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REGIONAL ENTERPRISE DEVELOPMENT  
REPUBLIC OF PARAGUAY

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## INTRODUCTION

The Industrial Development Division (IDD) of the Engineering Experiment Station at the Georgia Institute of Technology has just completed a 12-month program designed to assist the Ministerio de Industria y Comercio of the Republic of Paraguay in its efforts to create a chain structure of regional development organizations. The prime objective of the project was to increase investments outside of Asuncion and develop export-oriented industries. Some of the immediate results of this project include the following:

1. Twelve feasibility studies were completed during this year. Entrepreneurs have been identified for all of them and, at present, some of the studies have been implemented and the plants are in operation. All of the industries studied have great export potential for their end-products.

2. Twenty-one new industries have been established with assistance from this program. These new Paraguayan industries represent a total investment of about \$2.5 million, employing some 900 persons with an annual payroll of over \$800,000.

3. Nineteen prefeasibility studies were prepared by the staff of the Oficina de Desarrollo Regional of the Ministerio de Industria y Comercio with the assistance of one of the consultants provided by the program. These studies were prepared as part of the requirements for tax exemption under Public Law 216 (New Industry Law).

4. One staff member of the Ministerio de Industria y Comercio received limited training at the Industrial Development Division in Atlanta, Georgia.

5. The Third National Jornada (National Developers' Meeting) was presented during the week of June 11, 1973, at Encarnacion, under the sponsorship of the Junta Regional para el Desarrollo de Itapúa.

6. A training program on "report writing" was presented to the technical staff of the Centro de Productividad y Desarrollo (CDP). A handbook was prepared for the CDP staff on the subject and it is now used as a guide by the staff.

7. Technical assistance and on-the-job training were provided to the staff of the Centro de Desarrollo y Productividad, as they prepared 12 feasibility studies under contract for IDD.

8. Five Regional Development Centers received limited technical assistance during the year, as they carried out their community development projects. The Oficina de Desarrollo Regional also provided technical assistance and had the responsibility of the scheduled visits to the centers.

9. Informal workshops and training were provided to the volunteers in the different work groups created by the Regional Development Program.

10. Assistance was provided to the staff of the Oficina de Desarrollo Regional at the Ministerio de Industria y Comercio in their efforts to establish a "Data Center" in that organization.

11. Consultant services were provided to the staff of the Centro de Desarrollo y Productividad in the preparation of the first Manufacturing Directory for the Republic of Paraguay.

12. Assistance was also provided to the investors and operators of new industries in order to avoid negative effects on the environment because of their new industrial activities.

Year II of this program was carried out during the period of April 20, 1972, to December 14, 1972; and January 15, 1973, to June 30, 1973, with a total of over 65 man-weeks of field services in Paraguay. The first year of this three-year project was carried out during the period of March 29, 1971, through December 17, 1971, with a total of 61 man-weeks of effort utilized during that time period.

Year I involved three main activities: 1) conducted the field research and established the five Regional Development Centers; 2) determined the study areas and prepared the first set of prefeasibility studies; and 3) identified and promoted the local entrepreneurs. During Year II, the activities were oriented to do the following: 1) better develop the five Regional Development Centers, assistance in attaining community self-improvement goals, and general institutional building of the Regional Development Centers and the Oficina de Desarrollo Regional of the Ministerio de Industria y Comercio; 2) identify 12 new manufacturing opportunities (export oriented) and prepare the necessary prefeasibility studies; and 3) identify and promote investors and entrepreneurs for the new manufacturing studies.

Year III was to have been the last year of the program and, during that period, the IDD staff would start to phase out of all activities, and the

staffs of the Oficina de Desarrollo Regional, the Regional Development Centers, the Centro de Desarrollo y Productividad, and the Ministerio de Industria y Comercio would assume all the tasks and continue operating independently. Unfortunately, the project was cut short by the sponsor in spite of the success it had achieved. Year II then became the phase-out year, and the activities defined in the previous paragraph were modified to accommodate the necessary phase out.

The following sections of this report describe in detail the background, objectives, and activities of the program, outline the results achieved and the conclusions reached by the project staff, and indicate some recommendations for future activities by participating organizations.

## PROGRAM YEAR II

### Background

As a result of a series of conversations and meetings initiated early in May 1969 between the Agency for International Development, Mission Paraguay (AID/Paraguay) and the International Development Branch of the Industrial Development Division (IDD) at the Georgia Institute of Technology (GIT), a pilot regional development program was initiated in Paraguay on March 16, 1970.

The 30-week pilot program proved the feasibility of the tested concepts and the results were published under the title Desarrollo de la Empresa Privada, República del Paraguay, por el Ing. Nelson C. Wall, Proyecto No. A-1235, Georgia Institute of Technology, Diciembre 1970.

The response to the pilot activity was favorable to such a degree that the Ministerio de Industria y Comercio of the Republic of Paraguay decided to give its full support and requested from the Agency for International Development, Mission Paraguay, that the recommendations be implemented. The three-year Regional Enterprise Development Program for Paraguay was then contracted for by AID/Paraguay and the activities were initiated.

Year I of the Regional Enterprise Development Program was started on March 29, 1971, and completed on December 17, 1971. This 61 man-week phase is fully described in a report titled Programa Regional de Desarrollo Económico, República del Paraguay, por el Ing. Nelson C. Wall, Proyecto A-1315, Georgia Institute of Technology, Febrero 1972.

The Year II portion of the planned three-year program began with the arrival in Asuncion, Paraguay, of the project director on April 20, 1972. On or about mid-July 1972, AID/Paraguay indicated that due to a "change of emphasis" they wished to phase out the program a year ahead of schedule, that is by the end of Year II. Although the program was proving successful, the contractor accepted the request made by the sponsor and plans then were made for an early phase out. The project was terminated on June 30, 1973.

### Objectives

The Regional Enterprise Development Program had one main objective: to assist the government of the Republic of Paraguay and the private sector achieve a minimum increase by 1973 of 5% in the total value of exports and

commercial investments. Emphasis was on increased economic activity in the rural areas. This main objective was established in 1971 when the project was initiated, but each individual year of activity had its own additional objective.

The project carried out by the International Development Branch of the Industrial Development Division for Year II had the following additional objective: to increase investments outside of Asuncion by continuing assistance to the previously established five regional development groups so that they could become viable, self-sustaining institutions able to attract investments to their communities.

#### Total Project Goals

At the start of the Regional Enterprise Development Program in 1971, the following goals were established to be accomplished by the end of the third year of the project:

1. Establishment of the Department of Regional Development (Oficina de Desarrollo Regional) within the Ministerio de Industria y Comercio. At the end of Year III, the department should be able to operate under the leadership of trained counterparts, and foreign technicians should no longer be required to operate this unit.

2. Establishment of five Regional Development Centers in Villarrica, Concepcion, Pedro Juan Caballero, Pilar, and Encarnacion. Staff (executive secretary) should be trained by the end of the project and the centers should be operating independently, without outside technical assistance.

3. Establishment of a "data center" in the Oficina de Desarrollo Regional for the deposit and analysis of basic information acquired both at the regional and national level to be used by the Ministerio de Industria y Comercio as well as other organizations in preparing and coordinating the implementation of a program of regional development research.

4. Preparation of 25 to 30 prefeasibility studies by 1973-74 by task forces, under the coordination of the Productivity and Development Center (Centro de Desarrollo y Productividad), with emphasis on agro-industrial products. These studies were to be guided by the technical staff carrying out the three-year program.

5. Annual seminars to provide a total contact of 300 to 500 with representatives of regional and national organizations.

6. Completion of five community audits and five labor registrations by the corresponding Regional Development Centers.

7. Appropriate training of the above staff as needed. The five executive secretaries of the centers also were to be trained at IDD in Atlanta, Georgia, under a separate program entitled "International Economic Development Internship Program."

#### Scope of Technical Services

The program called for 14 man-months of field technical services (in Paraguay) and three man-months of support services (in Atlanta, Georgia), as well as the necessary secretarial support. In actual practice, over 15 man-months of field technical services were carried out in Paraguay, in addition to meeting the other requirements.

