for agricultural engineers and veterinarians will have been adopted.

b. By the end of FY 1976:

1. Beef research is carried out without a further assistance from the USAID.

2. Small animal research is emphasized and adapted to the needs of the small farmer.

3. Extension education is available on demand for extension agents and interested farmers through seminars and in-service training.

2. PRONIEGA - By the end of FY 1976:

a. Beef research is undertaken without further assistance from the USAID.

b. A 5-year research plan has been developed which focuses on the variety of livestock common to the small farm.

3. SEAG

a. By the end of FY 1976 receives education and research backstopping from FAV and PRONIEGA.

b. By the end of FY 1977 all agents have been cross trained in animal husbandry and can provide advice to the small farmer on the subject. SEAG presently has 58 agents in the field.

c. By the end of FY 1978 each agent is working closely with at least 30 small farmers on livestock improvement and will continue on an annual basis with 30 new farmers.

MEANS OF VERIFICATION

1. GOP records and reports.

2. Reports from contract consultants.

3. Mission RDO reports.

ASSUMPTIONS

1. The GOP will sufficient resources to adequately fund SEAG, PRONIEGA, and FAV.

2. The organizations mentioned above will cooperate and coordinate their activities pertinent to the project in an efficient and effective manner.

3. The FAV curriculum implemented for first year students in CY 1973 will receive financial support for the additional professors, and physical facilities necessary for the complete change over to the new curriculum by 1978.

IV. OUTPUTS

1. PRONIEGA, FAV and SEAG staffs have personnel on board whose training includes emphasis on the development of coordinated extension programs for the small farmer.

2. Research projects completed, and information being made available to the agricultural extensionists.

3. Publication and distribution of research and extension bulletins and leaflets through extensionists to the small farmer.

4. Field demonstrations and short courses conducted to disseminate the knowledge of improved production techniques to the small farmer target group.

5. Adult education courses conducted to upgrade the technical knowledge of SEAG and other extension personnel working with the small farmer target group.

OBJECTIVELY VERIFIABLE INDICATORS

Magnitude of Outputs

1. A minimum of 49 PRONIEGA, FAV, SEAG, and Desarrollo Ganadero personnel will have training to the M.S. level.

2. A minimum of 55 research projects will be initiated and 29 completed by 1979.

3. A minimum of 30 research bulletins and 78 extension bulletins and leaflets will be published and distributed by 1979.

4. A minimum of 50 field demonstrations and 20 short courses will have been conducted by 1979.

5. A minimum of 10 adult education in-service training courses will have been conducted.

MEANS OF VERIFICATION

1. PRONIEGA, FAV, SEAG and USAID records.

2. Long term research and extension plan documents.

3. Review of PRONIEGA, FAV, and Contractor records.

IMPORTANT ASSUMPTIONS

1. The participant program remains on schedule; all participants complete their work and are employed in positions for which they were trained.

2. That a senior research planning advisor will be available.

3. That there will be cooperation between PRONIEGA, FAV, and SEAG in developing and executing the plan.

4. PRONIEGA, FAV, and SEAG continue to receive adequate budget support from GOP.

5. Research and extension programs are not delayed by factors beyond their control, such as adverse weather conditions.

6. Publications, equipment, and supplies are available on a timely basis.

V. INPUTS:

U. S.

1. Personnel

	$	Manmonths
a. Resident	$ 750,000	180
b. TDY	$ 180,000	45
2. Participant Training	$ 500,000	588
3. Commodities	$ 90,000	
4. Other Costs	$ 107,000	
5. Base Line and subsequent Surveys	$ 80,000	

GOP

The GOP will support the project through the assignment of sufficient numbers of adequately trained personnel, physical facilities and logistical support required for the efficient planning, development, and effective implementation of this project. This will include assistance through the various projects and programs to assist the small farmer with livestock. The various GOP entities/agencies will cooperate in developing their research, demonstration, and training programs to meet project needs and requirements. We estimate the the host Government's Contribution will be equal to at least 40% of the total project costs overthe life of the project. A written assurance of at least 25% coverage well be recorded as part of the project agreement.

These inputs include:

1. Local currency to cover costs related to salaries of GOP personnel, construction and operation of research and demonstration facilities.

2. In kind contributions of MAG, Departments of SEAG, IAN, PRONIEGA, Agricultural Planning, Marketing, Farm Management, and other agencies such as the National Development Bank and Livestock Development Group.

3. A total of $ 474,000 from an IDB loan to the MAG to be used by PRONIEGA for construction, pasture, fertilizers, breeding stock, etc.

IBRD

An IBRD loan of $ 26.14 million will provide credit to small livestock producers.

MEANS OF VERIFICATION

1. Review of USAID/P records

2. Review of PRONIEGA and FAV records

3. Review of IDB records

4. Review of IBRD records

INPUTS

Personnel

The following is a summary of project personnel (see also Annexes A & B):

1. GOP

a. PRONIEGA

Seventeen technicians (13 Ingenieros Agronomos and four doctors of Veterinary Medicine) are employed full-time by the project. Six have Master of Science degrees received through the USAID participant training program. Six new technicians will be incorporated by 1978.

b. FAV

Thirty six full and half-time professors are participanting in the project, with 3 more to be incorporated by 1979. Fourteen have Master of Science Degrees; 8 received training through the USAID participant training program and 6 through training programs of other donors.

2. USAID Financed Advisory Assistance

a. The Chief of Party will assist the various cooperating organizations with the administration and management of the project. He will improve coordinated liason between SEAG, PRONIEGA, FAV, and the Livestock Development Group. The present Chief of Party will terminate in March 1975 and be replaced by the Animal Production/Extension specialist. In addition to the duties mentioned above, the replacement will be an Advisor to the animal research programs being developed for the small farmer. This position is planned through June 1979. Additional duties will be to assist the Livestock Breeding and Sanitation, and the Pasture and Forage Crops Production and Management units, plus the operation of the Artificial Insemination Center and Barrerito Demonstration Ranch

b. One Animal Nutritionist will assist and train staffs of the Livestock Nutrition and Management unit of PRONIEGA and the Animal Nutrition Laboratory of the FAV. He will continue to act as Advisor to the various participating agencies on technical matters pertaining to this project, especially as they relate to small farmer animal/poultry feeding programs. This position is planned through June 1979.

c. One Livestock Extension Specialist will assist in the overall planning, coordination, and implementation of the combined Extension Training program. He will advise and assist subject matter specialists to: organize and conduct training courses, field days and demonstrations; prepare and distribute extension bulletins and other materials; and coordinate extension activities with SEAG and other local agencies. The various cooperating units will develop their programs to assist the small farmer with a diversied "production package" including agronomy and livestock/poultry. This is planned through June 1979.

d. A new Livestock Production Management Economist will assist the project with the producer survey to obtain base-line data for further research, to establish economic guidelines for recommendations and to establish a base line to be compared with subsequent surveys as a measure of project accomplishments. He will advise and assist the Agricultural Economics Department within the faculty of Agronomy with cooperative SEAG, IAN, PRONIEGA-FAV research projects and a continuing education program. He will be knowledgeable in the economics of the production of beef, swine and dairy products. The position will extend from January 1975 to June 1979.

e. TDY assistance will be provided at the rate of approximately ten man months per year during the life of the project. TDY personnel are chosen to give assistance in areas of work that directly affect the outputs of this project that are not covered by permanent personnel.

NOTE: All advisors will assist in developing and implementing the In-Country Training and supportive research programs.

C. Physical Facilities

1) Livestock Research and Extension

Since the beginning of the project, a headquarters facility and two new experiment stations have been constructed utilizing PL 480 Title I funds. The headquarters facility is located at San Lorenzo, near Asunción. One of the experiment stations is in the Chaco region to conduct research trials under conditions peculiar to Western Paraguay and the other is on the Ministry's Barrerito Ranch to conduct research under conditions common to Eastern Paraguay. The project is using existing facilities wherever possible. (For a summary of facilities constructed see History). The IDB loan provides $ 76,000 in construction funds for PRONIEGA, to be expended over the period 1972-1975. These funds are being used to build fences, watering and feeding

facilities, corrals, a machine shed and a warehouse, and to drill a well for potable water.

