

NATIONAL LAND IMPROVEMENT PROGRAM (PRONAT)

(CO-0055)

EXECUTIVE SUMMARY

**BORROWER AND GUARANTOR:** The Republic of Colombia

**EXECUTING AGENCY:** Instituto Nacional de Adecuación de Tierras [National Land Improvement Administration] (INAT).

**AMOUNT AND SOURCE:**

IDB:	US\$140 million (OC)
Local counterpart funding:	US\$ 93.4 million
Total:	US\$233.4 million

**TERMS AND CONDITIONS:**

Amortization period:	20 years
Disbursement period:	5 years
Interest rate:	variable
Inspection and supervision:	1%
Credit fee:	0.75%

**OBJECTIVES:** To support the government's strategy for the land improvement subsector (irrigation, drainage and flood protection), underpinned by Act 41/93, to seek private-sector involvement in efforts to modernize Colombia's agricultural sector, equipping it to compete more effectively in a more open and international economy, and encouraging to that end the broadest possible participation of users in the decision-making process. Specific objectives of the program are: (a) to strengthen the managerial and technical capabilities of INAT - the agency responsible for the National Land Improvement Program (PRONAT) and, in its capacity as Technical Secretariat, for the National Land Improvement Council (CONSUAT) - to help transpose the new policies for the subsector into regulations, rules, and procedures; to this end, assistance will be provided for programming, planning, studies, and evaluations; (b) to finance preinvestment studies and land improvement and district rehabilitation works selected and accorded priority in accordance with criteria and methods set out in the PRONAT Regulations; and (c) to promote the organization of users' associations and their participation in each stage of the project cycle, ensuring delivery of the complementary services required to take advantage of the production potential created by the new investments.

**DESCRIPTION:**

This is a "time-slice" operation in which the Bank would finance part of the 1995-1999 PRONAT investment and technical assistance program, with special support for institution-strengthening activities to better equip INAT to head up this process. It is proposed that INAT carry out four core subprograms: (a) institution-strengthening; (b) preinvestment studies; (c) land improvement works; and (d) complementary services. Other small-scale investments of the annual program that satisfy the criteria set forth in the PRONAT General Regulations would also be eligible for assistance. In terms of projects, the program calls for an outlay of some US\$175 million to expand land-improvement works by approximately 80,000 hectares (30,000 of which would be completed by 1999), along with financing for preinvestment studies with a cost of about US\$25 million to provide studies on completed projects that would make it possible to spread investments evenly over the next several years.

The time-slice funding approach will give the borrower and the Bank a chance to review PRONAT performance periodically in light of the experience acquired in applying the rules and procedures as well as in the preparation and financing of projects. This will enable the parties to make any necessary adjustments in the rules, procedures, and arrangements for allocating funds and adopting investment decisions. It will require continuous monitoring of INAT and of private sector participation as these parties encounter and work with policies and instruments that are new to them.

**ENVIRONMENTAL  
CLASSIFICATION:**

The Environment Committee, at its meeting of May 18, 1993, classified this as a Category III operation. The environmental summary was approved at the Committee's February 15, 1994, meeting.

**IMPACT ON POVERTY:**

As an initiative designed to finance private investment in the land improvement subsector, the proposed program does not fall under any of the criteria that would qualify it as poverty targeted as provided in the Eighth Replenishment document.

**BENEFITS:**

This program and the new Land Improvement Act mark a fundamental change in the conditions for investment spending on land management. Private-sector participation will be greatly stepped up; a substantial percentage of the public funds expended on land improvement projects is to be recovered; the management, operation, and maintenance of districts is to be delegated directly to users' associations; the

process for identifying and selecting projects is being organized for greater efficiency; the environmental dimension is being ascribed importance at every stage of the land improvement process; cofinancing of projects by public and private institutions is being encouraged; and the State's involvement in this sector is being organized.

As a key component in the new land improvement strategy, the proposed program will help address constraints now in place in the agriculture sector. Execution of the PRONAT is expected to improve the sector's productivity and ability to compete; boost and diversify agricultural output; create employment in animal husbandry and agroindustry; even out fluctuations in output levels and prices of farm products, particularly food items; and help to contain expansion of the agricultural frontier.

**RISKS:**

One institutional type of risk is present owing to the transition now being undergone by INAT and the institutions that deliver services to agriculture (research, extension work, and marketing), the reorganization of which must be completed. The institution-strengthening and complementary services subprograms are designed to meet this challenge.

There is also a risk that actual demand may fall short of expectations due to users' resistance to assume the commitments — primarily financial obligations — entailed by the new legal and regulatory framework for public investment in the subsector. This could occur for reasons beyond the direct control of the program, such as changes in relative prices or marketing problems, to cite two possibilities. The support contemplated in the program for INAT and users is designed to identify and design efficient projects, with high rates of return for the private sector, as the best means of offsetting such an eventuality.

**THE BANK'S  
COUNTRY AND  
SECTOR STRATEGY:**

Given the copious influx of external resources ensuing from capital inflows, foreign investment monies, and funds that will be generated by oil developments at Cusiana and Cupiagua, the Bank's strategy will concentrate on operations emphasizing advisory services for projects that are expected to have a strong social impact or those providing new institutional vehicles. The proposed program is a case in point. It would support the establishment and consolidation of a sector policy to address the need for investment outlays for land improvement projects that will be profitable for the private

sector and offer a high rate of social return, as it strengthens INAT's operating and administrative capabilities as the specialized agency that is called upon to head up efforts to see this strategy carried through.

**CONTRACTURAL AGREEMENT** has been reached with the Government of Colombia to the effect that:  
**COVENANTS SPECIFIC TO THIS OPERATION:**

- a. As a condition precedent to the first disbursement: (i) it shall be demonstrated to the Bank that the special FONAT/IDB account into which the program resources will be deposited (paragraph 3.20) has been opened; (ii) it shall be demonstrated to the Bank that the General Regulations of the National Land Improvement Program (PRONAT), the General District Administration Regulations, and the Technical Standards Manual (paragraph 3.1) have been put into effect; they are to set out an environmental quality control system, including basic environmental standards that must be concordant with the laws of the borrower (paragraph 5.24); (iii) it shall be demonstrated to the Bank that the following models have been presented for the Bank's consideration and approval: (1) each of the instruments of undertaking to be signed by users of the projects, setting out the obligations assumed by those users pursuant to the Regulations (paragraph 3.11); (2) the contract between the program executing agency and other entities responsible for carrying out the land improvement projects (paragraph 3.2); (3) the contract between the program executing agency and the users' associations (paragraph 3.15); and (iv) it shall be demonstrated to the Bank that contracts have been signed with (1) the company or specialized agency that is to perform the advisory services component of the institution-strengthening subprogram (paragraph 3.6), and (2) the company or specialized agency that is to perform the advisory services component of the complementary services subprogram (paragraph 3.16).
- b. The borrower shall adopt such measures as may be necessary to ensure that the rates for irrigation and drainage services produce revenue sufficient to defray at least the operating expenses of the systems, including administration, operation, maintenance, and equipment replacement (paragraph 3.25).

- c. Unless otherwise agreed by the parties, no projects shall be financed through the Agricultural Sector Financing Fund (FINAGRO) (paragraph 3.13).
- d. The resources of the program shall not be used to finance the design or construction of land improvement projects encompassing areas of more than 10,000 hectares (paragraph 3.14).
- e. Substantive changes proposed in the PRONAT Regulations shall be submitted first to the Bank for consideration. The Bank may request information on any such change that, in its view, could adversely affect execution of the program. The parties shall reach an agreement on any corrective action required, without prejudice to the Bank's right to take appropriate measures in accordance with the loan contract (paragraph 3.1).
- f. Within six months after the first disbursement of the loan proceeds, the borrower shall demonstrate that agreement has been reached with the Bank as to the indicators required for the annual evaluations of the program (paragraph 3.29), and that those indicators have been approved by the borrower.
- g. The semiannual progress reports on the program shall be submitted on April 30 and October 31 of each year. The second semiannual report each year shall contain the Annual Investment Plan (PAI) for the PRONAT, which is to include information concerning the investments financed by the Bank and other sources (paragraph 3.28).
- h. During the final quarter of each year of the program execution period, the borrower and the Bank will meet to assess progress on the program, compliance with obligations for its implementation, and performance of the land improvement subsector, based on the indicators agreed upon in advance with the Bank, and to reach agreement on investments for the following year. The performance of the program will be reviewed at each yearly meeting in the context of the macro-economic and sector policy (paragraph 3.29).
- i. The Bank will withhold up to US\$1 million from the first disbursement of the loan, as the amount owed for funding made available under the individual PPF operation (line of credit PPF/005-CO) (paragraph 2.19).

## I. FRAME OF REFERENCE

### A. The new economic model and the agriculture sector

- 1.1 Colombia's agriculture sector accounts for 17% of GDP; employs 35% of the economically active population; and produces exports amounting to more than US\$3 billion each year. In the past, there were no incentives for the sector to operate efficiently. Price controls and protection allowed the sector to grow irrespective of demand signals. Productivity was relatively low, and private investment was attracted more by momentary financial incentives than by true long-range economic opportunities. Output rose because the agricultural frontier was pushed back to encompass areas that were less and less capable of sustaining farming, with sharp fluctuations in output and prices that could be traced in large measure to climatic factors.
- 1.2 The Program of Economic Openness and Modernization that was launched in 1989 and intensified in 1991 has already had a marked impact on the production sector. The new economic model featured by the program is based on a more open economy that can function in the global marketplace, the restructuring of public institutions, and a shrinking role for the public sector in activities that can be conducted by private enterprise.
- 1.3 The opening up of trade had a noteworthy effect on production and sale of the chief farm commodities. The elimination of price supports for agricultural products and the subsequent loosening of administrative controls and external tariffs exposed domestic production to international competition in a very short span of time, with the added difficulty that many of Colombia's trading partners were subsidizing farm products and exports.
- 1.4 In 1992, the year when measures to open the economy were put into effect, imports rose by 83% while exports fell by nearly 20%. The drastic change in the agricultural trade balance was due to two factors: the marked cutback in tariffs and restrictions on imports, and a prolonged drought that withered the 1992-1993 crops. This critical situation was aggravated by a downturn in world prices for Colombia's traditional exports, along with revaluation of the exchange rate, which were reflected in a 1% drop in the agricultural GDP and a decline of almost 10% in rural employment.
- 1.5 In response to the 1992-1993 crisis, the government adopted policy measures designed to restore the profitability and confidence of the agriculture sector in the near term. To that end, in May 1993 it proposed a Plan to Revitalize the Agriculture Sector. This was followed by the drafting of Act 101 (Agrarian Act), which was passed in December 1993, to reactivate the sector and protect producers in specific instances of unfair competition - such as export subsidies and dumping - or in the event of unstable foreign

markets. To do so, the government elected to use certain intervention mechanisms that would shield Colombian producers from such distortions but not isolate domestic production or trigger fiscal imbalances.

