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9. ABSTRACT

This study was undertaken to assist the AID Mission/Uruguay to prepare a loan proposal for development of the Agri-Industrial subsector concerned with food processing. Uruguay has a large unrealized potential for agricultural production. Less than one percent of the agricultural land is used for fruit and vegetable growing; there are large opportunities for expansion. Most of the fruit and vegetables are grown on small farms of less than 50 hectares. Although Uruguay is virtually self-sufficient with respect to food production and is exporting significant quantities of non-traditional foodstuffs, there is considerable scope for improvement in production efficiency at the farm level.

The constraints upon increasing agricultural output and exports are small farms, poor farmers lacking in capital, poorly organized farms, lack of motivation for increasing production, and lack of an organized marketing capacity.

Steps are being taken by fruit and vegetable processors to encourage increased production under contracts supplying technical field services, seeds, and fertilizers. Dairy industries are also improving milk handling and are instituting a bonus system for dairy farmers. Since 1970 fruit exports have increased from U.S.$749,000 to U.S. $4,440,000 in 1974, and output can be quickly increased by better orchard management and improved techniques. No labor problems are anticipated.

Most fruit and vegetable processing plants are poorly equipped, but CONAPROLE dairy plants are excellent in all respects. Fruit and vegetable processors are in need of investment programs to improve capacity, efficiency, and qualtiy.

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AN APPRAISAL OF THE FOOD PROCESSING INDUSTRY OF URUGUAY

June 3, 1975

G. K. Warner

AGRI-INDUSTRIAL SUB-SECTOR ASSESSMENT AND DEMAND ANALYSIS

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AN APPRAISAL OF THE FOOD PROCESSING INDUSTRY OF URUGUAY

This study was undertaken at the request of A.I.D. under Contract No. 528-44.

Purpose:

To assist the A.I.D. Mission to Uruguay in the preparation of a Loan Proposal to benefit the development of the Agri-Industrial sub-sector dedicated to food processing (excluding meat).

Objective:

a. Appraise the food processing industry as to existing facilities, growth prospects, and pre-conditions for expansion.

b. Identification of food products with export potential.

c. Indicate priorities for development in the processed food industry.

d. Identify illustrative developmental investment projects to be incorporated in the loan proposal.

With respect to the objective "d", a list of potential projects has been compiled as detailed in Annex A. This list represents the accumulation of projects by the A.I.D. Mission personnel as well as a number which emerged from this study.

The following report together with the notes of visitations and meetings included in Annex B will satisfy the objectives "a", "b", and "c".

Respectfully Submitted

G. K. Warner

Agri-Industrial Sub-Sector Assessment and Demand Analysis

1. Summary and Conclusions

1. There is a large unrealized potential for agricultural production in Uruguay. Less than 1% of the agricultural land is used for fruit and vegetable growing and there are obvious opportunities for expansion.

2. There are many small farms (56,000) under 100 hectares on which live 212,000 people. The smaller farms in this group - 50 hectares and less - grow most of the fruit and vegetables. The larger farms in this group - 50 to 100 hectares - account for most of the milk production and field crops.

3. Although Uruguay is virtually self-sufficient with respect to food production and is presently exporting significant quantities of non-traditional foodstuffs, there is considerable scope for improvement in production efficiency at the farm level.

4. The potential for a significant contribution to the world food needs, particularly to neighboring countries, by the production of agricultural surpluses, is very evident.

5. To realize this potential it is necessary to increase agricultural output by:

(1) improved productivity per unit and lower unit cost;
(2) expanded areas of production:
(3) improved quality standards and uniformity of production.

The constraints identified are: small farms, poor farmers lacking in capital, poorly mechanized farms, motivation for increasing production is lacking as is an organized marketing capacity.

6. Steps are being taken by fruit and vegetable processors to encourage increased production under contracts supplying technical field services, seeds, fertilizers, etc. (Rio Claro): and by the dairy industries improving milk handling and instituting a bonus system for dairy farmers (CONAPROLE).

7. Fruit exports have increased dramatically from US$ 749,000 in 1970 to US$3,440,000 in 1974, and there is much opportunity to quickly increase output by better orchard management and improved agricultural techniques.

8. Packaging materials are in adequate supply to support the existing processing industries but are expensive and there are some quality deficiencies.

9. Some reinforcement in managerial and technical functions probably will be required to support an expanding food processing industry. No labor problems are anticipated.

10. Most fruit and vegetable processing plants are poorly equipped and in need of rehabilitation, some of which is already underway: COLAPROLE dairy plants are excellent in all respects; many other food processors of various types are well equipped.

11. Fruit and vegetable processors are in need of investment programs to improve capacity, efficiency and quality, and to be in better position to increase exports and absorb greater quantities of agricultural raw material. There is much scope for increasing fresh fruit and vegetable and dairy products exports, particularly to Brazil and other neighboring countries.

12. Products developed for export should fit within the framework of the recommended criteria.

13. This proposed loan program will provide funds for needed investments in existing and new facilities, providing Uruguay with a more efficient and more productive food processing industry which could quickly generate additional exports and better supply the domestic market.

14. The loan program should be supported by technical assistance in the areas of vegetable and fruit growing, dairy farming, food processing, and marketing.

The Mission in consultation with the GOU and the private sector has identified 37 illustrative agri-industrial project proposals which are annexed. These proposals have been developed by both cooperatives and private firms and are in various stages of development, from planning proposals to projects that have been submitted to the Unidad Asesora for approval. (See Annex G, Exhibit 1).

Cost information is estimated and based upon the most recent data available at this time. Final costs cannot be determined until proforma invoices are provided based upon exact specifications and delivery schedules. However, present estimates of the total dollar value of capital goods imports, including technical services, for the proposals identified is US$ 19,525,000. The total estimated local currency required by these projects, expressed in dollars, is US$13,091,000. Total investments for these illustrative projects, expressed in dollars, is US$ 26,616,000.

Of the 37 identified proposals, 34 are located in the interior of Uruguay, and 3 are located in Montevideo. The breakdown by commodity or activity is:

Vegetable Processing	8
Fruit Processing	9
Dairy Processing	13
Box Manufacture	2
Can Fabrication	1
Livestock Feed	2
Other Foods	2
	37

This preliminary study definitely demonstrates that there is a need for additional or improved agri-industrial activities that involve food processing and are export-oriented. It is evident that each proposal identified will require additional in-depth study and updated information before the feasibility and both the dollar and local cost financing can be fixed with any degree of accuracy. It is certain that additional projects, better designed, will be forthcoming once a system for submitting these projects for approval and financing has been implemented. Also, local capability for developing proposals, including feasibility studies and financial analysis, has been identified which will greatly improve the planning and implementation of new agri-business proposals.

It is clear that further marketing studies will have to be developed both for internal sales and export opportunities. This must include the continued development of grades and standards to meet specific market outlets, plus packaging and product presentation that will respond to market needs.

It should be pointed out that the non-availability of medium and long-term credit and the scarcity of foreign exchange available for the importation of capital goods has inhibited project development by interested investors. Only recently, with the liberalization of foreign exchange for imports and the proposed bilateral credit agreements with Brazil and Argentina, have developed investment projects received attention.

The illustrative projects outlined above are all within the criteria guidelines developed for export product strategy (see page 11). These proposals:

1. Are based on agricultural raw materials that have been traditionally produced in reasonable volume;

2. utilize minimum packaging costs and complexity;

3. utilize uncomplicated technology;

4 maximize the utilization of existing facilities;

5. are complimentary to existing facilities;

6. are designed for uncomplicated marketing;

7. operate within the limitations of their specific geographic areas; and

8. are complimentary to the domestic market.

2. Raw Material Supply

The total farm area of Uruguay comprises 16.5 million hectares. This land is divided into 77,000 farm units; 56,000 of these units (73% of the total number) are less than 100 hectares in size, and represent only 7.4% of the total farm area. The remaining 92.6% of total farm area representing 27% of total farm units, is devoted almost entirely to grazing and the growing of field crops.

The following table demonstrates the land use of a typical small farm.

TYPICAL SMALL FARM (LESS THAN 100 HECTS.) LAND USE

Grazing*	60% (mostly over 50ha. in size)
Field Crops	20% (grains, oil seeds, sugar beets, etc.)
Vegetables	10%
Fruits	4% (mostly under 50ha. in size)
Vineyards	3%
Miscellaneous	3%

* Includes about 4,600 dairy farms.

Slightly less than 1% of the total agricultural land is devoted to fruit and vegetable production.

At the time of the 1970 agricultural census, the total population of Uruguay was 2.9 million people. Only 318,000 people, 11% of the total population, lived on farms, and 210,000 people or 67% of the total farm population, lived on farms of less than 100 hectares in size. This small population on a highly fragmented farm structure manages to feed the total population, supply raw materials to food processors and for export.

Uruguay, with the highest percentage of productive land of any country in Latin America, has a large unrealized potential in agricultural production. Nevertheless, Uruguay is virtually self-sufficient with respect to food and fibre production, with the exception of a few tropical grown crops which cannot be produced here such as coffee, bananas, etc. The potential for a significant contribution to the world food needs, particularly to neighboring countries, by the production of exportable surpluses is very evident.

In the area of fruit and vegetable and milk production, there is scope for considerable improvement in production efficiency. INIA research has demonstrated that milk production per hectare can be increased as much as three times with better pasture and herd management. An ADELANTE study in 1971 emphasized that Uruguay possesses one of the best zones for citrus production in South America, but it has not developed its production with either the volume or the efficiency that is required to export more effectively. The export of vegetables could be increased considerably, but an organized marketing capacity is lacking.

Source: A.I.D. Capital Assistance Paper, March 1975.

Because of climate, quality of soil, and proximity to the major market of Montevideo, most of the fruit and vegetables are grown in the southern section of the country, with the exception of citrus, which is primarily grown in the north-west corner. Most of the fruits and vegetables are grown on farms of less than 50 hectares in size, and a considerable number of these are less than 10 hectares. These small farms are lacking in mechanization. The economic equation of hand-labor vs. machines leads to resistance on the part of growers towards mechanization because of low labor-cost and the high cost of farm machines and fuel.

Despite the constraints as evidenced from the above, the total population is being adequately supplied with a balanced and nutritious diet of fruits, vegetables and other foodstuffs, exports are being accomplished in increasing volume and progress is being made.

There is undoubtedly much scope for more production of all kinds of agricultural products, and there appears to be an excellent opportunity to rapidly generate increased exports from the low present base. The three things needed to expand agricultural output are:

1. improved productivity per unit and lower unit costs;
2. expanded areas of production;
3. improved quality standards and uniformity of production.