2) FAV

The FAV facilities were constructed and equipped using PL 480 funds, and GOP budget funds. No funding for physical construction is planned under this project, however, there will be a continuing GOP effort to improve and increase the use of existing facilities. A second IDB loan to the National University of Asunción is in the planning stage. The FAV has high priority as a recipient of funds for the construction and equipping of a new physical plant. A master plan, National University of Asunción Campus Planning Study, May 1971, has been made by a team of NMSU and National University of Asunción architects, which utilizes the existing PL 480 financed facilities.

ASSUMPTION FOR PROVIDING INPUTS:

Planned levels of inputs from all sources continue on a timely basis to 1979.

2. GOP continues projects recurring expenses.

VI. A. RATIONALE FOR PROJECT REORIENTATION

A major problem facing the small farmer of Paraguay is that the technology presently located in FAV and PRONIEGA is not generally available in a systematized "package" approach which is geared to the needs, capabilities, [illegible] and credit available to the target group small farmer.

Until now, large ranchers have benefitted the most from the development of the project. However, the reorientation of the project will directly [illegible] small Paraguayan farmer. The staffs of FAV and PRONIEGA are [illegible] except for the training of a few specialists to round out the [illegible] components necessary to (1) continue assistance to the cattle [illegible] to the national economy has already been demonstrated, and (2) [illegible] re-directed project to take advantage of the results of the project [illegible] of the people who need the knowledge the most, the small Paraguayan [illegible] and their rural neighbors.

SEAG will develop a system of continuing feedback from the small farmer target group - so the system will best serve the changing needs of the small farm group as they progress up the economic and social ladder.

Specifically, this will be accomplished in the following manner:

The primary organizations/personnel involved will be:

1) MAG Planning Unit

2) SEAG Project Coordinator

3) FAV;

4) PRONIEGA

5) SEAG and other Agricultural and home economic extension agents.

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MAG Planning Unit

This new unit, created in MAG to plan national programs in agricultural development, has the responsibility to establish the parameters within which the operating units function.

SEAG Project Coordinator

His function will be to develop the overall program for planning scheduling and the logistics for training SEAG and other agricultural/home economics agents in conjunction with FAV, PRONIEGA and other qualified institutions.

FAV

FAV will coordinate and be in charge of actual training through its various faculty specialists. A Director of Extension Training will be assigned the task of coordinating training with the SEAG project Director, and making all arrangements with FAV.

PRONIEGA

This organization is well staffed with livestock specialists. While these extension agents will continue to work with the development of the export beef producers, as a result of this project they will be given the responsibility of assisting the FAV to train SEAG agents.

SEAG and other Agricultural/Home Economics extension agents

These agents will be systematically trained to present complete farming "Production packages" to the small farmers. For the most part, SEAG agents are agronomists, with practically no training in animal/poultry extension work. Normally they service small and medium sized farmers, so they are particularly qualified to communicate new ideas and concepts to the small farmers who will be the major recipients of the thrust of this project.

B. SEAG Agent Training

Now that FAV and PRONIEGA have been sufficiently established as viable entities, for the most part, the Mission is terminating its assistance. Although this phase of the project has been successfully completed, USAID would lose its investment if the training and knowledge imparted to these entities were not channelled in the direction of the group which needs this knowledge could not benefit from it. However, at present, there is no coordinated program to effectively bring practical programs in the husbandry of small animals, dairy and poultry and beef to the small farmer. The communications channel exists; the training of SEAG agents in livestock does not. Therefore, this project intends to capitalize on USAID established institutions to directly assist Paraguay in a Small Farmer diversified "production-package", Agronomy and Animal/poultry.

It has been demonstrated that both organizations can impart knowledge to cattlemen since they have been performing this work. A portion of their time will continue to be supportive of the Paraguayan beef industry. It is felt that this support will be adequate to continue to develop this essential industry, without being detrimental to the re-directed

major emphasis groups of this project, the small farmer with livestock. Since the SEAG small farmer agricultural extension program has been established for some years, inputs of knowledge from FAV, IAN, & PRONIEGA will be inculcated into a broader assistance program for SEAG Agents to use in their agricultural extension program has been established for some years, inputs of knowledge from FAV, IAN, & PRONIEGA will be inculcated into a broader assistance program for SEAG agents to use in their agricultural extension programs.

Organizationally the information categories will be imparted to the SEAG Extension Staff as follows:

FAV: The Faculty of Agronomy and Veterinary Science will teach both agronomic and animal science subjects.

PRONIEGA: The National Program for Livestock Investigation and Research will impart practical knowledge in animal husbandry, including production, feeding, sanitation, and general management of their animals.

IAN: The National Institute of Agronomy will continue to funnel research information on agronomic findings to the SEAG agents in a form and substance usable by the Small farmer.

Since SEAG, PRONIEGA, and IAN are all in the MAG Division of Crop and Livestock Research and Extension, the coordination of this training program is more easily coordinated than might otherwise be the case.

C. Project Development

In Paraguay AID funding and contract technology have been successfully utilized to create a sound broad based educational and physical infrastructure for a technical, institutional agricultural training program. The Faculty of Agriculture and Animal Science (FAV) is graduating agriculturalists with varied specialties and is performing research in various types of animals and poultry. Organizations like PRONIEGA are utilizing trained technical personnel to do research in livestock development, and disseminate this information to medium and large cattle ranchers. Various other cattlemen's organizations also work with the cattle ranchers. This system of research and information dissemination exists in a generally large and medium rancher oriented pattern of which little gets to the small farmer.

SEAG has been the major GOP organization working directly with the small farmer. However, since SEAG extension agents are primarily agronomists, they have not been able to assist the small farmer with his problems on raising his animals and poultry. Therefore, this project proposes to bridge the gap between the capabilities already existant in the country, and the needs of the small farmers with livestock.

This project will continue to train the few specialists necessary to complete a broad based staff on FAV, which will round out staff requirements for training SEAG agents in various practical animal and poultry husbandry production tecaniques and methods.

Through the emphasis of this project, FAV and PRONIEGA will reorient their time and talents to train SEAG agents in the practical development, adaptation to local needs, and use of "production packages "specifically developed and organized to be of maximum value and utilization by the small farmer. Since SEAG agents normally contact small farmers, their communication link has already been established. Through the process delineated in the Course of Action in this PROP, University level research will be oriented and tailored to basic "production packages" then directly and effectively transmitted directly to the small farmer in terms and in the language, Guarani, spoken by the small farmers.

Much of the coordinated programming necessary to get this information into a form and substance which the small farmer can understand and utilize will be done by the USAID Agricultural Economist. He will be assisted by the USAID Farm Managemen Marketing and livestock Extension Advisors. He will translate and interpret many of the "technical packages" developed by FAV and PRONIEGA into "production packages" for dissemination, to the small farmer for practical, economical implementation. This type of coordination is critical to the success of this project, since the small farmer group has widely differing sets of capabilities and needs, and the "production packages" must be developed to be adapted and utilized by the majority of these farmers. The "production package" will, in fact, be explained by FAV and PRONIEGA staff to SEAG agents, who in turn, will use the information either directly, or tailored by innovation and eventual experience to the exact small farm situation.

Various types of meetings and demonstrations will be utilized by the SEAG agents to disseminate their information to the greatest number of small farmers possible. However, for the purposes of this project, which will innovatively change the traditional, established patterns, the agents will concentrate on 1500 small farmers, primarily members of CREDICOOP, the AID sponsored Credit Union movement in Paraguay. Since this organization already has many small farmer members, the lending and communications patterns, and rapport have already been established. This project will add the factor of "total small farm production-packages" to the benefit of the farmer/borrower. By using the multiplier effect of a 4 times factor, this adds an additional 6,000 small farmers to the basic 1,500, for a total potential of 7,500 small farmers reached by this project. In addition to the normal multiplier effect, in this project, due to the factor of open meetings and community participation through cooperative system, there is the possibility of "spill over" of other farmers utilizing part of the "packages" through indirect or secondary exposure to the information. However, this group may benefit from the project, but not be measured for results.