- 1.6 The purpose of the government's economic policy for the agriculture sector in the medium and long terms is to promote modernization of the sector by changing the incentive structure so as to boost productivity in the sector and ensure sustainable growth. Attainment of that goal calls for basic strengthening of the programs for the generation and transfer of technology and for land improvement. <sup>1/</sup> The government also plans to expand the supply of land, promote more competitive markets, increase the efficiency of domestic and foreign marketing channels, and improve the information available to the authorities and to producers to aid in decision-making.
- 1.7 Under these new conditions, the dynamic of the sector has now come to depend on the extent to which it can be modernized, its productivity and efficiency improved, and external competition met. There is evidence that the private sector, spearheaded by trade associations, has led the move to adjust to the new measures, through actions that range from the commissioning of research to improve varieties and yields to incentives for diversification in areas where it is apparent that traditional crops cannot keep up with the competition.
- 1.8 Some of the economic policy measures adopted in 1993 have reintroduced a stepped approach to the process of opening up the economy. This should not be interpreted as a reversal of the trend toward a more international marketplace. Nevertheless, there are plans for an interim review during the execution of the program, to assess the agricultural policy framework and make certain that there are no developments therein that would run counter to the program.

B. Principal constraints in Colombia's agriculture sector

- 1.9 Colombia's agriculture is characterized by a range of technologies being deployed in a production structure that includes a wide variety of farmland, from vast stretches where export crops (sugar, bananas, coffee, etc.) are raised with the help of sophisticated machinery and techniques to small plots on which peasant farmers raise staple food items, with meager marketable surpluses and varying levels of efficiency in factor use. An assessment of the sector's overall performance, however, shows average productivity

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<sup>1/</sup> In Colombia, this term refers to expenditures and activities involving irrigation, drainage, and flood protection of farmland; it includes environmental impact alleviation measures where required.

to be relatively low due to the failure to apply modern methods in most of the crops and areas, along with inadequate use of marginal land. The chief constraints to higher output are the limited dissemination of appropriate technology and the low rate of investment in land improvement and upgrading of farms.

1. Productivity, competitiveness, and technology development policy

- 1.10 Agricultural technology development policies have not been absent from Colombia's efforts to open up the economy and build modern institutions. Under the new economic model, farm technology has been given a prominent role in the country's development policies, which have afforded a key role to agriculture in light of that sector's rich natural-resource endowment that gives it a strong comparative advantage. If it is to utilize this potential, and in view of the changes in relative prices, the sector must be capable of producing, processing, and marketing high-quality commodities at a competitive cost. This in turn will depend on the sums invested in agricultural technology - including up-to-date information and marketing methods - plus expenditures to improve land when there is promise of good returns.
- 1.11 As to the generation of technology, despite increased private-sector participation in agricultural research in Colombia, up until 1991 public-sector agencies absorbed 60% of the funds earmarked for that purpose. A case in point is the Instituto Colombiano Agropecuario [Colombian Agricultural Administration] (ICA), which in 1991, with an annual budget of close to US\$70 million, accounted for 85% of all public spending, and numbered among its staff the country's foremost professionals in this field. But ICA has never had a well-defined policy for generating land improvement technology, nor has its research concentrated on the commodities and technologies that embody comparative advantages for Colombia.
- 1.12 Faced with the new demands for production, marketing, and processing technologies, growing concern over the management of natural resources and sustainable development, and with the aim of restoring ICA flexibility to respond readily to the specific needs of the private sector, the government reorganized the agency in December 1992, creating a mixed private-law entity: the Corporación Colombiana de Investigación Agropecuaria [Colombian Agricultural Research Corporation] (CORPOICA). While the coordination of research policies remains centered in ICA, research and technology transfer proper are now the responsibility of this new corporation.
- 1.13 To heighten the efficiency and competitiveness of agriculture and set up a new technology-transfer system, the National Program for the Transfer of Agricultural Technology (PRONATTA) was established. At the same time, the municipalities were given responsibility for providing small-scale farmers with technical assistance through

Municipal Units for Agricultural Technology Transfer (UMATAs). To bolster the work performed by the PRONATTA, the government is now in the final stages of negotiations for an agricultural technology generation and transfer program that would be backed by a US\$51 million loan from the World Bank. Funds from the Integrated Rural Development Program (IRD) financed by the IDB are being used to help the UMATAs in their work.

- 1.14 The consolidation and definitive launching of the PRONATTA are still being negotiated and adjusted, particularly in regard to the land improvement objective. Action therefore will be needed on the part of the Instituto Nacional de Adecuación de Tierras [National Land Improvement Administration] (INAT) - as the spokesman for users of the irrigation districts - to determine specific technology needs and translate them into research projects that can be financed by the PRONATTA. Owing to the limited sphere of action of the UMATAs, INAT will also have to help the districts engage their own technical assistance, to ensure that the right level of technology is adopted in timely fashion.

## 2. Degradation of natural resources and expansion of the agricultural frontier

- 1.15 Each successive year sees the deforestation of an additional 600,000 hectares in Colombia, mainly due to new settlements in the country's tropical and subtropical forests. These incursions generally take place in areas where the soil is fragile and poor in quality and in mountainous regions with steep slopes, where the resulting erosion is frequently difficult to reverse.
- 1.16 An estimated 34.4 million hectares are being used to grow crops and raise livestock, although the area suited for farming is placed at 33.2 million hectares. This makes it unlikely that the growth in demand can be covered by incorporating land that is not now being put to agricultural use. Crop-farming accounts for only 5.3 million hectares, compared with the 10.9 million hectares that offer potential for this activity. Conversely, 7.7 million hectares too many are being devoted to stock-raising. Given these circumstances, a land improvement program will allow production to be increased at a lower cost than is now being spent to expand the agricultural frontier. Furthermore, land improvement projects generate jobs in farming and agroindustry, thus providing landless farmers - whose migration toward the frontier zones is the chief cause of deforestation in Latin America - with another option. Consequently, with investments in land improvement, production can be stepped up on land that falls inside the agricultural frontier, rather than pushing that limit further out toward marginal land that is ecologically vulnerable.

C. Colombia's land improvement policy

1. Previous experience

- 1.17 A mere 850,000 hectares have irrigation and drainage facilities, and most of that area (close to 500,000 hectares) is occupied by privately owned sugar and banana plantations. Government-established irrigation and drainage districts cover a total of 250,000 hectares, only 150,000 hectares of which is irrigated. The potential expanse that can be improved with the use of irrigation is estimated at 6.5 million hectares.
- 1.18 The irrigation systems built directly by the State are concentrated in the departments along the coast and in the east-central part of the country. Most of the systems rely on gravity irrigation and are used mainly to water rice and other grain crops. Those built by private investors, on the other hand, are concentrated in the western part of the country. They use more flexible technology and have been switched over to the production of industrial and export crops (sugar cane, bananas, African palm, fruit, flowers, and the like).
- 1.19 Most of the government-sponsored irrigation districts now operating in the country were built between 1961 and 1975. Act 135 of 1961 made the Colombian Agrarian Reform Administration (INCORA) responsible for the study, promotion, and execution of works to provide flood protection, irrigation, drainage, and streamflow regulation as part of a policy whose chief purpose was to modify the structure of rural landholding. During that period, the World Bank financed three irrigation projects for which the INCORA was the executing agency.
- 1.20 In 1976, with a view to separating the technical and administrative side of the agrarian reform policy from the land improvement dimension, the Colombian Meteorology and Hydrology Service was reorganized into the Instituto de Hidrología Meteorología y Adecuación de Tierras [Hydrology, Meteorology, and Land Improvement Administration] (HIMAT). This was the agency to which INCORA gave responsibility for land improvement, for finishing the districts begun by INCORA, and for administering works already in operation.
- 1.21 At the start of the 1980s, the land improvement projects were encountering a number of difficulties. Most of the districts which the official agencies had begun to set up had not been completed for want of investment funding and credit for land improvement measures. Given the unsatisfactory condition of the districts, there was some measure of resistance on the part of users to pay fees for services which they considered to be inadequate. This in turn led to progressive deterioration of the works, equipment, and facilities. During that period the World Bank approved two projects to finance the rehabilitation of eight districts (47,000 hectares) and six irrigation and drainage districts (108,000

hectares), respectively. A third IBRD project was designed to support a small-scale irrigation program covering 60,000 hectares that was to benefit some 43,000 farmers at a total cost of US\$196 million, US\$72.2 million of which were supplied by the World Bank loan. 2/

- 1.22 In the past, the conception, study, and development of land improvement works were determined by the central government, without taking into account the interests of the users who were to benefit from them, who were not adequately informed as to the projects' features and merits. As a result, the users - excluded from the decision-making and the process generally - did not facilitate the execution and development of such projects.
- 1.23 Most of the irrigation districts established by the State were also designed without the necessary technical flexibility. They are not equipped to provide varying quantities of water, for example, and thus do not make it easy to introduce crops other than those initially programmed. Rather than a tool for decision-making, the economic and social appraisal of the projects was an exercise to justify the engineering designs proposed for the construction of water conveyance works. In addition, funding constraints left the districts without an efficient system to measure the volumes supplied to individual users.
- 1.24 This set of circumstances, compounded by the lack of a sustainable institutional framework and the absence of an effective policy for recovering investments and collecting water rates, has had a dampening effect on project operation, investment recovery, and operation and maintenance of the districts. Taken together, these factors explain why public outlays in this sector over the past 20 years have been concentrated mainly on rehabilitating existing districts, and why it has proved difficult to transfer administrative and maintenance functions in a number of the existing districts to their respective users' associations.