In order to attain the objectives set up for Year II, the following six principal activities were defined and established as priorities:

1. Regional Development Centers. The task now was to continue working with the established centers in Villarrica, Concepcion, Pedro Juan Caballero, Pilar, and Encarnacion. The activities included extending the existing data base, assisting in attaining community self-improvement goals, keeping current the community profiles, and identifying new and desirable manufacturing business opportunities. Due to the new phase-out schedule, it was understood that the Oficina de Desarrollo Regional would carry out the bulk of the task in order to gain experience to start replacing the foreign consultants more rapidly. AID/Paraguay provided the Oficina de Desarrollo Regional with some funds to assist them in budgeting the necessary scheduled trips to the interior of the country. The IDD staff was to coordinate with the Paraguayan counterpart and monitor the activities.

2. Liaison with the Ministerio de Industria y Comercio. The government of the Republic of Paraguay, through the National Industrial Development Plan and the Ministerio de Industria y Comercio, established as one of its highest priorities the development of export-oriented industries in areas outside of the capital city of Asuncion. The government has a special interest in establishing a dynamic and harmonious industrial development program involving the

creation of new enterprises in the rural areas, as well as the transfer of appropriate technology to small industries. The staff representatives of the International Development Branch of IDD were to work closely with the staff of the Ministerio de Industria y Comercio, serving as consultants and assisting the Ministerio in its efforts.

Close liaison and coordination of activities with designated Ministerio personnel was to be provided to assist in the coordination of industrial development activities, in devising incentives which could be offered to attract new industries, and in continuing communication with organizations interested in economic development. A new Public Law was being considered by the government of Paraguay which would establish the industrial incentives for new industries in that nation.

3. Technical Assistance to the Oficina de Desarrollo Regional of the Ministerio de Industria y Comercio. This new department was created in 1971, in accordance with one of the recommendations in the final report covering the Pilot Program (Project A-1235). The IDD resident staff was to be assigned the task of providing continuous assistance to this very important link in the development chain that was being created. Emphasis was to be on the generation of new ideas for manufacturing opportunities, based on the relevant data being generated and collected by the Regional Development Centers and the Regional Data Center.

The staff of the Oficina de Desarrollo Regional was to be trained by the staff representative of IDD in such areas as identifying prospects, preparation of proposals to investors, handling of prospects, and other activities leading to the establishment of an industry. This, together with a basic program of applied economic and industrial development research, would become the main area for provision of technical assistance.

Assistance was also to be provided to the staff of the Oficina de Desarrollo Regional in bettering the department's Data Center. The Data Center has always been very small and, due to the lack of funds, no books or publications have been acquired. The local staff knows what needs to be done, but until documents, books, and other publications are purchased, there is very little that can be done.

4. Feasibility Studies. During the 12-month period, a member of the IDD International Development staff was to be made available to the Centro de

Desarrollo y Productividad (CDP) as well as the five development centers. The staff member provided technical assistance and guidance to the units mentioned in the preparation of 12 export manufacturing opportunity studies. The same person also was to assist the CDP in promoting the investment opportunities that were identified.

5. Manufacturing Directory for Paraguay. Direct assistance was to be provided to the staff of the Centro de Desarrollo y Productividad in the preparation of the first Manufacturing Directory for Paraguay. This publication will be of great help in locating information about the different local industries. Approximately 80% of the existing industries were registered at this time.

6. Seminars and National Jornada. Seminars were to be presented as needed to cover individual training requirements of the counterparts and others in the program. A National Jornada (National Developers' Meeting) was also to be presented during the contract year. The Jornada was to involve, to the maximum extent possible, all the organizations interested in the economic development of Paraguay. The Jornada would be not only educational in nature, but also would provide an annual review of progress in meeting national and regional goals.

#### General Activities During Year II

The activities for this year were initiated by the Project Director, Mr. Nelson C. Wall, on April 20, 1972. He was followed by Mr. George A. Morelos, who remained in Paraguay for over 12 months carrying out the field work and supervising the preparation of the 12 prefeasibility studies as well as many other tasks.

Throughout the year of activity, Mr. Richard Johnston had the responsibility of providing technical and informational backup to the field project. This was carried out from the headquarters office in Atlanta, Georgia, and weekly telephone conversations were scheduled between the field office in Paraguay and headquarters.

During the total period of time, from April 20, 1972, to June 30, 1973, the project director made four trips to Paraguay to evaluate the present status of the project and to assist different government units in their tasks, as well as to provide guidance and to perform many other related activities.

Once the decision was made by the sponsor to phase out the program one year ahead of schedule, the project director and the sponsor agreed to some changes in order to accelerate the phase out and still accomplish the primary goals of the program. The basic changes were:

1. The Oficina de Desarrollo Regional of the Ministerio de Industria y Comercio would assume the role of working with the Regional Development Centers, and the contractor would assist and provide guidance. The bulk of the field visits and internal travel would be carried out by the staff of the Oficina de Desarrollo Regional.

2. The contractor would focus mainly on the preparation of the 12 pre-feasibility studies using CDP staff under contract.

3. The contractor would give his best effort to the establishment of new industries, developing entrepreneurs, assisting new investors, and promoting these new manufacturing opportunities.

4. The contractor would start turning over duties to the corresponding counterparts with proper supervision in order to expedite the change-over.

As in any comprehensive program, innumerable activities were carried out during the period between April 20, 1972, and June 30, 1973; however, some were considered important enough to warrant being highlighted:

1. Constant staff consultation and guidance with counterpart staff members at the Centro de Desarrollo y Productividad, Ministerio de Industria y Comercio, Oficina de Desarrollo Regional, Centros de Desarrollo Regional, and others.

2. Personal contacts with local "power structure" (representatives of the public and private sector), both at the community and national level.

3. Training of the counterparts so that they could carry out the assigned tasks. This individual on-the-job training activity was primarily focused on two units: a) technical staff of the Centro de Desarrollo y Productividad, and b) Oficina de Desarrollo Regional.

4. Execution of the 12 prefeasibility studies (export oriented) with corresponding adaptation to meet local investment possibilities.

5. Direct assistance in the establishment of 21 new industries in the areas of influence of the Regional Development Centers.

6. Consultant services to the Centro de Desarrollo y Productividad in the preparation of the first Manufacturing Directory for the nation of Paraguay.

7. Development of industrial promotion activities, as well as the identification of possible investors and entrepreneurs in order to implement the feasibility studies being prepared.

8. Suggestions to the Ministerio de Industria y Comercio of different actions required in order to assume that the counterparts would continue to act on this program once the contractor was phased out.

9. Assistance and counseling on the manner of conducting the Third National Meeting (Jornada), so that the program would be meaningful to the participants.

10. Limited training of a high staff officer of the Ministerio de Industria y Comercio in Atlanta, Georgia.

11. Assistance in the preparation of a new proposal and plan of work to be presented by the Ministerio de Industria y Comercio to an international source of funds. This new program would allow for a continuation of the present program but with great emphasis on the continuation of the institution built during the past two years.

12. Limited assistance and recommendations to local investors establishing new industries on how to avoid pollution and maintain the local ecology.

## RESULTS AND CONCLUSIONS

The total three-year program had established well-defined goals and objectives, but the IDD International Development team also had an unidentified aim which was to attempt to develop a methodology which could be effectively applied to the problem of developing small industries in the less developed areas of the world. By continuing to build on the existing capabilities and experience gained in less developed areas of the United States and overseas, the International Development staff attempted to evaluate, consolidate, and adapt the existing methodologies and concurrently research and field test other interesting concepts.

As Paraguay continues to struggle to achieve a harmonious economic development program, it encounters a variety of problems which in many instances are common to other developing nations of the world. The International Development staff believes that, although there are many schools of thoughts on how the industrialization of the developing nations should be attained, the reality is in the fact that little or nothing is known about positive industrialization techniques and methodologies that will assure a proper course of action applicable to each individual "national climate."