VII. COURSE OF ACTION

A. Project Direction

The thrust of this project, over the life of the project, is to completely redirect the emphasis which has guided the project to date.

Historically, this project began in FY 1968, with a major emphasis on increasing beef production, in order to increase the amount of beef and related products available for export, thereby resulting in the goal of increasing foreign exchange earnings. As the project evolved, the pattern of progress was to continue to develop within the Ministry of Agriculture and Livestock (MAG), an organizational and staffing capability to create a National Program of Livestock Research and Extension (PRONIEGA). This entity was established to have the capability to provide the rancher with the research and modern technology necessary for the development of the livestock industry. Simultaneously the project has been developing within the National University's Faculty of Agronomy and Veterinary Sciences (FAV) an institutional capacity that provided well trained manpower for the livestock and other agricultural sectors.

In general, three primary types of outputs have been, and are being developed:

Training. Three major training outputs are needed: (1) Training of personnel to staff SEAG, PRONIEGA and FAV with sufficient numbers of high quality personnel to build a self sustaining agricultural extension agent training organization base, and (2) a steady expansion of FAV graduates to meet the demand for professionals in both public and private sectors, particularly oriented toward extension services relating to the small farmer; (3) the Director of the SEAG (MAG Department of Crop and Livestock Research and Extension) will act as project coordinator, in conjunction with the heads of departments of IAN (Agronomic Research), PRONIEGA (Livestock Research and Extension). All of these units are under the same Directorate in MAG, thus facilitating project implementation. The experienced specialists from IAN, FAV and PRONIEGA will impart their knowledge to the SEAG agents during regular in-service training sessions planned and arranged by SEAG, and oriented toward fulfilling the varied needs of the small farmer with livestock.

Also, during the life of this project a new project will be developed with FAO, IICA/OAS and USAID/P (a multilateral effort) to establish a specialized training unit within FAV and MAG, to capitalize on the university level expertise to train personnel of all the participating MAG units. This will help to utilize the high level academic knowledge to a greater extent than is now possible.

Training SEAG Extension Agents. For the training of SEAG and other extension agents, the six MAG Regional Training Centers will be utilized: San Juan Bautista, Caazapá, Concepción, Villarrica, Caacupé and Barrerito Ranch. This will achieve the most training for the least cost, as well as helping to establish a systematized program within MAG for continuing after this project is phased out. By utilizing the Regional facilities, the cost per agent trained is kept to a minimum, since the trainers can be easily transported to the various training meetings. Further, regional agricultural problems can be more easily handled in this type of instructional framework.

SEAG Agents Training "Ayudantes de Campo" and Farm-Community Leaders within and outside the cooperative movement. The primary channel for project implementation to the small farmer will be through local rural credit unions belonging to the USAID funded CREDICOOP Central organization, since these rural units are comprised primarily of small farmers who actively participate in CREDICOOP sponsored meetings and demonstrations. For this basic reason, CREDICOOP will form a basic information dissemination channel to the small farmer.

The format for utilizing SEAG agents to further impart their knowledge to the small farmer is by training "ayudantes de campo", local managers, and cooperative board members, plus other cooperative extension personnel and rural leaders who also work with small farmers on a daily basis. This greatly adds to the base of technical information disbursion to small farmers, helping to insure that the target group receives the most information possible, in a time sequence which is most utilitarian to him. Presently there are 18 rural Credit Unions which have an "ayudante" who is willing to assist in this project. Considering the other stated personnel, this may add 50 extra direct contact points for information regarding some phase of the project, and knowledge of where to get further information. Where possible, this group will also participate with the SEAG agents in major training courses, as well as having the SEAG agents train them in their cooperatives. This would give the "ayudantes" and managers and community leaders as much exposure to the information as possible.

This new PROP proposes the following changes, while making maximum use of the outputs already created through the foregoing project activities.

1. FAV

Since the faculty programshave been established to include emphasis on animal science; and staff personnel have been, and are being trained to expand the FAV capability to pursue the scientific patterns currently established, it is time to phase down and subsequently out of FAV. The major part will be completed in FY 1976, although a few participants will continue in training until the end of the project in FY 1978.

Commencing in FY 1975, FAV will become a major unit in the GOP training program for all extension personnel. This training will include all facets of diversified "production packages" including agronomy and animal/poultry husbandry as deemed necessary to assist small farmers to benefit as much as possible from this program.

Since many physical facilities, and a broad experienced staff are located at FAV, developed to a large extent thru the earlier phases of this project, this is a most practical unit to help extend the training proposed through their research programs and technical assistance capabilities. The staff will travel to the regional meetings to assist other cooperating technical specialists in the in-country training programs and demonstration field days.

2. PRONIEGA

Now that this organization has become a viable entity, with a basic staff of trained livestock specialists, it is time to utilize this group to help in the new thrust of this PROP. The organization will continue to collect and

disseminate research data and modern technology, but oriented toward the practical needs of the small farmer. Much of this dissemination will be made through the MAG agricultural agents training program in coordination with FAV.

3. MAG Agricultural Extension Dept. (SEAG)

Until recently, the staff of this Department has concentrated on assisting farmers with agronomy information and guidance. Field agents were not given credit for farm visits to assist small farmers who needed help in managing and marketing the animals which they raised. That pattern has now been changed. The Department is now willing to assist small farmers who have livestock. However, since most of the agents are agronomists whose background is entirely in non-animal production, there is a great gap between the desire to help the small farmer with his animal and poultry problems, and a sufficiency of knowledge to be able to assist. This PROP proposed to eliminate this gap, through utilizing the established institutions as a strong foundation and base point for project development.

The inter-relationship of the major units involved in this redirection will each have a specific responsibility to the project. More specifically:

(1) FAV, (2) PRONIEGA, and (3) MAG Agricultural Extension Department (including the Home Economics unit);

(1) FAV (Agronomy/Veterinary Sciences)

The major sub-units involved in the development and implementation of the agricultural extension thrust of this project are the physical facilities, including the Animal Nutrition Laboratory, and the Agricultural Economics Research Center.

The specialized personnel, many with advanced degrees, have good practical experience in lecturing. Although these men might be far too advanced in their education to lecture to small farmers, they would easily be understood by MAG Extension personnel.

While direct AID assistance to FAV will terminate in FY 1977, they will continue to maintain their responsibility to the on-going portion of the project.

Under this redirected project FAV would be responsible for continuing research and specific training of MAG Extension personnel.

(2) PRONIEGA

This is the National Program of Livestock Research and Extension. It has been established to collect and disseminate research data and modern technology necessary for the development of animal agriculture. Therefore, PRONIEGA will be responsible for the continual dissemination of information to the MAG Extension agents for their use in assisting small farmers who own livestock.

Although, historically, PRONIEGA has been concentrating on beef information to the medium and large sized rancher, a main activity will now be primarily directed at developing and assisting in the program, in conjunction with FAV and the NMSU team.

(3) SEAG

Most SEAG agricultural extension agents are agronomists. Therefore, until very recently, the extension work has been primarily non-animal oriented, to the detriment of the balanced nutritional diet of the small farmer who raises his own animals and poultry with little, if any guidance at all. But, the small farmer needs this protein input for his family's diet, as delineated in a nutritional survey of Paraguay. Any extra meat productions can be sold for cash income. Therefore, under this PROP, the SEAG agents and other GOP extensionists will be trained in the techniques of modern animal and poultry husbandry, to directly assist the small farmer development program. This training will be performed by FAV, in conjunction with PRONIEGA, as delineated before.

At present, SEAG has a total of 161 MAG direct hire personnel: 1/

1	Department head
71	Ag. Extension agents
9	Subject specialists (technical matter)
9	Supervisors
23	Home agents
24	4-C Youth Club agents
15	Administrative personnel
152	Total Direct Hire MAG
+ 17	PCV Home Economics
169	Total personnel available to assist the project in its various ramifications.