## 2. The new strategy

- 1.25 Based on this diagnosis, the government redefined its role and its approach to action in this area. In June 1991, the National Economic and Social Policy Council (CONPES) approved a document entitled *The National Land Improvement Program: 1991-2000 (PRONAT)* as a cornerstone of the country's long-range agricultural modernization policy. The PRONAT envisaged changes in the existing

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2/ Given the slow rate of progress in executing such a large number of small projects, the World Bank and INAT have decided to reduce their number and use the remaining funds (US\$25 million) to start the construction of up to three new medium-scale irrigation projects. Work is scheduled to begin on those projects in the second half of 1995.

institutional framework and policies for land improvement; execution of an ambitious investment program; and drafting of a land improvement bill. The initiative was supported by the National Congress, which passed the Land Improvement Act (Act 41) in January 1993, setting out a new strategy.

- 1.26 One of the most important implications of the new law is that public funding for land improvement infrastructure may be executed by public and/or private, national, or regional agencies. Investment decisions are to be tied to effective user demand, measured by the users' willingness to pay for the investments on the basis of the financial and economic rates of return of the projects, and to manage, operate, and maintain the infrastructure. The public sector will facilitate the identification and execution of the projects, financing studies and construction. It will also provide the support services needed to ensure that the new infrastructure is put to optimum use.
- 1.27 Central to the new policies and regulations are the principles of recovering investments; establishing transparent subsidies; designing and administering a clear rates policy; promoting greater user input in identifying and executing projects and in the administration, operation, and maintenance of irrigation and drainage districts; restoring and conserving catchment basins; and coordinating the delivery of support services to ensure that the anticipated benefits of the projects are in fact attained.
- 1.28 Act 41 also establishes a new institutional framework for the land improvement subsector. It consists of:
  - a. The Ministry of Agriculture (MAG), as the body that sets policy for land improvement.
  - b. The Consejo Superior de Adecuación de Tierras [Land Improvement Council] (CONSUAT), as an advisory body and coordinator of those policies, with HIMAT serving as its Technical Secretariat. <sup>3/</sup>
  - c. HIMAT - recently reorganized into the Instituto Nacional de Adecuación de Tierras (INAT), pursuant to Act 92/93 - and other public and private entities, as the executing agencies for land improvement projects.

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<sup>3/</sup> CONSUAT members are the Minister of Agriculture, the Minister of the Environment, the Director of the DNP, the Chairman of FINAGRO (Agricultural Sector Financing Fund), the Director of the Geographic Institute, and four representatives of the private sector (the Chairman of FEDERIEGO, a representative of the Indian communities, the Chairman of the Colombian Farmers' Association, and a representative of the Campesino Users' Association).

- d. Users' associations, which help develop the projects and administer the districts.
- 1.29 The main components of this strategy are: (a) the allocation of national budget funds to investments in land improvement infrastructure, with PRONAT financing, to substantially expand the total land area improved with public-sector support; (b) restructuring of INAT so that it can lead the way with the new strategy for the subsector during the transition period, as it changes over from a district administration agency to one that facilitates, promotes, and executes investments in the subsector; and (c) transferral of the responsibility for managing, operating, and maintaining the districts to users' associations.
- 1.30 Act 41 also sets out policy guidelines and principles delegating to CONSUAT the power to: (a) establish criteria, rules, and procedures for selecting the studies and projects that will be financed; (b) set eligibility criteria and requirements for entities wishing to execute PRONAT projects; and (c) determine rate policy and the percentage of investment recovery.
- 1.31 Through execution of the PRONAT, the Government of Colombia seeks to obtain the following benefits for society: (a) more jobs in the agricultural and agroindustry sectors, as land is put to greater use and productivity and output rises; (b) an easing of seasonal and year-over-year fluctuations in output and prices, which have an adverse effect on producers and consumers; and (c) checking the expansion of the agricultural frontier in areas that are only marginally suited to farming activity.
- 1.32 In many of Colombia's agroecological regions, improved management and more intensive use of water and soil resources could substantially heighten the productivity of the land, and might stem and even reverse the degradation process by cutting back the area now devoted to stock-raising and helping to dispel uncertainties as to output that are tied to climatic factors. This will require an increase in public spending and efforts to enlist more private investors, to add to the stock of improved land.

D. Conceptualization of the program

- 1.33 As it sets about to modernize its agricultural base, Colombia intends to promote sustainable development in the sector through two core economic policies: (a) a land improvement policy, and (b) a technology development policy. The government's initiative to transform current legal and institutional investment systems and policies in the land improvement subsector was ratified by passage of Act 41, which reflected the determination of Congress to proceed with the overhaul of the sector and the political priority placed on this process, as a response to the problems of the sector and also with a view to the opportunities to be made available under the new economic development model.

- 1.34 The proposed program was conceived with the general aim of supporting the government's strategy; translating the new legislation into clear rules and procedures for using the funds in accordance with the new policy guidelines; and helping INAT to head up this process, notably during the transition stage that would start with the implementation of the new rules governing State activity in the subsector. The program proposed herein will support the reform process by financing studies and investments in irrigation, drainage, and flood protection, and make the private sector an active partner in the decision-making process within the new general policy framework.

E. Experience of the Bank and of other organizations

- 1.35 In 1966 the Bank approved an operation to provide irrigation and flood protection in an area of 15,000 hectares. This was followed in 1990 by a project to clean up the upper basin of the Bogota River (the Bank's share of the US\$78.5 million cost was US\$50 million): it included the upgrading and expansion of an irrigated area of roughly 18,500 hectares. In 1991, the IDB and the World Bank jointly financed an integrated rural development project (IDB - US\$75 million of the US\$250 million total) which gave funding to municipalities for small-scale irrigation works, among other items. The IDB recently approved a loan to finance Colombia's environmental program, supplying US\$81 million of the total US\$135 million cost, which includes activities for the restoration and management of small watersheds.
- 1.36 The Colombian government is now negotiating project loans with the Government of Japan for the Ariari project and with the Government of Italy for the Alto Chicamocha project.

F. The Bank's strategy

- 1.37 The Bank's strategy for Colombia centers on technical assistance and financing to assist the country in efforts to promote investment, with private enterprise viewed more and more as the engine of growth. As well, to further the objective of modernizing production infrastructures, the Bank proposes to contribute to endeavors to make the country more competitive in international goods and services markets. The proposed program would (a) offer support to bring in a sector and financial policy that can satisfy the needs for investment in irrigation and drainage projects which hold appeal for the private sector; (b) help make qualified public and private entities eligible to promote, implement, and administer publicly funded projects; and (c) aid in the reorganization of functions and administration of INAT, the government's specialized executing agency, so it can administer investment resources more efficiently and transparently in keeping with the new rules and procedures prescribed in the new Land Improvement Act.

## II. THE PROGRAM

### A. Objectives

- 2.1 The purpose of the proposed national land improvement program (PRONAT) is to support the government's strategy for the land improvement subsector, helping to involve the private sector in the process of modernizing Colombia's agricultural sector, offering it greater opportunities to compete in a more open, global economy, and enlisting to that end the widest possible participation of users in decision-making.
- 2.2 Against the backdrop of the new legal and regulatory framework established for the subsector by Act 41 (the regulations for which are being written with IDB support, as part of the preparations for the program), the specific goals of the operation are: (a) to strengthen the managerial and technical capabilities of INAT - the agency responsible for the PRONAT and, in its capacity as Technical Secretariat, for the National Land Improvement Council (CONSUAT) - to transpose the new policies for the subsector into regulations, rules, and procedures; to this end, assistance will be provided for programming, planning, studies, and evaluations; (b) to finance preinvestment studies and land improvement and district rehabilitation works that have been selected and accorded priority in accordance with criteria and methods set out in the PRONAT Regulations; and (c) to promote the organization of users' associations and their participation in each stage of the project cycle, ensuring delivery of the complementary services required to take advantage of the production potential created by the new investments.

### B. Description

- 2.3 To attain the above-listed objectives, it is proposed that the Bank support the institutional strengthening of INAT to equip it to head up this process, and that it finance, as a time-slice arrangement, part of the PRONAT nationwide investment and technical assistance program for the period from 1995 to 1999.
- 2.4 The 1995-1999 INAT investment program shown in Annex II-1 distinguishes between the investments that will be part of the PRONAT and those already initiated by INAT, which are governed by the policies and procedures that were in effect prior to passage of Act 41. The latter were applicable in the rehabilitation, operation, and maintenance of existing districts, now being managed by INAT, the transfer of which will call for extensive technical assistance and training efforts (see paragraphs 2.13 and 2.14).
- 2.5 The time-slice financing approach gives the borrower and the Bank a chance to review execution of the PRONAT periodically in light of the experience acquired in the application of rules and procedures

and in the preparation and financing of projects. As a result of this exercise, any necessary adjustments can be made in the rules, procedures, and arrangements for the allocation of resources and adoption of decisions. This will require continuous monitoring of INAT and of private-sector participants as they encounter and work with policies and instruments that are new to them.

- 2.6 It is proposed that INAT carry out four core subprograms: (a) institution-strengthening; (b) preinvestment studies; (c) land improvement works; <sup>4/</sup> and (d) complementary services. Other smaller-scale investments in the annual program which satisfy the requirements set out in the PRONAT General Regulations would also be eligible.

