DAIRY FARM INFRASTRUCTURE PROGRAM

(UR-0062)

EXECUTIVE SUMMARY

BORROWER AND GUARANTOR:	Eastern Republic of Uruguay	
EXECUTING AGENCY:	Office of Planning and Budget [Oficina de Planeamiento y Presupuesto] (OPP) of the Office of the President of the Republic and Department of Development Projects [Dirección de Proyectos de Desarrollo] (DIPRODE)	
AMOUNT AND SOURCE:	IDB:	US$40.0 million (OC)
	Local counterpart funding:	US$18.9 million
	Total:	US$58.9 million
FINANCIAL TERMS AND CONDITIONS:	Amortization period:	20 years
	Disbursement period:	5 years
	Interest rate:	variable
	Inspection and supervision:	1%
	Credit fee:	0.75%

OBJECTIVES

The general objective of the program is to increase the productive efficiency of the dairy farms in the country's western and south central milkshed, with a view to contributing to the regional development and export potential of the dairy subsector. The objectives of the projects making up the program are the following: (i) to facilitate, through electrification, use of mechanical milking and refrigerated tank technologies by dairy farmers in the region and improving service reliability for current users; and (ii) to reduce the cost of transporting dairy farm output to processing plants by facilitating bulk delivery in tank trucks through the rehabilitation and maintenance of the local roads in the program area.

DESCRIPTION:

To accomplish the above objectives the program calls for execution of the following projects: (i) the **rural electrification project** consists of specific subtransmission works and multiple distribution works. The subtransmission works will serve to strengthen the existing infrastructure and are necessary to handle the increase in demand resulting from the connection of around 400 new users and to improve service to the some 800 who are already connected to a system that presently lacks sufficient capacity and suffers frequent outages. The works include two 60-kV

lines, one 30 kV line, and three 30/15-kV stepdown substations, two with 5-MVA transformer capacity and the third with 1.5-MVA capacity. The distribution works, which comprise 215 km of 15-kV trunk lines and 934 km of single-phase and three-phase 15-kV lines, will be for the electrification of the farms; and (ii) the **local roads project** consists of multiple rehabilitation and maintenance works on existing local roads, designed to reduce transportation costs and ensure year-round traffic and a more efficient flow of dairy and other agricultural products to the processing plants and/or marketing centers, and also of agricultural inputs to the farms. These works are necessary because the roads or sections of them are currently in such poor condition that they become virtually unusable when it rains, resulting in production losses and higher transportation costs. The works include rehabilitation of approximately 900 km and maintenance of 1,050 km.

ENVIRONMENTAL CLASSIFICATION: The Environment Committee, at its meeting of February 1, 1994, classified this as a Category III operation. The environmental summary was approved by the Committee on November 8, 1995.

BENEFITS AND GOALS: The program will generate various benefits resulting from the implementation of its different components, viz.: (i) milk deliveries to processing plants between 1999 and 2004 will increase by at least 4.4% per annum, which is 10% greater than the historical annual growth rate (4%); (ii) between 1996 and 2002, the larger proportion of bulk deliveries will serve to bring milk collection costs down by at least 30%; and (iii) by December 2002, bulk delivery to processing plants in the program area will increase to 90%, compared with 70% in 1995. These benefits will be obtained upon achievement of the following targets: (a) during the period 1998-2003, 150 dairy farmers will acquire mechanical milking equipment and refrigerated tanks; (b) between January 1998 and December 2002 a total of some 400 dairy farms will gain access to electricity and service reliability will be improved for roughly 800 others; (c) in January 1997, the San Borja and Ruta 3 30/15-kV stepdown substations will enter into service, and that of Dayman in January 1998. The first two will have 5 MVA transformer capacity and the latter 1.5 MVA; (d) by December 2001, about 934 km of single-phase lines with earth return and 15-kV three-phase distribution lines will have been strung and will be available for connecting beneficiaries; (e) by December 2001, contractors will have rehabilitated approximately 900 km of roads; and (f) during the period 1997-2000, maintenance will have been performed on about 1,050 km of

local roads by the respective municipalities on force account.

RISKS:

The program does not involve significant risks from the technical, environmental, legal, or execution standpoints. The sole aspect warranting special attention is connected with timely access to production equipment and other on-farm investments in order to ensure achievement of the program's general objectives. A survey of all the farmers concerned has ascertained their interest in obtaining the resources needed for the on-farm investments. It has also been determined that there are sources of financing available in the financial sector and through the processing plants (CONAPROLE and others) to support such investments. In addition, the program will provide funding for a study that will assist the producers in actually obtaining access to such financing.

THE BANK'S COUNTRY AND SECTOR STRATEGY:

The Bank's country strategy focuses on: (i) supporting the government in the necessary structural reforms, with emphasis on steps to streamline the public sector and make it more efficient; (ii) supporting the private sector, especially small and medium-sized export-oriented enterprises, in order to improve their productivity and make them more competitive, to which end removing the constraints imposed by the physical and financial infrastructure is a priority; and (iii) supporting the reforms to improve the efficiency and equity of social spending.

The proposed program will support the Bank's strategy by contributing to the financing of investments designed to improve the efficiency and reduce the cost of dairy production as a means of enhancing the subsector's competitiveness in the export market.

POVERTY TARGETING:

In accordance with the provisions of the document on the Eighth Replenishment (AB-1704), it has been determined that the proposed program does not qualify as a program targeting the poor, either geographically or as regards its beneficiaries, and is not specifically aimed at women.

SPECIAL CONTRACTUAL CONDITIONS:

Prior to the first disbursement, the executing agency will be required to send the Bank a true copy of the agreements that the OPP signs with the following institutions:

a. Administración Nacional de Usinas y Transmisiones Eléctricas [National Electric Power Plant and Transmission System Administration] (UTE) and Cooperativa Nacional de Producción de Leche [National Milk Producers Cooperative] (CONAPROLE),

setting out their obligations regarding the technical advisory services and administrative duties for which they will be responsible during the execution of the program, and establishing, among other things, the rates and connection charges to be paid by the beneficiaries, and, in the case of UTE, stipulating that UTE will be the owner of the facilities in question (see paragraph 3.2); and

b. the Ministry of Transportation and Public Works [Ministerio de Transporte y Obras Públicas] (MTOP), under which agreement the MTOP will provide technical advice for all the works on local roads carried out as part of the program (paragraph 3.3).

The following special conditions will apply during the execution of the program:

a. Before a call for bids is issued for the first set of works to be carried out in a participating municipality, or before works to be carried out on force account are initiated as part of the program within the jurisdiction of a participating municipality, the latter must sign a participation agreement with the OPP setting out the conditions for the municipality's participation, including those applicable to the works to be carried out on force account and the environmental protection requirements (paragraphs 3.3 and 3.4).

b. The borrower agrees to include in the technical specifications of the works to be carried out under the program projects, a chapter on the general and specific environmental specifications, within the guidelines laid down in the environmental impact assessment, the summary of which was approved by the Environment Committee (paragraph 3.33).

c. Within one year from the date of this contract, the executing agency shall submit to the Bank true copies of the agreements that it signs with the participating milk-processing plants, establishing the plants' obligation to withhold part of their payments to the farmers who so request, in order to cover the charges set for connection to electricity supply and on-farm road works and equipment (paragraph 3.5).

d. Within the first month of each calendar year, the executing agency shall submit to the Bank the annual plans for execution on force account of

such local road works as have been agreed on with the municipalities. The plans will be evaluated from a technical standpoint by the MTOP and shall contain: (i) the execution schedule; (ii) the technical specifications of the works; (iii) the prices of the activities to be carried out; (iv) the form of payment of same; and (v) a detailed review of the execution of the plan for the preceding year, if any (paragraph 3.15).

e. The executing agency shall select and hire for periods consistent with the program's needs, the consulting services required for: (i) the institutional strengthening of DIPRODE; (ii) the design and implementation of a system for monitoring socioeconomic indicators that will make it possible to assess the economic impact of the program; (iii) a study on the breakdown of the contributions required for funding the maintenance of the local roads included in the program; (iv) a technical study on the plans for making the system a bulk-delivery system and for assistance to the farmers to facilitate access for them to financing for on-farm investments; and (v) a feasibility study on private sector participation in subsequent maintenance of the roadworks, which will include a plan for allocation of the program resources earmarked for procurement of the equipment necessary to ensure such maintenance (paragraphs 3.28 and 4.17).

f. The executing agency agrees to ensure that: (i) the works included in the program will be properly maintained in accordance with the technical standards generally accepted by the Bank; (ii) a maintenance fund will be set up for the roadworks carried out under the program, using contributions from the State and the beneficiaries to ensure that maintenance is performed on a timely basis; and (iii) the necessary equipment will be procured under the local road project maintenance category, in the amount of up to US$1.8 million, once the Bank has expressed its concurrence with the proposal drawn from the feasibility study on private sector participation in such maintenance (paragraphs 3.27, 3.28, and 3.29.)

g. The thresholds above which international competitive bidding will be required for procurement under the program will be: US$2 million for construction contracts and US$250,000 for the procurement of goods (paragraph 3.20).

CONSTRUCTION WORK ON FORCE ACCOUNT:

It is envisaged in the program that the executing agency will perform maintenance on the local roads on force account, through the municipalities, in the amount of up to US$7,468,000, using local counterpart funds. This works-contracting approach is provided for in the Bank's procurement policy, and it has been verified that economic and institutional circumstances apply that justify this method of execution (paragraph 3.23).

I. GENERAL CONTEXT OF THE PROGRAM

A. The agriculture sector

1.1 The agriculture sector is a key component for Uruguay's economic growth. In addition to accounting for about 9% of the country's GDP, it contributes to the generation of 90% of its total exports, through primary or processed products. Its net foreign exchange generating capacity has enabled Uruguay to finance its imports of hydrocarbons, nonagricultural raw materials, and capital goods necessary for propelling its economic development.

1.2 Rich natural resources, sound macroeconomic and sector policies, effective business management by its farmers, and a relatively solid economic infrastructure are all factors that coincide to make the prospects bright for further development of the Uruguayan agriculture sector, especially if full advantage is taken of technological improvements that will raise its productivity, improve its earning capability, and increase its export potential.

1.3 At subsector level, roughly 59% of the sector GDP is derived from stockraising and 41% from crops. In livestock-farming, meat and wool account for 70% of production, followed by dairy-farming or milk and milk products with over 20% of the subsector's production and about 12% of the total agricultural output. Eighty-five percent of the approximately 16 million hectares available for agricultural activities is used for livestock raised for meat and wool, 5% is devoted to dairy-farming, and the remaining 7% is employed for crop-growing and other relatively less significant livestock activities.