Most of the agents work in eastern Paraguay, where the main groups of small farmers live. The specific delineation of the structure is that in this region in 1975 there are 58 agencies, each agency serving 150 clients, primarily small farmers. 2/

Each agent presently serves an average of 93 producers. 3/ Within the rural population in the eastern region, in 1973 the average per capita income was $80. 4/ The small farmer income assumedly was less than the rural average. This project can effectively help to raise this income level.

B. Training SEAG Extension Agents

For the training of SEAG and other Extension agents, the four MAG Regional six Training Centers will be utilized: San Juan Bautista, Caazapá, Concepción, Villarrica, Caacupé and Barrerito. This will achieve the most training for the least cost, as well as helping to establish a systematized program within MAG for continuing after this project is phased out. By utilizing the Regional facilities,

1/ Unpublished Report by T. Arvizo, NMSU, January, 1975 in RDO files
2/ Ibid
3/ Ibid
4/ Ibid

the cost per agent trained is kept to a minimum, since the trainers can be easily transported to the various training meetings. Further, regional agricultural problems can be more easily handled in this type of instructional framework.

C. SEAG Agents Training "Ayudantes de Campo" and Other Local Staff

The primary channel for project implementation to the small farmer will be through local rural credit unions belonging to the USAID-funded CREDICOOP Central organization. Since these rural units are comprised primarily of small farmers who actively participate in CREDICOOP-sponsored meetings and demonstrations, CREDICOOP will form a basic information dissemination channel to the small farmer. The format for utilizing SEAG agents to further impart their knowledge to the small farmer is by training "ayudantes de campo", local managers and cooperative board members, plus other cooperative extension personnel who also work with small farmers on a daily basis. This greatly adds to the base of technical information disbursion to small farmers, helping to insure that the target group receives the most information possible, in a time sequence which is most utilitarian to him. Presently there are 18 rural credit unions which have an "ayudante" who is willing to assist in this project. Considering the other stated personnel, this may add 50 extra direct contact points for information regarding some phase of the project, and knowledge of where to get further information. Where possible, this group will also participate with the SEAG agents in major training courses, as well as having the SEAG agents train them in their cooperatives. This would give the "ayudantes" and managers as much exposure to the information as possible. Considering that some SEAG agents are college trained and local cooperative employees are not, the local staff may need more training. Therefore, this doubled exposure is a valuable inexpensive training device.

B. Training Program

Participant Training for Technical Staffing

Commencing in FY 1975 and continuing for the life of the project, a total of 20 new participants are planned for advanced degree work in the United States. 7 will be from FAV, 7 from PRONIEGA, 2 from Fondo Ganadero, and 4 from SEAG.

There will be no new FAV participants in training, funded by this project, after FY 1977. If any further training is deemed to be required after that date, it will come from non-AID funds.

(For details of the specific proposed training program and schedules see Annex B)

These participants will return to join the regular participating staff members in a detailed, systematic development program for the Agricultural Extension Service in Paraguay, primarily serving the small farmer with livestock, while continuing to serve livestock raisers.

This portion of the project, in effect, is the beginning of a "Training for Trainers" project, since a coordinated program will be established to develop "production packages" for small farmers who want to raise better livestock and poultry, in order to diversify his present farming base, as well as improve the nutrition of his family.

Extension Agent Training

Through the system of utilizing the advanced training of the staff members of the various technical agricultural units, agricultural extension agents can be effectively trained to assist the lower-income farm groups who can not be assisted on a mass basis by the Technical organizations themselves.

Further, by incorporating the Home Economics unit of SEAG into the program, the factor of utilizing the improved animal production for better nutrition in the small farm family diet becomes an active, systematic aid to this portion of the national population.

This overall program also gets an added assistance factor from the 4-C (4-H Agricultural Youth Program in the U.S.) agents who work through the country, assisting the agricultural Youth Clubs. The programs of this organization are geared to teach better agricultural techniques, methods and living habits (e.g. sanitation) to farm youth.

If the youth of the small farm family begin to learn the values of a diversified farm production pattern, with better improved livestock/poultry production, often the small farmer is more willing to listen and learn.

Presently, SEAG has 58 agencies, with 82 extension workers in the eastern region of Paraguay. These agencies are staffed with an agricultural extension agent who is sometimes supported by a Home Economist and 4-C agricultural youth club agent.

In the past, it has been estimated[1/] that each agency is capable of providing extension services to an average of 150 producers.

Part of this project will be to redirect a portion of the agent's activities so he effectively reaches much greater numbers of small farmers through an organized systematic group training program. This will be developed in conjunction with the local Credit Unions and Agricultural Production/Marketing Cooperatives who already have basic training programs, but whose assistance in this program could be of great value. The Central Offices of each of these Cooperatives are AID funded and supported.

In addition to the NMSU Advisory Team, added assistance to the success of the Ag. extension agents training are the USAID advisors whose work closely relates to this project, and who can directly assist in the shaping and framing of the training. These include: the advisor in farm management, marketing, credit union development, agricultural production/marketing, and agricultural planning.

1/ Ibid, T. Arvizo, January 1975, USAID/Paraguay.

NUMBER OF EXTENSION PERSONNEL FOR 1970 THROUGH 1975

Year	No. of Agencies	Adm. Personnel	Supervisors	Ag. Agents	Specialists	Home Agents	4-C Club Agents	P. C. Volunteers		Total Pers Extensio
								Total Tech. Ag.		
1970	29	14	5	50		19		88		
1971	28	19	5	50		19		93		
1972	47	17	8	48		25		98		
1973	48	17	8	49		35		109		
1974	51	17	8	57		26		108	17	
1975	50	15	9	71	9	23	24	192	17	168