The low yields and correspondingly high costs put Uruguay in an unfavorable position relative to its principal competitor, Argentina, and present a serious handicap to the fruit processing industry.

At least one processor, the Rio Claro factory, is already taking positive steps in this regard. This small factory has increased its production of tomatoes dramatically in the past two years, from 479 tons in 1972, to 2,523 tons in 1974. They now deal with about 500 very small farmers, and are assisting the farmers by providing field supervision and technical assistance, providing seed and sometimes fertilizers. Last year their yields were reasonable at 15 tons per hectare, which compares favorably with the nationwide average of 7,000 kilos per hectare. They have been selective with their growers and have weeded out those who proved to be unreliable, and they have a good reputation with growers, particularly because they pay on time. They expect to improve yields rapidly over the next few years, to at least the 30 ton per hectare level, with a corresponding improvement in quality. They deal with the growers on a contract basis, guaranteeing to take the farmers' full output and thus providing the needed incentive.

Apparently the practice of dealing on a contractual basis has not always worked as well as it does for Rio Claro. Other companies have experienced difficulties with farmers not adhering to their part of the contract, and the farmers in turn accusing some processors of being unfair in the execution of their part of the contract. It does appear that there is need for improved integrity on both sides. Better processor-grower relations and adherence to guarantees particularly with respect to payment would encourage growers to do a better job.

With respect to fruit, according to data provided by the Oficina de Programación y Política Agropecuaria, the export of fresh fruits including citrus has increased dramatically in the past five year period. In 1970, total exports amounted to US$749000 increasing to US$3,440,000 in 1974, an increase of 460%.

Much improvement can be accomplished merely by better orchard management and the application of improved horticultural techniques. As an example of what might be accomplished, an Israeli technical mission recently developed a comprehensive proposal involving a combination of technical assistance, capital investments and market surveys. From schedules given in their report, they anticipate increasing the yield of peaches, apples, pears, from the present level of about 7 tons per hectare by 70% in five years and more than double in ten years. By a combination of rehabilitating existing orchards and establishing new orchards, they anticipate a substantial increase in fresh fruit exports, paralleling the increase in production.

Although these figures are only forecasts of what this Mission believed could be accomplished, the figures are indicative of the scope of opportunities that exist.

Another need of the fruit producers, and this is true of the citrus industry as well, is the need for processing outlets for second grade produce that is still of reasonable quality but below export grade. These fruits could be processed into such by-products as fruit pulps, concentrated fruit pulp, fruit juices, marmelades, oil extraction, etc.

Cheese and other dairy products seem to be natural exports for this cattle raising country. But the raw milk supply and quality problem must be solved at the farm level. The level of supply limits the production of all dairy products, particularly exportable cheese and casein. The quality of the milk is inferior bacteriologically. Incoming raw milk to the processing plants has a bacteria count ranging from 13 to 16 million bacteria per cubic cm. Even with this high level of contamination, CONAPROLE, the largest milk processor in Uruguay, claim to control their pasteurized milk at about 50,000 bacteria count.

However, the exceedingly high bacteria content of raw milk limits the production of the types of cheeses that can be manufactured by CONAPROLE to one type, Sbrinz . With better quality milk, cheese production could be diversified into other types. Almost all of the Sbrinz production is exported to Buenos Aires and Brazil. However, the quantity of cheese output is restricted by the milk volume problem. At present time the cheese plant operates only 7 months of the year. Without the milk volume limitation, production could take place five more months annually, resulting in at least a 70% increase of output and corresponding exports.

Despite the supply problem, CONAPROLE is making an investment of US$1.0 million for a new powdered milk plant with a capacity of 300,000 liters of raw milk per day, which is planned to be in operation 2 years from now. The executives of CONAPROLE advised they were taking steps to correct their supply and quality problems, such as:

1. Constructing central receiving stations to collect and cool raw milk more quickly.

2. Institute a bonus system for growers based on quality.

3. Improve milk handling throughout the system.

It might also be desirable for CONAPROLE to invest in a technical assistance team of practical operating dairy technicians working at the farm level. Much could be accomplished in a relatively short period of time if the proper approach can be ascertained and some of the elementary aspects of the problem could be corrected.

3. Packaging Materials

The most important packaging material for the food processing industry is sanitary tin cans. There are three can making plants in the country, which is ample capacity in relation to the present size of the processing industry. One of these is a plant recently acquired by the Cariboni group. This plant had gone bankrupt and has not operated for the past five years. The equipment is presently being overhauled and the efficiency of this plant will be largely determined by the thoroughness of the renovation and the company's ability to recruit a team of good can making operators and mechanics.

The second company, Lostorto, operates a plant with very old, low speed equipment, but they are presently formulating a program of modernization involving an estimated investment in the order of $600,000. Each of the plants has a completely equipped litho-raphing installation and they do all of their own tin plate lithography and lacquering.

It is important to note that none of the plants is equipped with automatic can testers. This is a serious, although not a vital deficiency. The purpose of the automatic can tester is to eliminate the defective cans which then are never delivered to the processor. These are cans with fabrication defects or a pinhole in the tin plate. Since cans that should have been rejected will be delivered to the processor who has no means of eliminating them, they will be filled with product with resulting spoilage. Not only this is costly, but it is damaging to the reputation of the processor, brand, and the industry overall. It can be particularly embarrasing if a high number of spoiled cans are found in an export shipment. Can testers are quite expensive pieces of machinery and undoubtedly this is the reason why they are not used. They can only be justified on the basis of quality.

Since these plants use Canadian or U.S. tin plate the likelihood of more than a very rare pinhole is negligible and fabricating defects are by far the most likely cause of spoilage.

Cans are expensive and the unit cost is stated to be about double the U.S. cost. However this is very typical of can costs throughout Latin America.

Glass bottles and jars are available but the supply is limited with regard to size and shape. The selection of closures is also limited to rather old fashioned types. Because neither the jar nor the closure is manufactured to very close tolerances, this sometimes results in an inadequate seal.

Labels are available in reasonable quality, but these too are reported to be very expensive.

Corrugated cartons are not widely used and it was reported that these are prohibitively expensive and poor in quality. Most of the product for the domestic market is packed in wooden trays or open top wooden cases which are returnable. Many export packs are shipped in wooden crates.

Packaging costs, availability, and quality will have an important bearing on product strategy for export. For example, fresh fruit exports require a minimum of packaging, canned fruit in syrup requires the most expensive packaging, and fruit pulp in bulk packs would be intermediate in packaging cost.

4. Personnel

The caliber of managerial and technical staff of course varies considerably with the size and complexity of the respective industries. Sufficient skills probably exist to cope with the present levels of activities. Under intensified activity levels, the following areas would probably prove to be deficient and in need of reinforcement:

Planning
Product Research and Development
Agricultural Research and Development
Quality Control
Cost Control
Marketing.

The factories are accustomed to operating with an excessive amount of hand labor. There should be a gradual transition to more mechanization and to accomplish this smoothly will require attention to personnel relations, personnel training, etc. The various skills required for more sophisticated processing and operating methods will need to be developed concurrent with the more advanced installations.

The level of education in Uruguay is generally higher than most other Latin American countries, indicating that no greater personnel problems should be encountered as the agri-business enterprises develop in size and complexity than would be encountered in any other part of Latin America.

5. Food Processing Facilities

The Exhibit below details the existing food processing businesses in Uruguay of all kinds except meat packers and processors.

It will be noted that there are 69 establishments devoted to fruit and vegetable processing, fruit and vegetable packing, and dairy products.

These range in size and complexity from very small, primitive type operations, such as the Rio Claro tomato products plant, to modern, sophisticated installations such as the CONAPROLE milk processing plant in Montevideo, and the cheese factory located near Villa Rodriguez. (The notes covering an inspection of seven of these plants are included in Annex G, Exhibit 2).

FOOD PROCESSING BUSINESSES IN URUGUAY

Sources: Indice Industrial del Uruguay
Oficina de Programación y Política Agropecuaria
Centro National de Tecnología y Productividad Industrial

Fruit and Vegetable Processors	35
Fresh Fruit Packers and Graders	5
Flour Mills	51
Edible Oil Manufacturers	11
Sugar Refineries and Related Manufacturers	5
Rice Processors	4
Dairy Producers and Icecream Manufacturers	29
Spices, Mayonnaise, Sauces & Mustard Mfrs.	26
Biscuits and Cookies Manufacturers	15
Popcorn, Candy and Related Lines Mfrs.	44
Oat and Other Meals, Baking Powder, Instant Desserts, and Fecula Manufacturers	25
Noodles and Spaghetti Manufacturers	98
Poultry Processors	10
Honey producers	6
Barley Producers	3
Beer and Malt Manufacturers	3
Fruit Juice Manufacturers	4
Soft Drinks Manufacturers	7
Wineries	80
Vinegar Manufacturers	6
Bakeries	280
Fish, Seafood and Fishmeal Producers	9
Coffee, Cocoa and Peanuts Processors	38
	794

The fruit and vegetable canners and processors are operating with old, mostly obsolete equipment, with excessive use of hand labor. The two plants reputed to be the best in the country do not have even labelling machines of any kind, and are hand-labelling each individual can and jar. The Sauce factory, which accounts for 35% of all fruit and vegetable processing in the country, provided us with a percentage breakdown of cost of a typical product - the 800 gram size of canned peaches in syrup - as under:

Peaches	19%
Syrup	10%
Can, label and case	32%
Labor and Social Benefits	21%
Other Inputs and Overhead	18%
	100%

The labor content is quite high, at least double what would be expected in a reasonably efficient operation. The plants visited, and probably the rest as well, could certainly benefit from an investment program for the purpose of improving capacity, efficiency and quality and correcting services deficiencies. In many instances, the investment needs are relatively minor and immediate improvements could be expected. It is imperative for these improvements to be made if Uruguay is to have a food processing industry capable of absorbing greater quantities of agricultural raw materials. This in turn would provide the needed incentive for growers to produce in greater quantity, would supply the domestic and export markets more effectively, and make a greater contribution to the overall economy.

Nevertheless, these factories are turning out a surprising number of canned and processed food products. The Sauce plant is already exporting US$1,000,000 worth of products annually as compared with domestic sales of US$600,000. Although the management of Sauce identified two relatively minor items of equipment which they believe would be required to increase their efficiency and capacity, a comprehensive plan to upgrade the facilities does not exist. One should be prepared and implemented to avoid the pitfalls of a piecemeal investment approach. A systematic highly selective investment program could assist materially in the generation of greater exports.