B. Agriculture policy

1.4 Uruguayan agriculture policy stresses support for: (i) greater modernization of farming and its agroindustrial development in order to increase the competitiveness of its exports; (ii) optimum use and conservation of the sector's natural resources; (iii) maximizing return from investments in the sector; (iv) strengthening support services in research, animal health, marketing, credit, rural roads, and electrification; and (v) deregulation to allow for more efficient resource allocation and distribution of the benefits generated.

C. The dairy-farming subsector

1.5 The Uruguayan dairy-farming subsector, also known as the milk and milk products complex, has the following distinctive features: (i) great vitality, its production (deliveries to plants) having jumped 87% between 1980 and 1994, from 470 million liters a year to 880 million liters a year and maintaining an average annual growth rate of 4%; (ii) recognized comparative advantages at the agriculture production level; (iii) significant contribution to the

sector's product (12% in 1994) and to the country's exports (US$102 million in 1994, i.e. over 5% of the total); and (iv) predominant private sector participation in its development.

1.6 An important characteristic of the dairy-farming subsector's development is that it has been fueled, in part, by private enterprise, which has stepped up production, instituted technological improvement, established processing facilities, diversified markets, and promoted trade agreements with various countries for sale of its processed milk products.

1.7 Although the effective industrial organization of its activities has enabled the dairy subsector to significantly increase its output and upgrade its technology level over recent years, given the need to maintain its competitiveness in external markets, its productive efficiency must be improved on an ongoing basis. Among the technological development options that have had and continue to have a favorable impact on the subsector's growth are the replacement of manual by mechanical milking and the switch to bulk production as a result of installation of refrigerated tanks on the farms. Adoption of improvements of this type tends to result in substantial savings in milk production and processing costs.

D. Policies for the dairy-farming subsector and regulatory framework

1.8 The policy for the dairy-farming subsector is to create conditions conducive to the private sector carrying out its activities efficiently, so that it will obtain acceptable returns on its investments and generate foreign exchange for the economy. Accordingly, considering the subsector's importance in generating exports, the policy assigns high priority to improving productive efficiency through higher productivity combined with lower production and distribution costs, which will enable it to maintain the vitality demonstrated in recent years and its competitiveness on international markets.

1.9 A clearly defined regulatory framework for the subsector policy has been in effect since 1978 which has enabled dairy development, at both farm and industry level, with a minimum of distortions. The framework has been supplemented over time with regulations that have stressed improvement of the quality of its output, facilitated the establishment of new farms and enterprises, and supported the development of the subsector's export trade.

1.10 In its early years, starting in 1935, the regulatory framework focused primarily on ensuring supply of pasteurized milk for Montevideo and granted the Cooperativa Nacional de Productores de Leche [National Milk Producers Cooperative] (CONAPROLE) a monopoly for that purpose. It also set up a quota system for the members of the cooperative (approximately 60 liters per producer) to stimulate production to meet that target. Once that level was reached, any additional production began to be used increasingly for producing

other dairy products for the domestic and foreign markets, which prompted other national and foreign processing companies to move into the dairy product market. This also significantly reduced the impact that the quotas had on the total quantities delivered to the plants.

1.11 Although some vestiges remain from the time it was first set up, the regulatory framework has been revised on various occasions and is still being continually adjusted to adapt it to the changing market conditions, especially with a view to seizing the export opportunities that arise. For example, Decree 90/95 of February 21, 1995 stipulates that effective in November 1995 milk received in the plants will be classified according to its microbial and somatic cell content, which could lead to producers being paid a bonus based on the grading of their milk. Bulk delivery, made possible by improvements in its transportation, means that bacteria reproduction in the milk upon delivery to the plants is lower than when it was delivered in milk cans.

1.12 As regards policy on prices, the regulatory framework seeks to ensure minimum levels of return and stability acceptable to producers. Although benchmark prices based on production cost studies are still set for the "quota milk" for domestic consumption as liquid milk, in a context of growing production for industrial purposes and the export market, the prices received by producers are now largely (more than 90%) determined by market forces, rather than being based primarily on the quotas as they used to be in the past.

E. Organization of the subsector

1.13 The dairy industry is made up of 12 enterprises, which together have an industrial dairy processing capacity in the country of approximately 3.5 million liters per day (1.25 billion liters per year).

1.14 From its establishment in 1935 until 1982, CONAPROLE held a monopoly on the industrial phase of pasteurized milk production for the domestic market. Although it no longer has this monopoly today, CONAPROLE maintains a leading position, with about 80% of the milk delivered to processing plants and 85% of the total exported.

F. Dairy product market

1.15 The market for dairy products can be divided into three segments: the domestic market for pasteurized milk; the domestic market for milk products; and the foreign market for milk products.

1.16 The domestic pasteurized milk market is formed by a demand that exceeds 750 million liters per year, which represents per capita consumption of some 250 liters, i.e. significantly higher than in Argentina and Brazil (188 and 108 liters, respectively).

1.17 The domestic market for dairy products has a considerable degree of competition, with pronounced product diversity in terms of both processed liquid milk and milk-based dairy products (cheeses, yogurt, ice cream, flavored milk, milk confections, etc.), improvements in quality and packaging, and expansion of distribution chains. This market absorbs another 250 million liters of milk per year.

1.18 The foreign market for dairy products is characterized by the severe distortions imposed by the surpluses and trading policies of the main producing and consuming countries. In spite of these obstacles, the Uruguayan dairy industry has successfully penetrated this market, basically as a result of the demand in the region (where the supply of milk and dairy products is clearly insufficient) and the benefits stemming from the main trade agreements that the country has signed (PEC, CAUCE, agreement with Mexico, etc.). The volume of its dairy exports rose from 22 million kg (US$41 million) in 1983 to 100 million kg in 1993 (US$85 million), for a total increase in exports of 107% (US$44 million).

1.19 The current integration process of the Mercado Común del Sur [Southern Cone Common Market] (MERCOSUR) will bring about major changes in the marketing potential of Uruguayan dairy products, since the advantages obtained for commodities will also be available for other products incorporating greater value added. This situation will tend to cause prices for the raw materials to rise. In this connection, the domestic dairy industry, especially CONAPROLE, has started experimental penetrations of the Brazilian market with its own brand of long-life milk and products.

G. Main characteristics of the dairy subsector

1.20 According to 1994 information from the Dirección del Contralor de Semovientes [Office of the Livestock Controller] (DICOSE), in the livestock-farming phase of the dairy subsector there are around 8,000 commercial dairy farms in the country (approximately 15% of all farms). Of these, 70% deliver their milk production to milk processing plants (880 million liters), while the rest sell the raw milk directly to consumers or process it on farm, mainly into nonindustrial cheeses (350 million liters).

1.21 Three quarters of the country's commercial milk production takes place in what is known as the traditional milkshed (Milkshed 1), which includes the departments of Colonia, San José, Florida, and Canelones. Another 20% is located in the central and western region of the country, which includes the departments of Salto, Paysandú, Río Negro, Soriano, Durazno, and Flores (Milkshed 2). The remaining 5% is spread over smaller milksheds in the departments of Artigas, Tacuarembó, Rivera, Cerro Largo, Treinta y Tres, Rocha, and Maldonado.

1.22 Commercial dairy-farming is concentrated in small production units. Around 49% of the farms produce less than 200 liters per day;

27% range between 200 and 500 liters per day; 13% between 500 and 1,150 liters per day; and only 11% produce over 1,150 liters per day.

1.23 Over the past 15 years, technological improvements at the farm level (especially in genetic engineering and nutritional fodder combinations) have resulted in significant dairy farm productivity increases (from 700 to 1,400 liters/year per hectare), which together with that of Argentina makes the two countries the most efficient in the Hemisphere. With a production cost of US$0.15 per liter of milk, after New Zealand Uruguay has the world's lowest farm-level production costs.

1.24 One consequence of the technology package has been the subsector's capacity for responding to the distortion in international prices by raising productivity and reducing unit costs. The incorporation of the new technology required expansion of the stock of machinery, which resulted in mechanization of milking and the beginning of bulk delivery. The trend has been toward a more capital-intensive form of operation and larger-scale production to achieve economic efficiency.

1.25 To sum up, in contrast with the main dairy producing and exporting countries, which to protect their domestic industries have resorted to a number of systems for support prices, inventory management, export subsidies, and import restrictions, the Uruguayan dairy subsector has managed to cope with the distortions in the international dairy market with a minimum of government support. The chief incentives that the subsector has received have been in the form of assistance for trade agreements with countries interested in its products. Its competitiveness has always been based on the country's agroecological advantages and on the noteworthy entrepreneurial dynamism of its farmers and producers.

H. Problems detected in the dairy subsector

1.26 A preliminary analysis of subsector production, transportation, industrial processing, and marketing identified limitations in physical infrastructure and support facilities for production, similar to those which had justified Bank support for the subsector with the milkshed development program (loan 525/OC-UR) in the south of the country. The rehabilitation and maintenance of local roads and the stringing of electric power lines in the central and western milkshed are accordingly considered priority needs.

1.27 This situation contrasts with the availability of an adequate supporting infrastructure, in the form of technical assistance programs that reach all producers, animal health programs that have proven highly successful as in the case of the eradication of hoof-and-mouth disease in Uruguay, an adequate supply of credit for financing, and the continuous expansion of its industrial and distribution capacity.

1.28 The lack of timely maintenance of the local road system, due to the financial constraints of the municipalities, which are responsible for maintaining a roughly 22,000-km road system in the program area departments, has resulted in serious usability problems with certain of the roads serving the area's dairy farms (1,950 km), especially during wet weather, with a consequent loss of milk production that sometimes cannot then be delivered to the plants in time. This results in higher transportation costs for hauling the milk to the processing plants and also restricts utilization of technological advances such as replacement of milk cans with refrigerated tanks that would allow deliveries to be made in bulk.

1.29 In addition, the fact that a significant number of dairy farmers do not have access to electricity prevents the use of equipment, such as milking machines, that would improve quality while reducing production losses.

1.30 The above-detailed problems must be addressed if the subsector's productive efficiency is to be improved and its export potential increased.

I. The government's strategy for the dairy subsector

1.31 Because of its appreciable production potential and international competitiveness, coupled with the private sector's considerable participation in its organization and operation, the Uruguayan government has selected the dairy subsector as one of the chief components of an agriculture sector reactivation plan. A strategy has accordingly been formulated for the subsector with the medium and long-term aim of improving its production efficiency and technology level and developing its agroindustrial activities, in order to enhance its relative return at the farmer level and maintain the competitiveness of its exports in the context of markets characterized by serious distortions and depressed prices.

