

**SUSTAINABLE DEVELOPMENT PROGRAM FOR Darién**

**(PN-0116)**

**EXECUTIVE SUMMARY**

**BORROWER AND:** Republic of Panama  
**GUARANTOR:**

**EXECUTING AGENCY:** Ministry of Planning and Economic Policy (MIPPE), through the Program Coordination Unit (PCU) and coexecuting agencies

**AMOUNT AND SOURCE:** IDB: US\$70.4 million (OC)  
Local counterpart funding: US\$17.6 million  
Total: US\$88.0 million

**FINANCIAL** Amortization period: 20 years  
**TERMS AND** Disbursement period: 6 years  
**CONDITIONS:** Interest rate: variable  
Inspection and supervision: 1%  
Credit fee: 0.75%  
Currency: US\$ (Single-currency facility)

**OBJECTIVES:** The basic objective of the program is to contribute to the region's sustainable social and economic development and to the management and protection of its natural resources. The specific objectives are as follows:

- Establish an effective land use management plan in keeping with the area's natural resource features.
- Reverse the process of deforestation and conflicts over land use, and stabilize the agricultural frontier.
- Enhance the capacity of institutions responsible for resource management.
- Strengthen managerial and supervisory capacities at the regional, municipal and indigenous community levels.
- Promote changes in the existing models of production and natural resource exploitation so as to ensure their sustainability, improve their

efficiency and encourage diversification of the local economy.

- Rehabilitate the transportation system to enhance internal mobility for passengers and freight and improve access to the region, in a manner consistent with the land use management plan.
- Improve access for the local populace to basic services (health, education, water and sanitation, electricity and community services).
- Coordinate program activities with those of other institutions and donors.

**DESCRIPTION:**

To achieve the proposed objectives, the program has been structured in five interrelated components: (a) **Land use planning, land titling, management and protection of natural resources**, with a view to the appropriate allocation of lands between protection and production zones; (b) **institutional strengthening**, to enhance the capacity to manage the new Land Use Management Plan effectively, with the involvement of local communities; (c) **support for sustainable production**, as a complement to the designation of protected areas, providing indirect support for those areas by making more efficient use of resources; (d) **rehabilitation of the transportation system**, to support economic activities and improve public mobility; and (e) **improving basic services**, as a direct contribution to the well-being of the local populace.

1. Land use planning, titling, management and protection of natural resources (US\$13.4 million)

Instruments will be established for regulating land use, promoting sustainable resource exploitation, and demarcating and titling land, in order to reverse current trends and modify unsustainable practices. This component includes a series of measures to mitigate and offset the environmental and social impact of the Bayano-Cañazas road, as an integral part of the Management Plan for the Rio Bayano Basin.

2. Institutional strengthening (US\$13.6 million)

The institutional structure will be strengthened as needed to administer and supervise the execution of program activities and measures to mitigate the impact of transportation investments, and to assist the decentralization process by strengthening local

capacities. The following activities are planned: (a) strengthening the capacity of national entities in the province; (b) assisting the decentralization process by strengthening the capacity of local public and non-governmental institutions, including the indigenous district (*comarca*) of Emberá/Wounaan, and the collective lands in Darién. This component is expected to develop the province's institutional and financial structure.

3. Productive activities (US\$3.0 million)

This will facilitate restructuring of the local economy, enhance its efficiency and sustainability, and encourage its diversification. It will complement efforts at land use planning and changing patterns of resource exploitation. Many of these activities will be closely linked to the land use and ownership aspects. This component will integrate and complement other bilaterally financed projects underway in the region.

4. Rehabilitation of transportation infrastructure (US\$33.0 million)

This will help to reduce transport costs in producing areas, and will encourage intermodal operations so as to enhance internal mobility for passengers and freight. It includes staged implementation of the Intermodal Transport Plan, in coordination with the Land Use Management Plan and the program's Strategic Plan and Environmental and Social Sequencing Matrix. It provides for rehabilitating, improving or constructing small ports, airports, feeder roads and sections of the existing highway.

5. Upgrading basic services (US\$5.6 million)

This will help to stabilize settlement patterns in producing areas and enhance the well-being of the local populace through the execution of projects that have been identified, prioritized and coordinated with the local communities through the annual operating plans (AOPs). Funding will be provided for preinvestment and investment in new works, and in expanding, upgrading and equipping existing facilities. Community support will be provided in the sectors of: education, health, basic sanitation, electrification, community facilities and urban planning, drawing upon and supplementing existing resources in sector investment projects and in special projects such as PROINLO and FES. This component will be implemented in accordance with

local cultural norms and the Land Use Management Plan.

**ENVIRONMENT AND  
SOCIAL REVIEW:**

The major recommendations both of the Loan Committee (Profile II) and of CESI/TRG (ESIR) were to incorporate a sequencing matrix setting out goals and milestones to be met before bids are called for those works with the largest negative impacts (see paragraphs 3.10 to 3.16).

The program is designed to ensure that the institutional strengthening efforts and the measures to mitigate potential negative impacts, both social and environmental, are carried out before the actual works are begun. In addition, all investments must be consistent with the Land Use Management Plan. The program's key planning and execution mechanism is the Strategic Plan Social Sequencing Matrix (Annex III-1).

**BENEFITS:**

The program will bring short-and medium-term benefits to the people of Darién, raising living standards by increasing the quality and coverage of health, education, water and electricity services. Over the medium and longer term, the program will benefit the entire population by ensuring sustainable and more efficient use of the region's forestry, fishing and agricultural resources in general.

Other benefits include: preserving biodiversity and unknown species; carbon sequestration; soil and water conservation; preservation of future production options; sustainable exploitation through ecotourism in protected areas and protection of the region's cultural identity and diversity.

**RISKS:**

**Institutional management capacity:** the major risk relates to the weakness of existing institutions. The program's success will depend on how effectively these institutions can carry out control and supervisory functions under the new regulations, and how effectively they can execute and monitor specific projects and activities. Institutional strengthening measures are planned for the key entities under the program: the National Environmental Authority (ANAM), the Ministry of Agricultural Development (MIDA), and the Panamanian Marine Authority (AMP). As well, the PCU will serve as a flexible and responsive management mechanism to ensure effective inter-institutional coordination, with the government's support and commitment.