The Rio Claro plant has already developed a comprehensive program and is in process of implementing it. They are remodeling part of their building, and have purchased two complete new lines: one including a double effect evaporator for the concentration of tomato paste, and the other a fruit processing line to make fruit concentrates and jams.

In all of the fruit and vegetable canning plants, processing and export marketing technical assistance is required.

Two plants manufacturing a fairly broad line of dry foodstuffs were visited. One, Standard Brands, is producing the usual line of Standard Brands products and the installation is typical of their plants in Latin America. Export opportunities appear limited for their products, but they are planning some export of their Royal line to Standard Brands in Brazil. The Molino Puritas plant is an interesting example of the old family style entrepreneur. They are already exporting some products and with a modest investment of US$25,000 they could increase their export of oatmeal considerably. This factory is in good condition, and is well equipped and maintained.

The CONAPROLE milk processing plant in Montevideo is quite large and with very modern equipment installations. One of their products, Dulce de Leche, is unique to Uruguay and Argentina. The product has not as yet been exported but it is the type of product that possibly could be promoted in a country such as Brazil. Certain technical difficulties will have to be overcome, but this is possible. The CONAPROLE cheese factory is probably the most modern in the country and virtually a showpiece with respect to the buildings and equipment. Almost all the cheese being produced there is exported but production in both plants is limited because of the supply and quality of milk.

Although most of the plant layouts (except CONAPROLE) could be considerably improved and much of the equipment should be replaced, such a program of complete overhaul andmodernization would probably not be economically feasible. Nevertheless, by careful analysis many investments could be identified which would yield satisfactory returns and promptly increase exports. The layouts could be improved in stages over a period of time when the general health of the industry has benefitted from improvements in cost and capacity.

The vegetable and fruit processing industry would benefit considerably by more examples of the type of entrepreneurship as demonstrated by Dr. Egon Sudy's proposed project to establish dehydration facilities. As described in the notes in Annex G, this project has been well researched in all aspects and should be a very successful one. Assuming it is successful it could serve as a good example to others as to how to approach an investment program.

6. Export Product Strategy

From an examination of the conditions and resources of the food processing industry in Uruguay, a list of criteria has emerged for the selection of export products. The products most likely to succeed in the export market should fit within the framework of the following recommended criteria:

1. Normal agricultural raw material should be utilized, which has been traditionally produced in reasonable volume. Avoid the more exotic items as strawberries, pineapples, mushrooms, etc.

2. Minimum packaging cost and packaging complexity.

3. Uncomplicated technology.

4. Maximize utilization of existing facilities.

5. Complement existing facilities

6. Uncomplicated marketing.

7. Examine the limitations which exist in almost every area, and operate within them.

8. Compliments the domestic market.

From this criteria, an individual product strategy should be decided. For example, assuming a fresh fruit is available in quantity for exports, the fruit could be exported in at least four different forms as detailed below:

1. Fresh fruit export. Simple washing, grading, inspection and packaging operation; requires cool storage and well organized logistics from packing plant to consumers; uncomplicated marketing; immediate consumption of product.

2. Fruit pulps or fruit concentrates in bulk packs. More expensive equipment needed; expensive packaging; severe competition; direct sales to customer; industrial use.

3. Canned fruit in syrup - Consumer sizes. Expensive equipment or expensive hand operations; more expensive packaging; severe competition; complex distribution and branded product marketing; delayed consumption.

4. Frozen product. Highly specialized production, packaging, storage, and shipping facilities required; specialized distribution channels; high spoilage risk.

From the above, it would appear alternatives 1 and 2 provide the best opportunities for success and alternative 4 is no doubt out of the question, at least at the present time.

For products where a specific market exists, such as identified in the proposal for dehydrated onions, it would obviously not be necessary to go through such an exercise, but for most fruits and vegetables, more than one alternative export product will be possible.

Products with Most Likely Export Potential

1. Fresh fruit and vegetables.

2. Fruit pulps and concentrates in bulk.

3. Dairy products: cheese, casein, butter.

4. Dehydrated vegetables.

5. Miscellaneous dry foodstuffs based on cereals.

6. Selected canned fruits and vegetables.

7. Agri-Industry Advisor

It appears to be highly desirable to support this loan with management, technical and marketing advisory assistance.

The smaller businessmen and entrepreneurs will need managerial assistance to help them think through their project ideas, guide them through the preparation of feasibility analysis, and the preparation of the loan presentation papers, etc. Most of the food processing industry particularly fruit and vegetable processors are in need of technical help. The need for marketing guidance emerged from almost every discussion.

This leads to the concept of establishing the position of the Agri-Industry Advisor, probably on the staff of the Unidad Asesora.

The duties of the advisor would include:

- Work with loan prospects to assist them with preliminary evaluation of suggested investments.

- Guide the clients through the necessary steps required to complete their loan applications, including:

  . market appraisal and proposed marketing strategy
  . sales forecasts
  . cost and profit projections
  . determination of adequate raw material availability
  . facilities design
  . estimated capital needs and timing
  . technical and managerial capability requirements
  . other relevant elements.

- Guide the clients in the preparation of the feasibility studies and other material required by the loan application and review process.

- Assist the clients in the execution of the projects through start up by assuring they are coping with each stage successfully.

- Actively seek out new loan prospects.

- Help to develop and maintain good client relationships.

The personnel specification for this job would include:

- A food technologist or industrial engineer (an MBA would be helpful).
- Good broad experience background in the food processing industry.
- About 40 years of age and mature personality.
- Analytical and objective - ability to quickly get to the nucleus of problems.
- Ability to work with people at all levels of management, from farmers to general managers of corporations.

ANNEX B

I N D E X

NOTES OF VISITATIONS AND MEETINGS

by G. K. Warner

No. 1

May 28, 1975

Meeting with Dr. Chester W. Hitz and Dr. Ronald Morse

The discussion with these two professors on loan here from Penn State University was entirely centered on the growing of fruits and vegetables.

Labor cost is low but is getting higher. Stoop labor is still available. There is a resistance on the part of growers to mechanization because of low labor cost and high fuel costs. The economic equation of hand-labor versus machines is quite different in this country.

Most tomatoes are grown in the area of Colonia. The growers, although poor, are receptive to change and to instruction. They do need financing. They can get seed and some fertilizers but not many can afford equipment. If the growers have an assured market they could improve their output and motivation no end. Tomatoes yield only about 7,000 kilos per hectare and cost is about double the USA cost per ton. The Roma variety has been successfully introduced and there is no reason why peeled tomatoes could not be produced in quantity. There are no irrigation systems; each farm provides its own irrigation from his own source, usually a well, and of course this is quite expensive. Irrigation is only applied as needed in the event of a long dry period.

The export routine demanded by the Government is restrictive and it is almost impossible to handle fresh vegetables under this system.

In order to establish smooth and continuous exports, for example from Uruguay to Brazil, on a regular basis it would be necessary to cut through this Government red tape.

They believe there is a good opportunity for dehydrated onions within the market in Europe. Good yields of onions are obtainable and with some technical help this could be a good project.

Fruits generally are grown in the south with the exception of citrus, which is primarily grown in the north-west corner of the country. Uruguay has a physical advantage over Argentina for export to Brazil. Argentine fruit production is located in the far west region near the Andes so their transportation distance to the Brazilian market is about double the distance from Uruguay.

Uruguay is already exporting fresh peaches and apples and the CALFORU loan will aid with washing, grading, waxing, pre-cooling and cold storage facilities. However, it is necessary to provide processing outlets for second quality fruit which does not lend itself to export. This second quality fruit

could be used for fruit pulps, fruit nectars or diced for fruit cocktails. There is need to improve the productivity of existing fruit orchards and to accelerate new plantations.

They believe there is much scope for more production of any kind of agricultural produce. The sophistication level of the growers varies considerably. With respect to vegetables the fresh market growers are the most sophisticated whereas those that provide produce to the processors are at the lowest sophistication level.

The same applies to fruit growers but not to quite the same degree. Since fruit orchards vary in size from 10 acres to 700 acres, it is obvious that there are varying levels of sophistication.

There are no standards for fresh produce and this is a real need.

The three things needed to be done to improve agricultural output of fruit are:

1. Improve productivity per unit and lower unit costs.
2. Expand areas of production.
3. Improve quality standards and uniformity of production.

Government incentives are being investigated and a land-tax based on land usage and production is being considered. This should be done here and also credit should be given to orchard growers who invest in new orchards in as much as these investments have a 4 year dormant period. With respect to fresh fruits, Uruguay's main advantage is its location to the Brazilian market. The main disadvantage is the intense competition from Argentina. Our yields are lower and our costs are higher.

There should be a cohesive attack on exports in conjunction with the CALFORU loan. The CALFORU loan is providing the additional processing facilities needed and this loan could aid in providing some agricultural and marketing technical assistance. There is some question about the acceptance and efficacy of contracting for crops with growers. From past experience it appears that there is need for improvement of integrity at both ends of the contract.

Conclusion

There is much scope for increasing production and exports. Need processing outlets for second grade produce and streamlined export logistics. Need technical assistance at the "grass roots" level both in agriculture and marketing.

No. 2

May 29, 1975

Meeting with Mr. Jorge Saxel

Mr. Jaime Barceló and I met with Mr. Jorge Saxel, President of the National Plan for Citrus, which is under the Ministry of Agriculture and Fisheries.

Mr. Saxel described the areas of citrus growing being mostly in Salto and Paysandú with some minor acreage near Rivera. There are also some significant orchards near Montevideo growing lemons and Valencia oranges. Last year 833,000 cases (16,000 tons) of citrus were exported. This represents about 33% of the total crop of 50,000 tons. 90% of these exports originated from the Salto and Paysandú orchards. The major export market is Holland and some product is exported to France, Germany, England and Scandinavia.

They have received an IDB Loan of 3 million dollars plus local money equivalent to 2 million dollars and this totals 5 million dollar loan, which is being used to: (1) rehabilitate existing orchards and increase unit production; (2) establish new plantations to the extent of 1,000 hectares; (3) construct an additional packing plant in Salto in coordination with CALFORU.

He believes one of the primary needs of the citrus export industry is a cold store at the Montevideo port area. They are now using small stores in various places and this is inefficient, cumbersome and costly. The new store at the port area should be run by the citrus growers in some way and not the port authority or other organizations.