J. Bank country strategy and grounds for its participation

1.32 The new government that took office at the beginning of 1995 has identified two central pillars for its development strategy: (i) export-driven growth, and (ii) reform of the State. These objectives mean that the following then become priority action areas: reduction of inflation and improvement of the competitiveness of exports; social security reform; more efficient management of the central administration and of the state-owned enterprises; and education reform. The Bank's strategy for Uruguay centers on: (i) supporting the government in the consolidation of the structural reforms, with emphasis on measures for streamlining the public sector and increasing its efficiency; (ii) supporting the private sector, especially small export-oriented businesses, in order to improve its productivity and competitiveness, for which purpose removal of the physical infrastructure and financial constraints is a priority; and (iii) support for the reforms aimed at improving the efficiency and equity of social spending.

1.33 The proposed programs supports the Bank's strategy by contributing to the funding of infrastructure investments that will enhance the efficiency and lower the cost of milk production, thereby assisting the dairy farmers, most of whom operate small and medium-sized farms, and enhancing the subsector's competitiveness in the export market.

K. Bank experience in the sector

1.34 The Bank has played an important part in the financing of Uruguay's agriculture sector, having granted seven loans to support the following projects: program for development of cooperatives in the northwest region (477/OC-UR, 752/SF-UR); program for development of the rice basin (232/IC-UR); agricultural technology generation and transfer (524/OC-UR); animal health project (518/OC-UR, 811/SF-UR); and milkshed development program (525/OC-UR). Although in their initial stages these projects experienced various difficulties, especially of an institutional and financial nature, which delayed their execution compared with the original schedules, they made a significant contribution toward improvement of the sector's productivity and competitiveness. In 1992, the Bank approved a multisector global credit program (705/OC-UR) that provides needed medium- and long-term funding for economically sound private-sector investment projects. This program is proving specially useful as a source of support for investments in the agriculture sector, where the private sector plays an important role. In 1992, the Bank also approved a technical-cooperation project to support the dairy subsector: modernization of the Dairy-farming School (ATN/SD-4093-UR), which trains technicians for the subsector. This project is expected to be completed in 1995.

1.35 The Bank has also supported financing of the sector through the small projects through which it has financed and is financing the procurement of numerous sets of milking equipment, refrigerated tanks, construction of milking sheds, and dairy cattle-rearing for small dairy farmers. Those most recently approved include: EP-93-29, for the Florida Dairy Farmers Association; ST-93-26, for the La Casilla Rural Development Society; EP-93-27, for CADYL; and EP-93-28, for the Durazno Rural Development Society. In addition, the business sector support program for utilizing trade and investment opportunities with Argentina, Brazil, and Mexico (ATN/SF-3134-UR) has financed studies of the Uruguayan industrial dairy sector, among other activities.

1.36 The status of the milkshed development program, which covered the southern region of the country (Colonia, San José, Florida, and Canelones), approved on December 17, 1987, is that the loan has been fully disbursed and only some minor works that will be financed with local counterpart funds remain to be executed. The road works have been completed, the original target (1,234 km) having been exceeded by 32%. Under the rural electrification project, all the subtransmission works have already been completed

and progress on the distribution works stands at 80%, with full completion anticipated by the end of 1995. It should be noted that the original targets (1,560 farmers to be connected) have been increased by 15%. In terms of productive impact, preliminary estimates indicate that the support infrastructure improvement financed with program resources has been one of the factors that have contributed, in its area of influence, to the growth observed in milk production and processing over the past four years (4% per annum in 1990-1994).

1.37 Interviews conducted with 30 farmers in the milkshed program area who benefited from the electrification and road works financed under the program indicated that the farmers had experienced a significant improvement in their quality of life and productive activities. They specifically commented that these investments had enabled them to: (i) adopt the technology package of milking machinery, refrigerated tank, and other equipment which had enabled them to increase their productivity, lower production losses, and reduce production costs at the farm level; (ii) streamline milking times; (iii) free up resources for use in other productive activities, by reducing the number of persons needed to do the milking; (iv) improve their incomes as a result of their higher production and bulk deliveries; and (v) enjoy a better quality of family life with access to reliable electricity service and the benefits resulting from its use. In general, all the interviewees concurred that implementation of the program had had a positive impact in its area of influence. The farmers also emphasized that the mechanism by which the processing companies withheld partial payment of their production had been very helpful to them to finance the purchase of equipment and on-farm investments, either through the companies themselves or by using them as guarantees for access to the financial system.

1.38 It is important to note that the practical experience gained from execution of the milkshed development program has been taken into account in the design of the proposed program, such as the importance of: (i) setting prerequisites for eligibility for the program that are consistent with the program's objectives and that can be met on a timely basis; (ii) verifying that the works execution schedule is duly supported by the necessary budget appropriations that will ensure implementation of the program on schedule; (iii) not requiring that all the municipalities simultaneously sign the agreements with the OPP for initiation of the works in all departments, but stipulating that these may only be started in departments where such agreements have been signed; (iv) verifying that the execution schedule for the electricity distribution works is such that excessive delays that could hold up quick access by the farmers will be prevented; (v) verifying inclusion of the program processing plants by means of the signing of a specific agreement, which will be a contractual condition for the execution of the proposed new program; and (vi) including other measures recommended by DIPRODE that will help ensure that the program is implemented on schedule.

L. Program area of action

1.39 The proposed program, which is similar to the one executed in the country's southern milkshed, covers mainly six departments, two in the center-south (Durazno and Flores) and four along the western border area (Soriano, Río Negro, Paysandú, and Salto). In addition, investments of the same type as those identified for the main area (approximately 6% of the direct costs) will be made in another six departments with small and medium-sized milksheds, such as Artigas, Rivera, Cerro Largo, and Treinta y Tres. Thus, with the two programs, the one that is in its final execution stage plus the one proposed here, all of the areas in the country where there are significant commercial dairy farms will be covered.

1.40 According to a survey conducted by DIPRODE, the program area contains about 1,200 milk producers delivering to processing plants and some 100 small-scale dairymen who mainly produce cheeses for the local market. Around 90% of the total producers in the area are classified as small- or medium-scale dairy farmers.

1.41 The seven largest dairy processing companies in the area operate a total of nine plants and process some 20% of the country's total milk production. CONAPROLE, with three plants (Soriano, Flores, and Paysandú) handles about 50% of the area's output and serves 45% of the farmers. It is followed in order of importance by PILI (Paysandú), with 19% and 16%, respectively; CLALDY (Río Negro), with 17% and 13%; INLACSA (Salto), with 9% and 13%; and Quesería Helvética, which, although similar in size to the others, has few producers in the program area (1%). There are also some other smaller enterprises, such as COLEQUE (Paysandú) and Sociedad de Fomento Rural de Durazno (Durazno), both handling 2% of the area's production and serving 7% and 5%, respectively, of the farmers targeted by the program.

M. Current status of electrification in the program area

1.42 Only 66% of the dairy farms have electricity service, and the rest – about 400 – are not electrified because there is no local service available. The farms without electricity are distinctly less mechanized and bulk deliveries (dependent on availability of refrigerated tanks) are virtually nonexistent.

1.43 One reason why there are farms without electricity is that the farmers concerned have not been able to afford, by themselves, the investments entailed, or else use other energy sources requiring less capital investment (generator sets, motors, etc.), but which are relatively more costly than electricity from the grid.

1.44 The present state of the electricity systems in the program area is as would be expected in rural power systems; in other words, they are low capital cost operations with limited service quality and capacity. This has resulted in problems due to overloading, low

voltage, cutting of connections, transformer overloading, etc., for the farmers that do have connections. Such problems are expected to be resolved with the investments proposed under the proposed program.

N. Characteristics of the existing road system and level of bulk delivery in the program area

1.45 The road systems in the departments where the program is concentrated consists of a national system 2,360 km long and a departmental system totaling 22,000 km. Maintenance of the national system is the responsibility of the MTOP and that the departmental system is the respective municipality's responsibility.

1.46 In the program area, the milk-collection trucks run on 1,950 km of the departmental system, i.e. about 9% of it. According to data compiled from the survey conducted by the MTOP's National Road Department [Dirección Nacional de Vialidad], the system is in the following state of repair: (i) 675 km is in good condition with adequate roadbed and drainage, and therefore usable year-round regardless of weather conditions and only needs periodic maintenance; (ii) some 620 km is in fair condition, with adequate roadbed, but around 375 km of which needs maintenance work and about 245 km requires rehabilitation because it includes stretches that are impassable or only usable with difficulty when it rains; and (iii) about 655 km is in poor condition, with rough roadbeds that make driving difficult. In other words, some 900 km of the roads used for hauling milk need rehabilitation works to improve their usability, while about 1,050 km needs better maintenance.

1.47 On these routes used for milk pickup, two collection systems can be observed, both of them sometimes being seen on one and the same route: a milk can system by which the milk is collected from the farms twice a day and carried at ambient temperature; and a bulk collection system, which makes it possible to accumulate up to four milkings in refrigerated on-farm tanks, and collect the milk by tank truck in bulk. The per liter cost of the bulk system is about 50% less than that of the milk can system.

1.48 According to data from DIPRODE, construction or reconstruction of on-farm roads will require investments estimated on a preliminary basis at some US$350,000 for the entire program area (about 410 farms). These investments, plus the cost of maintenance once the roads are built, will be paid for by the farmers, through a financing scheme similar to the one planned for the rest of the on-farm equipment.

II. THE PROGRAM

A. Design

2.1 This program has been designed as an instrument to help improve the technical efficiency of Uruguayan milk production and to raise the income levels of dairy farmers, especially those operating small and medium-sized farms, located in its area of influence.

2.2 The other components of this strategy to support dairy-farming, such as milking machinery, refrigerated tanks, electrical connections, on-farm roads, and integrated services for farmers, will be financed from other sources than this program. These are: the farmers' own funds, financing provided by the processing plants, and lines of credit currently available in the country, as is the case with the multisector credit program presently under way and partially financed by the Bank (loan 705/OC-UR).

2.3 Timely availability of these funds is considered necessary in order to make it possible to increase the supply and upgrade the quality of the milk delivered to the plants, and is therefore a requirement for accomplishment of the program's general objective. A survey conducted by DIPRODE in the program area has confirmed the farmers' interest in obtaining the resources needed for such on-farm investments, the financial return on which has been determined on the basis of the structure of their production units. The industrial plants have also stated their intention of continuing to help farmers access these resources by withholding a portion of the payment due on the milk they deliver. In addition, the program will fund a study for introduction of bulk delivery for the program area farms, which will include assistance for the farmers in obtaining financing for their on-farm investments. The Bank will monitor the measures implemented as a result of this plan.