The project director and his professional staff believed that one segment of the national industry should be researched (the small industry sector). The staff was aware of the many problems of the small industry sector, but they were interested in the job generation capabilities of that sector and its importance to the overall economy. The staff, on the basis of past experience, knew that the national market was small, per capita income was low, and financial resources were limited, but that small industries continue to form the bulk of the national economic structure.

In view of the above, members of the International Development team devoted a large portion of their free time (non-project time) to the problem of generating the small industry sector in the rural-urban areas of Paraguay as a way of generating the new jobs needed to elevate the national economy and meet the goal of "minimum increase by 1973 of 5% in the total value of exports and commercial investments."

The sections that follow enumerate the specific results achieved and the conclusions reached by the staff members assigned to this project, preceded by a brief cost benefit analysis of the total project.

A total of three AID contracts were awarded. The Pilot Phase ran from March 16, 1970, through September 30, 1970; Year I from March 29, 1971, through December 17, 1971; and Year II from April 20, 1972, through June 30, 1973. AID funded all three contracts for a total of \$120,000.

As of June 30, 1973, and as a direct or indirect result of these activities, 21 new small industries have been established in rural-urban communities of Paraguay. The new industries represent a capital investment of over \$2,500,000 and a direct employment of over 900 persons. This does not include the many other accomplishments or the multiplier effects of this new employment payroll and purchase of raw materials.

At this time, 12 additional manufacturing opportunity studies (prefeasibility studies) have been concluded for new industries which are export oriented and will utilize Paraguayan raw materials. Potential investors have been identified for all of these new studies and some are in the process of establishing these new industrial activities. Details of other specific results achieved and conclusions are as follow:

A. New Industrial Activities. The International Development team, together with the counterpart staff at the Oficina de Desarrollo Regional, assisted in the establishment of the 21 new industries that were mentioned earlier in this report. Of the 21, 19 export their total production and nearly all use nothing but local raw materials. Individual summary reports on all of the new industrial activities follow:

1. Aserradero Paraguay, S.R.L. Located on lot No. 3217 of the Pedro Juan Caballero industrial zone. Owner: Mr. Pablino Mendoza Espinola (Paraguayan citizen). Products: boards, dimensional building stock, parquet. Market: export, about 10% to 20% to national market. The export will go to Serrania Deunidad Mattogrosense of Sao Paulo, Brazil. Buildings: a total of 1,308 square meters of covered area plus other facilities such as water tank, storage space, etc. Total construction about \$6 million. The equipment, as per invoices shown, add to \$5,570,000. Plant can process 27 cubic meters of raw cut lumber per 8-hour shift, powered by a 200 HP boiler and also using electrical power. In the future plant may go to two or three shifts. On the basis of one shift and 27 cubic meters of lumber per day, the study indicates the plant will produce a total of 20 cubic meters of finished product per day and this is enough to support the investment. A total of 32 persons will be

employed by the plant. Total investment, including buildings, equipment, installation, working capital, and others, is ₡13,252,000 (land not included). Company had sufficient funds to cover 76% of investment and borrowed 24% in Brazil through letters of credit. The land valued at ₡5,290,000 was given as part of the loan security. According to the study, at the end of one year of operation, the plant will show a profit of ₡2,799,000 net. Benefits under Law 216/70 for importation of equipment, etc. have been granted.

2. Aserradero Nueva Estrella. Located on Lot 1902 of the Pedro Juan Caballero industrial zone. Owner: Mr. José A. Fleitas Pratt. Products: boards, dimensional building stock, and others. Market: all will be exported to "Walcy" Comercio de Madeiras Ltd. of Brazil with warehouses in Santa Catarina, Paraná, and Matto Grosso. Buildings: a total of 920 square meters of covered area with a cost of ₡1,448,000. Equipment, as per invoices, total ₡6,060,000. Plans call for a production of 70 cubic meters per day (8 hours) of finished units. The necessary raw material per day will be about 90 cubic meters of raw cut lumber. Plant operation will require 35 persons. Total investment of ₡12,921,621, including land, equipment, installation, building, working capital, and others. The company has enough funds to carry out the project free of loans. According to the study at the end of the first year, the company will show a net profit of ₡24,624,235. Benefits under Law 216/70 for importation of machinery and equipment duty free as well as other benefits established have been granted.

3. Aserradero San Ramón. Located on Lot No. 1861 at Colonia Vice-Presidente Sánchez, adjacent to Pedro Juan Caballero. Owner: Mr. Ramón Mendoza Espinola. Products: boards, dimensional building stock, frames, and others. Market: over 90% will be exported to Brazil, most of it to the general area of Sao Paulo. Building covering about 500 square meters with a total cost of about ₡1,500,000. Equipment has been purchased for a total of ₡2,400,000 and installation cost has been calculated to be ₡1,100,000. The plant will use about 35 cubic meters of raw cut lumber per day (8 hours) to produce about 22 cubic meters of finished products. The employment figure has been established at 21 persons. The study indicates that the total investment is about ₡5,826,000, which includes land, equipment, installation, buildings, working capital, and others. Also, on the basis of the indicated production, the cash flow shows a net profit of about ₡2,900,000 at the end of Year I. The Banco Nacional de Fomento has provided a ₡1 million loan, with the balance

generated from company resources. Benefits under Law 216/70 for importation of equipment and tax advantages have been granted.

4. Aserradero El Lago. Located in Pedro Juan Caballero at Cerro León and Alberdi streets. Owner: Mr. Javier A. Alvarez. Products: boards, building dimensional stock, parquet, and others. Market: about 70% local and 30% export to Brazil through contracts with four buyers in the area of Sao Paulo. Buildings are now ready with about 1,000 square meters of covered area; the cost of construction of buildings and a water tank has been established at ¢1,916,930. The equipment being installed, purchased outside of Paraguay, ran to a total of about ¢3 million. They will require 43 cubic meters per day (8 hours) of raw cut lumber to produce about 30 cubic meters of finished product. For this production, a total of 33 persons will be employed. Total plant investment is ¢5,038,000 which includes land, construction, equipment, installations, working capital, and others; according to calculations shown, they will show a ¢7,078,000 profit at the end of Year I. Total investment was made by the owner; no outside funding was necessary at this time. Benefits under Law 216/70 for importation of equipment and other tax benefits have been granted.

5. Industrial Exportadora Paulista S.R.L. Located on Lot No. 1425 in Colonia Vice-Presidente Sánchez next to Pedro Juan Caballero. Owner: Mr. Antonio Carlos Lima (Brazilian citizen). Products: boards, dimensional building stock, strips, and others. Market: all export to the Importadora Matogrossense Industrial y Comercial Limitada in Ponta Porã, Brazil. Buildings have been constructed for a total of about 1,416 square meters of covered area at a cost of ¢3,540,000. The necessary equipment, imported from Brazil, cost a total of about ¢2 million, with ¢300,000 for installation costs. With the purchased equipment, they will require about 30 cubic meters per day of raw cut lumber and should produce about 22 cubic meters per day of finished product. A total of about 29 persons will be employed by the industry. Total investment is ¢8,800,000 which includes land, equipment, installation, building, working capital, and others, of which ¢7 million was generated by Mr. Carlos Lima and his two partners, Messrs. Ivo Ribeiro Lima and Francisco Von Atzingen de Almeida. The balance, ¢1,800,000, will be provided for by the Banco Nacional de Fomento. The cash flow indicates sales of ¢22,281,000 and a net profit of ¢3,346,448 per year. Benefits under Law 216/70 for importation of equipment, tax benefits, and others have been granted.