*Not including the Director of SEAG ---------- 1

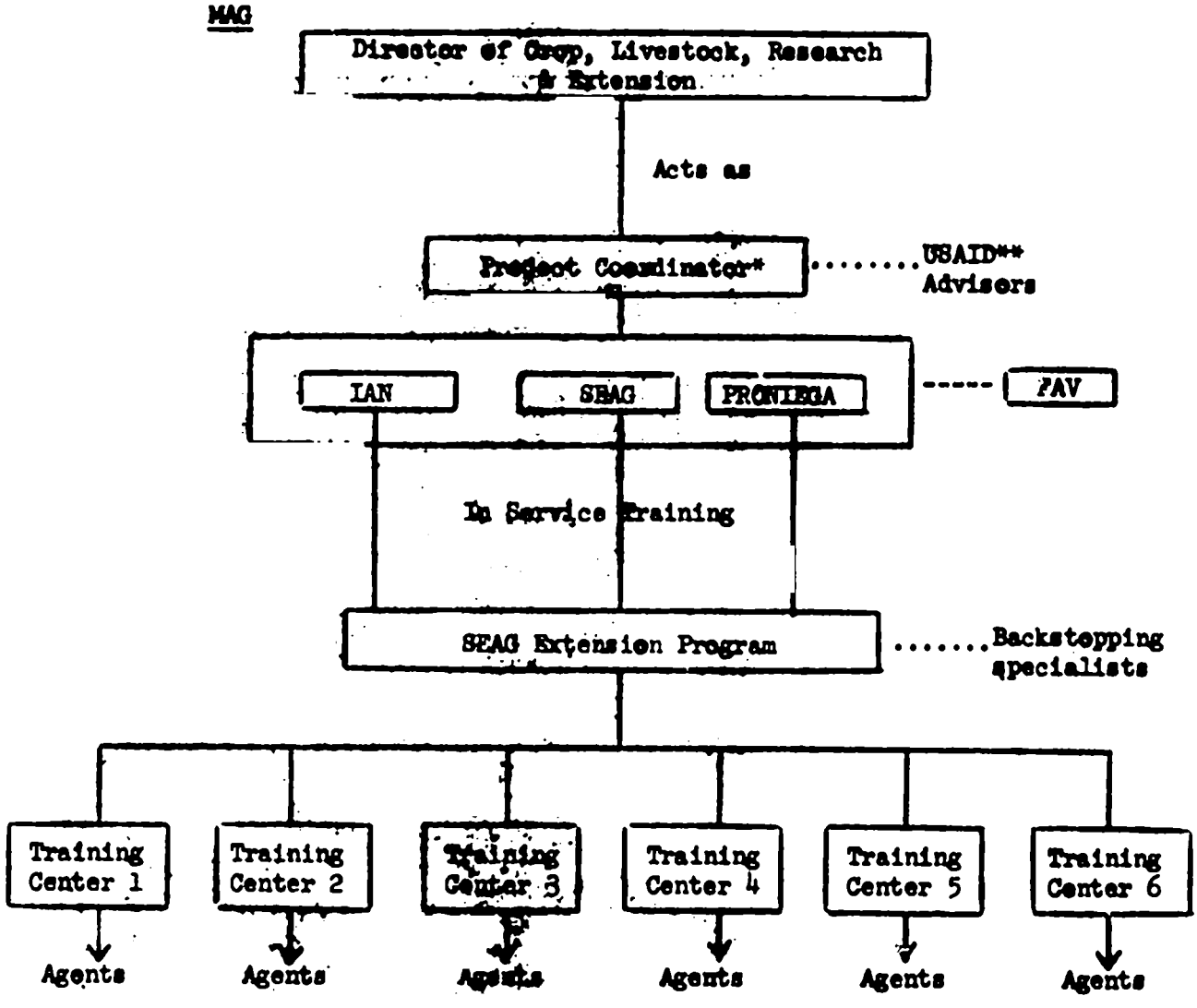
169

Source: Extension Service Records

*Specialists: These are subject matter specialists as in soybeans, soils, wheat, potatoes, ant control, house economics, education, etc.

PROPOSED
ORGANIZATION CHART

MAJOR THRUST: AG. EXTENSION TRAINING FOR SMALL FARMER ASSISTANCE



1. San Juan Bautista
2. Cazapa
3. Concepcion
4. Villarrica (swine project)
5. Caacupe
6. Livestock Research Center (Barrerito)

*SEAG Director
**MSU Agricultural Economics and Livestock Extension Specialist, Farm Management and Marketing Advisors.

ARRIVAL/Departure

Agricultural Extension Service

D I R E C T O R

Vice-Director

National 4-C Club Supervisor
National Agronomy Supervisor
National Livestock Supervisor
National Nutrition Supervisor

Regional
Agency Supervisors

Paraguari Region	Cordillera Region	Caaguazu A. Parana Region	Central Region	Caazapa Guaira Region	Misiones Neembucu Region	Concepcion Region	San Pedro Region	Itapua Region
7 Agencies	6 Agencies	9 Agencies	7 Agencies	7 Agencies	4 Agencies	4 Agencies	5 Agencies	9 Agencies
Coordinat. Committees	Coordinat. Committees	Coordinat. Committees	Coordinat. Committees	Coordinat. Committees	Coordinat. Committees	Coordinat. Committees	Coordinat. Committees	Coordinat. Committees

Rural Farm Families

VIII. EVALUATION PLAN

This project will be evaluated at least annually in compliance with the series of M.O. and policy statements which outline evaluation methodology and participation. The date of submission of the next PAR will be November 1975, i.e. one year after the date of the special evaluation performed by the AID/ATAC team. These evaluations will be carried out jointly by the GOP and USAID plus the technical advisory team. The project provides targets at all planning levels that can be measured realistically during its life.

Baseline Data

Will be obtained through a field evaluation survey designed and performed under the guidance of Mission personnel with assistance from the GOP MAG Planning Office and in conjunction with agricultural extension agents and CREDICOOP. The survey will encompass a percentage of the 1,500 target group small farmers. The precise number and details of the survey will be selected by the Agricultural Economist funded under this project. Targets in the present submission will be adjusted, depending on changing requirements of the project during its implementation period.

Progress Data

Will be based upon the two subsequent surveys of the target group (FYs 1977 and 1979). Interim progress data will be gathered by review with GOP agencies and USAID/P records and reports on the target group. The review will include emphasis on the various agricultural extension training programs and activities delineated in this PROP.

ANNEX A

NMSU STAFFING PATTERN

	FY 74	FY 75	FY 76	FY 77	FY 78	FY 79
1. Chief of Party (see note)	x	x	x	x	x	x 1/
2. Animal Production Specialist *	x	x				
3. Animal Nutrition Specialist **	x	x				
4. Animal Nutrition/Research Specialist **			x	x		
5. Livestock Extension Specialist (Source Material)	x	x	x	x	x	x 1/
6. Agricultural Economic Specialist (Beef/Swine/Poultry)		x	x	x	x	
7. TDY						
Range Management		2mm	2mm	2mm		
Swine Extensionist		"	"	"		
Dairy "		"	"	"		
Poultry Extension			2mm	2mm		
Ag. Economist (Economic/Policy & Analysis) (Advise on Ag. Economy Planning and execution of analysis)		3mm	1mm	1mm		
Research & Ext. Planning Advisor (Administration)		3mm	1mm	1mm		
Animal Breeder & Statistician		3mm	1mm			2mm 1/
Animal Health Specialist		3mm				
Brush Control Specialist		1mm		2mm		1mm 1/

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* Commencing in FY 75 (March) the Animal Production Specialist will assume the added duties of the Chief of Party.

** Commencing in FY 75 (March) the Animal Nutrition Specialist will assume added duties in Animal Research and Production.

1/ In place but funded with FY 78 funds.

Note: Present Chief of Party departing March 6, 1975.

ANNEX B

TOTAL PARTICIPANTS

(New + Carryovers for Funding Purposes)

Organization	FY75	FY76	FY77	FY78	FY79	Total
SEAG	2	3	2	1	0	8
PRONIEGA	5	5	5	2	0	17
FAV	6	5	4	3	0	18
D.G.	1	2	2	1	0	8
Participants	14	15	13	7	0	49
Man-Months	168	180	156	84		588

SUMMARY OF PROJECTED PARTICIPANT TRAINING SCHEDULE

	Number of New Participants per Year							
	73	74	75	76	77	78	79	Total
SEAG	2	0	2	1	1	0	0	6
PRONIEGA	1	3	2	3	2	0	0	11
FAV	3	2	4	1	2	0	0	12
DESARROLLO GANADERO	0	0	1	0	1	0	0	2
TOTAL	6	5	9	5	6	0	0	31
TOTAL this Project	N/A	N/A	9	5	6	0	0	20

Note: Any FAV participants in training after FY 1977 will be funded with non-project funds.

ANNEX B

PRESENT AND PROJECTED PROJECT PERSONNEL, AREAS OF SPECIALIZATION, LEVEL OF TRAINING, AND PROJECTED PARTICIPANT TRAINING SCHEDULE

A. PRONIEGA

Unit	Specialization	Present Degree(s)	Projected Participant Training Schedule ETD CY	ETA CY	Degree
1. Office of Project Direction					
Director	Range Management	Ing.Agr./M.S.			
2. Cattle Nutrition and Management					
Head 1/	Animal Nutrition	Ing.Agr./M.S.			
Technician	Animal Production	Ing. Agr.	72	74	M.S.
Technician	Animal Production	Ing. Agr.			
Projected	Animal Nutrition		76	78	M.S.
3. Pasture, Forage Crops Production and Management					
Head 2/	Range Management	Ing.Agr./M.S.			
Technician	Cultivated Pastures	Ing. Agr.	72	74	M.S.
Projected	Range Management		76	78	M.S.
4. Livestock Breeding and Sanitation					
Head	Animal Genetics	D.V.M./M.S.			
Technician	Reproductive Pathology	D.V.M.	74	76	M.S.
Technician	Laboratory	D.V.M.			
Projected	Animal Genetics		77	79	M.S.
5. Ranch Economics					
Head 3/	General Agri.Econ.	Ing.Agr./M.S.			
Projected	Livestock Produc.Econ.		75	77	M.S.
Projected	Statistics		76	78	M.S.

1/ Leave of absence.

2/ Also Director of PRONIEGA.

3/ Employed by PRONIEGA 1/4 time.