1. Institution-strengthening component

- 2.7 This subprogram consists of four components: (a) advisory services; (b) studies; (c) training for INAT staff; and (d) equipment procurement. They are designed to attain two major objectives: (a) improvement of the investment and activity planning and programming process to help the agency perform its mandate under the new land improvement policy, institutionalizing the resource-allocation rules and procedures approved by CONSUAT; and (b) improved quality of studies and projects funded, by strengthening capabilities for project analysis, identification, formulation, and design. The total cost of the subprogram will be US\$3.3 million, including US\$1 million in support equipment for INAT technical personnel, to be executed during the first four years of the program.

2. Preinvestment studies subprogram

- 2.8 This subprogram will finance studies on the identification, prefeasibility, feasibility, and design of land improvement projects and other associated priority studies. Emphasis will be placed on improving the quality of the studies and ensuring due consideration of the environmental, agronomic, economic, and financial dimensions in designing the projects, and particularly on user involvement to ensure that projects are in keeping with their possibilities and meet their needs. The scale and scheduling of the preinvestment element reflect the need to have completed project studies to be able to spread investments evenly over the next several years.

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<sup>4/</sup> Including public projects (a minimum of 20 users), which are those featured in the PRONAT, but not including smaller or individual projects for which commercial bank credit facilities are available.

### 3. Land improvement works subprogram

- 2.9 Under this component of the program, funding will be made available for land improvement projects carried out by INAT or other public or private executing agencies in accordance with the PRONAT Regulations. The scale of the subprogram was decided upon on the basis of: (a) the pipeline of existing projects, 20 of which were examined, for which INAT has feasibility studies or final designs; (b) INAT's implementation capability; and (c) commitments under its investment program with other sources of external funding. The four projects summarized in the table below were selected from this sample.

PROJECTS - YEAR 1						
Project	Area to be improved (hectares) with:				Number of users	Cost (US\$ millions)
	Flood protection	Drainage	Irrigation	District total		
Tocaima	-	5,500	5,500	5,500	450	16.8
Magará	10,000	10,000	-	10,000	135	9.3
Cabrera	-	5,500	5,500	5,500	160	30.2
Laboyos	1,000	1,840	350	2,400	377	3.1

- 2.10 While potential users have already expressed an interest in these projects, they would not be carried through until the users had agreed to the definitive financing terms and conditions.
- 2.11 Construction of the remaining projects will start in the ensuing years, in accordance with the investment program agreed upon with the Bank.

### 4. Complementary services subprogram

- 2.12 This subprogram was conceived to address production and profitability problems in the irrigation districts. Its goal is to help users' associations secure services from third parties to support the land improvement districts. It comprises the following components: (a) advisory services; (b) analysis of the needs for supplementary services in the districts; (c) research and validation of irrigation technology; (d) training; (e) information on production and marketing; and (f) a study on technical and professional training in land improvement. The total cost is estimated at US\$3.5 million and the program execution period will be five years.
- 2.13 INAT still operates directly 15 of the 22 districts built and financed by initiative of the public sector - an area of about 170,000 hectares. Responsibility for management of the seven other

districts, which encompass 63,700 hectares, has already been turned over to the users. The transfer of districts to users is considered to be a core element of the strategy, for it makes those using the irrigation districts directly responsible for their satisfactory management, operation, and maintenance - one of the objectives of the new law. It also provides a means of doing away with subsidies; as it eases the financial burden of INAT, which at present amounts to more than US\$5 million a year.

- 2.14 In the six districts that are part of the World Bank rehabilitation program, funds have been included for hiring local firms to provide users with training and technical assistance to handle and administer the infrastructure. A contract has also been signed between INAT and UNDP to instruct INAT staff, employees of other public and private organizations, and users in the districts in training methods, to assist in transferring the remaining districts. The cost of the activities covered by the agreement with UNDP is US\$330,000, and the implementation period is 18 months, starting in mid-1994.

#### 5. Other eligible investments

- 2.15 Other activities, in addition to those envisaged in the foregoing subprograms, will be eligible for funding from the program provided that they meet the following criteria: (a) they must be consistent with the program's specific objectives; (b) they must be included in the annual investment program agreed upon with the Bank; and (c) they must meet the requirements set out in the PRONAT Regulations.
- 2.16 Such other investments may include: (a) rehabilitation works in existing districts; (b) specific studies of watersheds that serve to identify projects or measures for the environmental management, expansion, or improvement of works (such as the rebuilding of desilters); and (c) complementary services, including the activities involved in handing over districts now in operation to users' associations.

#### C. Continuity of the Bank's support

- 2.17 A program of consultancies has been devised to afford continuity to efforts to issue regulations under Act 41 and associated regulations, assist INAT in the administrative and financial areas of its restructuring program, expedite compliance with the conditions precedent established for the loan, and start to implement the projects, speeding up preparation of the remaining designs and studies for the first year. This consultancy program, which is to begin immediately, will be supported by US\$1 million in PPF funding, technical-cooperation CT/FONDOS resources in amounts of US\$150,000 from the Netherlands Fund and US\$65,000 from the Spanish Fund, and US\$150,000 from the World Bank.

D. Cost of the program

- 2.18 The following table shows the cost and sources of financing for this program to be funded by the Bank.

COST AND SOURCE OF FINANCING (US\$000s)				
COST CATEGORY	IDB	LOCAL	TOTAL	% OF TOTAL
<u>Investments</u>	<u>138,600</u>	<u>67,900</u>	<u>206,500</u>	<u>88.5</u>
- Construction work	98,100	67,900	166,000	71.1
- Preinvestment studies*	24,900	-	24,900	10.7
- Institution-strengthening	3,300	-	3,300	1.4
- Complementary services	3,500	-	3,500	1.5
- Other investments	8,800	-	8,800	3.8
<u>Financial expenses</u>	<u>1,400</u>	<u>25,500</u>	<u>26,900</u>	<u>11.5</u>
- Interest	-	22,695	22,695	9.7
- Credit fee	-	2,805	2,805	1.2
- Inspection and supervision	1,400	-	1,400	0.6
T O T A L	140,000	93,400	233,400	100.0
Source as a percentage of project total	60.0	40.0	100.0	
* Includes up to US\$1,000,000 for reimbursement of PPF.				

- 2.19 The Bank will withhold up to US\$1 million from the first disbursement of the loan, to recover the PPF funding made available under line of credit PPF/005-CO.

E. Financing

- 2.20 The proposed loan will be granted on the following terms:

Amount: US\$140 million (OC)  
 Amortization period: 20 years  
 Grace period: 5 years  
 Interest rate: variable  
 Credit fee: 0.75%  
 Inspection and supervision: 1%

- 2.21 The local counterpart funding requirement is US\$93.4 million, to which users are to contribute not less than about US\$12 million. That sum represents an initial payment by the users to offset part of the project costs, as mentioned in paragraph 3.12.

### III. EXECUTION OF THE PROGRAM

#### A. Execution arrangements

- 3.1 As an integral part of the national land improvement program (PRONAT), the IDB program will be carried through by INAT pursuant to the rules and procedures set out in the Regulations PRONAT Regulations, i.e.: (a) the Decree regulating Act 41; (b) the General Regulations; (c) the General District Administration Regulations, and (d) the Technical Standards Manual. The manual establishes detailed standards and requirements for the conduct of studies and projects, and the District Regulations govern the basic workings of the districts; the General Regulations establish the basis for PRONAT's operation, specifying agents and their responsibilities, criteria for selecting and prioritizing projects, financing arrangements, investment recovery requirements, etc. Presentation to the Bank of the regulations governing the PRONAT and their implementation will be a condition precedent to the first disbursement of the loan, and no substantive change may be made in the PRONAT Regulations without first having sought approval from the Bank.
- 3.2 Program execution will be coordinated by INAT's Planning and Information Processing Branch, with assistance from a team of advisors hired for that purpose under the institution-strengthening sub-program. INAT, as project executing agency, will be responsible for carrying through individual projects, as will other executing entities that satisfy the requirements of the General Regulations. In the latter case, INAT, as administrator of the PRONAT funds, will sign a contract with each such authorized executing entity, setting out the obligations of the parties. Presentation to the Bank of a model contract for this purpose will be a condition precedent to disbursement of the loan.
- 3.3 As the CONSUAT Technical Secretariat, INAT is also responsible for administering subsector policy and helping the Ministry of Agriculture perform its policy-setting mandate in the subsector.

#### 1. The PRONAT Regulations

- 3.4 With support from the IDB and the World Bank for the issuance of the PRONAT Regulations, the following documents have been drawn up: (a) the Decree regulating Act 41; (b) a draft of the PRONAT General Regulations; (c) a draft of the General District Administration Regulations; and (d) the terms of reference for compiling the Technical Standards Manual. To help prepare the final versions of the regulations cited in (b) and (c), a consulting firm was engaged using technical-cooperation resources of the Spanish Fund. The firm began work in October 1994. The Technical Standards Manual is being drawn up by a Colombian firm, with technical-assistance

funding from the World Bank. It is to be completed in the first quarter of 1995.

- 3.5 As was noted in the preceding chapter, PPF funding in the amount of US\$1 million will help INAT devise procedures and mechanisms for putting the regulations into effect. The PPF funds thus used will be recovered out of the first disbursement of the proposed loan. Lastly, the advisory services envisaged in the institution-strengthening subprogram will assist INAT in applying, monitoring, and adjusting the new regulations.

## 2. Institution-strengthening subprogram

- 3.6 This subprogram will be coordinated by the Planning and Information Processing Branch of INAT, with the help of an advisory firm or organization with proven international experience in the field of land improvement. That entity would be engaged by INAT as a condition precedent to the first disbursement of the loan.
- 3.7 The firm in question will appoint a coordinator who would assist, *inter alia*, in defining and programming all the activities envisaged for this subprogram (studies, training, and equipment procurement), including consulting services and work performed for INAT by other agencies with funding from other sources. Some of the advisory services would be devoted to devising indicators to monitor and evaluate the program and the subsector. The advisory support would be given over a period of 24 successive months (107 person-months of consultancies). In the third year, the consultants would make two visits (two person-months each) for purposes of follow-up and support to the permanent staff.
- 3.8 The Human Resources Division, under the supervision and guidance of the Coordination Committee and the advisors, will be responsible for the training component of this subprogram. Units will be asked to identify the area or specific topic in which a staff member requires training, and must provide the Committee with a justification of the training request by outlining the expected effect of the training on the work being performed. Training agreements will be concluded with institutions, consulting firms, universities, or individual instructors.