6. Agro-Industrial Amambay S.R.L. Located in Colonia Vice-Presidente Sánchez next to Pedro Juan Caballero. Owner: Six partners, four of which are from Brazil and two from Paraguay. Products: boards, dimensional construction stock, decking, parquet, and others. Market: all production will be exported to Brazil to three main companies that have arrangements with the producer (A. Martello y Cia. Ltd., Marilia, Sao Paulo; Reunidas, S.A., Sao Paulo; Serraria Moraes Pinto, Osasco, Sao Paulo). Buildings are under construction and, when finished, 1,173 square meters of covered area will be available. Buildings and land represent an investment of ¢3,820,000. The equipment, which is being imported, will cost about ¢15,860,000. They plan to produce at first about 80 cubic meters of finished product per 8 hours a day; later production may be increased by going to two or three shifts. To operate the plant will require about 100 cubic meters of raw cut lumber per day and a staff of over 60 persons. Total investment will be about ¢26,135,712, which includes land, buildings, equipment, installation, working capital, and others. This investment will produce about ¢63 million in sales per year with a net profit of about ¢23,280,000 per year. The capital is to be provided for by the six partners (¢10 million) and a loan that they have now negotiated in Brazil for the balance. Benefits under Law 216/70 for the importation of equipment, tax benefits, and others have been granted.

7. Aserradero Luciano Cañete S.R.L. Located in Colonia Vice-Presidente Sánchez next to Pedro Juan Caballero industrial zone. Owner: Mr. Luciano Cañete. Products to be produced are boards, dimensional building stock, and others. Market is to be in Brazil and the owner indicates that he has letters of intention from several buyers in that country. Buildings are being constructed as well as a water tank. When finished, there will be 186 square meters of covered area at a cost of about ¢470,000. The equipment, which will be imported, represents an additional investment of ¢615,000. This is a small plant and will only produce about 9 cubic meters of finished products per day, using about 12 cubic meters of raw cut lumber per day. Eight persons will be employed by this new company. Total investment will be about ¢1,900,000, which includes building, equipment, installation, and working capital (land is not included). The owner will be able to take care of the investment from his personal funds. The study indicates sales of ¢7 million for the first year and a net profit of ¢1,977,000. Benefits under Law 216/70 for the importation of equipment, tax benefits, and others have been granted.

8. Maderera Internacional S.R.L. Located in Capitán Bado, Department of Amambay. Owners: Ademir Rodriguez Das Anjos, Joao Cardoso Da Silva, Maria Barbosa Rodriguez, and Maria de Lourdes Da Silva. Products to be produced are boards, dimensional building stock, door and window frames, decking, and others. Market is to be all in Brazil so it will export 100% of its production. Buildings are being constructed as well as other facilities for a total of ¢1,551,000. When finished, there will be 756 square meters of covered area for the plant. The equipment is all being imported and the invoices indicate an approximate investment of ¢3,200,000. The plant will produce about 18.75 cubic meters per day (8 hours), so it will require about 25 cubic meters per day of raw cut lumber. Twenty-seven persons will be employed by this new company. The total investment is ¢7,800,000, all of which came from the owners personal funds. The total investment includes land, equipment, installation, buildings, operating capital, and other. The study indicates sales of ¢17,250,000 per year and a profit of ¢4,533,723 at the end of the first 12-month period. Benefits under Law 216/70 have been granted.

9. Maderera Paraguaya "Madepar". Located in Colonia Vice-Presidente Sánchez, next to the City of Pedro Juan Caballero. Owner is Mr. Juan Emilio Bianchini (Brazilian citizen). Products to be produced are boards, door frames, dimensional stock for building trade, hard boards or floor boards, and others. Market is 100% export to Brazil and the owner has a five-year contract with CEMIG in Minas Gerais for his production. Buildings are now under construction to house the equipment and other support facilities. When finished, there will be 800 square meters of covered area at a cost of about ¢1,800,000. The equipment has been ordered and will be imported at a cost of about ¢1 million, which will allow a daily production of about 57 cubic meters representing the purchase of about 80 cubic meters per day of raw cut lumber. The plant will employ 35 persons and the total investment will be about ¢5,342,000, of which the owner has had to borrow about 10% through the Banco Nacional de Fomento. According to the cash flow calculation, this company should have a net profit of about ¢19,203,000 after 12 months of operation. Benefits under Law 216/70 have been granted.

10. Industrial, Comercial, Importadora y Exportadora "San Pablo" S.R.L. Located in Capitán Bado, just outside the municipal limits of the City of Pedro Juan Caballero. The owners are four persons from Brazil: Messrs. Helio Gianini, Rodolpho Amancio Do Nascimento, Joao de Oliveira Martino,

and Ampelio Peratti. Products to be produced will be boards, construction dimensional stock, door and window frames, parquet, and other wood products. The total production is to be exported to Brazil to the area of Sao Paulo where the company indicates they have outlets for their production. Building plans call for a total of over 2,000 square meters of covered area at a cost of about ¢6,650,000. The equipment, which is all being imported, represents an additional investment of over ¢4 million. The plant is designed to produce 72 cubic meters of finished products per 8 hours a day and will require about 96 cubic meters of raw lumber per day, which will be purchased locally. Employment figures indicate 64 persons needed to operate the plant. The total investment will be about ¢24,750,000, of which ¢8,726,280 has been borrowed from financial sources in Brazil. The estimated end-of-the-year net profit is on the order of ¢20,608,000. Benefits under Law 216/70 for the importation of equipment, tax benefits, and others have been granted.

11. Industrial Guaraní S.R.L. Located in Vice-Presidente Sánchez, next to the City of Pedro Juan Caballero. Its owner, Mr. Adriano Américo Wordell, has been in lumber business before and represents a group of persons who were not named. Products to be produced are boards, dimensional building stock, strips, and parquet. All production is to be exported to Madereira Malenza, Ltda. in Curitiba, Brazil. Several buildings are under construction and, when finished, there will be an investment of about ¢2,300,000. The equipment to be installed is also being imported and will cost about ¢5,522,000. The plant should be able to produce about 37.50 cubic meters per day of raw cut lumber which will be acquired locally. Employment will be fairly large, using a total of 53 persons with a yearly payroll of over ¢7 million. Total plant investment is calculated to be ¢18 million, which covers land, equipment, buildings, installation, working capital, and others. This investment will produce a net profit of ¢4,291,000 per year, according to their cash flow. The company has requested a ¢6 million loan from Banco Nacional de Fomento. The balance, ¢12 million, required for the plant was generated by the associated individuals. Benefits under Law 216/70 for the importation of equipment, tax benefits, and others have been granted.

12. Industrias de Maderas Peroba. Located in Vice-Presidente Sanchez, in the same general area as others in this document. The owner is Dr. José Antonio Daher, a Brazilian citizen who also owns a similar operation in Matto Grosso, Brazil, under the name of Madereira Agro Pastoril, Dorados, Matto

Grosso. Products to be produced are boards, dimensional stock for construction industry, strips, frames, parquet, and others. All of the production will be exported to Brazil through five different buyers that are listed in the original report. Buildings are being completed to provide a total of 1,900 square meters of covered area at a cost of about ¢5,340,000. The necessary equipment has been ordered in Brazil and represents an investment of over ¢10 million. The plant should produce up to 100 cubic meters per day and will use only local lumber. Employment figures show a total staff of 98 persons with a yearly payroll of over ¢9,300,000. The total plant, land, equipment, installation, buildings, and working capital represent ¢20,526,000, and all of the investment is being covered by the present owner. According to his figures, this investment will provide a net gain at the end of year of over ¢33,626,000. Benefits under Law 216/70 have been granted.

13. Aserradero Nuestra Señora de la Victoria. Located in Colonia Vice-Presidente Sánchez, next to the City of Pedro Juan Caballero. The owner is Mr. Juan Niz Paniagua. Products to be made are boards and dimensional stock for truck body construction. About 50% of the production will be exported to Brazil. The plans call for two places of business, one of which is the sawmill and the other will be a warehouse and sales office in Pedro Juan Caballero. When finished, both installations will represent about ¢2,774,000. The equipment for the plant is to be brought in from Brazil and represents an investment of over ¢3 million. The sawmill will require about 60 cubic meters of raw lumber per day to produce about 45 cubic meters of finished units. To operate both locations, about 35 persons will be employed and the payroll will be about ¢1 million per year. The total investment will be over ¢9 million, which includes land, buildings, equipment, working capital, and others. Management expects to net ¢10,843,000 after one year of operation from sales of about ¢35 million. Benefits under Law 216/70 have been granted.