B. Program objectives

2.4 The general objective of the program is to increase the productive efficiency of dairy farms in the country's western and south central milksheds, in order to contribute to regional development and the export potential of the subsector. The objectives of the projects making up the program are the following: (i) to facilitate, through electrification, the use of mechanical milking and refrigerated tank technology by the farmers of the area, thereby improving service reliability for current users; and (ii) to reduce the cost of transporting the milk from the farms to the processing plants by facilitating bulk delivery by tank trucks as a result of rehabilitation and maintenance of local roads in the program area.

C. Targets

2.5 The targets listed below will be achieved as the different program projects are implemented (see Annex II-1, Logical Framework):

a. Milk deliveries to the processing plants will increase between 1994 and 2004 by 4.4% per annum, a rate at least 10% higher than the historical annual growth rate (4%).

b. During the period 1998 and 2003, 150 farmers will acquire milking machinery and 300 will procure refrigerated tanks, as a result of obtaining access to electrification.

c. During the period between January 1998 and December 2002, a total of 400 dairy farms will gain access to electrification, and service reliability will be improved for about another 800.

d. In January 1997 the San Borja and Ruta 3 30/15-kV stepdown substations will enter into operation and that of Dayman in January 1998. The first two will have 5 MVA transformer capacity and the latter, 1.5 MVA.

e. By December 2001, 934 km of single-phase lines with earth return and 15-kV three-phase distribution lines will have been strung and will be ready for connecting beneficiaries.

f. Between 1996 and 2002, the increased use of bulk delivery will lower milk collection costs by at least 30%.

g. By December 2003, there will be 300 new dairy farmers benefiting from the program who will be delivering their milk to the plants in bulk instead of in milk cans.

h. By December 2002, 90% of the program area's milk production will be delivered in bulk, compared with 70% in 1995.

i. By December 2001, around 900 km of roads will be rehabilitated by contractors.

j. During the period 1997-2000, maintenance works will be carried out on force account by the municipalities on about 1,050 km of local roads.

k. By the year 2000, the machinery and equipment will be procured to ensure proper maintenance of all the roads included in the program after the program has been completed.

D. Description of the program

2.6 The program comprises implementation of investments in rural electrification and local roads with a view to accomplishment of the objectives and targets detailed above. The scope and content of

the projects in this mixed program, which include multiple and specific works, are described in the following paragraphs.

1. Rural electrification project (US$21,523,000)

2.7 The rural electrification project includes specific subtransmission works and multiple distribution works. It should be noted that the specific works mentioned may vary because in the course of the four-year execution period involved, the farmers eventually connected may differ from those originally identified; as a result, the location of these improvements to the infrastructure may also undergo minor modifications.

a. Subtransmission component (US$5,440,000)

2.8 These works, which will strengthen the system subtransmission infrastructure, are needed to be able to handle the increase in demand resulting from connection of new users and increased use by current users. The works and their main characteristics are described below:

a. Salto-Dayman line, 10 km long, designed for 60 kV but operating initially at 30 kV, strung on spun concrete posts and using aluminum alloy cable;

b. Palmar-Ruta 3 line, 18 km long, 30-kV, wooden posts with aluminum alloy cable;

c. Cardona-Ismael Cortinas line, 35 km long, designed for 60 kV but operating initially at 15 kV; and

d. new 30/15-kV stepdown substations at San Borja, Ruta 3, and Dayman, the first two with 5 MVA transformer capacity and the latter with 1.5 MVA capacity. These expansions will be complemented in the Salto and Palmar connecting substations with the necessary outgoing line modules. This item also includes the grounding of the transformer neutral in order to be able to supply single-wire type lines with earth return and antenna structures for outgoing 15-kV lines.

b. Distribution component (US$16,083,000)

2.9 An estimated 215 km of 15-kV trunk lines will strengthen the present primary distribution lines in the departments of Flores, Durazno, Río Negro, and Soriano.

2.10 The remaining distribution works consist of approximately 934 km of single-phase lines with earth return and 15-kV three-phase lines, strung on wooden posts and made of aluminum alloy or galvanized steel wire, depending on the design loadings. This component also includes approximately 487 transformers, 15-kV/LV single-phase and three-phase, and the replacement of 215 6-kV transformers with

15-kV units, together with installation of automatic reconnectors and voltage regulators.

2. Local road project (US$22,888,000)

2.11 The program includes a multiple works plan for local road rehabilitation and maintenance covering a total of 1,950 km of roads identified as those serving milk transportation. Of this total, about 900 km will need rehabilitation to be carried out by contractors, and about 1,050 km will require maintenance to be performed on force account by the respective municipalities. The works are detailed in the following paragraphs. It should be noted that since these are gravel-surfaced or earth roads, the quantities indicated may vary slightly at the time of actual execution.

a. Rehabilitation component (US$13,563,000)

2.12 The rehabilitation works include: roadbed grading; filling in lowlying sections; construction of side ditches, drains, and paved fords; and resurfacing with compacted gravel, of a thickness of 10 or 15 cm, depending on whether or not the road has a wearing course, over a width of 5 m. Works of this type will be carried out on about 900 km (46% of the project total) of roads or road sections that currently do not have a gravel wearing course or whose surfaces need repair.

b. Maintenance component (US$9,325,000)

2.13 Maintenance will be performed on about 1,050 km (54% of the project total) of roads and road sections where the wearing course is inadequate for year-round use owing to loss of granular material or else because of loss of the structural capacity of the wearing course due to weathering. The works will comprise special maintenance that includes: full shaping of the road; repair and cleaning of structures; and partial resurfacing with gravel where shaping is not sufficient. The works are simpler than those involved in rehabilitation, because they do not require grading of the roadbed, earthworks, straightening of curves, easing of gradients, or construction of any new masonry structures.

2.14 The component includes up to US$1.8 million to constitute a fund for procurement of the road maintenance equipment necessary to ensure subsequent maintenance of the roadworks carried out under the program. Use of these resources by the program's executing unit, the type of machinery to be funded, and the procedure for apportioning same among the companies selected for these tasks, will be subject to the recommendations of a study to be conducted to review the feasibility of and incentives required for private sector participation in maintenance of the roads.

E. Cost of the program and its financing

2.15 The cost of the program is estimated at US$58.9 million equivalent, 1/ in accordance with Table II-1:

1. Engineering and administration (US$2.32 million)

2.16 This category includes: (a) the incremental engineering costs of the MTOP/DNV and UTE for completing the studies and designs of the program components; (b) the cost of supervising execution of the program works and the overhead expenses attributable to execution of the program; and (c) the incremental operating costs of the executing unit.

Table II-1
Program costs
(US$000s)

	CATEGORY	IDB	Local	Total	%
1.	**Engineering and administration**	**208**	**2,112**	**2,320**	**3.9**
2.	**Direct costs**	**30,778**	**13,633**	**44,411**	**75.4**
2.1	**Rural electrification**	**17,664**	**3,859**	**21,523**	**36.5**
2.1.1	Subtransmission	4,476	964	5,440	9.2
2.1.2	Distribution	13,188	2,895	16,083	27.3
2.2	**Local roads**	**13,114**	**9,774**	**22,888**	**38.9**
2.2.1	Rehabilitation	11,257	2,306	13,563	23.0
2.2.2	Maintenance	1,857	7,468	9,325	15.9
3.	**Associated costs**	**300**	**106**	**406**	**0.7**
4.	**Unallocated**	**2,691**	**2,253**	**4,944**	**8.4**
4.1	Contingencies	1,670	356	2,026	3.4
4.2	Escalation	1,021	1,897	2,918	5.0
5.	**Finance charges**	**6,023**	**796**	**6,819**	**11.6**
5.1	Inspection and supervision	400	0	400	0.7
5.2	Interest	5,623	0	5,623	9.5
5.3	Credit fee		796	796	1.4
	TOTAL	**40,000**	**18,900**	**58,900**	**100.0**
	Percentage	67.9	32.1	100.0	

1/ This figure does not include the financing of on-farm works: upgrading of on-farm roads, purchase of milking machines and refrigerated tanks, etc., which would be financed by the farmers using their own funds or existing lines of credit for such activities.

2. Direct costs

a. Rural electrification project (US$21,523,000)

2.17 This category includes the cost of: (i) the 30-kV and 60-kV subtransmission works and equipment; and (ii) the 15-kV primary distribution works and equipment.

b. Local road project (US$22,888,000)

2.18 This includes the cost of: (i) rehabilitation works on approximately 900 km by contractors; and (ii) maintenance works on approximately 1,050 km, on force account by the municipalities, and procurement of the equipment necessary for the roads to be maintained once the program has been completed.

3. Associated costs (US$406,000)

2.19 The funds allocated to this category will be used for studies and technical consulting services for: (i) the institutional strengthening of DIPRODE; (ii) the design and startup of a system for monitoring socioeconomic indicators, so that the program's economic impact can be evaluated; (iii) a study on the breakdown of the contributions required to finance maintenance of the local roads covered under the program, based on their use for economic purposes; (iv) a technical study on the plans for moving to a bulk delivery system and for assisting the farmers in obtaining access to financing for on-farm investments; and (v) a feasibility study on private sector participation in subsequent maintenance of the roadworks, which will include a plan for allocation of the program resources earmarked for procurement of the equipment necessary to ensure such maintenance.

4. Unallocated (US$4,944,000)

a. Contingencies (US$2,026,000)

2.20 This category includes additional funds for the direct costs of the program works to cover any unforeseen increases due to possible differences between the program budget and the actual bids received, unusual climatic conditions, or other justifiable services not originally included in the budget.

b. Escalation (US$2,918,000)

2.21 These funds are included to cover any variations in program costs on account of changes in domestic and international prices for equipment, materials, fuel, and labor during execution of the program. They were computed using the Bank's indices.

F. Bank financing

2.22 The total amount of the Bank financing would be the equivalent of US$40 million in foreign exchange from the ordinary capital, representing 67.9% of the total cost of the program (see details in Annex II-4).

2.23 The proceeds of the Bank loan would be used to cover part of the engineering and administration costs; 69.3% of the direct costs; and the related provisions for contingencies and price escalation. The Bank would also finance part of the associated costs, all of the interest during the execution period, and the inspection and supervision expenses.

G. Local contribution

2.24 The local counterpart contribution would be provided by the Uruguayan government through the OPP budget, and is estimated at US$18.9 million equivalent, representing 32.1% of the total cost of the program.

2.25 The local counterpart funds would be used to cover; the additional direct costs (30.7%); the local road maintenance works that would be carried out on force account by the municipalities; the respective proportion of the cost contingencies and price escalation; part of the engineering and administration costs; the finance charges connected with the Bank credit fee; and payment of the value-added tax on the civil works and the associated costs.