**Consensus building.** There is also an inherent risk in the program's requiring or restricting people's movements within the protected areas of Darién, and discouraging new settlers— however well designed the regulatory and institutional tools may be. Resources have been assigned to establish consensus-building mechanisms (conflict resolution negotiation fora, consultation committee, funding for community projects) that will facilitate cooperation with the communities affected.

**Land use planning.** An immediate risk relates to possible problems that the government may encounter in enacting the regulatory instruments for land use planning in the region. A special law for Darién is considered a prerequisite for achieving the program's objectives. Such a law would cover the proposed Land Use Management Plan for the entire province, together with specific institutional arrangements and possibly a financing scheme to support sustainable development of the region's resources. The General Environmental Law, however, already gives the Executive the power to declare special protection areas by means of other instruments such as executive decrees and ANAM resolutions, and these instruments will be used until an overarching framework law for Darién can be enacted.

**ROLE OF THE  
PROJECT IN THE  
BANK'S COUNTRY  
STRATEGY:**

The Bank's strategy for Panama follows four general guidelines: (a) expanding social policy benefits; (b) fostering sustainable development; (c) promoting sustained growth; and (d) strengthening governance. The proposed operation fits within this strategy, since the country's poorest people, who under the current production system have limited economic opportunities, will be helped to move towards sustainable development.

**POVERTY TARGETING:**

In accordance with the stipulations of the Eighth Replenishment document (AB-1704), it has been determined that the proposed program meets the geographical classification criteria for poverty targeting. In the Province, between 59% and 78% of the population is classified as indigent or poor. In addition, the operation applies selection criteria designed to channel investments to the province's poorest communities.

**EXCEPTIONS TO  
BANK POLICY:**

The least-cost selection method is proposed for the hiring of consulting services (see paragraph 3.35).

**PROCUREMENT OF  
GOODS AND  
CONSULTING  
SERVICES:**

The procurement of goods, services, works and consulting services will be conducted in accordance with the Bank's standard procedures. International competitive bidding will be used for goods in amounts above US\$350,000, for works in amounts above US\$1.5 million, and for consulting services in amounts above US\$200,000. For amounts below these thresholds, the simplified special procedures to be included in Annex D of the contract will apply.

**SPECIAL  
CONTRACTUAL  
CONDITIONS:**

**A. Conditions prior to the first disbursement:**

1. Approval of the Executive Decree establishing the Program Coordinating Unit (PCU), the Program Executive Committee (CEP), and the Inter-Institutional Coordination Secretariat (SECOIN); each of these must be operational, with a minimum staff complement as agreed in advance with the Bank (see paragraphs 3.4, and 3.7 to 3.9).
2. Entry into force of the program operating regulations, subsequent to Bank review and approval (see paragraph 3.21).

**B. Special conditions precedent to the disbursement of resources for execution of the activities to be implemented by the coexecuting agencies:**

1. The agreement signed with each coexecuting agency must be submitted to the Bank's satisfaction (see paragraph 3.22).

**C. Disbursements for program start-up:**

1. It is recommended that disbursement of up to US\$800,000 be allowed prior to fulfillment of the conditions indicated in A. and B. above, to begin execution of the aerial photography, cadastral survey, conflict resolution negotiation fora, and institutional strengthening of ANAM under the program.

**D. Other conditions:**

1. During the program execution period, annual meetings will be held to review, monitor and evaluate the results achieved under each component of the program during the preceding year, and to assess compliance with the conditions set forth in the Strategic Plan and the Environmental and Social Sequencing Matrix for the program (see paragraph 3.31).

2. A parallel annual programming process will be followed for the preparation of annual operating plans, based on consultation and consensus building with the communities. The results of the annual reviews will be considered in defining and approving the annual operating plan for the following year (see paragraphs 3.17 to 3.19).
3. Highway sections. Before issuing calls for proposals for each section of highway, the borrower must submit the respective environmental impact assessment (EIA) approved by the ANAM and its corresponding environmental mitigation and management plan (EMP), and must demonstrate compliance with the actions indicated in the Strategic Plan and the Environmental and Social Sequencing Matrix for each section (see paragraph 3.12 and Annex III-1).
4. Operating Regulations. The loan contract will establish the parties' agreement that the Strategic Plan and the Environmental and Social Sequencing Matrix of the Program, worked out during the negotiations, will form an integral part of the Operating Regulations. Annexed to these Regulations will be the information that must be submitted to the Bank, before issuing each call for public bidding, to demonstrate compliance with the agreed sequencing (see paragraph 3.21).

## I. FRAME OF REFERENCE

### A. Description of the Province of Darién

- 1.1 The Province of Darién, located in the extreme eastern portion of Panama, presents a sharp dichotomy: it contains the poorest population and the richest natural resources in the country. The province has a land area of 16,671 km<sup>2</sup> (22% of national territory) and a population density of 3.6 persons per km<sup>2</sup>. Its 60,000 inhabitants, scattered throughout the territory, belong to three ethnic groups that are relatively distinct in terms of their demographic dynamics, their cultural heritage and their relationship with the region's natural resources. Average monthly family income is 80 balboas, less than half the national average, and between 59% and 78% of the province's population is classified as "indigent" or "poor".
- 1.2 The province has three different ecosystems: (a) an estuary around the Gulf of San Miguel, which provides conditions suitable for mangrove ecosystems, acacia forests and a rich diversity of fish life; (b) three mountain ranges, which are home to most of the region's unique flora and fauna; and (c) the Central Valley, in the basin of the Chucunque River (through which the Pan American Highway was built), and a number of smaller valleys that constitute the region's modest agricultural potential.
- 1.3 In recognition of the region's natural riches, the Darién National Park (*Parque Nacional de Darién*, PND) was established in 1980. In 1981 UNESCO designated it as a World Heritage Site, and in 1983 as a "Man and the Biosphere Reserve". It occupies a third of the province's land area, in the mountains and forested areas along the Colombian border, and is the largest protected area on the Central American isthmus.
- 1.4 Darién also has an important ethnic and cultural heritage, owing to the presence of the Emberá, Wounaan and Kuna indigenous groups and their interrelations with the Afro-Darién and immigrant population, who have preserved the cultural traits of their provinces of origin. There are marked differences among the ethnic groups, and in each case cultural characteristics determine their economic ways and their exploitation and management of local resources.
- 1.5 The ethnic divisions of the population are not immune to conflict, which is generally associated with land tenure issues. The indigenous groups have laid claim to lands beyond the *Comarca*, and immigrant farmers (the principal holders of land use, or possessory, rights) insist on a swifter and less costly system of land titling, while the Afro-Darién people are apparently migrating to Panama City and declining in numbers locally. There is also a process of integration, and some areas are becoming more diverse in terms of their ethnic composition.