14. Industria y Comercio Importación, Exportación María Victoria. Located in Pedro Juan Caballero. Owner is Suehiro Ito and his plans call for total exportation of his products to Aserrería Chavez Nuñez in Sao Paulo, Brazil. Products to be manufactured are boards, construction dimensional stock, and others. The buildings are now being completed and will provide 288 square meters of covered area and a water tank, all of which represent about ¢800,000 in investment. Necessary equipment has been ordered from Brazil and this will be an additional investment of ¢1,070,000. The sawmill will produce some 17

cubic meters per day and will require about 23 cubic meters of raw cut lumber. Some 18 persons will be employed by this company and the payroll is estimated at ¢1,800,000 per year. Total investment will be in the order of ¢3,100,000, including land, construction, equipment, operating capital, and others. At present, no loans have been requested by Mr. Ito. According to his plans, at the end of one year of operation, the company should have a net profit of ¢3,357,000 on sales of ¢13,260,000. All benefits under Law 216/70 have been granted.

15. Industrial Exportadora de Maderas Aquidabán S.R.L. Located in Vice-Presidente Sánchez, just outside of the City of Pedro Juan Caballero. The owner is Mr. Alcindo Moura Duque (Brazilian), who has plans to produce boards, dimensional stock, parquet, frames, and others. The total plant production will be exported to Industria y Comercio Manoel Duque Ltd. of Baurú in Brazil. The plant installation and buildings are now under way. When finished, there will be 1,500 square meters of covered area with an investment of over ¢2,627,000. All the required equipment is being imported from Brazil at an additional investment of ¢4,400,000. Plant capacity is indicated to be around 1,250 cubic meters per month, which will require about 1,700 cubic meters of raw lumber per month. A total of 43 employees are anticipated with an annual payroll of ¢5,580,000. The total plant represents a ¢11,162,000 investment, which covers land, equipment, buildings, installation, working capital, and others. Management anticipates a net profit of ¢5,415,000 by the end of the first year of operation, on the basis of over ¢42 million in sales. Benefits under Law 216/70 have been granted.

16. Industria y Comercio Nipo-Paraguay. Located in the City of Pedro Juan Caballero. The owner, Mr. Sussumu Araki, a Japanese, has plans to produce furniture and mattresses. This industry will not be export oriented but since Pedro Juan Caballero and Ponta Porá, Brazil, share a street as a boundary, it is very possible that retail sales will take place on both sides of the street. Three small buildings will be used with a total of about 275 square meters of covered area; two will be fabrication shops and one will be for sales. Plans call for about 6,500 units per year, not counting mattresses. The equipment investment is about ¢2,606,000, and 24 persons are to be employed with an annual payroll of about ¢3,092,000. All of the investment is being made by Mr. Araki and, at present, no loans have been requested. His plans call for sales of about ¢40.5 million. If his calculations prove true, he

will have a net profit at the end of the year of about ¢10 million. This industry will use local wood for the furniture, but it will need to import metal parts, hardware, equipment, and other items. All benefits under Law 216/70 for the necessary imports and other benefits have been granted.

17. Compañía Industrializadora de Alimentos Sociedad Anónima (CIASA). This is an old established industry in the City of Concepción. At this time, the president of the company is Dr. Adolfo Lailla, who has plans to expand and set up a new flour mill for mandioca, wheat, and others to be used for human consumption, as well as to manufacture animal feed. All production will be for the national market, so it may not be considered an export-type industry, but some of the products replace items that are now being imported. The present facilities will be expanded by 2,600 square meters of covered area at a cost of about ¢3,357,000. The mill equipment, laboratory facilities, and silos will require an investment of over ¢30 million. Nearly all of the equipment will come from Italy, and the company has a credit line with the equipment manufacturer. The mill capacity is rated at 20 metric tons of wheat per 24 hours of operation. The company plans for the first year a production of about 4,668,000 kilos of flour. The new installation will require 12 persons to be employed with an annual budget of ¢1,740,000. This study indicates income from sales at ¢69,415,000 with a production cost of ¢65,729,576, which leaves a profit of ¢3,685,424 after an investment of about ¢48 million. All benefits under Law 216/70 for the required imports and others have been granted.

18. Aserradero Callejón Brazil. Also located in Colonia Vice-Presidente Sánchez, just outside of the City of Pedro Juan Caballero. The owner is Mr. Tadashi Todaka, Japanese now living in Paraguay. Plans call for the manufacturing of boards, dimension stock for the building trade, and similar items. The production will be marketed 50% national and the balance to Brazil. Two buildings are being fabricated to provide a total of about 650 square meters of covered area at an investment cost of about ¢1,414,000. Production will be about 11 cubic meters per day from an input of 15.7 cubic meters per day of raw cut lumber. A total of 15 persons will be employed and payroll will be about ¢1,374,000 per year. The equipment being imported, once installed, will represent an additional investment of ¢1,130,000. The total plant will represent a ¢3,724,000 investment, which includes land, buildings, equipment, working capital, and others. Mr. Todaka plans to handle the investment from his private resources and no loans are anticipated at this time.

According to the study prepared by the Ministerio de Industria y Comercio, at the end of the first year Mr. Todaka will show a net profit of about \$1 million. All benefits under Law 216/70 for the required imports and taxes have been granted.

19. Aserradero Hiroshi Maruo. Located in Colonia Vice-Presidente Sánchez, near the city of Pedro Juan Caballero. It is owned and operated by Mr. Hiroshi Maruo. His plans call for the manufacturing of boards, dimensional stock for building industry, and others. Total production to be exported to Brazil through an agreement with Industrias de Madera Peroba (item 12 in this document). Buildings to house the plant are under construction and, when finished, will represent a total covered area of 650 square meters at a cost of over \$1 million. Equipment being imported will add another \$1 million to the investment. The yearly production will be about 3,600 cubic meters and all raw lumber will be purchased in the local market. A total of 15 persons are to be employed by this new installation. Total investment will be \$3,002,000 to be financed by Mr. Maruo; no loans have been requested. The above investment figure covers land, buildings, equipment, working capital, and others. The study shows a sales figure of \$9,300,000 per year with a net profit of \$2,968,000. All benefits under Law 216/70 for this industry have been granted.

20. Adoquines Villarrica. Located outside of the city of Villarrica on the road to Col. Oviedo. This plant belongs to the municipality of the City of Villarrica, but it is being operated not only to serve the city, but also to sell excess paving bricks to the surrounding cities. The plant has been completed and has been in operation for nearly a year. This small industry was created to substitute an import from Brazil (paving blocks) and has been very successful. At present, the plant employs about 20 persons and shows an original capital investment of about \$5 million. The payroll represents well over \$2 million per year and a net profit is anticipated in the order of about \$2 million per year. All benefits under Law 216/70 have been granted to this industry.

21. Aserradero Philippe Desalbres. Located at Curé Sobrado, this enterprise is another sawmill built on the basis of the original Georgia Tech study of manufacturing opportunities. All of the production will be exported to Brazil, and the estimated volume is in the order of 20,000 cubic meters per year. Mr. Desalbres is a nationalized Paraguayan and has recently started

building his sawmill. He will have a total capital investment of about \$20 million, and he does not plan to borrow any money for his enterprise. It is estimated that about 50 persons will be employed with over \$4,300,000 in the annual payroll. The owner anticipates a net return of about \$20 million per year. Requests have been made for all benefits under Law 216/70 for this industry.

B. Centro de Desarrollo y Productividad. The Year II contract called for the preparation of 12 export manufacturing opportunity studies. The task of preparing the studies would be carried out by the staff of the Centro de Desarrollo y Productividad (under contract by Georgia Tech) with the assistance of the staff of the five Regional Development Centers and under the guidance of a staff member of the IDD International Development team. The 12 studies were completed and published by the end of the contract year. Copies of the studies were presented to AID Mission Paraguay and other interested organizations.