III. EXECUTION OF THE PROGRAM

A. Proposed structure for execution

3.1 General responsibility for the execution and coordination of the program would be assigned to the OPP. DIPRODE, a subordinate agency of OPP, would act as executing unit, as it did in the milkshed, rice basin, and northwest cooperative programs.

3.2 The rural electrification project would be executed on the basis of agreements to be entered into by the OPP and UTE and by the OPP and CONAPROLE. These agreements will establish the obligations of the institutions concerning the technical advisory services and the administrative and financial functions they will assume for the execution of the program and will stipulate the rates and system connection charges payable by the beneficiaries, among other provisions. In the case of the UTE, the agreement will also state that the UTE will own the electrical works and facilities. It should be noted that the electricity rates that will be charged under this program will be the UTE's normal rates, which are acceptable to the Bank, as agreed in the electricity transmission and distribution program (UR-0022) approved by the Bank on November 29, 1995.

3.3 The local road project will be executed by DIPRODE and the respective municipalities, with technical advice from the MTOP through the DNV. The rehabilitation works will be carried out by contractors and the maintenance works on force account by the municipalities. Agreements between the following institutions will be signed to this end: (i) the OPP and the MTOP, under which the MTOP will agree to provide technical advice on all the local road works carried out as part of the program; and (ii) the OPP with each of the municipalities located in the program area, the object being that before calls for bids are issued for the first set of works to be carried out in a participating municipality, or before works are initiated on force account as part of the program within the jurisdiction of a particular municipality, the respective municipality shall have signed a participation agreement with the OPP which sets out the conditions for the municipality's participation, including those relating to works to be carried out on force account and the requirements concerning environmental protection and subsequent maintenance.

3.4 The agreements between the OPP and the municipalities for the local roads program are to be submitted to the Bank as a condition precedent to the Bank's giving authorization for the works contracting process to be started or for maintenance on force account to be begun.

3.5 The OPP is to sign an agreement with the processing plants stipulating their obligation to act as withholding agents for the farmers who so request, deducting part of the payment on the farmers' production to cover the charges set for electrical connections and on-farm road works and equipment. This agreement is to be submitted to the Bank within the first year of program execution.

3.6 The Bank is aware that DIPRODE has made provision for monitoring program execution by setting up an ad hoc support committee. This committee will assist DIPRODE's Technical Operations Director in preparing the list of farms to be electrified, drawing up the bulk delivery plans with the program consultants, and ensuring maintenance of the program roads. The committee will be made up of one delegate from the UTE and MTOP, one from each of the municipalities, two representing the milk producers, and one from each of the processing plants involved.

B. Execution mechanism by project

3.7 The proposed institutional arrangements and the execution mechanisms are very similar to those set up for the milkshed and rice basin development programs and are described below.

1. Rural electrification project

3.8 All the works will be executed on a contract basis, by means of international public competitive bidding. The UTE units that would participate in project execution would be the distribution system departments, the interior distribution and sales department, and the supply department for preparation of bidding documents, and the regional west and north departments for physical execution of the works.

3.9 CONAPROLE would be involved in the bidding procedures, issuing the calls for bids, awarding the contracts, and procuring the goods and services required for the electrification project, on the basis of the documents that would be prepared and delivered to it by DIPRODE, with advisory services by the UTE.

2. Local road project

3.10 The local road project would be carried out by DIPRODE and the respective municipalities, with technical advice from the MTOP. Two different methods would be used for execution of the works: (i) the rehabilitation works will be carried out under contracts, for which calls for bids will be issued by DIPRODE; and (ii) the maintenance works will be performed on force account by the municipalities.

a. Works under contract

3.11 The works carried out under contract will be those for the rehabilitation of local roads. Approximately 900 km of such roads (equivalent to 46% of the total covered by the project) have been identified and divided into four bidding packages, with an estimated budget of US$13,563,000 (approximately 59% of the cost of the project). These calls will be issued by DIPRODE, with technical advice from the MTOP for preparation of the bidding documents, bid evaluation, and works supervision.

b. Works on force account

3.12 The work done on force account will be those for maintenance of the local roads which do not require rehabilitation. Some 1,050 km (equivalent to 54% of the total project length) of such roads have been identified. The works will be very simple, low-cost works, carried out by the participating municipalities on force account. Up to US$7,468,000 has been budgeted for this category (approximately 32% of the cost of the local road project).

3.13 The following factors were taken account in determining this method of execution: (i) because the works are small, simple, and widely scattered geographically, which makes them distinctly unattractive to contractors, if they were to be put out to bid the cost would be much higher than usual owing to the opportunity cost of machinery and personnel for works of low unit value; (ii) the IBRD financed a program in the period 1989-1994 (loan 7290-UR) that included a departmental road maintenance component and that was carried out entirely on force account, providing the municipalities with equipment and their technical personnel with training so that they could perform the works on over 10,000 km (one third of the total gravel-surfaced departmental system); (iii) a study conducted by the MTOP shows that the cost of special maintenance done by the municipalities is 26% lower than it would be if done on a contract basis, at US$7,571/km for the municipalities compared with US$10,225/km for contractors; (iv) the municipalities have workers in urban centers close to the projects; and (v) by using the municipalities a management plan can be set up for maintenance of the milkshed roads after the project has been completed.

3.14 The cost analysis of the works carried out on force account by the municipalities in the period 1990-1994 shows that the municipalities have sufficient equipment and personnel to perform the maintenance work called for under the program and at a cost lower than if it were done under contract. The reasons for this cost differential are: (i) the facilities granted for procurement of the machinery, which the MTOP turned over to the municipalities under a leasing system and paid in 61 discounted installments following submission of the certificates of completion of the works; (ii) the lower wages paid to municipal employees (about 40% less than what contractor personnel are paid); (iii) the lower

social security charges and taxes payable by the municipalities compared with contractors; and (iv) the fact that maintenance work of a low unit value on unpaved systems is clearly unattractive for contractors because it ties down equipment and personnel working on widely scattered sites.

3.15 The proposed mechanism for executing the works on force account is as follows: in the last quarter of each year, the municipalities will agree with DIPRODE on an execution plan for maintenance in the following year. This plan will be evaluated from the technical standpoint by the MTOP and must contain: (i) the execution schedule; (ii) the technical specifications of the works; (iii) the prices of the activities to be carried out; (iv) the method of payment for same; and (v) a detailed review of the execution of the plan in the preceding year, if applicable.

3.16 DIPRODE's approval of the proposed plan will be based on the following criteria: (i) that the road belongs to the departmental system; (ii) its importance for milk transportation; (iii) its transportation condition, based on information from the field; (iv) that it is not included in any other programs; and (v) availability of budgetary funds. Technical supervision of the plan would be performed by the MTOP. The municipalities are familiar with this system, which has been used without problems for the past five years.

C. Status of preparation of the program

3.17 The present status of the preparation of the designs for the two projects will enable timely implementation of the proposed execution plan for the program. Detailed information is on hand regarding the status of preparation of the representative sample of the two projects comprising the program.

D. Selection criteria

1. Rural electrification project

3.18 The selection criteria for the substations and 30-kV lines are that they must have acceptable economic indicators, i.e. a positive net present value at a 12% discount rate. Regarding the 15-kV lines that are part of the actual dairy farm electrification projects, the selection criteria have been simplified to accommodate their characteristics more efficiently. It is recommended that only those projects be selected whose average contracted load for dairy farmers is equal to or greater than 2 kW per km per line. This figure was reckoned from the economic analysis of lines for electrification projects.

2. Local road project

3.19 Although all the approximately 1,950 km of roads to be rehabilitated or maintained have been identified, in the event that any changes have to be made or a road serving minor milksheds in other departments is selected, DIPRODE will apply the following selection criteria: (i) the roads must carry milk traffic; (ii) their cost and technical characteristics must be compatible with those of the representative sample; (iii) they must connect with other roads or highways that are well maintained and have the same or better specifications; (iv) they must belong to the departmental system; (v) they may not be served by any other program; and (vi) they must show a positive NPV at a 12% discount rate.

E. Procurement and execution procedures

3.20 Goods will be procured and construction and services contracts awarded in accordance with the procedures set forth in Annexes B and C to the loan contract. International competitive bidding will be required for procurement of goods in amounts over US$250,000 and for construction contracts exceeding US$2 million. These thresholds are justified since for similar projects in Uruguay, foreign firms bid only when the amounts involved were above those amounts. No procurement contracts for amounts below those thresholds are anticipated. All the bidding packages identified would be the subject of international competitive bidding.

3.21 As agreed between the OPP, UTE, and CONAPROLE, bidding on the rural electrification project will be held by CONAPROLE. Similarly, the agreement between the OPP and MTOP requires that bidding on the local roads project be held by DIPRODE. The agreements to be entered into by OPP and UTE and CONAPROLE and by OPP and the MTOP will ensure participation of the UTE and MTOP as technical advisors in the entire procurement process, from preparation of the bidding documents to contract award and performance monitoring, in the respective rural electrification and local road projects.

3.22 The different calls for bids to be issued for execution of the program are detailed in Annex III-4, which indicates the possible dates of the calls for bids and the estimated amounts of the contracts.

3.23 The program envisages an exception to the Bank's international competitive bidding procedure to allow the executing unit to perform local road maintenance on force account, through the municipalities, up to an amount of US$7,468,000, with local counterpart funding. A provision for such an exception is made in the Bank's basic procurement policy and procedures, and it has been verified that there are economic and institutional reasons which justify this method of execution.

F. Financial plan and disbursement schedule

1. Program execution flow chart

3.24 The proceeds of the IDB loan would be deposited in the Banco de la República Oriental del Uruguay (BROU), in the account of DIPRODE, which would channel the funds to the participating institutions as needed or would use them to make direct payments to contractors and suppliers. The local counterpart would be allocated and transferred directly by the government to the OPP, which would use the funds for the planned investments, as will be done with the external loan funds, and for payments to the municipalities for works carried out on force account.

2. Disbursement schedule

3.25 The program funds would be fully disbursed within a five-year period from the effective date of the loan contract, in the respective estimated annual amounts indicated in the following summarized schedule:

Table III-2
Disbursement schedule
(in US$millions)

	1996	1997	1998	1999	2000	TOTAL
IDB loan	3.0	9.6	10.4	10.7	6.3	40.0
Uruguayan government	1.5	4.6	4.5	4.0	4.3	18.9
Total	**4.5**	**14.2**	**14.9**	**14.7**	**10.6**	**58.9**

G. Operation and maintenance

3.26 The borrower will agree to ensure that the works carried out under the program will be operated and maintained in accordance with technical standards generally accepted by the Bank. The execution schedule is detailed in paragraphs 3.27, 3.28, and 3.29.