B. Colonization of the province

- 1.6 The Darién region has been the object of intensifying migration over the last 20 years. Settlement of the province can be divided into two periods: before and after the opening of the Pan American Highway.
- 1.7 Before the highway was put through, the region communicated by means of the estuary emptying into the Gulf of San Miguel (see map). There were to be found the major economic activities: fishing and lumbering. Migration inflows (colonization from "old" Darién) pushed up the rivers from La Palma, the provincial capital, into more productive farming areas in the flatlands along the rivers. Their population in 1978 amounted to 23,000 (OAS, 1978), most of them Afro-Darién people, with a growth rate of 1.56%.
- 1.8 The opening of the highway in 1978 brought a radical change in this pattern, and introduced a direct flow of colonization into the center of the province, creating a "new Darién" with its center at Metetí. The new highway, which was clearly over-built, 1/ speeded up the process of colonization, and brought about a significant change in the exploitation of natural resources, the geographic distribution of population, and the relationships among the various ethnic groups. Population grew at an annual rate of about 4.5%, and is currently composed of immigrant settlers [colonos] (45%), indigenous groups (30%) and Afro-Dariénites (25%).

C. Principal characteristics of the province

1. Land use, land ownership, resource management and protection

- 1.9 Because of the special features of the region's natural resources, which are both rich and fragile, successive Panamanian governments since 1960 have designated eight protection zones for special handling. Some 84% of the province's area is affected by regulatory restrictions governing the region. Only 16% (258,263 ha) of the area remains available and unclaimed under prevailing rules. Moreover, only 151,034 ha (9.4% of the area) is considered suitable for farming or livestock grazing: the remainder is forest land, with 428,478 ha (26%) classed as "productive forest", 376,123 ha (23%) as "woodland and tree crops", and 658,515 ha (40%) as protected areas. At the current time, 39% of the territory lies in protected areas, but this includes production forest areas within the PND, while excluding protected areas such as the Serranía de Cañazas and the Serranía de Darién.

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1/ The highway is over-dimensioned both for current and projected traffic; 20 years after it was built, traffic on the 100 km stretch from Agua Fria to Yaviza amounts to only 400 vehicles a day, and is less than 200 on the Metetí-Yaviza section. The road is built to a capacity of more than 2,000 vehicles a day.

- 1.10 The traditional fishing area is located mainly in the estuary of the Gulf of San Miguel, which is surrounded by 404 km<sup>2</sup> of mangrove swamps that help to sustain the fishing livelihood of 15 communities. The Gulf itself has been declared off-limits to commercial fishing fleets. Its designation, however, bears little relation to the characteristics of its existing resources and habitats, and the ban is frequently ignored.
- 1.11 Only 246 of the 5,441 farms (covering 217,372 ha) identified in the 1990 farm census carry ownership title, but there is a very active market in possessory rights [*derechos posesorios*], which are easily transferable. This instrument, which is legally precarious, 2/ typifies landholding in the region, and is consistent with the pattern of temporary occupation that has been characteristic of the process of forest exploitation and colonization in Darién.
- 1.12 Land use planning and management. The current land use scheme was not based on any set of consistent, simple technical criteria appropriate to the province's development context. Resource administration is thus a complex task and is generally ineffective. The funds needed to enforce it properly are far beyond the budgets of the National Environmental Authority (ANAM) and the Panama Marine Authority (AMP).
- 1.13 The region has been extensively exploited by forestry and mining interests, and by the expansion of farming and commercial fishing. Even so, according to the latest information, 76.1% of the area, largely under natural forest cover, is considered "unexploited", and 79.3% is classed as under "suitable use". Only 157,295 ha, 9.5% of the total area, is in need of restoration or change of use.
- 1.14 The tendency to deforestation is perhaps the most serious problem. It is estimated that the deforested area rose from 159,563 ha to 396,508 ha between 1980 and 1997. In this sector, the greatest problem is in terms of management. Management plans for forest concessions are ignored. Reforestation efforts are insufficient: it is estimated that fewer than 1,000 ha were reforested in Darién over the period 1967 to 1992. The area in forest plantations in 1997 was only 453 ha, despite a costly scheme of fiscal incentives for reforestation.
- 1.15 In the farming sector, the area in production is used inefficiently. Deforested lots are used temporarily to grow crops, and are then abandoned or turned over to extensive grazing. Farming practices are traditional and inefficient, and focused on low-value crops that are grown primarily for home consumption and have little chance to compete on the market.

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2/ The GEA and POTLATCH reports of 1998 deal in detail with the legal aspects of possessory rights.

- 1.16 The inappropriate use of resources extends to the rich fish life of the Gulf of San Miguel. Traditional fishing is unsustainable both in its intensity and in the methods used. There is clear evidence that the estuary's fishing zone is being over-exploited, as reflected in the volume and size of the catch.