Staffing/Training

Unit	Specialization	Present Degree(s)	Projected Participant Training Schedule ETD CY	ETA CY	Degree
6. Livestock Extension					
Head	Animal Production	Ing.Agr./M.S.			
Technician	Pasture & Forage Crops	Ing. Agr.	73	75	M.S.
Technician 4/	Livestock Extension (Swine)	Ing. Agr.	73	75	M.S.
Technician 4/	Livestock Extension (Beef)	D.V.M.	73	75	M.S.
Projected	Livestock (Dairy)		77	79	M.S.
7. Barrerito Experiment Station					
Head	Animal Production & Range Mgt.	Ing. Agr.	74	76	M.S.
Technician	Animal Nutrition	Ing.Agr./M.S.			
8. Chaco Experiment Station					
Head	Animal Production & Nutrition	Ing. Agr.	74	76	M.S.
Technician	Pasture & Forage Crops	Ing. Agr.	75	77	M.S.

B. FAV (includes only full and half time Professors participating in the project).

1. Administrative					
Dean	Animal Clinician	D.V.M.			
2. Crop Production					
Head	Horticulture	Ing. Agr.			
Professor	Entomology	Ing. Agr.			
Professor	Entomology	Ing.Agr./M.S.**	72	74	Ph.D.
Professor	Plant Breeding	Ing.Agr./M.S.**			
Professor	Crop Production	Ing.Agr./M.S.			
3. Soils					
Head	Soil Chemistry	Ing. Agr.			
Professor	Soil Fertility	Ing.Agr./M.S.*	72	75	Ph.D.
Professor	Soil Fertility	Ing.Agr./M.S.			
4. Plant Pathology					
Head	Plant Pathology	Ing.Agr./M.S.**			
Professor	Plant Pathology	Ing.Agr./M.S.			

4/ Employed by SEAG

* Advanced Training AID financed under North Carolina State University AID/W Contract.

** Non AID financed.

Staffing/Training

Item	Specialization	Present Degree(s)	Projected Participant Training Schedule ETD CY	ETA CY	Degree
5. Agricultural Engineering					
Head	Farm Mechanics	Ing.Agr./M.S.**			
Professor	Farm Construction & Hydraulics	Ing.Agr./B.S.			
6. Agricultural Economics					
Head	Agri.Economist	Ing.Agr./M.S.			
Professor	General Economist	B.S.			
Professor	Statistics & Production Econ.	Ing. Agr.	72	74	M.S.
"	Marketing	Ing. Agr.	75	77	M.S.
"	Economic Policy & Anal.	Ing. Agr.	75	77	M.S.
	Farm Management	M.S.			
7. Animal Science					
Head	Animal Production	D.V.M./M.S.**			
Professor	Swine Production	D.V.M.	74	76	M.S.
Professor	Reproductive Physiology	D.V.M.	73	75	M.S.
Professor	Animal Nutrition	D.V.M.	75	77	M.S.
Professor	Dairy Production	D.V.M.	74	76	M.S.
Projected	Poultry Production (Reas.)		76	78	M.S.
Projected	Animal Genetics		77	79	M.S.
8. Pasture and Forage Crops					
Head	Range Management	Ing.Agr./M.S.	75	78	Ph.D.
Projected	Cultivated Pastures		77	79	M.S.
9. Microbiology and Parasitology					
Head	Parasitology	M.S.			
Professor	Parasitology	D.V.M./M.S.***	72	75	Ph.D.**
Professor	Microbiology	D.V.M./M.S.			
10. Animal Pathology					
Head	Medical Pathology	M.D.			
Professor	Medical Pathology	D.V.M.			
Professor	Reproductive Pathology		73	75	M.S.
Professor	Poultry Pathology	D.V.M./M.S.			
11. Anatomy					
Head	Anatomy	D.V.M.			
Professor	Anatomy	D.V.M.			

** Advanced Training non AID financed.
*** AID/W financed

Staffing/Training

Unit	Specialization	Present Degree(s)	Projected Participant Training Schedule ETD CY	ETA CY	Degree
12. Physiology					
Professor	General Physiology	D.V.M.	72	74	M.S.
13. Hospital Clinic					
Head	Chemical Diagnosis	D.V.M.			
Professor	Surgery	D.V.M.			
Professor	Obstetrics	D.V.M.			
Professor	Clinical Analysis	D.V.M.			
Professor	Pharmacology		73	75	M.S.
14. Library					
Head	Library Science	B.S.			
C. DESARROLLO GANADERO					
1. Animal Nutrition		Ing. Agr.	75	77	M.S.
2. Range Management		Ing. Agr.	77	79	M.S.
D. SEAG					
1. Animal Nutrition/Extension		Ing. Agr.	73	75	M.S.
2. Ag. Extension		Ing. Agr.	73	75	M.S.
3. Poultry Husbandry/Extension		Ing. Agr.	75	77	M.S.
4. Swine Production/Nutrition/ Extension		Ing. Agr.	76	78	M.S.
5. Animal Husbandry (emphasis Dairy) Extension		Ing. Agr.	77	79	M.S.
6. Home Economics Extension		No degree	75	79	B.S.

ANNEX C

DISTRIBUTION OF AGRICULTURAL ENTERPRISES BY SIZE IN THE EASTERN REGION OF PARAGUAY 1/

No. of Agricultural Enterprises Units	Cumulative		Units	Cumulative
1,881	1,881	Do not own land	1.16%	1.16
10,173	12,054	With less than 1 hectare of land	6.29%	7.46
56,693	68,747	With 1 to 4.9 hectares of land	35.08%	42.53
31,266	100,013	With 5 to 9.9 hectares of land	19.34%	61.88
41,203	141,216	With 10 to 20.9 hectares of land	25.49%	87.37
8,330	149,546	With 21 to 30.9 hectares of land	5.15%	92.52
4,814	154,360	With 31 to 50.9 hectares of land	2.98%	95.50
2,641	157,001	With 51 to 99.0 hectares of land	1.63%	97.15
4,631	161,632	With 100 or more hectares of land	2.87%	100.00
161,632				

1/ Source: Encuesta Agropecuaria por Muestreo, 1972, MAG

ANNEX D

AN ECONOMIC PROFILE OF SMALL FARMERS

According to 1969 baseline data used by the Ministry of Agriculture in its annual surveys of production, there are 141,216 farm units in eastern Paraguay with less than 21 hectares of land. These units represent 87.4 percent of all farm units. If one excludes the 10,173 farm units having less than one hectare of land (which cannot be considered as viable), there are 129,162 farm units with one to twenty-one hectares of land. Within this group of small farms 56,693 farms had one to five hectares of land, 31,266 had five to ten hectares of land, and 41,203 farms had 10 to 21 hectares of land. Thus, 51 percent of smaller farms in eastern Paraguay have from five to twenty-one hectares of land, However, the spatial distribution of small farms in eastern Paraguay is quite uneven.

In the four departments adjacent to Asunción, over 43 percent of all farm units are in the one to five hectare size category. These farms are in the so-called central minifundia zone. In six other departments of eastern Paraguay, between 20 and 41 percent of all farm units are one to five hectares in size. In the three remaining departments of eastern Paraguay, farms in this size category constitute less than 15 percent of all farm units. In all departments of eastern Paraguay except one, farms with less than 21 hectares of land constitute over seventy percent of all farm units.

Farms of less than 21 hectares produce over two-thirds of eastern Paraguay's cotton, peas, sweet potatoes, mandioca, peanuts, dry beans and tobacco, over half of the sugar cane, onions, lima beans, corn and potatoes.

According to survey responses to a detailed questionnaire on farm production administered in the central zone, average net farm income for farms with less than five hectares of land was $625 in the 1972/73 crop year and $976 for farms of five to twenty hectares.

The subsistence character of small farms is indicated by the ratio of on-farm consumption to gross farm income. For farm families with less than five hectares, the ratio of consumption is 54 percent. This ratio declines to 37 percent for farms in the five to twenty hectare size category and to 10 percent for farms larger than 20 hectares.