During Year II, the International Development staff in Paraguay also promoted these export manufacturing investment opportunities and identified local prospects working with them until they became investors. All 12 studies are now being implemented or are in the process of being implemented. This economic impact will greatly assist all future programs in the development of Paraguay.

As a result of this activity, the technical staff of the CDP has gained additional knowledge in the fields of identification of manufacturing opportunities, preparation of feasibility studies, report writing, identification of prospects, presentation of proposals to investors, handling of prospects, and many other activities leading to the establishment of an industry.

Other significant results of this portion of the Year II program with the CDP include the following:

1. Special in-house training program on "technical report writing." In order to do this, a one-week seminar was presented by the project director to all of the members of the staff at CDP. A handbook was prepared to serve as a future guide in this area and was used as a textbook during the seminar. A copy of this handbook titled La Redacción de Informes Técnicos appears as Appendix 1 of this report.

2. Assistance was given to the staff of CDP in the preparation of the first Manufacturing Directory for the Republic of Paraguay. A copy of this document is not attached to this report, but copies are on file with USAID Mission in Paraguay.

3. Many other activities were carried out at the CDP during the year by members of the International Development team. For details, please refer to a separate report under the following titled: Final Report of Elias C. Hill, Industrial Consultant Advisor, D. P. C., by Elias C. Hill, Georgia Tech, Project A-1278, AID 526-238, Georgia Institute of Technology, June 1973. Required number of copies of the above mentioned report were presented to USAID Mission Paraguay by Mr. Hill before departing at the end of the contract.

C. Oficina de Desarrollo Regional. This unit of the Ministerio de Industria y Comercio was created as a result of a recommendation presented at the end of the Pilot Program. The Ministerio de Industria y Comercio acted upon this suggestion and the department was created in January 1971. This unit is the keystone of the regional development structure that has been established as a result of the three programs conducted by Georgia Tech. The creation of this new institution required many activities, all of which are described in the corresponding report for Year I.

During Year II, under the new phase-out date, it was necessary to accelerate the program so that the counterpart staff could assume total responsibility of this department by June 30, 1973. In order to do this, the sponsor and the project director agreed to turn over the operations to the counterpart staff and let the contractor assume the role of consultant. All day-by-day field work responsibility was then assigned to the counterpart staff, as well as the constant contact, assistance, guidance, and monitoring of the Regional Development Centers. USAID/Mission Paraguay further assisted the counterpart staff by providing them with limited funds to cover their travel expenses to the interior of Paraguay.

In general, the counterpart staff, under the direction of Dr. Juan G. Silvero, performed satisfactorily, but had there been the option of allowing more time before placing this responsibility upon them, it would have been a preferable solution. As a matter of fact, the staff at the Oficina de Desarrollo Regional is very small (four persons) and has a very small budget. The staff tried to work with the Regional Development Centers and maintain a

program of visits to the five centers. The staff traveled on July 3-15, 1972, to Villarrica, Encarnacion, and Pilar; on August 7-29, 1972, to Villarrica, Pilar, and Encarnacion; on September 4-30, 1972, and October 1-5, 1972, to Pedro Juan Caballero and Concepcion; and on November 1-4, 1972, to Concepcion. Other trips were scheduled but many had to be cancelled due to lack of funds for travel and living allowances within the ministry budget. Appropriate reports were made of each one of these field trips and filed with the AID representative at the Ministerio de Industria y Comercio.

Another major activity of the staff was the preparation of 21 studies, one for each of the industries shown under Section A. New Industrial Activities above. Under the guidance of the International Development team, the counterpart staff prepared studies to be presented by the investors in requesting the benefits authorized under Public Law 216/70 of the Republic of Paraguay. In all 21 cases, the incentives were granted by the Executive Branch and the investors were benefited by them. Copies of the studies were filed with AID representatives at the Ministerio de Industria y Comercio.

Under the guidance of the contractor's resident staff, the counterpart staff established a second generation of development groups around the five basic Regional Development Centers: Mbocayaty and Colonia Independencia in the Villarrica area; Coronel Bogado in the Encarnacion area; Horqueta in the Concepcion area; Capital Bado in the Pedro Juan Caballero area; and General Diaz in the Pilar area. Others were also established but are not listed because they are outside the five primary targets.

The Regional Data Center continues to be a problem area. Little or no material could be added to the collection. The counterpart staff has repeatedly indicated that they have no funding available to purchase publications that are needed. Very little assistance could be provided at this time since there is nothing to work with. Training has been carried out and a special manual was prepared by Mr. Johnston and published during Year I to serve as a guide to the staff of the Regional Data Center.

As part of the activities carried out during this year, the resident IDD staff worked with the counterpart staff at the Ministerio de Industria y Comercio in suggesting incentives which are needed in order to attract new industries to the areas of the Regional Development Centers. The suggestions were discussed with representatives of the Secretaria Tecnica de Planificacion and

later were incorporated into a new "incentive law" which presently is being considered by the Congress of Paraguay. Should the new law be passed by congress, future industries establishing in the five target areas will receive special incentives in taxes, cost of utilities, export duties, etc.

D. Regional Development Centers. Five Regional Development Centers were established earlier in this program (one each at Villarrica, Concepcion, Pedro Juan Caballero, Pilar, and Encarnacion). In each case, the community was organized, volunteer groups were trained, community audits were performed, executive secretaries received special training, and data centers were started. Individual reports on the different centers follow:

1. Villarrica. The Centro de Desarrollo Socio-Economico del Guaira is a very active, well-managed, and self-motivated center. Lic. Andres Gimenez Fonseca, Executive Secretary, has gone out of his way to establish a very attractive, clean, and orderly office in this city. The Centro de Desarrollo Socio-Economico del Guaira is a fine example of what can be done in a rural-urban community when it is properly motivated and good local leadership wished to become involved.

a. Planning. A five-year work program was prepared in Atlanta by Mr. Gimenez during his internship at IDD in the fall of 1971. This program was accepted in principle, but the Board of Directors decided to establish only the first two years and then review the activities every year. The Two-Year Plan was established by the Board of Directors early in January 1973.

b. Community Activities. The Centro has continued working with the credit unions, aho-poi cooperatives, hotel projects, street paving program, park programs, and others. One of the outstanding item has been the "silkworm project." At this time, there are over 250 hectares planted in mulberry bushes and over 30 farmers are actively raising silkworms. Small quantities of raw silk are now being exported to Japan on a monthly basis. Three students are at Pira-po, Itapua, completing a training program on "silkworm raising" which is being offered by the Japanese Technical Mission to Paraguay. Next year, the plan calls for a total of 500 hectares to be planted in mulberry bushes, and three additional students will go to Japan for advanced training in the silkworm industry. The Centro started this project and now has donated mulberries to the Centros in Pedro Juan Caballero and Concepcion, so that they

too may start a similar project. A cooperative was formed for the local farmers and it is now operating under the name of Cooperativa de Sedicultura HINO MARU del Guaira.

The Cooperativa de Educadores that was established during Year I is doing very well. At present, there are over 225 members with a total capital of over ¢304,000, and the potential is now estimated at about ¢1,200,000. In the past year, 286 loans were made for a total of over ¢1,500,000.

A new hotel has been completed and started operating in January 1973. This was one of the first projects started in Villarrica after the Pilot Phase. All of the central city is now paved (with the paving blocks they now manufacture), and plans call for a total paving of the streets of the community.

c. New Industries. The paving block plant is now operating. This industry was suggested after the Pilot Phase and was initiated during Year I. The plant is supplying the city with paving blocks at very low cost. The balance of the production, at a higher price, is sold to individuals and other nearby communities. For investment details, refer to page 21 where this industry is highlighted.

Frigorifico Guaira, Sociedad Anonima, Comercial, Industrial y Financiera (FRIGUSA) continues actively trying to obtain the necessary funds to establish a meat-packing plant. At present, CEPADES is assisting them through Dr. Leopoldino Garcia Franco, who is preparing a prefeasibility study of a plant about one-third the size of the original concept. For details, refer to an article in La Tribuna on November 18, 1972.