2. Institutions, civil society and security

- 1.17 Political and administrative organization. Regional and local administrations are weak, reflecting in part the high degree of centralization. Although steps have been taken to decentralize authority, and local mayors are now elected by popular vote (the Governor of the province is still appointed by the President of the Republic), the process is just beginning. Municipal finances are shaky and depend to a large extent on transfers from the central government, although the Constitution empowers the municipalities to impose certain kinds of taxes, including forest operation levies. This financial dependence on national transfers has led to creation of a mechanism for provincial coordination, but it is apparently not operational, because powers have not been delegated from the national agencies to the local representatives, and because the provincial and municipal governments are themselves so weak.
- 1.18 Indigenous groups suffer from organizational confusion and need to resolve land tenure problems, in addition to strengthening their governing bodies so that they can play an effective role in project development.
- 1.19 Institutions of government. It is estimated that at least 21 national public agencies, with more than 800 personnel (more than 1.3 per 100 inhabitants) have a presence of some sort in the province, without counting the National Police, which has recently reinforced its personnel strength. This presence is felt primarily in the areas of education and health, where there are almost 700 personnel, including 460 teachers and 227 health workers, of whom 34 are medical doctors. ANAM has fewer than 60 staff; the Ministry of Agricultural Development (MIDA) has 27; the MICI/AMP has 2, and MIPPE has 10. The actual capacity of this structure is modest, because of the lack of resources of all kinds, including trained and motivated personnel. <sup>3/</sup> This situation is reflected in the quality of the services that each of these institutions is supposed to provide.
- 1.20 Land use management and forestry regulation is the responsibility of ANAM, and yet only 56 (4.98%) of its 1,100 permanent and occasional officials nationwide are assigned to this work, in which

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<sup>3/</sup> GEA (August 1998) evaluated 16 government agencies present in the province, and found that personnel had little motivation to work in Darién.

they must cover fully 22% of the national territory. Under the Environment Law (July 1998), ANAM is now in the process of reorganization. Yet its current capacity is judged inadequate, for the enormous task of inspecting and supervising an area of such diversity, and a frontier of more than 1,000 km. According to the authorities, this situation reflects the lack of funds, and the resulting low salaries and weak personnel qualifications and motivation.

- 1.21 The AMP, which is responsible for coastal areas and the estuary, is also undergoing a restructuring, and its capacity is equally limited. The disposal of state lands (allocation of ownership titles), and management of the land, is the responsibility of MIDA. Neither institution has sufficient budget or staff to cope with the magnitude of its tasks.
- 1.22 Non-governmental organizations. There are a number of organizations in the crowded but ineffective institutional landscape of the region. Curiously, there are few grassroots community organizations, and those that exist tend to derive their inspiration from outside the community. Of these, the Catholic Church has had the greatest success in rallying the community around producers' associations, health committees and other organizations.
- 1.23 Among NGOs, 17 have identifiable activities in Darién, but only four of these have a permanent presence in the province. The only one engaged in the management of protected areas is ANCON, which looks after the Humedal de Punta Patiño, a wetland area, and the Punta Patiño Biological Reserve. ANCON would seem to be performing effectively in the protection of some of the areas under its control, but its relationships with the communities are tenuous. Of the remaining NGOs, only two (the Pro-Niños Foundation of Darién and Fe y Alegría) are operating successfully, and the fourth, INCADI, has serious funding problems.
- 1.24 Public safety. The rising number of public safety incidents, associated with domestic turmoil in Colombia, has been attracting recent attention. Darién has been known as a relatively peaceful area, with little crime, and these recent incidents are undermining the public's feeling of security, especially when there are no adequate means of communication and news travels by rumor and word of mouth. In Darién, security is an integral factor in resource protection, not only in terms of inspection and supervision, but also because the dispersed pattern of settlement is unsustainable in the face of insecurity. One immediate effect of the recent incidents has been the abandonment of some areas, particularly by health and education workers.

### 3. Systems of production and employment generation

- 1.25 Seventy-five percent of the economically active population works in agriculture. Most families in Darién, including indigenous groups, earn their income from a combination of sources that include: traditional subsistence farming with conventional patterns of colonization; wage-earning labor in lumbering and in fisheries-related work; selling small quantities of lumber, by license, as a subsistence activity; extensive livestock grazing; traditional fishing; and to a limited extent, employment in the public sector and businesses. Farming itself has been a supplementary activity of secondary importance to the extractive industries, especially lumbering. The extractive industries, however, produce little value added for the local economy. <sup>4/</sup>
- 1.26 In short, the current manner of farm production will not contribute significantly to enhancing the well-being of the local populace. The farming frontier has been pushed beyond its natural limits, and relies on crops of low value and poor yield that are grown primarily for subsistence. The extractive industries do not generate significant demand for local labor or services, and subsistence farming is barely sufficient to sustain the current population, which derives most of its monetary income from the informal (and often illegal) sale of lumber and other marginal activities.
- 1.27 There would appear nevertheless to be a significant potential for improving agricultural productivity, changing cultivation patterns, and increasing employment and incomes. The extractive industries (forestry and fishing) also hold significant promise, but they will require an effective regulatory system. Finally, services such as ecotourism hold a potential that should be exploited.

### 4. Transport systems

- 1.28 The transport system consists of a road network of 367 kilometers, with tenuous connections to a river navigation network and a few small airports. The road network comprises five isolated circuits: (a) the CPA [*Carretera Panamericana*, the Pan American Highway], which runs unpaved for 183 kilometers from Puente Bayano to Yaviza (There are offshoots to both sides of the highway, totaling 97 kilometers and providing access to the production zones. Over its final stretch, from Canglon to Yaviza (26 km), the flow of traffic is severely impeded during the rainy season.); (b) the 35 km Tuira loop connecting the villages in the vicinity of Yaviza; (c) the 30-km Sambu loop linking the villages of Santa Barbara, Garachine and Sambu; (d) the 22 km La Palma loop uniting this area with Seteganti and Chepigana; and (e) the Torti-Rio Congo loop, a branch

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<sup>4/</sup> The value of output from these three sectors was approximately B/360,000, according to data from D&M and López (1998).

of the CPA that enters from the Province of Panama. This system is interconnected with the river network at key points such as Puerto Quimba, Yaviza and El Real.

- 1.29 River transport has been the mainstay of traditional production, which is concentrated along the river banks, and makes use of Yaviza and other small ports along the Tuira River as staging centers. The most important traditional farming areas, located along the rivers Tupisa, Tuquesa and Chico, have used this system to carry their produce to Yaviza and from there to La Palma via the Tuira River, or to Panama City, when the CPA is passable over the Canglon-Yaviza stretch.
- 1.30 The features of the transport system serve to maintain a barrier between "old" and "new" Darién, which are connected via the stretch of river from Puerto Quimba to La Palma, and over the section of the CPA running from Canglon to Yaviza. La Palma, the capital of the province and of "old" Darién, has remained relatively isolated from the "new" Darién and from Panama City. It stands on the left bank of the Tuira River, and its connection to Panama City is via the river to Puerto Quimba, where service is irregular and port facilities inadequate. Transport costs are relatively high, especially via the small boats that navigate the Tuira River between La Palma and Yaviza, and also over the poorly maintained sections of the CPA and its branches. Yet expansion of the road network could have an indirectly adverse impact by encouraging further invasion of protected areas, unless proper controls are instituted.