Three juice plants are in existance. One plant at Salto and one plant at Paysandú are merely juice extractors and their product is preserved by the addition of sulphur dioxide or sodium benzoate. All of the Paysandú product is exported mostly to France.

A third factory which exists in Salto is presently for sale. It is not associated with any growers and therefore has not been getting sufficient raw material and is not functioning successfully. This is a frozen concentrate plant. Saxel would like to have a feasibility study made regarding the possibility of purchasing this plant for a cooperative with the product to be exported. This could be a technical assistance project under this new Loan Agreement.

Another problem of the citrus industry is the lack of outlets for second quality fruit. There should be some solution to this problem such as marmelade processing, oil extraction, animal feed, etc.

Note: The waste skins and fiber from the existing extracting plants are not being utilized. This material when dehydrated makes excellent animal food and could be an important supplemental food for dairy farms during winter months. An economic study might be revealing but Saxel believes present production is too low.

May 29, 1975

Meeting with Ing. Alba of CALFORU

Mr. Jaime Barceló and I met with Ing. Alba who represents the CALFORU organization, a buying, packing and export service to fruit growers. They have already been meeting with processors to make arrangements for the disposal of non-perfect fruit. In general the growers are not happy with processors because of failure to keep promises. CALFORU is handling the cooperation, and in effect absorbing the shock, between growers and the processors. The concept is that one organization, CALFORU, will handle all matters pertaining to the producer, the producer's relationships with processors, and the export of the producer's fruit, which is presently oriented towards Brazil only. They claim to have all of the export expertise they need. The new plants are going to be located west and north-west of Montevideo.

With regard to expansion of field production they are still concerned with present production and believe much more fruit is available than has been marketed. An oversupply depresses profitability at the present time. The real need for the fruit industry is the packing and cold storage units which will be provided shortly.

Although Brazil is the main export target a second regional possibility is the Middle East. They do not plan to expand their activities to include vegetables. There are 10,000 vegetables growers in the area and he claims it would be too difficult a task to sort out the growers and determine which to include in the cooperatives. Mostly however, they are negative to this idea because they are unsure of their market. Although they are extremely sure of their ability to handle the export of fruits they would need marketing assistance to develop vegetable exports which he agrees would be a help to small and medium sized producers.

All of us met with a large group representing a fruit-growers association. They had conceived a rather grandiose project to establish new orchards on a large scale - up to 1,000 hectares - partially financed by a company known as INDUCCA located in Spain which would provide 2 million trees with financing over a 4 year period. There was much discussion on technical and political aspects of the project but it became evident that they had not really thought through the economic equations even on a rough preliminary basis. They felt they would need financing to the tune of 35 million dollars which would break down to about 70,000 dollars per hectare at the 500 hectare level and on the surface this is obviously far and above the economical limit for an agriculture venture. Although it is extremely doubtful if this project would be economically feasible based on the numbers stated, they agreed to work through their figures and advise us by Friday evening.

They did have some other ideas including a 500 hectare cooperative for the growing of tomatoes together with a processing plant. We provided them with data sheets and asked them to return these with the required information as soon as possible.

No. 4

May 23, 1975

Bennet and Brandon Food Processing Factory at Colón (Frigorífico)

The group making this visit comprise the following:

- Mr. Juan C. Crespi, AID
- Mr. Milton Torres, Frigorífico
- Miss Mónica Francois, Frigorífico
- Ing. José Maderiaga, Ministry of Industry
- Miss Beatriz Levrero, Ministry of Industry
- Mr. Daniel Iglesias, Frigorífico

This is a small plant equipped in rather primitive fashion. The operation is limited only to single canning. At the peak of the season about seven hundred people are employed making numerous products including: canned peaches, pears and apricots all packed in sweet syrup, various marmelades including stawberry, quince, pear and orange, canned vegetables including canned peas, corn, pimientos and peeled whole tomatoes. We did not attempt to list all of the products produced at this factory as the Frigorífico Company in total packs several hundred different items at its various factories.

The equipment is quite old and the processing depends largely on hand operations, even including hand labelling of individual cans.

It is evident that there is considerable scope for methods improvement and an investment in relatively inexpensive equipment such as preparation equipment and the more simple types of mechanical labellers could effect substantial economics.

Production is mostly for the local market but some packs are made for export. Fruit pulps packed in 5 kg. cans, 6 cans/wooden crate, are sold to Chile and Argentina.

The whole peeled tomatoes are packed from the Roma variety which has recently been introduced and is now established with the growers. With some slight quality improvements peeled tomatoes could be an important export item.

A large quantity of scrap production piled outside the factory was noted. There were many swollen cans due to bacterial action and the fault was attributed to be the quality of the cans themselves, some of which are imported from Argentina.

The company does not provide crop financing but sometimes does provide the seed. Farmers secure some financing through the Government bank. This processor pays his farmers within 30 to 90 days after receipt of the raw material. The factory's production is financed "anyway possible". They do receive some export credits from the Banco de la República. They claim to have good relations with growers and deal with both individuals and cooperatives.

With respect to expanded exports they believe they could export marmelades to England, but they need to improve their capacity and production facilities. They also believe they could export greater quantities of fruit pulps to Brazil but would need better preparation equipment and more processing equipment generally.

Although this factory is anything but modern the buildings are maintained in fair condition with reasonable sanitation.

In summary, export possibilities would be peeled tomatoes (a new item), marmelade to England (a new item), and increased volume of quince pulp and apple cubes.

An investment in the order of $50,000 to $100,000 would probably be required to increase capacity, efficiency and quality.

From an engineering survey made by a Mr. Basso and Engineer Myer, dated April 1975, the following points have been noted:

- the amount of raw material processed in 1974 was 1,846 tons comprised mostly of peaches, 654 tons; apples, 556 tons; corn, 226 tons; and pears, 219 tons. Only 48 tons of tomatoes were processed.

- This production resulted in exports to the extent of $219,000, the balance being sold in the domestic market. The raw material is supplied by approximately 100 growers.

- Water of top quality is obtained through the OSE system, but their reticulation system needs improvement and there is no system for the recuperation and recycling of water.

- The electrical and steam installations are adequate for the existing capacity of the plant. Cold storage facilities do not exist. Lavatories and toilets facilities for employees are inadequate. There is no laboratory and quality control is exercised from the central laboratory of the company at the other factory called "Sauce". There is a reasonable maintenance shop with good equipment

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Conclusion

With a modest investment of $50,000 to $100,000 this factory should be able to increase exports considerably. Would need tighter quality control and export marketing assistance.

No. 5

May 23, 1975

Sauce Factory (Frigorífico), located approximately 28 kilometers north of Montevideo

The same group that visited the Bennet and Brandon factory also visited this plant. Relative to Bennet and Brandon, this is a much larger plant and better equipped.

Here exists an adequate quality control laboratory supervised by a qualified food technologist which conducts all of the quality control tests for this plant as well as the Bennet & Brandon plant. Although better equipped than the other plant, including a rotary coil single effect evaporator, most of the operations from preparation through labelling and packing are accomplished by hand. There are numerous opportunities in all phases of the operation for efficiency improvements.

Nevertheless, a considerable export has already been achieved. A large quantity of apple and peach pulp packed in plastic bags of 40 kilos each has been packed for export to Brazil. The plastic bag in turn is placed inside an open top wooden crate. This is an expensive package as the wooden crate is non returnable and costs about 80 US cents. Next year, they plan to pack this product in 20 kilograms square cans. This will be hotfilled and self-sterilizing, eliminating the need for the current use of SO2 as a preservative. The fruit pulp can then be used for reprocessing into a greater variety of products including baby foods and the product would have better market acceptance particularly in Europe.

This plant manufactures vinegar and processes pickled cucumbers, onions, carrots and cauliflour. Much of the pickled product is exported to Brazil in a rather interesting fashion. A large heavy plastic container resembling an oversize milk can with a capacity of approximately 60 gallons is imported from Brazil, filled with the pickled products and exported back to Brazil.

The rotary coil evaporator can concentrate tomato paste to 32% and they claim to have produced paste of export quality with low mold count. (However they do not check for insect fragment count and therefore it is not known whether the tomato paste would meet U.S. standards in this respect).

Some fruit pulps are packed in 5 kg. cans and stack cooled by the old fashioned method of merely spraying the stacked cans with cold water. There is no other cooling equipment.

They claim to have good relations with their raw materials suppliers and believe that the production of fruits and vegetables is adequate to meet their requirements. They could increase their exports but they need the following:

1) Export financing;
2) A pulp cooler costing $20,000 to $30,000 which would increase volume 50% and improve quality considerably;
3) A fourteen meter long cooling tunnel to cool square cans for the European export at a cost of $15,000.

From the engineering report previously referred to (in the Bennet & Brandon Memo), the following information has been noted:

- In 1974, the total raw material processed amounted to 4,782 tons, comprising principally quince, 1,733 tons: apples, 1,039 tons; peaches, 731 tons; and sweet corn, 262 tons. Only 230 tons of tomatoes were processed.

- Exports amounted to $1,075,000 and domestic sales were $809,000.

- With respect to services the water is obtained from an adjacent reservoir. The water is filtered and chloronated before being used in the plant. There are some defects in the system which should be corrected. The electrical installation is considered to be inadequate and substantial improvements should be made. Some improvements are required to be made to the steam generation plant. There is no effective treatment of boiler water and there are some other technical deficiencies that should be corrected.

- The buildings themselves are in good condition and amenities for employees are adequate.

- At the height of the season, this plant employs about 500 workers and they seem to have a good technical and supervisory staff.

Conclusion

Here is a facility already earning over $1,000,000 in export income despite a number of obvious inefficiencies. To correct these inefficiencies, improve capacity and provide the necessary services improvements would probably require an investment in the order of $200,000 to $300,000. Significant improvements can be made by the installation of inexpensive labor saving devises. A comprehensive plan to upgrade the facilities should be prepared and implemented. Increased exports should result. Export marketing assistance would help to accelerate sales.

N° 6

May 29, 1975

Río Claro Factory

Mr. Quesada, President of the Company, Mr. Leiferman, and Ing. Torriglia, a consulting specialist in meat and fruit processing, together with Mr. Jaime Barceló and I, visited the Río Claro plant which is located about an hour's drive along the south-east coast, near the town of Atlántida.

Last year this small factory processed 2,500 tons of tomatoes and they are planning a crop of 20,000 tons for the coming season. Whether they will expand their plantings to this extent will depend upon the Governments prompt action to approve the import of equipment which was ordered last year. These negotiations for import permits have been continuing since last September but still have not been finalized.