1. Rural electrification project

3.27 The UTE will be responsible for the operation and maintenance of the project works through its operating units, which report to the operating divisions of the north and west sector departments. The contracts for equipment procurement for the project shall include supply of the spare parts necessary to replace those that would

normally need to be replaced to ensure proper operation of each item of equipment.

2. Local road project

3.28 Once the program works are completed, a roughly 1,950-km local road system in good condition will then be available and will have to be maintained to ensure that it is usable year-round, thereby contributing to achievement of the program objectives. The mechanism designed calls for a feasibility study to be conducted on the participation of small private contractors in subsequent maintenance of the roads. The study will cover the following: (i) a review of current market conditions and the institutional, legal, technical, and financial factors involved to motivate the establishment of such enterprises in the country; (ii) an assessment of possible conversion of the municipal maintenance units into private contractors which could participate in competitive bidding to provide road maintenance services; and (iii) a comparison of the maintenance fees they would charge with the real alternative costs of the municipalities, in order to determine which would be the most efficient for performance of the maintenance work. Based on the findings of the above study, a proposal will be drawn up for allocation of the program resources (US$1.8 million) earmarked for procurement of the road equipment necessary to ensure such maintenance.

3.29 In addition, a fund will be established to finance subsequent maintenance of the roadworks carried out under the program. It will consist of contributions by the State and the program beneficiaries, channeled through the milk processing plants. DIPRODE will commission a study to determine the breakdown of the program beneficiary contributions in the financing of the maintenance works.

H. Connection charges and rates

3.30 The connection charge is the amount the program beneficiaries are required to pay per unit of power contracted for, with a maximum of 500 meters of on-farm line. The final amount of the connection charge will be determined by DIPRODE, with advice from the UTE, prior to the signing of the agreements with the dairy enterprises. The rates charged will be the UTE's normal rates, in accordance with current regulations.

I. Environmental concerns under the program

3.31 The environmental impact assessment (EIA) of the program found that in general it did not involve any environmental impact that was irreversible or of any magnitude. The impact identified by the EIA can be readily mitigated by easily applied measures. It is not therefore recommended that an additional environmental plan be prepared for implementing these measures.

3.32 The measures recommended mainly concern: (i) the importance of proper management during and after use of the quarries and borrow areas from which the material used for rehabilitating and maintaining the roads will be taken; (ii) proper design of masonry works for roads that are rehabilitated, in order to prevent runoff; (iii) ensuring that the wooden posts to be used for power lines are not impregnated with materials that create residual toxic barriers and that these posts are properly disposed of at the end of their useful life; (iv) recommending to the farmers and the agencies providing them with technical assistance that appropriate steps be taken regarding use of agricultural chemicals, in the event that the expansion of production means that such chemicals will be used on a larger scale; and (v) ensuring that the processing plants continue following appropriate liquid and solid waste management procedures.

3.33 The environmental measures recommended for execution of the program include, in its preparatory phase: (i) dissemination among the participating institutions and farmers of the steps to be taken to mitigate the adverse environmental impact described in the environmental summary approved by the Environment Committee; and (ii) inclusion in the technical specifications of the works, as specified in the loan contract, a chapter on general and specific environmental specifications to mitigate the adverse environmental impact and enhance the positive impact of the projects requiring such action.

J. Ex post evaluation

3.34 In accordance with the Bank's policy, and in consultation with the borrower and executing agency, it has been decided not to include an ex post evaluation of the program. However, it should be noted that an ex post evaluation of the milkshed development program will be conducted, and data will be available for this program on the market, costs, and performance of the projects making up the program, and on the relevant economic parameters, in the event that it should prove necessary to evaluate its economic impact after its completion.

IV. THE BORROWER, EXECUTING AGENCY, AND OTHER INSTITUTIONS

A. The borrower and the executing agency

4.1 The borrower of the proposed loan will be the Eastern Republic of Uruguay. Responsibility for program execution will lie with the OPP of the Office of the President of the Republic, through DIPRODE. DIPRODE will be assisted by other institutions: (i) for the rural electrification project, by the UTE and CONAPROLE; and (ii) for the local road project, by the MTOP and the municipalities.

B. Organic structure of the executing agency

4.2 DIPRODE reports directly to the director of the OPP. Its organizational structure has remained unchanged since the OPP was established, consisting of the following:

a. Office of the Director

b. Office of the Legal Counsel

c. Technical and Operations Division (DTO)

d. Administrative, Financial, and Accounting Division (DAFC).

4.3 DIPRODE is headed by a director appointed by the President of the Republic based on a proposal by the Director of the OPP. The Office of the Director performs the general functions of planning, organizing, controlling, and supervising the execution of the activities for which the program executing unit is responsible. The DTO is responsible for the supervision and control of the specifically technical aspects of project execution. It is made up of three units, including the regional development unit, which implements small development projects of a regional nature; it is responsible for monitoring the milkshed and rice basin projects. The DTO also has a project advisory unit which is currently conducting economic and technical studies for the proposed program. The DAFC performs bookkeeping and financial and budgetary control functions, for which it has three units: administration, project accounts, and treasury.

C. Staffing

4.4 As of September 30, 1995, DIPRODE's personnel numbered 67, which is considered appropriate for proper performance of its present activities. Since the milkshed and rice basin projects will be completed in the course of 1996, the personnel assigned to those sectors will, except for an essential minimum, be reassigned to the new program, in the same technical division, upon signature of the loan contract between the Bank and the Republic of Uruguay.

D. Accounting records

4.5 The project accounts are computerized, using a double-entry system. Each operation is recorded according to the investment categories specified in the loan contracts. No accrual-basis accounting is done, nor any monitoring and accounting control by purpose of expenditure. Although DIPRODE has an excellent track record in project execution, its management efficiency could be further improved.

E. Internal auditing

4.6 Two types of internal auditing are performed: (i) that done by the official Auditing Office [Tribunal de Cuentas], which examines all the documentation connected with expenditures and payments to be made; and (ii) that performed by the Central Accounting Office of the Office of the President of the Republic, under the Office of the Superintendent of the National General Accounting Office, which is responsible for internal auditing of the agency's economic and financial management.

F. Outside auditing

4.7 Since all the participating government agencies are subject to the legal and financial control of the Auditing Office, the program financial statements and all relevant additional information will be audited annually by the Auditing Offices, within 120 days of the closing of each fiscal year, throughout the program execution period.

G. Historical financial performance

4.8 DIPRODE is responsible for the utilization of funds from loans and also for public and private national contributions or counterpart funding earmarked for execution of the projects assigned to the executing unit. The following table summarizes the central government's budget performance and the investments made by DIPRODE in the past three years.

Table IV-1
Budget performance summary
(in US$ thousands)

Year	Central Government	DIPRODE	%
1992	888,332	16,541	1.9
1993	1,040,308	29,777	2.9
1994	1,217,316	29,529	2.4

H. Budget estimates

4.9 The Executive Branch submits the national budget to the Legislative Branch on the basis of a five-year plan, within the first six months of its term of office. Based on the budget ceilings set by the Executive Branch, expenditures and sources of financing for capital projects are identified and described, in the context of the programming of certain projects that will result in fixed asset formation. In the first year of a five-year plan, the agencies work with a budget amount equal to that for the last year of the preceding five-year plan, until such time as the new five-year plan is approved.

4.10 Every five years, the different government departments submit their draft budgets for the five-year period. However, as the fiscal years progress, the departments can update and adjust their expected budgets for the following year by means of what are known as "Leyes de Rendición de Cuentas" (Accountability Laws). The Executive Branch, within six months of the end of the fiscal year, which will coincide with the calendar year, will submit to the Legislative Branch the accounts and the balance of budget performance for that year, and may propose such changes as it deems essential in the total amount of expenditures, investments, and salaries or resources and may delete or modify programs for duly justified reasons.

4.11 DIPRODE has prepared a tentative draft budget for the five-year period, as detailed below:

Table IV-2
DIPRODE draft budget for 1995-1999
(in US$ thousands)

	1995	1996	1997	1998	1999	TOTAL
Rice basin	3,052	780	780	730	680	6,022
Milkshed I	19,643	3,097	1,097	847	597	25,281
Dairy farm infrastructure	0	3,657	12,179	12,179	12,179	40,194
Total IDB projects	**22,695**	**7,534**	**14,056**	**13,756**	**13,456**	**71,497**
Other projects	1,102	1,020	1,020	1,020	1,020	5,100
Total investments	**23,797**	**8,554**	**15,076**	**14,776**	**14,476**	**76,679**
Total sources						
Bank	8,356	2,560	8,525	8,525	8,525	36,491
General revenues	15,441	5,994	6,551	6,251	5,951	40,188

4.12 As a result of the agreements entered into with other institutions, DIPRODE has established appropriate procedures for making payments

to the MTOP, CONAPROLE, and UTE to reimburse them for costs they incur in the implementation of the milkshed development program.

I. Other participating institutions

1. Administración Nacional de Usinas y Transmisiones Eléctricas

4.13 The Administración Nacional de Usinas y Transmisiones Eléctricas [National Electric Power Plant and Transmission System Administration] (UTE), established in 1912, is an autonomous government agency responsible for public electricity supply throughout the country. It is linked with the Executive Branch through the Ministry of Industry and Energy which, through the Energy Department, coordinates the energy sector and is responsible for formulation of the country's overall sector policy. The UTE's role in the project comprises advisory services for all stages of bidding procedures, supervision and inspection of works, and operation and maintenance. UTE is fully equipped to handle the responsibilities arising from the project, since it has extensive experience in the execution of other similar operations.

2. Ministry of Transportation and Public Works

4.14 The main functions of the Ministry of Transportation and Public Works (MTOP), which was created in 1911, include: (i) formulation of the national policy on transportation and public works, and regulation and control of its application; (ii) performance or supervision of the study, opening, maintenance, and repair of all national public works; (iii) regulating and controlling use of the national road system and of the river resources for public use; and (iv) administering and regulating the national toll system. In the context of the project, the MTOP, through the DNV, will provide advisory services for all stages of procurement and contracting, and also in the determining technical specifications for the performance of works on force account to be carried out by the municipalities. In both cases it would supervise and inspect the works. No difficulties are expected in connection with the MTOP's performance with respect to the proposed project.