## 5. Basic community services

- 1.31 Coverage by basic services such as water, electricity, health and education is low. The scattered population means that supply is costly and the low purchasing power of the local populace makes access to service much more difficult. The budget allocated to these services is inadequate to pay the costs of operation, which means that some facilities remain underutilized or have been abandoned. On the other hand, there are investment funds available that have not been used, because of the apparent lack of management capacity in the communities. This is indicative of an inadequate allocation of public resources by government entities, and also by external financing programs, which creates an imbalance between investment and the operation of services. During the consultation process, communities gave high priority to improving these services.
- 1.32 Water. The water supply is inadequate, even in places where there is existing infrastructure in place, such as in Yaviza, El Real and La Palma. These systems are expensive to operate (at more than US\$0.30/m<sup>3</sup>) and rely on State subsidies. Rural water systems fall under the responsibility of the Ministry of Health (MINSA), which lacks the resources to run them adequately. There are financial

resources available, however, through the Local Investment Program (PROINLO), the Social Emergency Fund (FES), and the Rural Health Project (MINSA/IBRD) to expand the system's coverage. The supply of safe drinking water is particularly deficient in the communities along the CPA, given the high costs of getting supplies through during the rainy season (January to April), and in the towns of La Palma and Yaviza. None of the urban settlements has a sanitary sewer system, or any method of disposing of solid wastes.

- 1.33 Electricity. The Institute of Water Resources and Electricity (IRHE) supplies electric energy by means of independent generating systems located in the various municipalities. Installed generating and transmission capacity in this system is sufficient to meet projected demand over the next few years, but operating costs are high (some 50% above the official tariff of B 0.12), and coverage of the service is only 28%, although in the towns such as La Palma, Yaviza, el real, Pinogana, Metetí and Santa Fe, about 80% of homes have power 24 hours a day. Under the newly privatized structure, rural areas will receive better service; the government has set up an Office of Rural Electrification to meet the needs of this sector.
- 1.34 Health services. Public health indicators are the lowest in the country. Life expectancy is 63.8 years (1996) compared with the national average of 73.7 years. Infant mortality is 46.4, compared with the national average of 22.6 (1996). The major causes of morbidity in the area are related with the consumption of contaminated water and with the presence of a dengue fever vector. The health system falls under the MINSA, which maintains a regional hospital in La Palma and two rural hospitals, one in Yaviza and another in El Real. There are 21 health centers, of which about 10 have no resident doctor. Darién has an average of 4.9 doctors and 4.3 nurses per 1,000 inhabitants, compared with the national average of 11.7 and 10.7 respectively.
- 1.35 There are investment resources available at the national level, from the IBRD for the Rural Health Project (US\$42.0 million) and from the IDB for the Health Sector Modernization Project (US\$42.0 million). Both of these projects are currently in execution. The health sector needs strengthening and technical assistance for the preventive health program, which has yet to achieve the coverage and impact expected.
- 1.36 Education. The 1990 census recorded 25.7% of the population over 6 years of age as having received "no instruction". This figure is significantly higher for women (29.1%) and indigenous populations (33%); it is worst of all for indigenous women (39%). It is frequently suggested that education programs fail to take account of cultural factors and of the languages spoken by indigenous groups and the Afro-Darién population. Substantial adjustments are therefore needed in education programs, including the introduction of bilingual education, so as to ensure that these people can be

properly incorporated into the system. Instruction at the intermediate level is rare; the only center for technological education is at Metetí, where there is a branch of the National University of Panama. There is a training center for indigenous groups near Yaviza, but it is in need of operating funds and technical assistance.

- 1.37 The education system needs improvements to its physical plant and to its supply of books and materials, adaptation of its educational programs, strengthening of the indigenous training center, and the establishment of conditions for providing access to technical and intermediate education. Projects have been approved at the national level amounting to more than US\$140 million, financed by the World Bank (US\$78.0 million) and the IDB (US\$58.0 million), which could be incorporated into the planned activities in Darién. As in the case of health, the major limiting factor is financing for operating costs and system maintenance.

D. Other projects in the province

- 1.38 The government has been making efforts in addition to those mentioned above, through a number of development projects with external financing (totalling some US\$24 million), including: PRODARIÉN, BIODARIÉN, Frontera Agrícola and the Acacia Project (details in the Annex). Studies show that the financial resources provided under these projects in Darién have not had an impact commensurate with the magnitude of the investment. Among the reasons for the lack of effectiveness of these projects, the following have been identified: lack of autonomy for the executing unit, which reports to an office of the federal government; lack of coordination among the various projects; lack of qualified human resources willing to work in Darién; and the low capacity of community and grassroots organizations. The lack of coordination is a problem even among projects in the same zones, and this results in the duplication of efforts and the earmarking of funds to no useful purpose. 5/
- 1.39 Public investment in Darién, beyond the projects cited above, has not been insignificant, as might be suggested by the image of isolation and neglect that the province portrays. The province has received funding through Parliamentary initiatives, the Local Investment Program (PROINLO), the Social Emergency Fund (FES), grants to municipalities, municipal budgets, community works, and provincial councils. Nothing is known about the quality of these investments, since there has been no systematic evaluation and follow-up, but there is evidence that their allocation has been less than adequate, as suggested by the shortcomings observed in

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5/ Between BIODARIÉN and PRODARIÉN there are 5 different funds for financing small projects, all of which show low levels of execution.

the operation and maintenance of installations, and in particular the lack of personnel assigned to the provision of basic services. Generally speaking, the attempt to spread available resources among as many communities as possible means that insufficient funding is provided to bring a project to completion.