Plans are under way to set up a small industrial area or zone, as recommended by Georgia Tech last year. The area is on the highway to Coronel Oviedo between the military zone of the 2nd Infantry Division and the end of the FRIGUSA property on both sides of the highway. Land will be available at about ¢15,000 per hectare with front road, power, and telephone.

The Centro has been very active in keeping a good flow of communication with the other four centers, Ministerio, Secretaria Tecnica de Planificacion, and others. The file system is good and ample data is kept on hand ready to be used. They also continue to work with the communities around Villarrica, such as Mbocayaty, Borja, Colonia Independencia, F. Yegros, and

Itapé, all of which have set up a "development committee" and work with the Centro.

At the end of Year II, the Centro had over 130 members paying \$300 per month to support the activities. There continues to be a volunteer tax of \$2 for all entertainment, which provides the Centro with an income of about \$45,000 per month which is ample to support the Centro and the staff.

2. Concepción. The Asociación Regional de Desarrollo Económico y Social (ARDES) has also had an active year under the leadership of the Board of Directors and the Executive Secretary, Lic. Guillermo A. Cabral.

a. Publications. At the start of this year, Mr. Cabral published an attractive brochure on the City of Concepción. This promotional publication, under the title of "Concepción. . . . ciudad que ofrece futuro. . . . visítela," was well circulated. It contains general information on the area, resources, available manpower, transportation, services, industry and commerce, education, living conditions, government, industrial sites, taxes, and incentives to new industries. Several copies of this publication were filed with the USAID representative at the Ministerio de Industria y Comercio.

b. Community Activities. ARDES is involved in a large community project which is to provide water to the central section of the City of Concepción. This will be the first water system that this 200-year old city has ever had. The project calls for a donation by local industrialists of the necessary water tank. Other local industrialists who are members of ARDES will provide materials, tools, and some equipment. AID has been asked to assist with limited funding, and the community will provide the required manpower. The IDD staff representative has been providing the technical assistance. The project not only will furnish running water to the community, but it will also be a source of funds to assist in supporting ARDES. Each household served by the system will pay \$300 per month. The funds will be used to pay the electrical power, pay back the AID loan, repairs, and expansions, and the balance will be for the support of ARDES.

During the Pilot Phase, the International Development team assisted the community in building a small bridge on the road to the airport. This was the community's first project (refer to the 1970 final report). The bridge is at present in need of repairs and ARDES is also promoting this project. The Delegado de Gobierno, Dr. Jorge Miranda, has offered to donate the

materials needed for the repairs, the community will contribute their work, and a local engineer will direct the operation. ARDES will coordinate the project.

A study is being made to determine what funds are needed to obtain a well drilling rig. The project calls for the drilling of a series of communal wells for the smaller rural communities that are within the area of influence of Concepcion. This project is now being studied and developed.

For the past three years, a local industrialist has been providing, through ARDES, four scholarships per year. The students are about to complete their "Bachiller en Agronomia" studies at Coronel Oviedo. The scholarships provided for represent a donation of over \$100,000 per year. The students have promised to return to Concepcion when they graduate and work in that area for at least two years. These four students have been the top four students in their class since the program began. ARDES has indeed played a key role in this activity.

c. New Industries. The counterpart staff from the Ministerio de Industria y Comercio, together with ARDES and assisted by the contractor, prepared a prefeasibility study for a local firm to establish a 21-ton per day flour mill. This appears as one of the 21 new industries reported earlier in this document. The study has been approved and the necessary "decree" was issued to provide them with tax "incentives."

The CDP staff, assisted by ARDES and guided by the IDD staff resident, also prepared two different export studies (part of the 12 prefeasibility studies) on the modernization and expansion of two local lime producing plants. The studies cover the installation of two new hydrated lime plants. At the end of the contracted year, one of the installations was completed and on stream.

Another new industrial project for that area involves the more profitable utilization of a unit of CIASA. Three activities were considered: a) development of a "mandioca" plantation as a source of raw materials; b) design of production schedules to better utilize plant capacity; and c) possible installation of an animal feed mill to utilize sub-products of the plant.

The study of a marble quarry and industrial processing plant has led to the financing of this industrial activity by COMDESA and this project

is now being implemented. This published study was presented to COMDESA, USAID/Paraguay, and other interested parties. This new industry will be of great economic impact to the area of Concepcion and will employ a great number of unskilled labor from that general location.

In general, the ARDES group is active and operating but at a lower level than the group in Villarrica, due to the fact that they have little or no funding to support their activities. This is not a new problem and over the past years the consultants have indicated and suggested ways to solve it-- but it remains unsolved.

3. Pedro Juan Caballero. The Junta Regional de Desarrollo del Amambay, through its Executive Secretary, Mr. Basilio Acosta Cameron, has done an outstanding job during the past 12 months. Not only has he carried out the work program that was suggested at the end of Year I, but he has also worked closely with nearly 20 investors in getting new industries installed in this area.

a. Planning. To the best of his ability, the executive secretary has attempted to implement the general Five-Year Plan for Pedro Juan Caballero that was prepared as part of his internship program requirements during Year I. The outstanding activity in this area was the establishment of an industrial area in Pedro Juan Caballero to serve this city and V. P. Sánchez. The industrial area provides inexpensive land to the investors and utilities, as well as good access to the Brazilian border. It is motivating to visit the small industrial area and see all the new plants in operation producing export items. This year, the plans call for bettering the existing roads and building internal roads in the industrial zone.

b. Community Activities. As a result of the installation of new industries in the community, one of the major activities has been street paving. About 50% of the central city area has been paved, and many of the connecting roads to the border posts and the industrial area have been improved. The population flow between Pedro Juan Caballero and the Brazilian community of Punta Porá, directly across the border, make it more difficult to come up with community projects that only involve Pedro Juan Caballero and, by the same token, the Brazilians do not participate or support the development center at Pedro Juan Caballero. Because of this, it has been very difficult to

obtain support from the local population for many of the projects that need to be initiated.

A new hotel has been built and it is one of the best available outside of Asuncion. This project was identified after the Pilot Phase and has now been completed. The hotel is modern with air-conditioned rooms, swimming pool, restaurant, and other fine facilities. Many Brazilian salesmen, visitors, etc., now cross over and spend the night at Pedro Juan Caballero rather than use the poor facilities available on the other side of the border.

c. New Industries. On the basis of one of IDD's earlier studies titled Factibilidad de Instalar un Aserradero de Mediana Capacidad en Pedro Juan Caballero, published as Appendix 9 of the report Programa Regional de Desarrollo Economico, Republica del Paraguay, por el Ing. Nelson C. Wall, Georgia Institute of Technology, Atlanta, Georgia, Febrero 1972, 19 sawmills and wood working industries have been installed during the past year in the area of Pedro Juan Caballero.

The vast majority of these new industrialists were not in the Punta Pora area at that time and did not, as many believe, simply move their industrial operations across the border. They are really new investors and not relocated industries. For additional details on these industries, refer to pages 12 through 22 of this report.

4. Pilar. The Junta Regional de Desarrollo de Neembucu lost its executive secretary at the beginning of this year of program work. This was an unfortunate occurrence since the executive secretary had been trained the previous year and had just started on his program of work. To further complicate the situation, later in the year, the President of the Junta, Delegado de Gobierno Dr. J. Ruiz Diaz, was transferred to a new position in Misiones. As a result of the above circumstances, the Junta was left without leadership and has since just floundered around. Attempts were made to remotivate the group and have a new leadership take over, but with no success.

The counterpart staff at the Ministerio de Industria y Comercio was assigned the task of reviving the community group in Pilar and suggestions were offered to them in a lengthy memo dated December 15, 1972. To date, the Junta remains inactive and it appears they have lost interest in the program.