## 3. Preinvestment studies and land improvement works subprograms

- 3.9 A project team made up of professionals from INAT's Studies and Development Division, Project Construction and Management Division, and Complementary Services Division will be set up to carry through these subprograms. This group will be responsible for all the activities needed to complete each project, from the identification stage (including promotion efforts with users) to delivery of the works and coordination of the support services. When the study or project is assigned to another public or private executing agency, INAT, as the PRONAT fund administrator and CONSUAT Technical

Secretariat, will supervise this process, taking special care to ensure compliance with the PRONAT Regulations in each stage of the project cycle.

- 3.10 The cycle starts by identifying the project and promoting it among members of the beneficiary community; to this end the executing agency will prepare a project profile as provided in the PRONAT Regulations. After confirming the users' interest and their willingness to pay for the investment, the executing agency will perform a preliminary appraisal of the proposed project and prepare a prefeasibility study. If the project meets the eligibility criteria, the executing agency: (a) will promote the setting up of a Users' Association and a Technical Committee consisting of three persons with technical expertise appointed by the association to advise the members on the technical decisions which will need to be made as the project cycle advances; and (b) will arrange for funding from PRONAT to contract for the feasibility study, designs, and execution of project works, as well as the corresponding water concession and the environmental permit from the Ministry of the Environment.
- 3.11 As these stages proceed, users will take on a series of obligations (notably those of an organizational and financial nature) that will be evidenced in memoranda of undertaking: the first prior to commissioning the feasibility study, the second as a condition for contracting of the designs, and the final one prior to contracting of the works. As a condition precedent to the first disbursement of the loan, the Bank is to receive a model of each of these forms of memorandum, showing the obligations assumed by users pursuant to the PRONAT Regulations.

a. Minimum eligibility requirements

- 3.12 In view of the demand-driven nature of the program, emphasis has been placed on criteria and parameters for gauging the degree of user interest. The minimum eligibility requirements, summarized in the first column of Table III-1, are as follows: minimum user-participation requirements, in terms of numbers and area of land (at least 60% of users, occupying more than 51% of the area slated for the project, must sign the memorandum of undertaking before the contract is issued for the feasibility study); an advance payment equal to 10% of the project costs that are to be repaid must be made as a deposit; and there must be at least 20 users for each project. Accordingly, for a project to be eligible for PRONAT financing, users must have displayed the necessary degree of interest and meet the other requirements cited above; the average return, calculated as the economic internal rate of return (EIRR), must exceed 12%; and in over 25% of the project area there must be a concentration of small and mid-sized owners.

- 3.13 The purpose of requiring at least 20 users for eligibility is to denote the type of project that will be financed by the PRONAT, i.e., projects that have a sufficient number of users to warrant public-sector involvement. Projects for the benefit of individuals or a limited number of users will have to seek financing from the lines of credit for land improvement purposes which the government makes available to intermediary banks through FINAGRO, its specialized rediscounting agency. As the program focuses on projects of the first type and the use of the National Land Improvement Fund (FONAT), which is to be administered by INAT for investment in the subsector, has not yet been regulated, it is proposed that the loan contract preclude the use of program funds to finance land improvement projects through FINAGRO. An additional eligibility requirement for the INAT-IDB program will limit such financing to project design or construction covering an area of 10,000 hectares or less. 5/

b. Prioritization parameters

- 3.14 INAT will rank eligible projects using a point system agreed upon with the Bank (shown in the second column of Table III-1), so as to submit proposals for CONSUAT's approval of PRONAT funding for a project prior to each decision stage (feasibility, designs, and construction of works). The projects ranked the highest will have priority in obtaining public funding.
- 3.15 Upon completion of the construction, the executing agency will deliver the works to the users' association, which will manage and operate the district pursuant to the procedures established in the PRONAT Regulations. Before delivery of the works, the executing agency must: (a) sign a contract with the users' association setting forth the obligation to make payment of the installments for recovery of the investment on the conditions set by the CONSUAT; 6/ and (b) ensure that the works will be operated and maintained in accordance with the PRONAT Regulations. Presentation of a model of this contract to the Bank will be a condition precedent to disbursement.

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5/ Over a certain size limit, operation of the project becomes more complex, thus outweighing the advantages to be obtained from economy of scale. The demand-driven approach and transferral of the operation and management from districts to users also make it more difficult to secure the necessary commitments from users when their numbers and the land surface they occupy are greater.

6/ Grace periods of up to five years; repayment terms not to exceed 15 years; interest rate equal to the rate set by the National Agricultural Credit Committee for FINAGRO land improvement loans.

Table III-1 ELIGIBILITY AND PRIORITIZATION CRITERIA		
Parameter	Eligibility requirement	Maximum score for priority ranking
<b>1. COMMUNITY INTEREST</b>		<b>35</b>
1A. Percentage of users committed to participating (P)	P>60%	10
1B. Surface area occupied by users in 1A. (S)	S>51%	10
1C. User willingness to cofinance project with initial contribution installment (CI)	CI>10%	10
1D. Total number of farmers benefited (N)	N>20	N/A
1E. Willingness of other entities to cofinance the project		5
<b>2. SOCIAL RETURN</b>		<b>30</b>
2A. EIRR (T)	T>12%	30
<b>3. STRATEGIC LOCATION</b>		<b>15</b>
3A. Distance to export ports	N/A	2
3B. Distance to consumer centers	N/A	2
3C. Roads to and from project	N/A	1
3D. Regional priorities (per CONPES)		10
<b>4. CONCENTRATION OF SMALL AND MID-SIZED OWNERS</b>		<b>20</b>
4A. Percentage of project area with small and mid-sized owners	>25%	20
<b>TOTAL</b>		<b>100</b>
<b>SPECIFIC INAT/IDB PROGRAM REQUIREMENTS</b>		
Total area of project	<10,000 ha	
NOTE: Scoring formulas are part of the PRONAT General Regulations.		

#### 4. Complementary services subprogram

- 3.16 This subprogram will be executed by the INAT Complementary Services Division. For the advisory services component, a specialized firm will be engaged to assist INAT in coordinating the services and activities of this subprogram and any other technical assistance INAT may receive with financing from other sources. Contracting of that firm will be a condition precedent to the first disbursement of the loan. Contracts for the analysis will be signed with individual consultants or firms. The conclusions of each analysis must be translated into plans of action to resolve the problems

identified, and those plans will immediately be made a part of the division's activities.

- 3.17 Individual consultants or consulting firms will be engaged by INAT, through its Complementary Services Division, to set up the components of information processing and training in irrigation and drainage. For the research component, coordination will be established with the national agencies responsible for such activities (ICA, CORPOICA, the universities, etc.) and with the sources of funding available for this purpose (PRONATTA).

B. Project preparation

- 3.18 The INAT project pipeline contains 56 projects at various stages of readiness: 12 of them with final designs, 15 with feasibility studies, 13 with prefeasibility studies, and the remaining 16 at the identification level. It is also expected that new demand will be generated, resulting in further projects being presented through INAT and other public and private executing agencies. While this stock of projects is substantial, the new ground rules for the program (for example, the selection criteria, cost recovery and advance payment requirements, etc.) make it necessary to reevaluate each of the projects; in many cases this may lead to changes in their size or design, and some may ultimately be dropped.
- 3.19 In this context, the four projects examined for year 1 of the program have undergone changes in part of their designs, in their size, and in their implementation schedules. Drafting of the estimated investment timetable for the program was based on the readiness of those projects and that of the remaining studies, the execution of which will be funded under the PPF. Contracts for the design of projects that might be carried out in the second and third years would be let in the first year of execution.

C. Transfer of resources

- 3.20 The proceeds of the loan will be transferred to INAT for deposit to the account of FONAT, along with the counterpart funding, through the annual investment budget allocated by the government. Pursuant to current procedures, INAT presents a budget proposal each year to the National Planning Department (DNP), where it is reviewed and consolidated for formal submission to Congress as the draft budget law.

D. Acquisition of goods and contracting of services

- 3.21 Contracts for works, goods, and services are to be let in accordance with the Bank's procedures. Assisted by the advisory group, INAT will update its internal procedures for public bidding and contracting. They will be amended to reflect the changes introduced by the public contracting law (Act 80 of 1993), which

streamlines procedures to expedite procurement with the use of public funds.

E. Disbursement schedule

- 3.22 The loan proceeds will be disbursed in accordance with the investment timetable established each year and agreed upon with the Bank. A sum equivalent to 10% of the loan may be provided as an advance. Table III-2 shows the proposed investment schedule.

Table III-2 DISBURSEMENT TIMETABLE (US\$000s)						
SOURCE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
IDB	11,600	23,600	39,600	36,400	28,800	140,000
Local	6,800	15,000	19,700	26,300	25,600	93,400
TOTAL	18,400	38,600	59,300	62,700	54,400	233,400
%	7.9	16.5	25.4	26.9	23.3	100.0

F. Acquisition of land

- 3.23 The Land Improvement Act empowers INAT to expropriate land in the absence of any direct arrangement. Prior to any call for tenders or the start-up of construction work, the Bank must receive evidence of the legal possession to the land in question or of the pertinent rights thereupon.

G. Operation and maintenance

- 3.24 The users' associations will be responsible for administering, operating, and maintaining the districts as stipulated in the specific manual that must be produced for each district by the executing agency, based on the General District Administration Regulations. INAT, through the complementary services subprogram, will coordinate any assistance needed.
- 3.25 CONSUAT will be responsible for approving base rate schedules and service fees, which are to cover the full cost of system administration, operation, maintenance, and equipment replacement in each district. The requirement that users pay these fees will be set forth in the contract which they sign with the executing agency. If a users' association should fail to abide by the rules for operation or management of the districts, INAT will take enforcement action and assess a penalty on the association.