3. Cooperativa Nacional de Productores de Leche

4.15 Cooperativa Nacional de Productores de Leche [National Milk Producers Cooperative] (CONAPROLE), founded in 1935, is an institution with full legal capacity serving the country's dairy farmers. It is set up as a cooperative with private and public comanagement, is the country's biggest cooperative, a major supplier of pasteurized milk to Montevideo, and a significant manufacturer and marketer of all dairy products, in a system of free competition. CONAPROLE's part in the program will consist of issuing calls for bids for the electrification project, acting as with holding agent for electrical connection charges, and setting up a road maintenance fund in conjunction with the other milk

processing plants in the area. CONAPROLE has the institutional capacity to perform these duties.

4. Municipalities

4.16 The municipalities are responsible for local infrastructure and services, with the exception of security and water supply and sanitary sewerage. They also provide social services targeting the most disadvantaged segments of the population. The project road infrastructure works would be carried out basically in the departments of Durazno, Flores, Paysandú, Río Negro, Salto, and Soriano, and in those where the secondary milksheds are located, which are Artigas, Rivera, Tacuarembó, Cerro Largo, Treinta y Tres, and Rocha. The municipalities will perform the road maintenance works on force account, for which purpose they have sufficient machinery and trained personnel.

J. Recommendations for strengthening the executing unit

4.17 Although DIPRODE has built up considerable experience in project execution, monitoring, and control, certain aspects could be improved by the following measures:

a. review and updating of the administrative and accounting procedures, of the operating manuals of the different units of the DAFC, and of internal control procedures;

b. implementation of an integrated accounting, financial, and budget information system that will make it possible to obtain information quickly and in the correct form while preventing duplication of functions;

c. implementation of a system for monitoring socioeconomic indicators that will allow evaluation of the program's economic impact;

d. a study to determine the contributions needed for financing maintenance of the local roads included in the program, based on the use made of these roads for economic purposes; and

e. special studies relating to the plans to move to a bulk-delivery system.

4.18 The terms of reference for the consulting services required to make such improvements are already available. The Bank's procedures will be followed in the hiring of the services.

V. FEASIBILITY OF THE PROGRAM

A. Technical feasibility

5.1 The two program projects have been designed by units with extensive experience in the proposed type of works, namely the UTE for the rural electrification project and the MTOP/DNV for the local roads projects. Technical teams from the respective municipalities also participated actively in the latter. The DIPRODE technical team has been closely involved in both projects.

5.2 It should be noted that in the case of the rural electrification project, since the survey and design of almost all the program works has been completed, the latter are at a stage suitable for the contracting process to be started. DIPRODE has detailed designs for 85% of all the installations, these designs being of the quality level UTE uses in the design of its systems.

5.3 The designs available for the representative sample of the local road project are sufficient to permit contracting of the works involved in the first two years of program execution, almost all of which (91%) having been identified. Because the roads concerned are unpaved, it is not advisable to go ahead with designs for all of them, as the details of the type of work required can change over time. The DNV will complete the remaining designs, for which it has the staff and equipment needed, and, bearing in mind that the works are of a simple nature, no problems are anticipated in having these designs ready for when execution is to begin.

5.4 The program costs were estimated based on quotes for recent comparable contracts, using updated information available in both the UTE and MTOP.

5.5 No difficulty is expected in obtaining rights of way and easements for construction of the works, since for the most part they will be executed on or alongside existing roads. In the case of certain works requiring such rights, current legislation will ensure that the works concerned can be carried out.

5.6 The proposed execution schedule is considered realistic and feasible, in light of the advanced state of preparation of the designs and specifications needed for bidding on the different components. The actual execution work entailed in straightforward and there are contractors in the area capable of completing it within the time limits set.

5.7 Execution of the road maintenance work on force account by the municipalities is justified according to the Bank's basic procurement policy and procedures.

B. Institutional feasibility

5.8 DIPRODE will be responsible for technical, administrative, and financial execution of the program. In the execution of the different program projects, DIPRODE will be assisted by other agencies: the UTE and CONAPROLE will participate in the rural electrification project, and the MTOP and the municipalities in the local roads project.

5.9 In the past, both DIPRODE and the other participating institutions have proven efficient in executing Bank-financed projects and possess the experience and capacity needed to carry out the proposed projects on schedule and within the budgets allocated. DIPRODE has an adequate structure and qualified staff experienced in project execution, who will be augmented to ensure better implementation of the program. In addition, based on the analyses conducted, a number of recommendations have been made to ensure that the executing unit functions efficiently.

C. Financial feasibility

5.10 DIPRODE's five-year budget for the period 1995-1999 shows that is will have the financial resources to meet the financing needs of the projects for which it is responsible. In addition, given the priority assigned by the central government to program execution, no difficulties are anticipated in the timely availability of the counterpart funding required.

D. Economic feasibility

5.11 The economic appraisal of the program was conducted for each of the two projects separately and then for the program as a whole. It showed that the proposed investments have an adequate rate of return and are justified. The program as a whole has a net present value (NPV) of US$29.5 million and an economic internal rate of return (EIRR) of 30.6%.

5.12 The overall analysis also included an assessment of the impact at the farm level of the improved technology that would be usable once the infrastructure constraints that the program seeks to overcome have been removed. The findings confirmed the financial and economic benefits the dairy farmers would gain from the on-farm investments required (electrical connection, improvement of on-farm roads, and procurement of milking machinery and refrigerated tanks) to improve their productive efficiency (lower production and transportation costs, reduced losses, and higher product quality). The main conclusions of the economic appraisal of each project are set out below.

1. Rural electrification project

5.13 The main purpose of this project is to electrify the dairy farms that do not presently have electricity service and to improve service reliability for the farms already electrified in the program area. The economic appraisal of this project included four subtransmission subprojects (Salto-Dayman line, Palmar-Ruta 3 line, Cardona-Ismael Cortinas line, and the San Borja-El Carmen stepdown substation) and five farm electrification subprojects.

5.14 The subtransmission subprojects are necessary: (i) to be able to handle in the most economical manner the increase in demand from connection of new users, especially dairy farmers, and the heavier load from those already hooked up; (ii) to improve service reliability for current users; and (iii) to reduce system losses. The appraisal of each subproject was based on determining the least-cost solution, on the basis of which a cost-benefit analysis was then conducted. The four subprojects showed acceptable economic indicators, with an EIRR ranging from 13.8% for the Cardona-Ismael Cortinas line to 20.4% for the Palmar-Ruta 3 line. The sensitivity analysis showed that the results of the economic appraisal are not greatly affected by changes in capital costs, costs arising from some component not being implemented, or variations in expected demand.

5.15 The analysis of the farm electrification subprojects sought to determine: (i) the cost savings resulting from substitution of imported fuels; and (ii) the increase in the farms' productive efficiency (lower production and transportation costs, greater productivity, and higher product quality). All the five subprojects analyzed were found to yield a return, with an EIRR of at least 18% IERR for electrification of the smallest farms (average daily deliveries of 131 liters) up to 41% for farms delivering an average of 1,600 liters per day. The results of the sensitivity analysis showed no significant variations in subproject return with higher component or on-farm investment costs.

2. Local road project

5.16 The purpose of this project is to improve the usability of the roads serving the program area dairy farms, in order to: (i) reduce the operating costs of the vehicles using them and, therefore, the cost of transporting the milk from the farms to the processing plants; and (ii) facilitate the use of refrigerated tanks on the farms by providing access for tank trucks for transportation in bulk instead of in milk cans, with resultant benefits in terms of: (a) lower transportation costs; (b) smaller losses and better milk quality; and (c) higher incomes for the farmers (milk delivered to the plants in refrigerated tanks brings in a 6% price bonus).

5.17 Twelve subprojects were evaluated according to the traditional consumer surplus methodology and all were found to be acceptable, with EIRRs ranging between 17.1% for Section 39-44 to 65.6% for the Risso-La Pilarica route. The economic profile of the subprojects was found to be quite stable at reasonable levels of capital cost and benefit variations. This reflects the low level of risk associated with the works to be executed in this project.

E. Environmental feasibility

5.18 One the impact of the program and its projects were determined, the corrective measures had been evaluated, and the environmental strategy was designed, an overall environmental assessment of the program was conducted, assuming that all the environmental management measures recommended in the EIA would be implemented. This assessment indicates that the project is environmentally feasible, based on the fact that the program's environmental impact is of minor magnitude and significance, and is temporary and reversible. No long-term or irreversible impact was identified.

F. Risks

5.19 The program does not involve any significant risks from the technical, environmental, or execution standpoints. This assessment is based on the fact that: (i) the technical designs are not complex and the cost calculations are soundly based; (ii) the environmental assessment of the program did not identify any adverse or irreversible environmental impact; and (iii) the executing agency for the program has experience in the execution of another program with identical characteristics and is duly advised by the UTE and MTOP in technical matters.

5.20 The sole aspect needing special attention is that connected with timely access for the farmers to production equipment and other on-farm investments to ensure the economic feasibility of the program. It has been ascertained that sources of financing are available in the financial sector and that the industrial enterprises are also prepared to help in this area. In addition, the program includes funding a study that will assist the farmers in gaining access to these sources of financing.

LOGICAL FRAMEWORK
DAIRY FARM INFRASTRUCTURE PROGRAM
(UR-0062)

PROGRAM	RURAL ELECTRIFICATION PROJECT	RURAL ROAD PROJECT
e towards regional development and export dairy products		
productive efficiency in dairy farms in the western d the south central milkshed of the country	**GOAL** To increase productive efficiency in dairy farms in the western milkshed and the south central milkshed of the country	**GOAL** To increase productive efficiency in dairy farms in milkshed and the south central milkshed of the co
COMPRISING THE PROGRAM ectrification ads	**PURPOSE** To facilitate, by making electric power available, the use of milking machines and refrigerated tanks by dairy farmers in the program area, thereby improving service reliability for current customers	**PURPOSE** To reduce the costs of transporting production fro farms to processing plants, facilitating bulk delive truck through the rehabilitation and maintenance roads in the program area
	COMPONENTS 1. Works to strengthen the subtransmission grid, so as to meet incremental demand for energy required by the new system users and the increased requirements of current users 2. Distribution works, including trunk lines for strengthening and new single-phase and three-phase lines to provide electricity to dairy farms and enable producers to operate milking machines and refrigerated tanks, thereby improving service reliability for current customers	**COMPONENTS** 1. Rehabilitation works for local roads in the pro to allow tank truck traffic to transport milk pro bulk 2. Routine and special maintenance works for lo the program area to ensure tank truck traffic y 3. Establishment of a financial and institutional s ensure maintenance of the roads upgraded o program is completed