The seedlings must be planted by the end of June and available for transplant during the period August-September. The harvest period begins about the first week of January and continues through March. In the event of exceptionally good weather, the harvest can be extended through part of April.

They deal with 500 farmers who put about 2½ to 3 hectares each in tomato crop. Irrigation is primitive and used only if it is needed because of a long drought. They operate under a contract and seed is provided by the company. Yields have not been very good - at 15 tons per hectare - but they expect to build this rapidly to the 30 ton level. These farms are operated on a family basis and this is encouraged as is maximized the use of family resources.

They pay the equivalent of $ 80 dollars per metric ton for tomatoes, provide field supervision, provide seed and sometimes fertilizers, insecticides, etc. The growers obtain some credits from the Banco de la República. They admit their quality could be better and this is being worked on. Their farmers are reliable as the unreliable ones have been weeded out over the past few years. The company has a good reputation with growers particularly because they pay on time. Growers are not very well mechanized.

Duties are high for imported equipment, however, a farmer owning common equipment such as a tractor will rent it to others for the heavy work and many of the farmers will use animals for light field work.

Sales are made through wholesalers and up to now all of the output has been sold on a domestic market. However, with the new equipment, they plan to export 2,000 tons per year of 32% tomato paste. Their target markets are Carribean countries and northern South American countries particularly Venezuela. They are also considering the possibility of tomato paste for England.

The tonnage of tomatoes processed has increased dramatically in the last two years. In 1970 they produced 487 tons, 1971 - 258 tons, 1972 - 479 tons, 1973 - 2,451 tons, 1974 - 2,523 tons. The reason given for the big increase from 1972 to 1973 was that they decided to go ahead with greater vigour.

Fruit is handled in 22 Kg. boxes delivered to the factory by truck. The growers are scattered over a large area to a maximum radius of 25 miles.

They were very concerned with Government red tape and all kinds of approvals needed to get import permits for vital equipment. They claim the reason for the long delays can mostly be attributed to poorly qualified people in positions of responsibility and lack of decision because of fear of taking responsibility. They started negotiation in September last year for two lines of equipment to make tomato paste and fruit pulps and fruit products but have not yet received the necessary approvals.

90% of their past production has been Pulpa de Tomate which is a crude product containing seeds and skins of the tomatoes and which is packed in various sizes of glass bottles.

Last year they packed 200,000 cans of peeled whole tomatoes but they have experienced a very serious problem because of a failure of the can. They claim the can company, Compania de Envases, used the wrong lacquer for the internal coating with resulting failures amounting to a $50,000 dollar loss to the company.

The can company is unwilling to listen to their claim. Even more important, possibly, the health department of Food and Beverage Inspection in Montevideo blames the factory for this problem and they are threatening fines and confiscation of the product. No final action has yet been determined, but this is an interesting point and we would certainly like to know what the final outcome turns out to be. If the canner can prove the cause of the failure, and this is a relatively simple thing to determine, then any ethical can company would compensate the processor. If this is not the case in Uruguay, it leaves the processor without any recourse and he is accepting the full product risk and accepting full responsibility for any failures on the part of the can manufacturer. This risk is aggravated by the lack of testing machines at the can plants.

Pulpa de Tomate is a simple product. The pulp is heated to 90°C filled into pre-heated glass jars, capped, and sterilized at 85°C for 36 minutes on a conveyor pasteurizer. It is then stored until labelled. All labelling is done by hand.

Some very simple machines could increase the efficiency of this operation considerably. The 1½ Kg. size is now packed 6 bottles into a very light paper carton. Any degree of rough handling could result in excessive damage. They claim no problem thus far and they have been using this method of packing for the past two months. Other products are packed in returnable wooden trays or returnable wooden crates. They claim the use of corrugated cartons was out of the question with respect to both price and quality. Next year they plan to pack tomato paste in 10 pound round cans, 6 cases per carton box. Alternatively, they may be able to import cardboard boxes from Argentina under bond for re-export.

The new processing line will handle 200 tons of tomatoes in 24 hours and contains a continuous double effect evaporator and all ancilliary equipment. The second line which has been purchased is a complete fruit-pulp concentrate and jam line which will be able to handle 50 tons of fruit per day. They believe this will help them to maximize plant utilization as some fruits, principally quince, are harvested after the tomato season ends. They have already made contacts with nearby orchards and expect to be able to utilize 2nd grade fruits from these orchards.

They obtain their employees from nearby farms and communities. They have experienced no labor problems and they repeated that they have a good reputation with both growers and employees. Their new building program starts next week in anticipation that they will ultimately receive the equipment now on order. A new boiler is under construction to replace the existing obsolete unit.

They stated their additional needs as being (1) a good resident technical supervisor, and (2) guidance in export marketing.

This company is taking a major step and is converting an extremely primitive operation to one which should be as modern as any in Uruguay. This is a courageous group. Since Ing. Torriglia is planning to visit the United States in the near future, I suggested he write to Mr. Raymond Good, President of the H.J. Heinz Company to seek permission to visit some Heinz plants in California. He was particularly interested in better methods of raw material handling, which I described to him, but which he could see in actual operation at those factories.

Summary

An outstanding example of what can be done to boost exports! Need technical and marketing help. This could be a real winner.

No. 7

May 30, 1975

CONAPROLE

Messrs. Barceló, Jones, Ricardo Inciarte and I, visited the CONAPROLE milk processing plant which is one of ten plants owned and operated by this cooperative. The company employs in total approximately 2,000 employees and there are 230 milk producers in the co-op.

This plant is all that a dairy plant should be with clean buildings, sparkling clean stainless steel equipment, and a variety of products being made including pasteurized milk, cream, butter, icecream and dulce de leche.

This latter item is a unique product to Uruguay and Argentina. It is not now exported but they believe it could be. The product contains 70% total solids, has a high sugar content, some fat, is tasty and nutritious. The product particularly appeals to children. The product as now made has about a 3 month shelf-life. After this time it is inclined to crystalize. They believe however, that this characteristic can be overcome by special processing methods. This could be a significant export item to Brazil, but would require a good marketing effort (could this be provided under the technical assistance part of our loan program).

Their major problem is one of volume and quality of supply. The quality of the milk received with respect to bacterial content is extremely poor. The plate count of incoming milk is around 13 to 16 million per c.c. but this is controlled, so they claim, to 50 thousand after pasteurization.

Here is a progressive company with significant organizational strengths and first class facilities. In addition to the existing plants they have purchased a new milk dehydrating plant to produce powdered milk with a capacity of 200,000 litres of raw milk per day. 80% of this product is targeted for export to South American countries. The investment will be $1.2 million which is financed from their own resources and the new plant should be in operation two years from now. The new plant will probably be located in the Florida area.

They believe in addition to the dry milk powder that significant export opportunities exist for cheese to Argentina, Mexico and Brazil, for butter oil (anhydrous butter) to Mexico, casein, etc.

Here is an outstanding opportunity to prepare for volume exports by correcting these serious supply problems. Building more factories or expanding facilities would be premature unless the quantity and quality of the milk can be considerably improved.

Idea - organize training centers to instruct the 2,300 producers in the basics of milk production, herd management, very elementary bacteriology, etc.

Another idea - would centralized mechanized milking stations each capable of handling say 200 cows, be a practical solution to eliminate the many small milk sheds which contribute to the high bacteria count? A pilot operation might be feasible and if successful could solve the quality problem by the use of modern techniques. This would be preferable to a difficult educational program for 2,300 producers.

No. 8

May 30, 1975

CONAPROLE - Cheese Factory at Villa Rodriguez

Messrs. Jones, Inciarte and I continued to Villa Rodriguez where we were met by Ing. García, manager of this cheese plant.

It is a very modern plant indeed and seems to have been designed as a show-place. It is equipped with modern stainless steel machinery from Finland, Sweden, Denmark, and some locally made. The factory has a capacity of 260,000 liters daily: 100,000 liters are for cheese, 80,000 for casein and the other 80,000 are shipped as whole milk to Montevideo for packing and distribution as pasteurized milk.

The plant operates at full capacity only four months of the year. If the weather is very favorable, they may get a five-month operation, but normally the capacity operations are during the months of September, October, November and December. The cheese plant operates only seven months of the year, from October through April. It was not operating the day we arrived but they were planning to have a run the following day.

Again the quantity and quality of the raw material was stated as being the limiting factor. All of the cheese is exported and without the milk supply limitation 5 more months of cheese production could take place annually, resulting at lease in a 70% increase in output. They are now manufacturing Sbrinz cheese which they claim is the only kind of cheese possible to be made from this high bacteria milk. With better quality milk, cheese production could be diversified into other types. For this cheese they presently receive a price of $1.60 dollars per kilogram CIF Buenos Aires (and I presume the same price is obtained for that which is exported to Brazil).

Note: The Government pays an incentive of 30% of the FOB price to the exporter. These incentives apply to all non-traditional exports and range from 4 % up to 35%. In this instance the Government incentive apparently is the profit because price and production costs are apparently about the same.

If the milk production curve could be lifted to a higher level and the low point of May, June and July flattened out somewhat, the export of dairy products could take a big leap forward. This is one of the best opportunities I have seen in Uruguay for a rapid development of exports. The traditional May, June, July, deficit is not expected this year because milk prices are higher as been prices have declined. The base amount that must be supplied to Montevideo is 500,000 liters a day. After this base supply has been met other products can be manufactured from the remaining milk. The small size of farms limits economic possibilities for improvements but nevertheless a very serious effort to improve herd management and pasture management would pay real dividends.

Refer to the report by Dr. Zehren made in 1971.

Note: On the way to this cheese factory - a drive of 8 Kilometers -

I had a good chance to look at the countryside. Shortly after leaving the environs of Montevideo, many orchards were in evidence stretching to the horizon on both sides of the road. These were interspersed with various vegetable crops and also numerous vineyards. At about 50 to 60 kilometers from the city of Montevideo the orchards disappeared and became mostly grazing land as we approached the cheese factory. The impression of this very small bit of geography was very favorable and it is evident that this should be a very productive agricultural region.

No. 9

May 28, 1975

Visit to Standard Brands - Mr. Bartó

Jaime Barceló and I met with Mr. Bartó and his production manager who showed us through their plant. This is a typical Standard Brands South American installation. The factory is cluttered as it grew like Topsy but it is in good shape with everything clean and in working order.

Bartó claimed that some sugar is still imported and all of his gelatine is imported. The yeast is produced locally with only a small amount of culture material being imported from the United States periodically.