H. Financial management and recovery of investments

- 3.26 The cost of land improvement projects (feasibility studies, designs, and construction) executed by INAT or other organizations with PRONAT funding is to be recovered from users as established in the PRONAT Regulations, based on a resolution adopted by CONSUAT. The recovery percentage will be 30% for primary and secondary land improvement works and 70% for tertiary works. This transfer or subsidy may not exceed the cost of improving an area encompassing three "family farm units" (UAFs); the cost of any works exceeding three UAFs will be recovered in full. In addition, the owners of small farms 1/ will be given a subsidy amounting to 50% of their recovery requirement.
- 3.27 Funds recovered from users will be deposited to the FONAT account. INAT will engage a fiduciary agent to manage FONAT monies (payments to works contractors, collection of user contributions), under a trusteeship contract that will be put out to tender.

I. Program supervision and evaluation

- 3.28 INAT is responsible for monitoring the program and noting the goals attained in each of the four subprograms. This information will be used as the basis for compiling the progress reports which INAT must present to the Bank on April 30 and October 31 of each year. The October report must be accompanied by the PRONAT annual investment plan (PAI), which will include particulars of the investments to be financed by the IDB and other sources the following year.
- 3.29 The program will be supervised by Country Office and Headquarters staff assigned to the project. In the last quarter of each year of execution of the program, representatives of INAT, the DNP, the Ministry of Agriculture, and the Bank will hold a working meeting to assess the status of the program, compliance with obligations for its implementation, and performance of the land improvement subsector, with reference to indicators previously worked out with the Bank in the areas and categories listed in the following table. Agreement will also be reached each year on the investments to be carried through under the program the following year, and program performance will be reviewed in the context of macroeconomic and sector policy.

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1/ "Small farmers" are those who own farms of up to one "family farm unit" (UAF), i.e., having the potential to generate net income of up to three monthly minimum wages.

POLICY	INSTITUTIONAL	EXECUTION - INVESTMENTS AND ACTIVITIES
<p><b>Land improvement subsector:</b> Publicizing and application of PRONAT regulations: project selection criteria and procedures, cost recovery, budget allotments.</p> <p><b>Agriculture sector:</b> Restraints on international agricultural trade. Distortions in farm credit: financial terms, subsidies. Agricultural prices: distortions between products and sectors</p>	<p>Strengthening of INAT as project executing agency and as CONSUAT Technical Secretariat: capacity to appraise projects, coordinate complementary services, procure goods and services; internal workings and work with user associations and other executing agencies.</p> <p>Training of INAT staff, users, and technical officers of other institutions.</p> <p>Coordination with other public institutions like DNP, MAG, Environment Ministry, Corporations.</p> <p>Budget execution.</p>	<p>Identification and promotion of new projects.</p> <p>Study and execution of projects, designs, construction works.</p> <p>Expansion of improved area and use of improved land.</p> <p>District transfers.</p> <p>Participation of other executing agencies.</p> <p>Contracts of technical assistance for users.</p> <p>Research projects commissioned.</p>

- 3.30 As for an ex post evaluation of the socioeconomic impact of the individual projects in the program, the executing agency has indicated that it would wish to establish a database that would facilitate such an evaluation in the future, containing information on activities already in progress in the small and medium-scale irrigation projects financed by the World Bank.

J. Audits

- 3.31 Throughout the program execution period, INAT must present, to the Bank's satisfaction, its financial statements and supplementary information, duly audited by the Office of the Comptroller General of the Republic.

#### IV. THE EXECUTING AGENCY

##### A. Background

- 4.1 HIMAT, recently reorganized under the name of INAT, was created out of the agricultural sector reform of 1976. It took over the duties of the former Colombian Meteorology and Hydrology Service and the land improvement functions previously performed by INCORA. At the end of 1992, the imminent approval of the Land Improvement Act and the public sector reform program made it necessary to restructure and modernize HIMAT and equip it to work within the new framework for promoting investment in agricultural infrastructure. By virtue of Act 99/93, HIMAT passed its hydrometeorological functions over to the Ministry of the Environment, and INAT (which would be the executing agency for the program proposed herein) was created.

##### B. Functions

- 4.2 INAT's objectives are: (a) to produce basic studies in support of land improvement; (b) to promote, finance or cofinance, and execute land improvement studies and projects; (c) to administer and operate irrigation districts; and (d) to coordinate, promote, and finance or cofinance services that complement irrigation, and deliver technical assistance to the private sector.
- 4.3 Under the new regulations, INAT may contract for the execution of projects and activities through trust agreements whereby it may delegate to specialized public or private agencies such functions as the handling of funds and collection of fees and contributions.

##### C. Organization

- 4.4 INAT is an agency of the Ministry of Agriculture (MAG). At this writing it still has HIMAT's organizational structure, with the Office of the Director General supported by a General Secretariat and four branches headed by deputy directors - Finance, Land Improvement, Hydrology and Meteorology, and Planning and Information Processing - plus 16 regional offices.
- 4.5 INAT's new organization chart has yet to be approved, but the major changes envisaged are the elimination of the Hydrology and Meteorology Branch and reinforcement of the areas in charge of user support and environmental assessment of projects. These changes, which are expected to be effective early in 1995, will not affect the objectives or execution of the PRONAT.
- 4.6 The National Land Improvement Fund (FONAT), established by Act 41 of 1993 to finance studies, designs, and construction of land improvement works, will be run as a separate account in the INAT budget. District receipts for investment recovery, the proceeds of

external borrowings, allocations from the national budget, grants, and such other monies as the government may determine will be deposited to that account. These funds then can be allocated to finance projects executed directly by INAT or by other public and private agencies. Rules and procedures will be drawn up for that purpose in accordance with the policies established in the PRONAT Regulations.

D. Staff and capabilities

- 4.7 To discharge the new responsibilities delegated to it by Act 41, HIMAT (as it existed at the time) embarked on a restructuring of its organization and functions, eliminating approximately one thousand positions whose incumbents had previously administered and operated the districts, increasing the number of professional positions, upgrading the salary structure, and further decentralizing the institution. The new staffing table approved for HIMAT listed 1,565 positions (compared with 2,402 in 1992), 560 of them at the professional level (compared with 395 in 1992). This left the organization with a much stronger professional complement: with the increase from 395 to 560 positions at this level, professionals came to account for 36% of total staff, compared with 29% before. The increase was spread among headquarters and the regions, strengthening the organization from a technical standpoint and furthering its decentralization and delegation of functions.
- 4.8 The staff complement proposed for the recently created INAT consists of 892 positions, compared with HIMAT's 1,565. It would retain 60% of the incremental professional positions mentioned above. This strength at the professional level in INAT should bolster the areas of project identification, promotion, and study, and coordination of the delivery of support services to user associations.
- 4.9 In order to assess INAT's ability to carry out the PRONAT, an estimate was made of staff requirements for the project execution activities and preinvestment studies. The findings suggest that additional personnel may be needed for the contracting out and supervision of studies, depending on the study and project execution periods. That extra capacity can be arranged for through consultancies or short temporary contracts; the present staff is considered to be adequate for the contracting and monitoring of construction work.

E. The HIMAT budget and investment program

- 4.10 As an agency of the national government, HIMAT is financed by the national budget, through which external funds are transferred to it. The 1994 national spending budget for the agricultural sector amounts to US\$260 million, 30% (about US\$79 million) of which is earmarked for HIMAT. While the agency's investment program for

1994 is up considerably, it accounts for a mere 2% of the national budget.

- 4.11 In 1993, HIMAT budget execution figures 8/ rose over the previous years' level to US\$55 million, i.e., an increase of 112% over 1992. However, as a result of the organizational restructuring, on the one hand, and reformulation of its operations with the World Bank, on the other, HIMAT disbursed only US\$32 million of the US\$55 million, leaving the balance to be disbursed in 1994.
- 4.12 The 1993 operating budget amounted to US\$42.3 million, a 52% increase over the 1992 figure of US\$29.9 million. The upturn was due mainly to the allocation of funds to indemnify staff who were to be removed from the payroll as a result of the reorganization, coupled with the salary increases called for in the restructuring.
- 4.13 The investment program for the next five years calls for US\$418.9 million (Annex II-1), US\$323.1 million (77%) of which is for projects to be financed by the PRONAT and US\$95.8 million (23%) for projects in progress that had been approved before Act 41 was passed, most of them funded by the World Bank. The INAT-IDB program will finance 64% (US\$206.4 million) of the PRONAT investments; 24% will receive funding from other governments and 12% will be financed with Colombian resources from other sources.
- 4.14 The year 1995 will comprise a transition period in which INAT will train and adjust its staff to operate under the new PRONAT rules. It is therefore possible that the projects already under way and those yet to be started - most of them financed by available funds from the World Bank - may not be completed as originally scheduled.
- 4.15 Mindful of the impact that this transition period will have on INAT's execution capabilities and the program of investments already arranged with the World Bank, the Bank has scaled the program in such a way as to give the agency time to master and adapt to the revised policies. The IDB program thus calls for gradual growth, starting with US\$18.1 million in 1995. As of the second year, INAT is expected to have all of the trained staff and operating systems it needs to carry out the PRONAT as projected.

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8/ Due to the accounting system used by the HIMAT, the investment sums executed consist of the amounts committed with the support of the Ministry of Finance along with the funds actually disbursed during the calendar year.