LOGICAL FRAMEWORK
RURAL ELECTRIFICATION PROJECT

ARRATIVE SUMMARY	INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTI
the productive efficiency in diary central and western milksheds	1. Delivery of milk to processing plants increases by at least 4.4% between 1999 and 2004, that is, a 10% increase over its historical growth rate of 4%.	1. Records of milk delivered to processing plants in the program area kept by DIPRODE	1. Market conditions, milk prices structure of other production dairy farms remain relatively s
through electrification, the use of hines and refrigerated tanks by s in the program area, thereby ervice reliability for current users	1. During the period from January 1998 to December 2002, access to electric power will be provided to some 400 dairy farms, improving service reliability for another estimated 800. 2. During the period from 1998 to 2003, 150 producers will begin to use milking machines and 300 to use refrigerated tanks.	1. UTE reports on new connections 2. DIPRODE data base on beneficiaries 3. Records of dairy farmers delivering milk to processing plants	1. The processing plants mainta current system of financing pu of milking machines and refri tanks for farmers through with income earned from milk deli 2. Farmers have timely access t sources of funding for procur milking machines, refrigerated other farm inputs. 3. Farmers make timely paymen connection fees.
NTS			
o strengthen the subtransmission provide reliable service at a ble cost and meet incremental for energy by the new users of em and the increased demand rent users ion works, including ening trunk lines and new single- nd three-phase lines to electrify y farms and allow use of milking es and refrigerated tanks and service reliability for current	1. By January 1997, the San Borja and Ruta 3 30/15 kV switching substations, with a transformation capacity of 5MVA, will become operational and in January 1998, the Dayman switching station, with a capacity of 1.5 MVA. 2. By December 2001, 934 km of single-phase lines with earth return and three-phase 15 kV distribution lines will be completed and available for beneficiary connection.	1. Technical reports on works inspected by UTE 2. Progress reports on works by DIPRODE	1. Construction contracts are aw investments made for subtran and distribution works accord timetable set out in the projec

ARRATIVE SUMMARY	INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTI
nation of the goals and scope of ram among potential aries eation of the demand for ation on the part of dairy farmers ogram area ion of the projects to be ion of the bidding documents procedures f contracts on and assembly (see timetable ct execution) nnection	1. See timetable for execution and detailed budget of the project	1. Records of dairy farmers delivering milk to processing plants 2. Accounting records of the UTE coordinating unit in charge of project execution 3. Periodic progress reports from DIPRODE	1. Local counterpart resources a on a timely basis

LOGICAL FRAMEWORK
LOCAL ROAD PROJECT

ARRATIVE SUMMARY	INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTI
the productive efficiency of dairy central and western milksheds	1. Between 1996 and 2002, greater bulk delivery of milk will reduce milk collection costs by at least 30%.	1. Records of farmers delivering milk to processing plants 2. Information on freight charges of processing plants and dairy transportation	1. Rural electrification goals are 2. Dairy farmers have timely acc financial resources necessary refrigerated tanks. 3. The market conditions and pr products remain relatively sta
ne cost of transporting milk y the dairy farms to the plants by facilitating bulk delivery s through the rehabilitation and e of local roads in the program	1. By December 2003, 300 new dairy farmers benefiting from the program will delivery their production to the plants in bulk instead of in cans. 2. By December 2002, bulk milk delivery to processing plants in the program area will increase to 90%, compared with 70% in 1995.	1. Progress reports on works from DIPRODE, the MTOP, and municipalities 2. Records of processing plans and dairy transportation companies	1. An effective system for mainte the upgraded roads is implen
NTS			
itation works for local roads in the n area to allow tank truck traffic to rt bulk production and special maintenance works ocal roads in the program area to year-round traffic of tank trucks hment of a financial and onal mechanism to ensure that the pgraded are maintained after n execution	1. By December 2001, approximately 900 km of roads will be rehabilitated. 2. During the period from 1997 to 2000, maintenance works will be carried out on some 1,050 km of local roads on force account by the municipalities. 3. By the year 2000, machinery and equipment will be procured to be used to ensure effective subsequent maintenance of all the roads covered under the program once the latter is completed.	1. Progress reports on works from DIPRODE, the MTOP, and municipalities 2. DIPRODE report on the road maintenance fund 3. Construction supervision reports by the Country Office in Uruguay	1. The rehabilitation and mainte are carried out according to t for execution and investment the project report.

ARRATIVE SUMMARY	INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTI
n of dairy sections to be d ring studies and design tion of bidding documents and g of contracts with municipalities for works on count n of reconstruction and ng works of maintenance activities n of maintenance machinery and ion to municipalities on of the distributional impact of road works	1. See timetable for execution and detailed budget of the project	1. Periodic progress reports from DIPRODE, the MTOP, and municipalities	1. Local counterpart funding is a a timely basis. 2. Contracts are signed by the municipalities and the OPP fo of works in their respective de 3. MTOP technical staff is availa supervise the works.

DAIRY FARM INFRASTRUCTURE PROGRAM (UR–0062)

TABLE OF PROGRAM COSTS
(In thousands of US$)

	1996			1997			1998			1999			2000			TOTAL	
	IDB	LOCAL	TOTAL	IDB	LOCAL	TOTAL	IDB	LOCAL	TOTAL	IDB	LOCAL	TOTAL	IDB	LOCAL	TOTAL	IDB	LOCAL
G AND ADMINISTRATION																	
nd supervision	0	88	88	0	287	287	0	287	287	0	274	274	0	177	177	0	1113
	0	53	53	0	172	172	0	172	172	0	165	165	0	106	106	0	668
t	44	0	44	48	78	126	48	78	126	48	78	126	20	98	118	208	332
gineering and administration	**44**	**140**	**184**	**48**	**537**	**585**	**48**	**537**	**585**	**48**	**517**	**565**	**20**	**381**	**401**	**208**	**2112**
TS																	
n																	
ssion	83	0	83	2020	443	2463	2373	521	2894	0	0	0	0	0	0	4476	964
	1911	420	2331	4148	910	5058	3334	732	4066	3795	833	4628	0	0	0	13188	2895
	1994	**420**	**2414**	**6168**	**1353**	**7521**	**5707**	**1253**	**6960**	**3795**	**833**	**4628**	**0**	**0**	**0**	**17664**	**3859**
on	553	113	666	2210	453	2663	2659	545	3204	4019	823	4842	1816	372	2188	11257	2306
e	0	426	426	0	1291	1291	0	1300	1300	0	1505	1505	1857	2946	4803	1857	7468
	553	539	1092	2210	1744	3954	2659	1845	4504	4019	2328	6347	3673	3318	6991	13114	9774
rect costs	**2547**	**959**	**3506**	**8378**	**3097**	**11475**	**8366**	**3098**	**11464**	**7814**	**3161**	**10975**	**3673**	**3318**	**6991**	**30778**	**13633**
COSTS																	
ulting services	100	11	111	50	30	80	50	43	93	50	22	72	50	0	50	300	106
sociated costs	100	11	111	50	30	80	50	43	93	50	22	72	50	0	50	300	106
ED																	
s	132	27	158	520	112	632	537	116	653	391	83	474	91	19	109	1670	356
	0	148	148	98	521	618	198	508	706	568	193	761	158	527	685	1021	1897
allocated	132	175	307	617	633	1250	735	624	1359	959	276	1235	249	546	794	2691	2253
ARGES																	
d supervision	100	0	100	100	0	100	100	0	100	100	0	100	0	0	0	400	0
	83	0	83	460	0	460	1080	0	1080	1700	0	1700	2300	0	2300	5623	0
fee	0	241	241	0	248	248	0	178	178	0	100	100	0	29	29	0	796
nance charges	**183**	**241**	**424**	**560**	**248**	**808**	**1180**	**178**	**1358**	**1800**	**100**	**1900**	**2300**	**29**	**2329**	**6023**	**796**
ECT COST																	
	3006	1526	4532	9653	4545	14198	10379	4480	14858	10671	4076	14747	6292	4273	10565	40000	18900
E	5.1	2.6	7.7	16.4	7.7	24.1	17.6	7.6	25.2	18.1	6.9	25.0	10.7	7.3	17.9	67.9	32.1

BIDDING AND EXECUTION SCHEDULE

Table A-III-4-1
Bidding schedule for the rural electrification project

Bid #	Package	Subject	Cost US$000	Call issued	Type of bidding	Initiation
I	1	AT/MT Transformers	271	I/96	ICB	III/96
II	1 and 2	60 and 30 kV lines AT/MT substation equipment	5,169	III/96	ICB	I/96
III	1	North distribution system	8,043	I/96	ICB	III/96
IV	1	West distribution system	6,654	I/96	ICB	III/96
V	1	Small milkshed distribution system	1,386	I/98	ICB	III/98
		T O T A L	**21,523**			

Table A-III-4-2
Bidding schedule for the local road project

Bid #	Package	Department	Length km	Cost US$000	Call issued	Type of bidding	Initiation
I	1 and 2	Soriano	269.9	4,229	II/96	ICB	IV/96
II	3	Durazno and Flores	129.3	2,135	III/97	ICB	I/98
III	4 and 5	Río Negro and Paysandú	233.9	3,347	I/98	ICB	III/98
IV	6 and 7	Paysandú and Salto	252.9	3,852	IV/98	ICB	II/99
V		Road maintenance machinery		1,857	II/99	ICB	IV/99
		T O T A L	**886.0**	**15,420**			

Table A-III-4-3
Works on force account

Year	1996	1997	1998	1999	2000	Total
Maintenance	426	1,291	1,300	1,505	1,505	7,468

Table A-III-4-4
Schedule for the contracting of consultant services for the program

Item	Cost (US$000)	Date of call for bids	Starting date
1. Institutional strengthening, executing unit	64	VII/96	XII/96
2. Design of system to monitor socioeconomic indicators	96	I/97	VI/97
3. Study of dairy product transport and quantification of beneficiary contributions	50	VI/98	I/99
4. Dairy product bulking plan	96	VII/96	XII/96
5. Private-sector involvement in subsequent maintenance of roads	100	I/97	V/97
T O T A L	**406**		

LEGI/UR-0311
Original: spanish
Appendix

PROPOSED RESOLUTION

URUGUAY. LOAN ___/OC-UR. TO THE REPUBLICA ORIENTAL DEL URUGUAY
(Infrastructure for dairy farms Program)

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the República Oriental del Uruguay, as Borrower, for the purpose of granting it a financing to cooperate in the execution of an infrastructure for dairy farms Program. Such financing will be for the amount of up to US$40,000,000, or its equivalent in other currencies, except that of Uruguay, which are part of the ordinary capital resources of the Bank, and will be subject to the "Terms and Financial Conditions" and the "Special Contractual Conditions" of the Executive Summary of the Loan Proposal.