E. Bank and country strategies

- 1.40 The Bank's strategy for Panama follows four general guidelines: (a) expanding social policy benefits; (b) fostering sustainable development; (c) promoting sustained growth; and (d) strengthening governance. The proposed operation fits within this strategy, since the country's poorest people, who under the current productive system have limited economic opportunities, will be helped to move towards sustainable development.
- 1.41 The present government, as part of its development plan, has undertaken an aggressive program to modernize the regulatory and institutional framework within which productive activities take place. It is also promoting sustained development and is treating poverty as a priority. The government seeks to incorporate the local population into the country's economic and social development process, by promoting action in the social field and encouraging the development of economic activities that will generate incomes. In this context, the General Environmental Law has been approved and is now in the process of implementation, and ANAM has been created. The primary objective of these measures has been to overcome distortions in the environmental area, reinforce the country's protected resources, and subject them to more efficient and sustainable management.

F. Justification for Bank participation

- 1.42 The proposed operation seeks to reverse current trends that are destroying the ecosystem of Darién by instituting the concept of sustainable development in terms of striking a dynamic balance among human, ecological and economic factors. Progress towards such a balance will only be possible to the extent that cultural and biological diversity can be safeguarded and promoted. The major problems relate to: (a) protecting natural resources that are of great richness and variety and at the same time very fragile, and where human intervention to date has been unsustainable because of the ways in which the forest, the soil and the fishery have been exploited; and (b) the need to provide support for people who are the poorest in the country, and whose economic opportunities under current systems of production are severely limited.
- 1.43 The shortcomings of mechanisms for control and supervision and the administration of natural resources, under a complex system that embraces many protected areas with inadequate operating criteria, together with an unsuitable system of incentives generated by a

regulatory approach that requires substantial modifications, are the principal causes of the tendency toward unsustainable resource exploitation, which is aggravated by cultural, political and social factors inherent in a situation where the wealth of resources contrasts so sharply with the poverty of the local populace.

- 1.44 The opportunities, nonetheless, are equally clear: the forestry sector, the fishery and agriculture all have ample potential that can be realized by improving the regulatory systems, through making modest but efficiently targeted investments in transportation and basic services.

## II. THE PROGRAM

### A. Program concept and design

- 2.1 The analysis indicates that in order to reverse the trend to deterioration of Darién's natural resources and create opportunities to enhance the well-being of the Darién population, it will be necessary to:
- Make specific adjustments to the regulatory framework for the extractive sectors, with a view to rationalizing the incentive system and bringing them into line with present-day requirements, and to simplify land use rules in order to make their administration viable and effective.
  - Enhance the effectiveness of the institutions responsible for administering natural resources and strengthen the management capacity of local governments and civil society, equipping them with the instruments needed to carry out their functions effectively.
  - Promote the restructuring of the local economy in the direction of more efficient production, and encourage diversification into activities that will generate greater value added locally.
  - Channel public investment towards the provision of efficient basic services and the development of the minimum transportation infrastructure required, and ensure that funds are available for its proper maintenance.
- 2.2 The problems at hand will not be readily resolved in the short term, because they require major social, political and cultural adjustments that are to a great extent dependent upon public attitudes and a public sense of responsibility for conserving resources and respecting the law, and upon the political will and capacity of the public sector to put such solutions into effect. The proposed strategy incorporates the following elements:
- Continue the process of consultation and consensus building with the community. This process must be maintained, through the mechanism of discussion conflict resolution negotiation forum. The effort must include dialogue, training, coordination and delegation of responsibility to the communities. Consequently, the process will have to be a gradual one, aimed at establishing the consensus necessary to ensure active cooperation on the part of the local populace.
  - Establish a rational sequence for executing the proposed projects and activities. In terms of timing, this sequence must be directed first at strengthening land-use planning

mechanisms, protecting resources, and regulating forestry and fishery activities, moving on subsequently to improve the productive efficiency of those sectors and of the region's agriculture. In geographic terms, there must be a balance struck between promoting the recovery and protection of fragile areas and supporting development in production zones, which means that activities will have to be planned in accordance with the economic zones defined in the Land Use Management Plan.

- Simplify the criteria for land use management. The supervision and control required to make land use management work can be very costly, which means that criteria and procedures need to be established to facilitate the effective administration of resources. This includes a more operational definition of areas set aside for protection and special management in the province.
- Optimize public intervention. If the needs identified by the local populace are to be met, greater responsibility for public services will have to be delegated to local organizations. At the same time, an effective and transparent system of incentives will be needed to promote economic activity and to minimize direct public sector intervention in the supply of goods and services as a substitute for private initiative. Only in such a context should consideration be given to specific measures to promote greater local value added, since otherwise there will be a risk of supporting unsustainable activities that run counter to the objectives of those measures.
- Rationalize the institutional structure and improve inter-institutional coordination. The institutional structure underlying public intervention in Darién is too complex and there is no local capacity to absorb the activities of so many agencies, public and private alike. This is clear in the duplication and counterproductive nature of efforts to date. Greater coordination is needed, since many public investments are conceived with no thought to land use rules, and incentives are provided for the occupation of areas that are supposed to be protected.

2.3 Taking these elements as the basis, the proposed operation has been designed to combine supervisory and control measures with appropriate incentives that will lead toward the program's fundamental objective: the sustainable development of the Darién region.

B. Objectives of the proposed program

2.4 The basic objective of the program is to contribute to the region's sustainable social and economic development and to the management

and protection of its natural resources. The specific objectives are as follows:

- Establish an effective land use management plan in keeping with the area's natural resource features.
- Reduce the pace of deforestation and the conflicts over resource use, and stabilize the agricultural frontier.
- Enhance the capacity of institutions responsible for resource management.
- Strengthen managerial and supervisory capacities at the regional, municipal and indigenous community levels.
- Promote changes in the existing models of production and natural resource exploitation so as to ensure their sustainability.
- Rehabilitate the transportation system, in a manner consistent with the Land Use Management Plan.
- Improve access for the local populace to basic services (health, education, water and sanitation, electricity and community services).
- Coordinate program activities with those of other institutions and donors.

C. Description of program components

2.5 To achieve the proposed objectives, the program has been structured in five interrelated components: (a) land use planning, titling, management and protection of natural resources, with a view to establishing an appropriate allocation of lands between protection and production zones; (b) institutional strengthening, to enhance the capacity to manage the new Land Use Management Plan effectively, with the involvement of local communities; (c) support for sustainable production, as a complement to the designation of protected areas, providing indirect support for those areas by making more efficient use of resources; (d) rehabilitation of the transportation system, to support economic activities and improve public mobility; and (e) improving basic services, as a direct contribution to the well-being of the local populace.