## V. VIABILITY OF THE PROGRAM

### A. Technical viability

- 5.1 The technical viability of the program was established by addressing two factors: (a) at the national level, showing land improvement to be an effective means of achieving sustainable development of the agricultural sector and the government's strategy for promoting it to be satisfactory; and (b) at the project level, ensuring that the agronomic and engineering elements of the works selected have been properly planned and designed.
- 5.2 In the technical processes pursued to identify projects at the national level, and in the review and adaptation of projects already identified, heightened attention will need to be given to planning, conceptualization, and user involvement and contributions, in light of the revised rules governing public funding for the subsector.
- 5.3 By way of example, an effort will be made when identifying and promoting drainage projects to do away with the current bias toward large and costly irrigation projects. Better drainage, to begin with, would improve a large percentage of the country's farmland; this would allow for somewhat more intensive use of the land, resulting in many instances in a combination of good returns and lower unit costs. Consequently, the program could embrace a larger area.
- 5.4 Insofar as the projects now in the INAT pipeline are concerned, the requirement of a substantial financial contribution from users, coupled with their responsibility for administration of the districts, will call for careful consideration of new technical options. These may include the design of projects featuring independent mid-sized modules rather than districts with large blocks, so as to allow progressive incorporation of new areas and more use of overhead irrigation. All of these options make for greater flexibility in execution, better use of the water, and more gradual development that in the end will result in a higher return on the investment.
- 5.5 As an example of the connection between the new strategy and the conceptualization of projects, a review of the projects proposed for execution in the first year showed that designs needed to be reworked extensively to improve project rates of return. The same process should be followed for the rest of the projects as part of a methodology for coordination with users to be developed under the program.
- 5.6 At the same time, there are plans to coordinate with the World Bank to commission a Technical Standards Manual valid for the entire

PRONAT, to standardize the quality of the project design and execution processes.

- 5.7 On the agronomy side, land use is expected to be intensified. Currently, 70% of the area is low-yield rangeland used for extensive stock-raising. This would change to under 30% for livestock-raising, leaving the rest for crop cultivation using improved varieties and better technology. The projects have an acceptable rate of return under this intensification plan, but will become even more profitable as high-value crops (fruit and vegetables) are gradually introduced — although markets and technologies will take some time to develop.
- 5.8 The technology and production changes envisaged present a definite challenge, given the scant use of irrigation by most of these farmers in the past and the limited coverage of extension services at this writing. The complementary services subprogram is designed to meet this challenge. It will make sure that users receive assistance not only for the management and operation of the systems but also for the transfer of appropriate agronomic technology from third parties, the cost of which is built into the total project cost.

B. Economic analysis

- 5.9 The economic analysis of the program took into account its macroeconomic and sectoral impact and the projects' anticipated economic and financial returns at the farm level for the first year.

1. Macroeconomic and sectoral considerations 9/

- 5.10 As was noted in Chapter I, the program provides a satisfactory response to the present constraints on the agricultural sector. Evidence shows that investment in land improvement can boost the sector's productivity and ability to compete; ease fluctuations in the output and prices of farm commodities — especially food crops; generate jobs on the farm and elsewhere; and help check the expansion of the agricultural frontier.
- 5.11 The demand for these commodities (especially food items) was examined by putting together and analyzing various agricultural policy scenarios having an effect on production and foreign trade, taking into account projected population growth and the concomitant demand for foodstuffs and agricultural materials. According to the analysis, the projected output would be absorbed by the market without creating an oversupply situation that could pose problems

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9/ The assumptions used for this analysis and the respective flows are shown in an economic annex which is available for consultation in the technical files.

for producers. The examination shows that, based on the most reliable projections of demand for food items and maintaining current average yields, the area used for farming in Colombia will have to be increased by approximately 2.2 million hectares over the next 20 years if it is to satisfy market demand.

- 5.12 Given the aforementioned national food-supply projections, and considering that the new PRONAT irrigation projects would be limited at the outset to about 20,000 to 25,000 hectares per year, no overproduction of any commodity is anticipated. In addition, the program can help ease the pressure on areas that might attract settlement, if we assume that one hectare of farmland, when improved, will make for an increase in output equivalent to almost two hectares of new settlement.

## 2. Economic return of the projects in the first year

- 5.13 According to its original design, the Magará project was to provide irrigation and drainage infrastructure for 10,000 hectares. It became evident during the analysis, however, that the investments most urgently needed in the zone were flood protection and drainage works. With those two items alone, farmers would be able to substantially improve range management and introduce some additional farming activities. The economic internal rate of return (EIRR) calculated for this base case was 25.7%.
- 5.14 In the case of the Laboyos Valley project, the original design included an irrigation and drainage system covering a total area of 2,400 hectares. Closer analysis of the current water and drainage balance showed that a more realistic project, and one that is needed immediately, would be a drainage system for 1,850 hectares. The EIRR of that alternative was 24.5%. The district has a number of subunits that would produce significant benefits under spray irrigation. The EIRR on the respective investments for units I and IV, with a total area of 346 hectares, was found to be 20.8%, thus suggesting the possibility of intensifying production with the use of irrigation in other subunits of this district.
- 5.15 The Tocaima-Girardot project, located two hours' drive from the city of Bogota, offers great promise for marketing additional output with irrigation in place. However, since the quality of the water from the Bogota River does not permit spray irrigation, the area originally envisaged for development with irrigation infrastructure had to be scaled back, and it was proposed that independent pump irrigation subunits be used instead. The economic analysis of one of these gravity irrigation subunits on 950 net hectares gave an EIRR of 15.8%.
- 5.16 When the program was being prepared, changes were also made in the design of the Cabrera-Tres Pasos district to adapt it better to the terrain, thereby lowering the investment costs. The estimated EIRR of the new technical concept is 15.5%.

### 3. Financial viability at the farm level

- 5.17 Given the features of this program - in particular, its demand-driven approach and the defrayal of all operating and maintenance costs by the users, who will also reimburse a substantial portion of the investment costs (about 65% of the financial cost of the works) - special emphasis was placed on a financial analysis of farms selected as models, representative of each project to be implemented the first year.
- 5.18 The models were used chiefly to assess farmers' ability to assume the required financial responsibilities, especially in the first years of the "with project" scenario, and to demonstrate the potential for increasing revenues in the medium and long term with the project. This type of analysis will play a key role in working up the projects, especially during negotiations with future users.

### 4. Sensitivity analysis

- 5.19 The most serious risks from the standpoint of economic and financial viability at the farm level are: (a) an increase in the investment costs after work begins on the project, and (b) the realization of fewer benefits than anticipated due to marketing problems and/or inadequate use of the required technologies. Accordingly, the sensitivity analysis is focused on these two variables, applying a cross-sensitivity scenario in the respective benefit-cost figures as shown in Table V-1.

Table V-1 SENSITIVITY ANALYSIS		
District	EIRR Base %	EIRR Cross-sensitivity % Benefits - 10% Inv. cost + 15%
Magará (10,000 ha)	25.7	21.1
Tocaima-Girardot (950 ha module)	15.8	13.0
Laboyos Valley	-	-
Drainage only (1,850 ha)	24.5	19.4
Irrigation and drainage (346 ha)	20.8	16.0
Cabrera-Tres Pasos (5,570 ha)	15.7	12.3

### 5. Distributional impact

- 5.20 In order to ascertain the share of program benefits that would accrue to the different groups of farmers, the distributional impact was estimated using the Bank's methodology. For the Magará project, the distributional impact (portion of the incremental benefits received by the low-income population) is 17.46%; for Tocaima-Girardot 16.3%; and for Laboyos Valley 24.3%. The relatively low level of these figures is due largely to the land tenure

system prevailing in the respective districts and to the nature of the projects, which are primarily for commercial farming. When the new rules go into effect, however, the process for identifying new investments will result in projects entailing a larger percentage of small farmers, since that group has the advantage of subsidies, is assessed lower cost-recovery percentages, and receives higher scores in the prioritization required for PRONAT financing eligibility. In addition, the program will generate benefits in the form of externalities that will accrue to low-income groups.

F. Environmental impact

- 5.21 The environmental issues associated with the program were examined both at a program level and at the specific level of the land improvement projects for the first year.
- 5.22 Land improvement projects as a rule have an impact on the environment and pose some measure of environmental risk, associated with the more or less rational use of water and soils, and in some cases the impact on wetlands, wildlife, landscape, and cultural resources. As the project cycle moves forward, the potential environmental risks will be subjected to increasingly close scrutiny, and the necessary environmental management and protection measures will be devised. Accordingly, every project will have an environmental impact study and an environmental management plan that has been approved by the Colombian authorities before it is added to the program. That plan will include: (a) measures to prevent or mitigate adverse effects on the environment, the cost of such measures, and the party responsible for their implementation; (b) an environmental monitoring plan; (c) a contingency plan and plan for community participation; and (d) an environmental audit to verify the application and effectiveness of the recommended environmental protection measures.
- 5.23 Responsibility for following up on this process and technical responsibility for environmental management of the program will be assigned to the Land Improvement Branch of HIMAT through a work unit consisting of technical officers from the branch who have the requisite experience in that field. As a part of the institution-strengthening subprogram, that unit will be bolstered with specialized technical assistance, training, equipment, and implementation of technical and operational procedures for environmental quality control of projects.
- 5.24 As a condition precedent to disbursement of the loan, INAT must submit, to the Bank's satisfaction, the environmental quality control system, which is to include procedures (operational, institutional, and financial) and basic requirements for: (a) environmental analyses during the project cycle, and (b) specifications and provisions that will be included in the bidding documents and model contracts for land improvement works. This

information must be presented as an integral part of the PRONAT Regulations.