Survey responses also indicate a number of important and expected income-production characteristics: (1) decreasing proportion of off-farm income in net farm income as size of farm increases (off-farm income accounts for 38 percent of family income on farms with less than five hectares); (2) an increasing proportion of cash off-farm sales and decreasing proportion of on-farm consumption as farm becomes larger (46 percent of gross farm income arises from off-farm sales for farms of less than five hectares; 61 percent for farms with five to twenty hectares and 87 percent for farms with over twenty hectares); (3) an increasing proportion of gross farm income absorbed by cash expenses as farms become larger (15.5 percent for farms with less than five hectares, 16.2 percent for farms with five to twenty hectares and 22.6 percent for farms with more than twenty hectares.

Survey data also indicate an inverse relationship per hectare and size of farm; $165 per hectare on far $102 per hectare on farms of five to twenty hectares, with over twenty hectares. An inverse relationship a capital per hectare and size of farm; $489 per hectare hectares, $350 per hectare on farms of five to twenty of twenty hectares and over. Available evidence also relationship between size of farm and productivity of amounts to 33.8 percent of gross capital on farms smal percent on farms of five to twenty hectares and 12.2 p twenty hectares.

Available data suggest that operators of farms wit land are by no means poor (a value judgement) and hav ing marketing services on favorable terms. As a pract farmers in this category are engaged in crop productio of target group of farm families involves both value j considerations. The major question here is whether the should be five or twenty hectares. It is obvious that f than five hectares have lower incomes than farm famili twenty hectares. Average net family incomes of the la higher than that of the former group.

The target group should include farm families on fa hectares for the following reasons: (1) The income diff farms (up to five hectares) and farms from five to twen (a value judgement). (2) The absolute number of farms w is absolutely larger than the farms with less than five cant portion of farmers with less than five hectares of employment, and for this reason increasing their income of more land and increasing employment opportunities. (suggests that farmers with five to twenty hectares do n to marketing services on terms as favorable as large fa better than the smallest farmers.

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ANNEX E

In-Country Training:

Illustrative Budget (Estimated)

A. U.S.G.

Costs (project Costs)		Total
Per participant per 3 day average meeting		
Room & Board at $8 per day at 3 days	$24	
Transportation - Round trip (regional)	8	
Supplies, Equipment, Handouts	3	
	$35	
At 50 participants per meeting		
Total cost:participants/meeting	$1,750	
At 4 meetings (Regional) per year		
Total cost: participants/year	7,000	
Supplemental meeting costs	1,000	
Total participant/meeting costs	$ 8,000	$ 8,000.-
Teachers/Lecturers/Trainers		
Room & Board at $10 per day at 3 days	30	
Transportation (national)	50	
Miscellaneous, supplies/Teaching aids, etc.	20	
	$100	
At 5 Teachers per meeting		
Total teaching cost per meeting	$500	
At 4 meetings per year		
Total teaching cost per year	$2,000	$ 2,000.-
Contingency		$ 3,000.-
Total		$13,000.-
Life of project 4-1/2 years (75-79)		$58,500.-
Miscellaneous		1,500.-
TOTAL		$60,000.-

ANNEX B E (Cont.)

In Country Training:

Illustrative Budget (Estimated)

B. G.O.P. (Counterpart costs)	Per day		days	
Training centers	$ 300	at	12	$ 3,600
School staff (for teaching assistance)	100		12	1,200
Local logistical support	50		12	600
Secretaries	50		12	600
Lights/power	50		12	600
Supporting staff/Janitors, etc.	50		12	600
Misc.				1,300
Sub-total				$8,500

Agents Salaries during training

At $ 250	average/month	
15	days including transportation time 12 meeting days plus 3 travel days	
$ 125	per participant per year	
50	participants	
$6,250		$6,250

Other expenses, incidental costs	2,250
Total per year	$ 17,000
At 4-1/2 years (75-79) life of project	$ 76,500

Total personnel trained to assist small farmers with livestock:

GOP Extension personnel/meeting	50	(USG/GOP Project cost)*
Credit Union/National Development Bank/ UNIPACO and other agency personnel/meeting	50	(GOP project cost)
Total personnel trained per meeting	100	
At 4 meetings per year	400	
At 3 days per meeting		
Total personnel training units/year	1,200	
At 4-1/2 years for project (75-79)		
Total individual training units	5,400	

* GOP will pay salaries, USG will pay meeting/travel/perdiem costs

Note: 1 training unit = each individual training day given to each participant each participant

Example: 1 participant for 3 meeting days = 3 training units

ANNEX E (Cont.)

In Country Training:

Cost per participant per training unit (day):

Life of Project

A. U.S. at $60,000 at 5400 individual units = $11.11

Cost per participant training unit over life of project	$ 11.11

B. G.O.P. At $76,500 at 5400 individual units = $14.17

Cost per participant training unit over life of project at 54 training days	$ 14.17
Total cost per participant training unit, life of project (54 training days)	$ 25.28
Total cost per participant per training unit (day)	$ 0.47
Total cost per participant training unit, per year at 4-1/2 years (12 days)	$ 5.64

Note:

1 training unit is each individual training day given to each participant

Example: 1 participant for 3 meeting days = 3 training units

Recapitulation:

Total Cost per participant	$	%	Unit $	Meeting 3 days $	(1 Yr.) 12 days $	(Project) 54 days $
USG	$ 60,000	= 44	0.21	0.62	2.48	11.12
GOP	76,500	= 56	0.26	0.79	3.16	14.16
Total	$136,500	= 100	$0.47	$1.41	$5.64	$25.28

These training programs will be diversified at each meeting:

Livestock & Agronomy "production-packages" directed for implementation by the small farmer with livestock.

ANNEX E (Cont.)

Project Training Costs per 100 trainees per meeting

	Unit	Per day Per day	3 day Meeting	12 day Year	54 day Project
Per day	47	$ 47	141	564	2,538
Per 3 days	1.41	141	423	1,692	7,614
Per 12 days	5.64	564	1,692	6,768	30,456
Per 54 days	25.28	2,528	7,584	30,336	136,512
					(136,500) Rounded

USG	44%	$ 60,000
GOP	56%	76,500
		$136,500

AID 1020-20 (7-71)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

INSTRUCTION: THIS IS AN OPTIONAL FORM WHICH CAN BE USED AS AN AID TO ORGANIZING DATA FOR THE PAR REPORT. IT NEED NOT BE RETAINED OR SUBMITTED.)

Project Title & Number: LIVESTOCK DEVELOPMENT - 526-15-110-050.3

Life of Project:
From FY 1968 to FY 1978
Total U.S. Funding $1,707
Date Prepared: 14 Feb. 1975

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: The goal of this project is to improve resources use efficiency on livestock production units of the primary target group.	Measures of Goal Achievement: Measures of Goal Achievement: There will be an average annual increase in the take off of animal products (including home consumption) per producing female.	A base-line survey will be performed during FY 75/76 to assess the measures of goal achievement. Subsequent surveys will be made in FY 77 and FY 79 to assess the continuing validity of the achievements.	Assumptions for achieving goal targets: 1) Target group will adopt practices recommended by the MAG/SEAG and other agricultural/home economics extension agents, as guided by animal, poultry and related activity specialists from PRONIEGA; the SEAG, MAG Agr. Extension unit; FAV, the Faculty of Animal Science and Veterinary Medicine; Fondo Ganadero and other Paraguayan and US technologists including the New Mexico State University contract team. 2) Price relationships will encourage adoption of improved practices. 3) Sufficient agricultural credit will be available to make improvements. 4) That natural disasters (especially a severe, extensive drought) or severe political changes, which could adversely affect the target goals will not occur
Sub-Goals 1) To improve target group producer incomes 2) To increase equity capitalization on target production units. 3) To increase employment on target group production units through intensification and diversification. 4) Diversify small farmers through intensified mixed agricultural crop and livestock farming (poultry, swine, sheep, goats, dairy, beef, fish) 5) Generate and disseminate practical nutrition information to target group wives through the MAG(SEAG) Home Economics, 4-H Clubs, and other extension activities.	1) An increase of 25% in net income of farmers who participate in the program over a 4 year period 2) An increase of 25% in the net worth of farmers who participate in the program over a 4 year p! 3) An increase in the number of people employed on target group production units. 4) An increase in the number of farm previously growing only agric. crops engaged in diversification through animal and poultry production. 5) An increase in the number of target group families consuming a better balanced diet.	1) Base-line surveys in FY 1975/6, FY 77 & FY 79 2) Farm Records 3) CREDICOOP/UNIPACO records 4) Agricultural Extension Reports 5) Personal Interviews	1) There is a favorable relationship between selling price and costs of production. 2) There is a demand on the local or export market for the increased production. 3) The Traget group will reinvest a certain percentage of their income in farm improvements. 4) Farm families have the necessary additional labor, or are willing to hire outside labor to meet the manpower requirements of more intensified farming practices. 5) The program is successful in convincing small farmers to diversify 6) MAG/SEAG will continue to assist small farmers who borrow money from CREDICOOP (Small Farmer Development Loan) to purchase animals/poultry, materials, equipment, and supplies in order to intensify and diversify their operations. 7) MAG will continue to utilize their Home Economics and other allied extension staffs for the benefit of the small farm family as well as urban rural families.