2.6 These components have been designed in accordance with the Strategic Plan and the Environmental and Social Sequencing Matrix in the ESIR, using the method found in the Logical Framework, the tables for which are a part of the execution plan, as in Annex II-1. Following is a detailed description of the program's components and projects.

1. Land use planning, titling, management and protection of natural resources (US\$13.4 million)

2.7 Instruments will be established for regulating land use, promoting sustainable resource exploitation, and demarcating and regularizing land ownership, in order to reverse current trends and modify

unsustainable practices. This component includes the following projects:

a. Regulatory reform and Program Framework Law (US\$300,000)

2.8 Regulatory reforms. This consists in amending the regulatory instruments for land use planning and for managing the forestry and fishery sectors. It will require detailed studies of the regulatory framework for the forestry sector, and support for establishing regulation of the fishery sector, so as to bring about changes to specific rules and procedures that will ensure the sustainability of the resources and the economic efficiency of their exploitation, with due regard to their social impact.

2.9 Framework Law for Darién. This will establish a coherent approach to land use planning, to replace the various individual instruments now in use, and will incorporate the proposed Land Use Management Plan (*Plan de Ordenamiento Territorial*, POT), together with measures to enhance administration of natural resources and funds. While the law is being enacted and the implementing regulations drafted, the ANAM will issue the decisions needed to formalize the reforms to the rules and the Land Use Management Plan.

b. Implementing the Land Use Management Plan (POT)  
(US\$5.5 million)

2.10 Implementation of the POT includes: (a) management plans for the three proposed zones: (i) the National Park and the Serranía de Darién, approximately 560,000 ha, including a plan for coastal management; (ii) Valle del Chucunaque, roughly 600,000 ha; and (iii) Estuary of the Gulf of San Miguel, approximately 400,000 ha; and (b) management plans for specific areas: (i) the Hydrological Reserve and the Forest of the Serranía de Cañazas, (ii) the Hydrological Reserve and Forest of the Serranía Filo del Tallo, and (iii) the Comarca Emberá-Wounaan (District of Cemaco and Sambu). Implementation of these management plans will include demarcation, and protection and conservation work. These plans will be the product of a process of consultation and consensus-building with the communities and civil society.

2.11 Execution of work on the management plans will be supported by a Land Bank, as a pilot experiment for encouraging the exchange of lands in protected areas that are now being used for farming, against lands located in production zones. These activities will be complemented by the components for institutional strengthening and production support, and by projects financed by other donors. Priority areas for introducing the POT are those indicated in the Strategic Plan and the Environmental and Social Sequencing Matrix for the program.

c. Land survey, demarcation and titling (US\$5.7 million)

- 2.12 This includes the production of aerial photographs and cadastral surveys at the property and municipality level, over an area of 815,000 ha, covering 5,500 rural properties in the Darién region. The phases of the title-issuing process will follow the sequencing established in the Strategic Plan and Environmental and Social Sequencing Matrix. Titles will be issued for some 80,000 ha in the first phase (covering about 2,000 families), and by the end of six years it is expected that titles will have been issued for the remaining properties. This project is intended to help stabilize occupancy and utilization of zones suitable for farming activities, and create conditions for enhancing their productivity, as well as for reversing the current process of invasive colonization. In addition, the environmental and social impacts of the Bayano-Cañazas road will be addressed by a planned series of mitigation and offset measures, which are a key component of the Management Plan for the Rio Bayano Basin. Aerial photographic work, a cadastral survey and land titling will be conducted for 377,000 ha, coinciding with the Rio Bayano Basin, and the Comarca Madugandi will be demarcated.

d. Natural resource inventories and research (US\$1.7 million)

- 2.13 Inventories will be made of forest and fishery resources, and research will be conducted on the region's natural resources, with due regard to the intellectual property rights of indigenous groups. The work includes: (a) forestry inventories on 150,000 ha that would be made available for commercial concessions, to be performed in phases of up to 50,000 ha; (b) inventory of fishery resources in the Gulf of San Miguel; and (c) support for the initiative to create a scientific center to conduct and coordinate research, taking advantage of the existing local capacity represented by the University of Panama, the Smithsonian Tropical Research Institute, the Panama Agricultural Research Institute (IDIAP), the Panama Institute for Agricultural Science (ICAP) which is carrying out research on flora and fauna in the PND (the BIODARIÉN project), and the Panama Center for Plant Research (CIFLORPAN), which is working on biological prospecting in the PND. The new center will support the ANAM's work in supervising and administering natural resources.
- 2.14 In addition, support will be provided for the implementation of a Binational Plan (Colombia-Panama) for cooperation in scientific studies and research on biodiversity, conservation and other areas of common interest in the Darién bio-geographical area.

2. Institutional strengthening (US\$13.6 million)

- 2.15 The institutional structure for administering and supervising the execution of program activities and reinforced and the measures for

mitigating the impact of investments will be strengthened. Support will be provided for the decentralization process by strengthening local capacities. Activities are planned for: (a) strengthening the capacity of national, provincial and local entities in the region; (b) assisting the decentralization process by strengthening the capacity of local public institutions, including the *Comarca* of Emberá/Wounaan, and the indigenous congresses. This component is expected to develop the province's institutional and financial structure. It includes the following projects:

a. Strengthening national institutions (US\$11.3 million)

- 2.16 This calls for organizing and strengthening regional directorates, according to criteria consistent with the zoning proposed in the POT, for the following entities: the National Environmental Authority (ANAM); the Panama Marine Authority (AMP); and the Ministry of Agricultural Development (MIDA), all of which are key institutions in the resource management field.
- 2.17 The following activities are planned; (a) updating the geographical maps of the province, at a scale of 1:50,000, and establishing information systems for implementing the POT; (b) strengthening and equipping the local units of ANAM in support of its land use administration; (c) enlisting the local units of the National Police in controlling and supervising natural resources and providing community support; (d) strengthening the local units of the National Police for natural resource surveillance and control and community support; (e) strengthening the local units of MIDA for supervising the validation and transfer of technology (production support component); (f) strengthening and equipping the MIDA's Agrarian Reform Directorate, which is responsible for issuing land titles, and the Public Registry Office, in charge of the rural cadastral survey; (g) strengthening and equipping the AMP, the regulatory body for the fisheries sector and the administrator of special use areas in the estuary of the Gulf of San Miguel and the coastal zone; and (h) strengthening the Indigenous Affairs Directorate of the Ministry of Government and Justice, incorporating issues relating to indigenous lands.
- 2.18 In addition, the government has pointed to the importance of using the program (a) to establish a Panamanian Office for Clean Development, to promote the sale of environmental services; and (b) to finance a capital contribution to the Fund for the Development of Indigenous Groups (US\$5.0 million), in support of indigenous development initiatives.