G. Institutional viability

- 5.25 INAT is now in a transition stage as it begins to take on the new functions and responsibilities conferred on it by Act 41. The restructuring efforts already launched are being consolidated, and progress is being made on enlarging and adapting its staff complement. Reformulation of the two World Bank loans was a further challenge for INAT. Lastly, the work involved in producing regulations under the new legislation has multiplied the technical and institutional demands on the agency at every level. This situation helps to explain the slow pace at which the investment program is being executed.
- 5.26 The construction program envisaged entails a physical target of some 20,000 to 25,000 hectares of land improvements each year. For INAT this would mean double the execution of funds it now handles, and it exceeds the levels achieved by INCORA in the 1960s, when projects involving public districts were at their peak (about 18,000 hectares implemented each year). This is nevertheless considered feasible, thanks to the restructuring of INAT and its added professional strength, and notably with the bolstering of the regional offices for the identification, promotion, and organization of project users. The program ensures the availability of financing for the preinvestment studies needed to sustain the flow of the proposed investments. As additional public and private organizations join in the execution of projects, the physical goal cited above may be raised substantially, provided that public funding is available.
- 5.27 The institution-strengthening component and PPF consultancies scheduled at the outset of the program were designed to boost HIMAT's execution capabilities and will supplement the activities financed by the World Bank. The hiring of advisors to design and streamline internal procedures, combined with the reforms approved in Colombia in regard to government contracting (Act 80 regarding public-sector contracting), will greatly expedite the administrative formalities pertaining to the contracting of services and construction work, and that will in turn speed execution of the PRONAT.

H. Financial viability

- 5.28 The INAT budget, which is small when compared with the national budget, is financed by the national government, using either its own resources or through domestic or foreign borrowings. The local counterpart funding for the proposed program amounts to US\$70 million over five years, i.e., US\$14 million a year. About US\$3.5 million of that sum will be provided by the participating farmers. Moreover, total annual financial outlays for investments will be

less than the amount approved for 1994. Accordingly, these requirements are not expected to be impede execution of the program, in view of the high priority attached to the subsector.

- 5.29 With the recovery of a substantial portion of public investment funds and cutbacks in operating and maintenance subsidies pursuant to the new policies for project financing and district administration, the State can continue to maintain a presence in the sector over the medium term, thereby helping to sustain a flow of financing for projects offering good returns.

I. Participation of women

- 5.30 The program proposed here is not targeted especially toward women and will therefore have no specific effect on women. Any benefits accruing to women will be indirect; in other words, they would be part of the overall benefits of the program, such as increases in output, employment, and income in rural areas and in farm-related activities.

J. Natural disasters

- 5.31 The proposed project locations are not at risk for natural disasters, and the projects would not create such risks. To the contrary, they include measures that may help avert losses from possible flooding in areas where bodies of water are prone to overflow their banks.

K. Risks entailed by the program

- 5.32 To be successful, the program requires that INAT, as executing agency, be flexible, efficient, and technically equipped to perform the new functions ascribed to it by law and by the program. This includes proper coordination of the flow of information between users and CONSUAT so that public funds can be allocated in accordance with the subsector's true needs and priorities. In addition, effective support must be forthcoming from the institutions that deliver services for agriculture (research, extension, and marketing).
- 5.33 The institutional transition phase which both INAT and the institutions which deliver agricultural services are undergoing - in a reorganization effort that has yet to be consolidated - poses a considerable risk to execution of the program. The institution-strengthening and complementary services subprograms are designed to alleviate that risk.
- 5.34 There also is a risk that actual demand may prove to be weaker than anticipated, due to user resistance to accept the commitments - notably the financial obligations - that will ensue from the sector's new legal and regulatory framework. This may occur as a result of factors that are beyond the direct control of the

program, such as changes in relative prices or marketing problems. The objective of the support for INAT and the users which is envisaged in the program is to identify and design projects that are efficient and offer a high rate of return on the private front, which is the best possible way to guard against such contingencies.

# INVESTMENT PLAN

COST OF THE INAT-IDB INVESTMENT PLAN 1995-1999 (US\$ millions)						
	1995	1996	1997	1998	1999	TOTAL
<b>CONSTRUCTION PROJECTS</b>	8.8	29.4	47.8	47.7	32.3	166.0
Tocaima-Girardot	2.0	7.0	7.8	-	-	16.8
Magará	1.8	2.5	2.5	2.5	-	9.3
Laboyos Valley	1.5	1.6	-	-	-	3.1
Cabrera-Tres Pasos	3.5	7.1	14.4	5.2	-	30.2
Patía	-	-	6.0	15.0	14.0	35.0
San Estanislao	-	-	6.0	10.0	2.1	18.1
Firavitoba	-	3.0	7.0	6.0	-	16.0
San Juan del César	-	8.2	4.1	-	-	12.3
Projects not programmed	-	-	-	9.0	16.2	25.2
<b>PREINVESTMENT STUDIES</b>	3.4	4.5	5.0	6.0	6.0	24.9
Feasibility study - La Llana	0.3	-	-	-	-	0.3
Feasibility study - Guamal	0.5	-	-	-	-	0.5
Feasibility study - Tumaco-Mira	-	0.7	-	-	-	0.7
Feasibility study - Ariri II	-	0.6	-	-	-	0.6
Feasibility study - Tuquerres	-	0.6	-	-	-	0.6
Designs - Patía	0.5	0.5	-	-	-	1.0
Designs - Firavitoba	0.8	-	-	-	-	0.8
Designs - San Estanislao	0.3	0.4	-	-	-	0.7
Designs - Valledupar	-	1.0	0.5	-	-	1.5
Designs - Ranchería	0.7	-	-	-	-	0.7
Designs - Guacaica	0.3	0.7	-	-	-	1.0
Studies and designs not programmed	-	-	4.5	6.0	6.0	16.5
<b>INSTITUTION-STRENGTHENING AND EQUIPMENT</b>	1.1	1.2	0.8	0.2	-	3.3
<b>COMPLEMENTARY SERVICES</b>	0.8	1.0	0.9	0.5	0.3	3.5
<b>OTHER INVESTMENTS</b>	1.0	1.0	1.0	2.5	3.2	8.8
<b>TOTAL</b>	15.1	37.1	55.5	56.9	41.9	206.5

INAT NATIONAL INVESTMENT PLAN 1995-1999 (US\$ millions)						
	1995	1996	1997	1998	1999	TOTAL
<b>A. PRONAT</b>	<b>33.9</b>	<b>57.9</b>	<b>74.6</b>	<b>80.0</b>	<b>76.7</b>	<b>323.1</b>
1. <u>Construction of districts</u>	<u>23.1</u>	<u>48.6</u>	<u>66.5</u>	<u>70.6</u>	<u>66.8</u>	<u>275.6</u>
Mariquita-Guayabal (WB)	7.0	7.3	-	-	-	14.3
Ariari (Japan)	0.3	1.0	10.1	15.2	25.9	52.5
Chicamocha (Italy)	-	3.0	8.6	7.7	8.6	27.9
Medium/large-scale irrigation (WB)	7.0	7.9	-	-	-	14.9
IDB projects	8.8	29.4	47.8	47.7	32.3	168.0
2. <u>Studies</u>	<u>6.7</u>	<u>5.9</u>	<u>5.2</u>	<u>6.0</u>	<u>6.0</u>	<u>29.8</u>
Studies and designs - IDB	3.4	4.5	5.0	6.0	6.0	24.9
Other studies (WB and others)	3.3	1.4	0.2	-	-	4.9
3. <u>Institution-strengthening and training</u>	<u>1.8</u>	<u>1.2</u>	<u>0.8</u>	<u>0.2</u>	<u>-</u>	<u>4.0</u>
IDB	1.1	1.2	0.8	0.2	-	3.3
World Bank and others	0.7	-	-	-	-	0.7
4. <u>Complementary services</u>	<u>1.3</u>	<u>1.2</u>	<u>1.1</u>	<u>0.7</u>	<u>0.6</u>	<u>4.9</u>
IDB	0.8	1.0	0.9	0.5	0.3	3.5
World Bank and others	0.5	0.2	0.2	0.2	0.3	1.4
5. <u>Other investments</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
IDB	1.0	1.0	1.0	2.5	3.3	8.8
<b>B. OTHER INAT PROGRAMS</b>	<b>43.7</b>	<b>26.1</b>	<b>9.6</b>	<b>8.3</b>	<b>8.1</b>	<b>95.8</b>
1. <u>Construction</u>	<u>24.4</u>	<u>13.9</u>	<u>0.4</u>			<u>38.7</u>
a. Small-scale irrig. (WB)	8.3	-	-			
b. Rehabilitation (WB)	12.0	13.5	-			
c. Expansion Lebrija (WB)	0.3	0.4	0.4			
d. La Mojana pilot project (WB)	3.8	-	-			
2. <u>Technical assistance</u> (to be determined) (WB)	<u>3.3</u>					<u>3.3</u>
3. <u>Procurement of machinery and equipment</u>	<u>2.2</u>	<u>0.2</u>	<u>0.1</u>			<u>2.5</u>
Equipment-INAT	0.4	0.2	0.1			0.7
Machinery-projects (WB)	1.8	-	-			1.8
4. <u>Acquisition of land</u>	<u>1.2</u>	<u>0.2</u>	<u>-</u>			<u>1.4</u>
5. <u>Other investments</u>	<u>4.9</u>	<u>5.9</u>	<u>3.5</u>	<u>3.7</u>	<u>4.0</u>	<u>22.0</u>
6. <u>Org. and maint. in districts</u>	<u>5.3</u>	<u>5.9</u>	<u>5.6</u>	<u>4.6</u>	<u>4.1</u>	<u>25.5</u>
7. <u>Hydrometeorology</u>	<u>2.4</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>2.4</u>
<b>TOTAL (A + B)</b>	<b>77.6</b>	<b>84.0</b>	<b>84.2</b>	<b>88.3</b>	<b>84.8</b>	<b>418.9</b>

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APENDICE I

PROPOSED RESOLUTION

COLOMBIA. LOAN /OC-CO TO THE REPUBLIC OF COLOMBIA

(National Land Improvement Program - PRONAT)

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 Republic of Colombia, as Borrower, for the purpose of granting the latter a financing to cooperate in the execution of a national land improvement program (PRONAT). Such financing will be for the amount of up to US\$140,000,000, or its equivalent in other currencies, except that of the Republic of Colombia, which are part of the Ordinary Capital resources of the Bank, and will be subject to the "Special Contractual Conditions" and the "Terms and Financial Conditions" of the Executive Summary of the Loan Proposal.