He is satisfied with his packaging material and they use a large quantity of small paper cartons and plastic envelopes, etc. They sell through wholesalers and supermarkets. In the latter category there are 16 only. 60% of his sales are in Montevideo and they handle sales through distributors in the Interior. Not many export opportunities could be identified but Bartó thought that possibly they might export certain Royal products to Standard Brands in Brazil.

The factory is operating close to capacity now.

He is going to invest about 100,000 dollars in additional equipment. They already have a small amount of land for expansion. Most of the equipment will come from Argentina, Brazil and the U.S.A plus locally manufactured items. They are presently producing almost the full line of Royal products and Fleischman's yeast. They do not produce vinegar which is a fairly standard item with this company in other countries. Their products are all of usual Standard Brand's quality and have high acceptance in this market.

Conclusion

Not much scope for development of exports.

No. 10

May 29, 1975

Molino Puritas

Mr. Barceló and I, met with Mr. Luis Fabini and his three sons who own and operate this company. Their principal production is a line of grain products including avena, completo Puritas, harinas de arroz and others, polenta, copos de maíz, rice and fainá. Other products include some dry soups and dry refrescos.

Avena, packed in 450 gram consumer size utilizing paper and pliofilm packaging, has been exported to Brazil. Perú, Venezuela and Ecuador are on their export schedule for this year. There has been a shortage of oats and they are trying to improve the situation by giving technical assistance to selected oat growers to improve quality, quantity and price. They contract with the grower at a basic price and adjust at the time of delivery. Because of a shortage of raw material no product was exported in 1974. However, this year they are planning exports in the order of 100 to 150 tons per month. Other exports to Brazil are cleaned barley in 50 kilograms sacks, and cleaned rye grass. Last year 60 tons of these products were exported and they expect to reach 250 tons by the end of this year.

They have an excellent well equipped but small factory in "A-1" condition. They make all of their own packages and have a fully equipped printing plant. Each aspect of this little operation gives every indication of agressive and able management. They feel they are now in a good position to enhance exports particularly as two years ago they had to import oats from Argentina to supplement a low local supply. They now anticipate an adequate supply of raw material and also they have a favorable rate of exchange with respect to Argentina.

Their principal need is for one new pliofilm packaging machine costing about $25,000. With this machine they could improve both volume and quality and they believe they could build exports to about $45,000 per month (this seems to be an ambitious number but this is what they stated).

This is the kind of export that should be encouraged as it contains little if any imported components - no cans are used. The advantages are: supply of local raw materials, a price advantage compared with Argentina, a good quality product.

N° 11

May 20, 1975

Sudy & Company

Mr. Ed Lijewski and I, met this morning with Dr. Egon Sudy at breakfast to review with him his proposed project to build a plant to dehydrate vegetables particularly onions and carrots.

He has researched the project in depth in all aspects. He was able to answer instantly all penetrating questions with respect to product specification for various target export markets and technical questions regarding the growing and processing of the vegetables.

Since Dr. Sudy promised to give us a memorandum describing the project this note will be relatively brief.

With respect to market, he has already obtained a cooperation agreement with a firm in England for all production which is planned to be $ 500,000 in export value the first year comprising entirely dehydrated onions, with exports building up to a level of 2 to 5 million dollars annually.

They have researched the varieties of onions and feel reasonably certain they will get onions of the proper quality for dehydration - a high solids variety.

The drying tunnels they would install would not be the direct heat type so they would not encounter the problem of sulfur contamination or contamination by other products of combustion of the fuel.

They would pack the product in 2 plastic bags which in turn would be shipped in corrugated cartons.

They would utilize small farmers with 2 to 3 hectares each in onions and carrots. They would provide the seeds and agree on a contract with the farmer for a fixed price together with an incentive to share in the export profits. They plan to use about 200 farmers to provide the full acreage and they would contract for the full output.

The investment is estimated at $ 200,000.

This is an excellent example of entrepreneurship and new venture organization.

SUMMARY

A short, synthetic review of a project regarding dehydration of vegetables.

Sudy & Cia. S. A. is an Uruguayan, 15 years old manufacturing company. Its principal activity is in the field of manufacture, distribution and sale of synthetic detergents, having over 50% market share of these products. The company employs about 200 people and has an annual sales volume of about two million dollars worth of Uruguayan pesos.

About two years ago the company decided to diversify its scope of activity and after a long selecting process established that vegetables dehydration would fullfill the targeted main objectives, namely totally local raw material supply in the form of agricultural produce and the finished goods to be exported almost one hundred percent.

A years long market survey, carried out by the company with its own finantial and human resources, revealed a good and receptive market in the European Common Market area. A manufacturers agent has been designated, the same being an old established and specialized german-dutch firm. Contracts have been signed with substantial quantities of dehydrated onion and carrot as a starting point and purchases in accordance with manufacturing capabilities and volume of output, to be increased gradually in three subsequent steps.

Simultaneously the company carried out a pilot plant size operation, in order to train personnel and to design equipment to quality and production requirements. This stage has been completed, again without any outside technical or finantial assistance. On the agricultural side research has been done and is still on its way, to find the most suitable onion seed, with highest solid content, adequate taste and pungency and highest per acre yield. No previous experience was available in the country, so six different american and european seeds are being tested in field conditions (about 250 hectares) with the company's agricultural engineers and outside government and international expert's assistance. Transplanting seedlings method is used.

Seed is distributed to small farmers, in the Montevideo area within 100 km distance. Individual farmers participate in the programme with one to three hectareas. The contract assures the farmer that the entire crop will be purchaed at a base price, but after export, another premium will be paid to them in accordance with export profit. Such an incentive, which could increase the price received by the farmer to twice the base price, is designed to overcome initial resistance and fear of working with unknown seeds. Cooperative methods of making available to groups of farmers modern planting and harvesting equipment is part of the project.

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A set of figures are enclosed representing a resumé of a eight years proyection, three stage investment to increase plant capacity and the corresponding sales profit and loan amortization figures.

At present, the finantial resources for the plant equipment and buildings for stage one, are being sought and are not available so far.

SOLICITUD PARA SER TENIDO EN CUENTA EN UN CREDITO EVENTUAL DE AID A LAS AGRO INDUSTRIAS.

SUDY & CIA. S.A.
FABRICA DE PRODUCTOS QUIMICOS

DATOS DE LA EMPRESA

A. EMPRESA

SUDY & CIA. S. A.
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Fábrica de productos químicos
Planta : Av. Racine 3000 Carrasco, Oficinas : Buenos Aires 519 - 985240
Capital en proceso de autorización 500 millones
" suscrito 250 millones
" integrado 78 millones

B. REQUERIMIENTOS PREVISTOS

Razón para solicitar crédito :

Ampliación por nueva producción y diversificación.

Requerimiento de Financiación total : En tres etapas, ver planilla adjunta.

C. DATOS TECNICO ECONOMICOS PREVISTOS

Capacidad Propuesta del Proyecto: Valor medio anual US$ 4.386.000.-
Volúmen medio anual : 2.900 ton.

Empleados adicionales requeridos : 100

Ventas previstas - exportaciones : 100%

Principales mercados previstos : Mercado Común Europeo, existe contrato al respecto.

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	TOTAL
Dehydrated Vegetables Exports	290	1.100	2.710	3.110	3.510	3.710	3.710	3.710	3.710	3.710	29.270(1)
Natura. Vegetables Processed	2.200	8.100	19.200	21.000	23.700	25.100	25.100	25.100	25.100	25.100	199.700(1)
between	100	370	880	960	1.080	1.140	1.140	1.140	1.140	1.140	
Planted Has.											
and	120	440	1.050	1.150	1.290	1.370	1.370	1.370	1.370	1.370	
Real FOB value (US$ 1.000)	433	1.648	4.061	4.660	5.259	5.559	5.559	5.559	5.559	5.559	43.856
F.O.B. VALUE DETAILS (thousands of dollars)											
Genera. Cost	484	1.791	4.123	4.316	4.868	5.143	5.143	5.143	5.142	5.141	41.294
(2) Amortization Charge	9	34	68	77	86	91	91	78	40		574
(2) Financial Cost Charge	6	23	44	49	55	57	57	49	25		365
Net Profits	86	376	1.247	1.849	2.091	2.214	2.214	2.235	2.298	2.364	16.974
FOB Value Equivalent	585	2.224	5.482	6.291	7.100	7.505	7.505	7.505	7.505	7.505	59.207
INVESTMENT LOANS (FINANTIAL PLAN)											
Program I	85	95	84	70	56	39	21				
Program II		234	262	230	194	153	108	57			
Program III			255	286	251	211	167	118	62		
Subtotals of debts	85	329	601	586	501	403	296	175	62		
12% Interest	10	40	73	70	59	50	35	21	7		
Subtotals	95	369	674	656	560	453	331	196	69		
Less: Amortization											
Program I		23	24	23	23	23	23				
Program II			64	63	64	64	64	64			
Program III				69	70	70	69	70	69		
Balance	95	346	586	501	403	296	175	62	0		

(1) metric tons
(2) re: Investment loan

N° 12

May 23, 1975

Can-making Plant (Frigorífico)

The same group that visited the frigorífico food processing factories also visited a can-making plant which the company has recently purchased. This was a bankrupt company and the plant has not operated for the past five years. There are five lines comprising mostly Italian made equipment with some rebuilt American equipment interspersed. They expect three of the lines operating at full speed will produce a total of 500 cans per minute. One line producing a six pound can will operate at 100 cans per minute and the 5 gallon square can line will produce 5,000 cans in 8 hours. It is the output from this square can line that "Sauce" plan to use for packing fruit pulps next year.

It is important to note there are no automatic can testers. This means that a higher number of defective cans than normal can be anticipated.

There is a completely equipped lithographing plant and they plan to do all of their own tin plate lithography and lacquering.

They plan to use tin plate from Canada and the United States and use Dewey and Almy imported compound.

They claim to be overhauling each piece of equipment completely and some have already been completed. However, a coat of paint can cover many deficiencies and give the appearance of a good machine. It is a task of considerable magnitude to overhaul all this equipment and do a good job and I would anticipate many and possibly some serious startup difficulties. They will need to hire a team of good technicians and train operators. To minimize start-up problems and costly mistakes it might be advisable for him to hire on a project basis some good can making men from such countries as Mexico, Venezuela, etc.

N° 13

May 30, 1975

Lostorto Industrial y Comercial S.A.

Can Manufacturing Plant

Mr. Barceló and I, visited this plant and were shown through it by the General Manager, Mr. E. Mariani and later were met by the President, Mr. T. Lostorto.