AID 1020-20 (7-71)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 1969 to FY 1978
Total U.S. Funding $ 1,797
Date Prepared: 10 Feb. 1975

Project Title & Number: LIVESTOCK DEVELOPMENT - 526-15-110-050.3

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Project Purpose: 1) To further develop within the MAG and FAV, a coordinated program of animal/poultry research and extension specialists (PRONIEGA) to backstop the staff of other institutions (especially SEAG) performing extension activities directed at the Target Group. 2) To continue to develop within the FAV, an institutional capacity that will provide qualified professionals for the animal/poultry sector as well as other agricultural sub-sectors, and in collaboration with SEAG (with PRONIEGA Backstopping), provide adult education for upgrading the capabilities and technical knowledge of SEAG and other extension personnel working with the Target Group.	Conditions that will indicate purpose has been achieved: End of project status. 1) PRONIEGA will have demonstrated (achieved) its capability to continue carrying our research projects and backstopping SEAG without external technical or financial assistance. 2) SEAG, with backstopping from PRONIEGA and FAV will have the capability to communicate research results and practical applications to the small farmer target group in a manner in which the Small Farmer can utilize the information directly on his farm to increase production. 3) The FAV will have demonstrated the capacity to graduate a sufficient number of qualified professionals for the cattle/poultry/small animal/poultry development needs of the Small farmers in the Target Group as well as other agricultural sub-sectors and have established a program of adult education.	1. Number and quality of research project underway. 2. Number and quality of research bulletins published and distributed. 3. Number of short courses, field days, meetings, and demonstrations conducted. 4. Number of extension bulletins and leaflets published and distributed in cooperation with SEAG. 5. An up-date of the 1974 survey of FAV graduates will be completed 6. An adult education training course will have been established.	Assumptions for achieving purpose: 1. The GOP will have sufficient resources to adequately fund SEAG, PRONIEGA, and FAV. 2. The organizations mentioned above will cooperate and coordinate their activities pertinent to the project in an efficient and effective manner. 3. The participant training program remains on schedule, and returned participants are employed in the positions for which they were trained. 4. The FAV curriculum implemented for first year students in CY 1973 will receive financial support for the additional professors, and physical facilities necessary for the complete change over to the new curriculum by 1978.
1. To conduct sample surveys of small farmers owning livestock/poultry to define the Target Group; generate basic economic production; cost, income and management data; and to provide a base line for measuring achievement in evaluating project results.	1. Target group defined. 2. Data available to measure changes in key economic and production variables in functions of adoption of recommended practices (rate of adoption).	Reports and statistics	MAG and Small farmers with livestock will cooperate in helping to develop the Target Group profile.

AID 1020-20 (7-71)
SUPPLEMENT 1

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 1968 to FY 1978
Total U.S. Funding $ 1,787
Date Prepared: [illegible]

Project Title & Number: LIVESTOCK DEVELOPMENT - 526-15-110-050.3

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Outputs: 1. PRONIEGA, FAV, SEAG and Desarrollo Ganadero personnel trained, with emphasis on, and consideration of the development of coordinated extension programs for the small farmer. 2. Development of a long range plan of research and extension to guide local personnel in assisting the small farmer Target Group after the departure of the advisors. 3. Research projects completed, and information being made available to the agricultural extensionists. 4. Publication and distribution of research and extension bulletins and leaflets through extensionists to the small farmer. 5. Field demonstrations and short courses conducted to disseminate the knowledge of improved production techniques to the Small Farmer target group. 6. Adult education courses conducted to up-grade the technical knowledge of SEAG and other extension personnel working with the Small Farmer Target Group	**Magnitude of Outputs:** 1. A minimum of 43 PRONIEGA, FAV SEAG, and Desarrollo Ganadero personnel will have training to the M.S. level. 2. PRONIEGA, FAV and SEAG will have developed a long term (10 years) plan of research and extension which can be utilized by extension agents working with the Small Farmer Target Group. 3. A minimum of 55 research projects will be initiated and 29 completed by 1979. 4. A minimum of 30 research bulletins and 78 extension bulletins and leaflets will be published and distributed by 1979. 5. A minimum of 50 field demonstrations and 20 short courses will have been conducted by 1979. 6. A minimum of 10 adult education in-service training courses will have been conducted.	1. PRONIEGA, FAV, SEAG and USAID records. 2. Long term research and extension plan documents. 3. Review of PRONIEGA, FAV, and NMSU records.	**Assumptions for achieving outputs:** 1. The participant training program remains on schedule; all participants complete their work and are employed in positions for which they were trained. 2. That a senior research planning advisor will be available. 3. That there will be cooperation between PRONIEGA, FAV, and SEAG in developing and executing the plan. 4. PRONIEGA, FAV, and SEAG continue to receive adequate budget support from GOP. 5. Research and extension programs are not delayed by factors beyond their control, such as adverse weather conditions. 6. Publications, equipment, and supplies are available on a timely basis.

AID 1020-20 (7-71)
SUPPLEMENT I

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 1968 to FY 1978
Total U.S. Funding $ 1,707
Date Prepared: [illegible] 1975

Project Title & Number: LIVESTOCK DEVELOPMENT - 526-15-110-050.3

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Inputs:	Implementation Target (Type and Quantity)		Assumptions for providing inputs:
A. AID Total $ 1,707,000			
1. US Technicians ($930,000) Resident $ 750,000	1. FY: 75 76 77 78 (Man Months)	1. Review of USAID/P records	Planned levels of inputs from all sources continue on a timely basis to 1979
a. One Animal Production Spec.*	a. 12 12 12 12		
b. One Animal Nutrition/Prod. Sp.	b. 12 12 12		
c. One Livestock Extension Spec.	c. 12 12 12 12		
d. One Agric. Economist (Animals/poultry	d. 12 12 12 12		
* Chief of Party			
TDY $ 180,000	TDY's 19 13 10 3		
2. Participant Training ($500,000)	2. 168 180 156 84	2. Review of PRONIEGA and FAV records	2. GOP continues Project recurring expenses
3. Commodities ($90,000) Equipment, Supplies, Audiovisual Aids, Books, supportive miscellaneous items. Office equipment and replacement vehicle. Spare parts,			
4. Other Costs ($187,000) Operational travel In country training support Survey (baseline) 75/76 2 follow up surveys 77/78			
B. GOP			
1. Local currency to cover costs related to salaries of GOP personnel, construction and operation of research and demonstration facilities.	Personnel and logistical support financial and physical support available as needed.	1. Review of GOP and other Agency records and reports	Continued cooperation will proceed as required.
2. In-country training personnel/logistical support.			
3. In kind contribution of MAG & FAV		3. Review of IDB records	
4. A total of $474,000 from an IBD loan to the MAG to be used by PRONIEGA for construction, pastures, fertilizers, breeding stock etc.	To be disbursed in 1975	4. Review of IBRD records	
IBRD An IBRD loan of $26.14 million will provide credit to small livestock producers.	To be disbursed through 1979		