5. Encarnacion. The Consejo de Desarrollo de Itapua also lost its executive secretary at the beginning of Year II. For a few months, it appeared that the Consejo would become inactive, but fortunately the President, Delegado de Gobierno Dr. V. Ricciardi, was able to remotivate the group and get them back to work.

a. Community Activities. The major task that was assumed by the Junta for this year was to plan and host the Annual Jornada for 1973. This was successfully accomplished during the week of June 11, 1973. This annual event was attended by all the representatives of the other Regional Development Centers, as well as government officials, industrialists, investors, and AID representatives. Both radio and press coverage was ample and the Jornada was considered a success.

b. New Industries. No new industries have been established during the program year, but assistance was given to four existing industries that were interested in expanding their facilities. A team from the Ministerio de Industria y Comercio, together with the resident IDD staff member, worked on these four cases. The companies involved were: Cooperativa de Madereros de Paraná Ltda.; Sociedad Cooperativa Yerbatera y Empacadora Pio XI; Matadero y Frigorífico Miguel Stadesko; and Fábrica Trilladora Esteban Chvaile. The suggestions and recommendations were presented as a formal report by the Ministerio de Industria y Comercio counterpart staff and copies were filed with the USAID representative at the Ministerio. All the expansions considered required outside funding and the companies proceeded to request loans from the Banco Nacional and other sources.

E. General. After over three years of active field work in the rural areas of Paraguay, the project director and his staff have arrived at the following conclusions:

1. The Paraguayan economy continues to be characterized by slow growth in the different productive sectors, limited expansion in the industrial sector, and growing interest in the export sector. The nation continues to have a high rate of population growth accompanied by an increase in the demands of the national market. Over the past years, service industries have started to come into being and some now are present in the rural areas. Basically, the nation will continue to depend on its agriculture and cattle for the major share of its income. Much additional technical assistance will

be required to generate a stronger industrial sector in the next 10 years, as desired by the government of the nation. Without wishing to enter into the field of national economics, and on the basis of available data as well as present knowledge, the staff is under the impression that the general economic level has improved in the recent past, although it continues to be relatively low and could be further improved.

2. As indicated, the country is predominantly active in agriculture, forestry, and cattle. In contacts with rural areas, it has been determined that at least 50% of the active labor force is employed in one of these three areas. Should future industrial development programs be established, more attention should be given to the individual development of these sectors in hope of better utilizing the available raw materials. Much needs to be done in this primary field, and in future industrial programs it may be desirable to consider such activities as mineral extraction and beneficiation (metal and non-metal), hog raising and processing, poultry farming and processing, as well as others.

3. Like many other developing nations, Paraguay is struggling to achieve planned, orderly growth and economic development. There is a need to generate a large number of jobs to satisfy population needs, and one of the most promising solutions appears to be through industrialization programs. The industrial sector of the nation is characterized by small manufacturing activities and, in some cases, handicrafts or cottage industries. These small industries are typically managed by one individual who may have certain strengths but usually does not have all the necessary skills to efficiently operate a small-scale industry. This is the area where assistance could be provided. Many of the existing small enterprises are in dire need of good pragmatic technical assistance in such basic areas as: improved product design, packaging, quality control, substitute components, plant layout, and others. Some assistance is now available through the Instituto Nacional de Tecnologia y Normalizacion, but an in-depth program of technical assistance to industry is needed over a number of years to help improve this situation.

4. If one accepts the concept that in order to create the necessary new jobs the nation must accelerate the industrialization process and that the generation of small-scale industries is a basic element of this process, then this activity must be incremented. The development of small-scale industries requires the bringing together of many basic factors such as an

entrepreneur, required capital, technical expertise, and reasonable assurance of a profit. If the process is to be accelerated, there is a need to establish a continuing program staffed with experience and pragmatic developers to provide the catalyst that make the basic factors interact. Potential industrialists lacking experience need constant assistance in determining if the industrial concept is feasible, profitable, and technically sound. This assistance must be provided in a continuing manner over a number of years if any success is to be achieved.

5. During the life of this program, the contractor has developed an approach to rural area industrialization. This has been field tested and has proven successful as indicated by the number of new industries established and jobs created. This approach promises a greater future and, because of this, the methodology and technology were transferred to the Paraguayan counterparts. The counterpart staff and organizations that have been established have the basic know-how, but they still need additional experience which would have been gained if they had had the opportunity of continuing to work next to the IDD staff for minimum of another year.

As a result of the early phase out, there is a possibility that some of the institutions built during this program may not be as successful as expected, due to the lack of motivation, leadership, funding, or other problems.

6. Other conclusions could be presented in such fields as education, health, environment, sanitation, housing, etc., but the staff refrained from so doing on the basis that these are not fields of their competency and any conclusions would be based on personal feelings or subjective observations.

## RECOMMENDATIONS

As indicated throughout this report, there are several different organizations associated with this project. Because of this, it was considered desirable to prepare recommendations specifically for each of the participating organizations.

### Agency for International Development (AID)

There is no doubt that the results obtained during the life of this program are far higher than the goals that USAID Mission Paraguay had originally established. As a by-product, 21 new industries have been created through the assistance provided to the host country. The Total Project Goals (as presented on page 5) have been met, but the question remains whether or not the institutions that have been built will be able to continue operating efficiently.

The Industrial Development Division is aware of the large number of programs that are requested from AID each year, as well as of the limited funding available, but the program that has been phased out in the Republic of Paraguay has proven very fruitful and should be continued if possible. The Georgia Institute of Technology would gladly present a proposal to continue this program if USAID Mission Paraguay so desires.

### Ministerio de Industria y Comercio

This unit of the government of Paraguay has a sincere desire to continue with this program but are in need of support and technical assistance. They have approached the Inter-American Development Bank (IDB) and requested that a program be established to continue the activities that have now ended.

It is suggested that they pursue this idea and try to obtain the necessary technical assistance through IDB. It is further recommended that should a new project be established that the work program closely follow the activities that were planned for Year III of the original program. Additional recommendations were offered by the project director in his memo of December 16, 1972, to Dr. Juan G. Silvero, Director, Oficina de Desarrollo Regional. A copy of this memo was filed with the Office of Private Enterprise Officer, USAID Mission Paraguay.

In the event that IDB is not able to provide the requested assistance, it is then suggested that the Ministerio de Industria y Comercio, through the Oficina de Desarrollo Regional, continue with the program to the extent possible on the basis of existing funds and available capability. The Regional Development Centers should be maintained and given a high priority, together with provision of technical assistance to new investors and the identification of new manufacturing opportunities. The staff of the Ministerio de Industria y Comercio should aggressively work in the field to provide assistance to each of the five Regional Development Centers. The technical staff should be constantly traveling from one center to the other motivating, assisting, and communicating with the local groups. The Ministerio will need to assume the leadership and actually provide it if guidance and assistance is not available from another source.

#### Centro de Desarrollo y Productividad (CDP)

Very positive results have been obtained at the CDP, which are not as easy to quantify because the basic area of activity has been that of training. During the life of the project, well over 3,000 persons have been trained and over 100 different courses presented. At the same time, the technical staff was trained overseas and has had real-life experience by working side by side with members of the IDD staff.

It is anticipated that the CDP will continue operating and that the technical staff will continue to provide consultant services to local industries in need of their expertise. USAID Mission Paraguay has provided some additional funding to this unit and hopefully it will be able to reach a point of self-support in the near future.

It is recommended that special attention be given to the CDP to assure that it does reach the point of self-support before all funds are phased out. IDB has also shown an interest in this part of the total program and some actions have been proposed by the Ministerio de Industria y Comercio. The staff recommendation is that this program be continued if at all possible.

#### Five Regional Development Centers

As indicated before, some of the five centers are economically self-supporting, so they will be able to continue operating independently if necessary. Two of the centers are in a weak position because they have practically

no sources of support and, at this time, they have not been able to replace the corresponding executive secretary. Of these two, the one in Encarnacion has a better situation because interest is at a high level after the Annual Jornada and the local power structure is motivated.

It is anticipated that the Ministerio de Industria y Comercio will continue to work with the centers after the end of this program. It is the opinion of the staff that the centers will survive if some attention is given to them through the Oficina de Desarrollo Regional. It is therefore recommended that special attention be given to the five established Regional Development Centers to assure their chances of survival.