The plant comprises six lines which makes the sanitary can sizes commonly used here and also makes cans for edible oils, biscuits and crackers and lubricants. All of the equipment is very old, slow and organized on a departamental layout in an old fashioned manner. Much handwork is involved, there are no testers. They make a large number of crown caps.

Production is at a low point now, as canning is practically ceased and soft drink and beer consumption has declined.

They use Canadian tinplate (which is a plus). It is a good plant, probably are reliable people, but quality will suffer resulting from equipment age and lack of testers.

They are now looking for good used or rebuilt equipment to replace their old worn out line. I suggested that they should contact the Goetz Machine Company in Australia as a possible source.

Note: There is a third can plant but since the two I visited do not have automatic can testers I presume the third would not have them either. This is a serious although not vital deficiency. During the course of the day on a high speed line an automatic can tester might remove 100 or so defective cans which never are delivered to the processor. These cans are defective in that either the side seam or the double seam has been improperly made or the tinplate contains a pin-hole. Since cans that should have been rejected will now be delivered to the processor who has no means of eliminating them, they will be filled with product with resulting spoilage. Not only this is costly but it is damaging to the reputation of the processor, the brand and the industry overall. Can testers are expensive and undoubtedly this is the reason they are not used.

N° 14

May 28, 1975

Meeting with Mr. Einoder

Mr. Horwitz and Mr. Ed Lijewski met with Mr. Einoder and I at my hotel for lunch.

Mr. Einoder is an entrepreneural type who has developed a list of 16 possible agro-industrial projects. These are listed below:

1. Fruit and vegetable canning.
2. Dehydration of fruits and vegetables.
3. Tomato paste.
4. Pickles and sauces.
5. Growing of mushrooms.
6. Pork-sausage processing.
7. Organotherapic products (based on packing-plant by-products).
8. Demountable wooden boxes, for export of citrus.
9. Condensed milk and dulce de leche.
10. Cold storage and fruit packing.
11. Concentrated grape-juice (for liquor).
12. Soy bean (production development/oil factory).
13. Textile.
14. Cooked meat agcoop plant.
15. Tripe processing plant.
16. Vacuum packing.

Mr. Einoder agreed to send his engineer to see us to elaborate on certain of the more important projects.

N° 15

May 23, 1975

Visit to the Supermercado Tienda Inglesa

This is considered to be the largest and best supermarket in Uruguay. It is actually a small department store with only about 25% of the floor space devoted to a grocery section.

Since there was almost a complete absence of imported food products, the number of items available for sale was considerably less than might be expected. The presentation of the locally produced products varied from very poor to normal. Edible oils packed in glass bottles are a good example of poor packaging and presentation. The Royal products and Knorr Suiza products are examples of good packaging and presentation. It is evident there is much to be desired with regard to quality of packaging and attention to this important factor could pay dividends for the industry as a whole.

There was a rather impressive display of fresh fruits and vegetables with respect to variety and quality. Compared to fresh products the manufactured items seem to be disproportionally expensive.

N° 16

May 30, 1975

Mercado Modelo

Early this morning, with Delfín Pérez, the chauffeur, I visited the Mercado, to gain an impression of the variety and quality and general availability of fruits and vegetables. The market is in a large building enclosing an area of approximately 100,000 square feet - by rough estimate. The building is shabby, unpainted, rusting with numerous broken windows. Every form of conveyance was in evidence from horse-drawn two-wheel carts to large modern trucks. The drive-ways and parking areas were littered with garbage and manure and the floor of the building was littered with garbage and debris. There was much activity and the whole operation was typical of mercados in many other Central and South American countries.

A good variety of fruits, vegetables and grains was being handled. Of course, the quality varied considerably from fair to excellent. But the overall impression was of an abundant and good quality raw material supply. Most impressive with respect to quality and size were tomatoes which varied from good to excellent. There were many carrots of very good quality but on the other hand some green peas in pods would be barely saleable. Large quantities of apples were available of all qualities but some were well graded, individually wrapped and attractively packed. Citrus also appeared to be of good to excellent quality. The principal produce seen were: citrus, apples, sweet corn, zuccini, tomatoes, onions, coliflour, lettuce, leeks, carrots, garlic, potatoes, sweet peppers, green peas, parsnips, acelga, and some late season pears. There were also fresh eggs in crates, grains of all kinds in 50 kilo bags and sweet potatoes.

Outside the main building are a number of smaller shops. One that was visited was a wholesaler of cheeses and other dairy products. This shop, which should have been one of the most sanitary of places, was actually the dirtiest place I have seen anywhere. The cheeses were stored all over the place on various filthy shelves and even on boards on the floor. The cheeses were covered with flies and the whole effect was extremely unappetising so that it was very difficult to nibble on the sample of cheese that was offered to us. I had to admit, however, that the cheese did taste good, even though the surroundings were so repulsive.

The Department of Health and Sanitation would be well advised to get the entire Market and these kind of shops cleaned up.

No. 17

June 4, 1975

L. A. E. - Ing. Alfredo Dovat

Mr. Juan Crespi and I visited the LAE laboratories and were met by the Director, Ing. Alfredo Dovat. LAE has developed export standards for a wide rante of products and certificates of quality are issued to exporters by this laboratory. They also control the importation of special items or materials needed to fabricate export products.

The laboratories are very well equipped and are maintained in immaculate condition. There are laboratories for chemical and bacteriological examinations, as well as special purpose labs for the examination of fish, leather and dairy products. They seem to be well staffed and we were introduced to a number of the technicians and department heads.

At our request they had purchased a representative number of products of different brands at random from retail stores in Montevideo. These products were opened and examined organoliptically with the following results:

Canned Peaches in Syrup	- fair - peaches irregular in shape - trimming cuts - too brown in color - syrup was satisfactory.
Canned Crushed Corn	- poor product - most unappetizing appearance.
Canned Green Beans	- poor - earthy odor - whole beans, soft in texture.
Canned Green Peas	- poor product - many hard peas - the liquor was grey and turbid.
Tomato Ketchup	- 14 oz. bottle - with crown cap covered with a dust cap. Product was poor and brown in color - there was oxidized product in the neck of bottle - many specs and lumps - one hair.
Marmalade in 8 oz. jars	- the product was fair - but dark color and overcooked scorched flavor - the package is poor with dirty, partially rusted cap and oxidized product under the rim.

We were very disappointed with the quality of products being sold in the domestic market. LAE presently has no jurisdiction over the domestic market, but Ing. Dovat expects to be given this responsibility in the near future. The domestic market cannot be developed with products of this quality.

LAE is planning to expand their facilities and Ing. Dovat is making a trip to the U.S. within the next two or three months for the purpose of inspecting various laboratories there. I suggested that he should visit the Heinz Co. laboratories in Pittsburgh, Pennsylvania, and told him to whom he should write.

ANNEX A

AGRI-BUSINESS OPPORTUNITIES

ANNEX A

DESCRIPTION	Project Status				Investment			Investment Lead Time				Export Lead Time			COMMENTS
	Plan. Proposal	Pre-feasibility	Feasibility	Submitted to U.S.A.	Dollars (000)	Pesos Expressed in dollars (000)	Total Expressed in dollars (000)	To 1 Year	1-2 Years	2-3 Years	3-5 Years	1-2 Years	2-4 Years	5 Plus Years	
1. Cooperative located in Bella Union. Vegetable grading, packing and canning.	x				300	450	750		x				x		Potential for increased vegetable production in this area is good. Due to longer growing season off-season exports have possibilities. Will need marking assistance
2. Group from San Javier interested in processing vegetables	x				350	400	750		x				x		Not now a major vegetable area. Has potential in soil and climate. Initial markets will be cities nearby. some export possibilities to Argentina.
3. Company in Tacuarembo Vegetable grading and Packing.	x				400	400	800		x				x		Local markets available for table vegetables. Melons could be expanded for export.

AGRI-BUSINESS OPPORTUNITIES

DESCRIPTION	Project Status				Investment			Investment Lead Time				Export Lead Time			COMMENTS
	Plan, Proposal	Pre-feasibility	Feasibility	Submitted to U.S.	Dollars (000)	Pesos Expressed in dollars (000)	Total Expressed in dollars (000)	To 1 Year	1-2 Years	2-3 Years	3-5 Years	1-2 Years	2-4 Years	5 Plus Years	
4. Company in Salto Potato dehydrading plant.				x	570	286	856		x				x		Potatoes have relative short harvest season and inadequate cold storage. Plant could sell for local consumption during off-season. Export possibility to Brazil for dehydrated potatoes.
5. Sudy y Cia S.A. in Canelones - dehydrating vegetables, principally onions for export.				x	100	315	415		x				x		Located in major production area. Near export port of Montevideo. Now exporting to assured market. Project well researched
6. Company SAIM located in Montevideo - Vegetable oil extracting plant.				x	1000	1800	2800		x				x		Upgrading equipment for oil extraction - Soybeans, Peanuts and Sunflower.
7. National Citrus Commission - Montevideo.	x				400	500	900		x				x		To provide adequate citrus cold storage at the port of Montevideo. Cooperative operated.

AGRI-BUSINESS OPPORTUNITIES

DESCRIPTION	Project Status				Investment			Investment Lead Time				Export Lead Time			COMMENTS
	Plan. Proposal	Pre-feasibility	Feasibility	Submitted to U.S.A.	Dollars (000)	Pesos Expressed in dollars (000)	Total Expressed in dollars (000)	To 1 Year	1-2 Years	2-3 Years	3-5 Years	1-2 Years	2-4 Years	5 Plus Years	
8. Cooperative at San Ramon - Fruit and Vegetable processing		x			1750	1250	3000		x				x		Manufacture of tomato paste Apple pulp and grape juice.
9. Cooperative CALFORU Located in Canelones - canning plant	x				100	100	200		x				x		Now operates 2 cold storage facilities. Installing 2 packing lines and doubling present cold storage. Want to process 2nd grade and surplus production.
10. Company Ponny in Salto - Citrus processing.		x			200	100	300		x				x		Citrus juice extracting and canning equipment for export.
11. Cooperative located in Colonia Berreta, Fruit and Vegetable processing		x			300	200	500		x				x		Preparation and cooking line for fruits and vegetables.
12. Company ICUSA in Soriano, Fruit and vegetable canning.				x	1735	1540	3275		x				x		Preparation and cooking line for fruits and vegetables, including pulps and concentrates. Proposal includes auxuallary equipment such as cans which may not be feasible.

AGRI-BUSINESS OPPORTUNITIES

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	Plan. Proposal	Pre-feasibility	Feasibility	Submitted to U.S.A.	Dollars (000)	Pesos Expressed in dollars (000)	Total Expressed in dollars (000)	To 1 Year	1-2 Years	2-3 Years	3-5 Years	1-2 Years	2-4 Years	5 Plus Years	
13. Company MASSARO in Canelones, fruit and vegetable processing.				x	700	1000	1700		x				x		Processing 2nd grade apples, Peaches, Quince, and Pears. Packing, Pulp and cold Storage 70,000 box capacity.
14. Company CALCAR in Carmelo, Dairy processing Cheese.		x			200	100	300		x				x		Has contract to export cheese to Brazil, Needs new equipment Used technical assistance from Brazil.
15. Company CAPROLET in Tarariras. Cheese plant.		x			320	100	420		x				x		Same as above.
16. Company Industrias Lacteas Fray Bentos in Fray Bentos. Cheese manufacture.		x			230	175	405		x				x		Same as above.
17. Company PILI located in Paysandu, Cheese plant				x	120	-	120		x				x		Process commercial grade milk into cheese and casein.

AGRI-BUSINESS OPPORTUNITIES

DESCRIPTION	Project Status				Investment			Investment Lead Time				Export Lead Time			COMMENTS
	Plan. Proposal	Pre-feasibility	Feasibility	Submitted to U.S.A.	Dollars (000)	Pesos Expressed in dollars (000)	Total Expressed in dollars (000)	To 1 Year	1-2 Years	2-3 Years	3-5 Years	1-2 Years	2-4 Years	5 Plus Years	
18. Cooperative CONAPROLE located in Florida. Dairy processing				x	1000	580	1580		x				x		Process excess production into powdered milk. Largest Co-op in Uruguay.
19. Cooperative located in Artigas. Process fresh milk and cheese.		x			225	275	500		x				x		Area needs quality fresh milk. Cheese exports to Brazil.
20. Cooperative located in Quebracho. Process fresh milk and cheese.		x			300	200	500		x				x		Same as above.
21. Community of Fray Bentos. Fresh milk and cheese.		x			300	200	500		x				x		Same as above.
22. Cooperative located in Tacaurembo, dairy processing.		x			300	200	500		x				x		Process some fresh milk for local consumption, but mostly cheese for Brazil.
23. Company COLEME in Melo. Dairy processing.		x			200	100	300		x				x		Old plant, now exports cheese to Brazil. Needs new equipment.

AGRI-BUSINESS OPPORTUNITIES

DESCRIPTION	Project Status				Investment			Investment Lead Time				Export Lead Time			COMMENTS
	Plan. Proposal	Pre-feasibility	Feasibility	Submitted to U.S.A.	Dollars (000)	Pesos Expressed in dollars (000)	Total Expressed in dollars (000)	To 1 Year	1-2 Years	2-3 Years	3-5 Years	1-2 Years	2-4 Years	5 Plus Years	
24. Private company ILSA Dairy processing.				x	515	1185	1700		x				x		Cheese and casein manufacture location to be determined.
25. Company CAMPICHUELO, S.A. in Salto, Box manufacture.				x	100	-	100		x				x		Manufacture wooden field and export boxes principally for citrus.
26. Company FUCCARO in Paysandu. Box manufacture	x				150	150	300		x				x		Same as above.
27. Company LOSTORTO in Montevideo, can fabricators.		x			100	100	200		x				x		Replacing obselete machinery.
28. Company located in Rio Negro. Livestock Feed.				x	500	700	1200		x				x		Alfalfa dehydration plant for poultry feeds. Local demand good.
29. Company LETAMENDIA in Paysandu, poultry processors.		x			400	600	1000		x				x		New enterprise to process eggs, specifically powdered eggs.

AGRI-BUSINESS OPPORTUNITIES

DESCRIPTION	Project Status: Plan. Proposal	Project Status: Pre-feasibility	Project Status: Feasibility	Project Status: Submitted to U.S.A.	Investment: Dollars (000)	Investment: Pesos Expressed in dollars (000)	Investment: Total Expressed in dollars (000)	Investment Lead Time: To 1 Year	Investment Lead Time: 1-2 Years	Investment Lead Time: 2-3 Years	Investment Lead Time: 3-5 Years	Export Lead Time: 1-2 Years	Export Lead Time: 2-4 Years	Export Lead Time: 5 Plus Years	COMMENTS
30. Company MOLINO PURITOS Dry Foodstuffs located in Montevideo.		x			25	~~25~~	25		x			x			New packaging machine for oatmeal and similar products--for consumer packs.
31. Company SAUCE located in Canelones. Fruit and vegetable processors.		x			30	15	45	x				x			Pulp cooler and cooling tunnel to increase export capacity and quality.
32. Company SAUCE located in Canelones. Fruit and vegetable processors.		x			250	50	300		x				x		Replace obselete machinery to increase capacity and efficienc
33. Company Bennet and Brandon, fruit and vegetable processors		x			80	20	100		x				x		Same as above.
34. Cooperative CONEPROLE Dairy processors.	x				25		25	x					x		Marketing assistance to help develop "Dulce de Leche" as an export item for Brazil.

AGRI-BUSINESS OPPORTUNITIES

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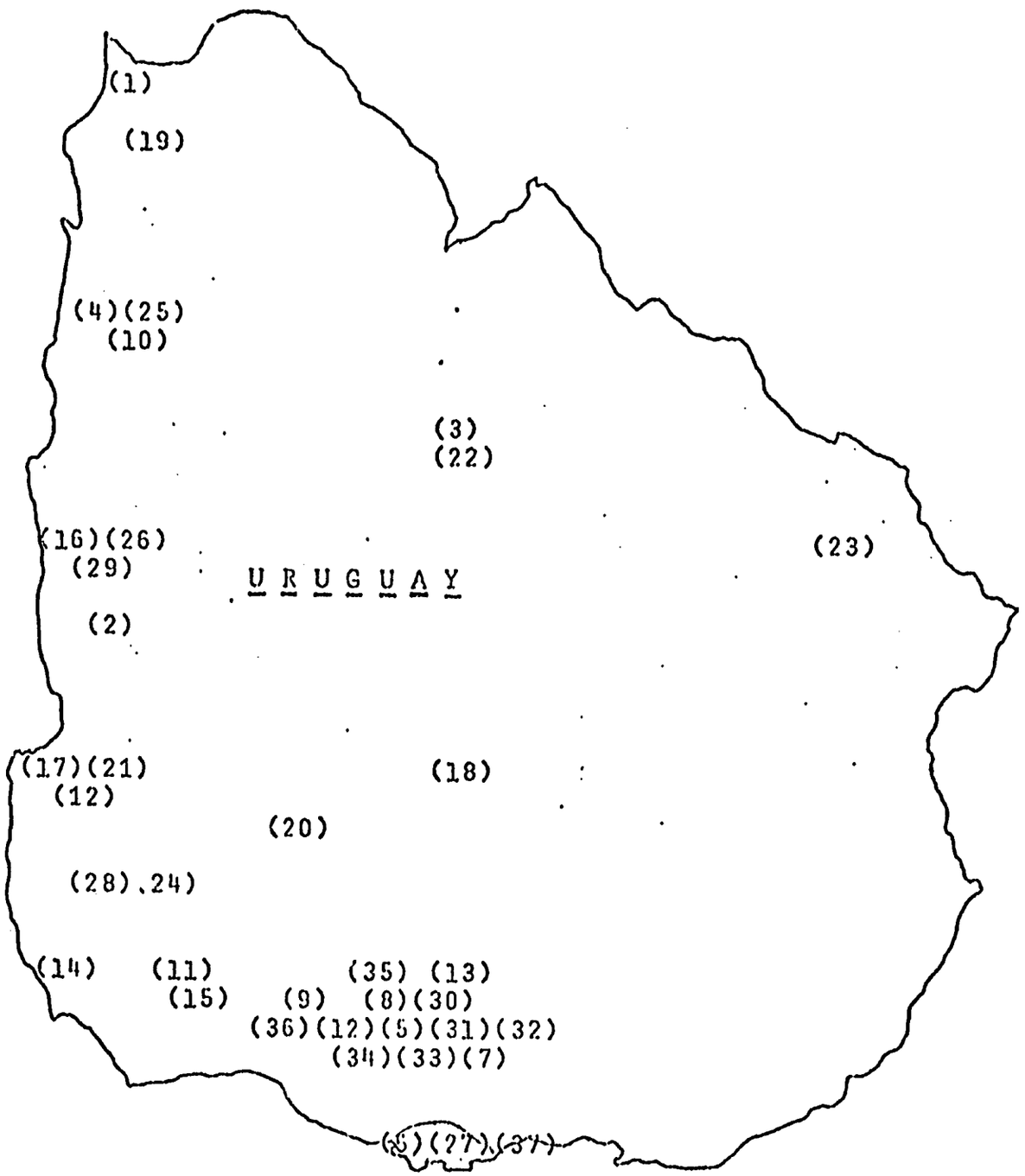
	Plan, Proposal	Pre-feasibility	Feasibility	Submitted to U.S.A.	Dollars (000)	Pesos Expressed in dollars (000)	Total Expressed in dollars (000)	To 1 Year	1-2 Years	2-3 Years	3-5 Years	1-2 Years	2-4 Years	5 Plus Years	
35. Cooperative CONEPROLE Dairy processors.	x				200		200	x					x		Technical Assistance to milk producers to increase volume and improve quality. A basic need.
36. Company RIO CLARO in Canelones. Fruit and vegetable processors.	x				25		25	x				x			Technical assistance for a new tomato and fruit concentrate installation. Has export markets.
37. The National Citrus Commission.	x				25		25	x					x		Technical assistance needed to determine if an existing citrus juice concentrate plant can be purchased and operated economically. Plant not now successful.
TOTALS FOR THE 37 ILLUSTRATIVE PROPOSALS					13,525	13,091	26,616								

GEOGRAPHIC LOCATION OF ILLUSTRATIVE AGRI-BUSINESS PROPOSALS



COMMENTS REGARDING DEMAND ANALYSIS

1. The saturation piont might be reached in certain catagories which would effect timing of implementing some of the proposed projects.

2. Priorities will have to be assigned by the Unidad Asesora and approvals granted on a very selective basis to minimize the possibility of duplication and to avoid the construction of excess capacity. Also, it must be determined that the raw material input will be assured in adequate volume and quality.

3. Although no better information is presently available it appears the capital costs of some projects may have been over estimated by the proposer.