b. Strengthening the provincial, comarcal and municipal governments and NGOs (US\$2.3 million)

- 2.19 This will provide technical assistance, equipment and training to the provincial government, the governments of the *comarcas*, and the four municipalities, to enhance their capacity to carry out their

basic functions (administration and finance) and to support execution of specific program activities, particularly in the area of land use planning and management of the forestry and fishery sectors. This project will be coordinated with the decentralization initiatives that are now underway in the country. In addition, it will provide support to organizations with a local presence in aspects relating to resource protection and management, to the extent that they can support implementation of the program.

3. Productive activities (US\$3.0 million)

- 2.20 This will facilitate restructuring of the local economy, enhance its efficiency and sustainability, and encourage its diversification. It will complement efforts at land use planning and changing the manner of resource exploitation. Many of these activities will be closely linked to the conveyance of land titles and the adoption of management plans. Other activities will support community initiatives in traditional fishing, ecotourism, handicrafts and small industry. This component will integrate and complement other bilaterally financed projects underway in the region. It includes the following projects:

a. Transfer of farming, forestry and fishery technology  
(US\$1.2 million)

- 2.21 This will promote diversification away from low-productivity farming activities, the introduction of appropriate farming practices in buffer zones, the restoration of forest areas, and the use of appropriate technology in the fishing sector. It includes support through soil studies, integrated pest management and other key activities for diversifying and raising the technological level of farming, livestock raising and traditional fishing. It will be carried out through cooperative work focused on farms, demonstration herds, and fishing groups.

b. Critical areas management, pilot project (US\$350,000)

- 2.22 This includes a system of transfers for conservation and protection services, in accordance with agreements to be worked out in the process of POT consultations. A scheme will be developed for providing incentives or direct grants to small farmers (some 200 families, with an average of 10 ha/family) located in critical areas, to compensate them for the opportunity cost of conserving and protecting the forest. As a pilot project, it will be introduced in two priority areas identified by the POT. The incentives will be financed in the short run with resources from the program, over the medium term with the proceeds of stumpage fees, and in the longer term from the marketing of environmental services.

c. Strategic activities (US\$1.45 million)

- 2.23 Support will be provided for small projects prioritized by the communities during the consultation process. These will be coordinated with execution of the management plans in each area, with a view to utilizing existing resources in projects funded by other donors, such as BIODARIÉN, PRODARIÉN and FRONTERA AGRÍCOLA. Financing will be provided for strategic activities, including feasibility studies, in support of community and NGO initiatives to improve the productive structure. The criteria that will govern use of these resources are included in the program's operating regulations.
- 2.24 Among other activities identified are: small-scale projects for converting extensive livestock grazing systems (pursuant to POT priorities); strengthening and consolidating organizations of traditional fishermen (some 600 fishermen) to manage fishery zones; feasibility studies of areas identified as having ecotourism potential ("Heritage Routes"), etc.

4. Rehabilitation of transportation infrastructure  
(US\$33.0 million)

- 2.25 This will help to reduce transport costs in producing areas, and will encourage intermodal operations so as to enhance internal mobility for passengers and freight. It includes staged implementation of the Intermodal Transport Plan, in coordination with the Land Use Management Plan, and will be carried out in accordance with the Strategic Plan and Environmental and Social Sequencing Matrix (see paragraphs 3.11 and 3.12). It provides for rehabilitating, improving or constructing small ports, airports, feeder roads and sections of the existing highway. It will be executed in a series of stages:
- 2.26 First stage: rehabilitation and upgrading of the Puente Bayano - Metetí - La Palma system. The goal is to build an efficient link between Panama City and La Palma (Old Darién), to serve the priority production zone (Agua Fria - Metetí). It includes the following projects: (a) CPA Puente Bayano - Metetí, rehabilitation and paving of 134 km (specifications: width 6.4 m, asphalt surface); (b) Metetí - Puerto Quimba, rehabilitation of 21 km; (c) Puerto Quimba and La Palma, construction of port facilities and support for traditional fishery; equipment and institutional strengthening for provision of services; (d) improvements to the La Palma airport; (e) Metetí - Canglon, cost study and preparation for tender; (f) study on cost recovery alternatives for transport facilities, including institutional and financial measures to ensure infrastructure maintenance.
- 2.27 Second stage: rehabilitation and upgrading of the Metetí - Yaviza system. Includes: (a) improved river transportation on the Chucunque and Tuira rivers, construction of small port facilities

and support for the traditional fishery; (b) rehabilitation of sections of the Metetí - Canglon highway; (c) study of air transport facilities at Yaviza, El Real and Jaque; and (d) rehabilitation of sections of the CPA between Agua Fría and Metetí (approx. 30 km).

- 2.28 Third stage: Upgrading of transport systems in the La Palma - Yaviza area. This stage envisages possible projects on the left bank of the Tuira River. It includes: (a) rehabilitation of the Canglon - Yaviza section; and (b) rehabilitation of CPA feeder roads between Canglon and Yaviza (approx. 16 km).

5. Upgrading basic services (US\$5.6 million).

- 2.29 This will help to stabilize settlement patterns in producing areas and enhance the well-being of the local populace through the execution of projects that have been identified, prioritized and coordinated with the local communities, through the annual operating plans (POAs). Funding will be provided for pre-investment and investment in new works, and in expanding, upgrading and equipping existing facilities. Community support will be provided in the sectors of: education, health, basic sanitation, electrification, community facilities and urban planning, drawing upon and supplementing existing resources in sector investment projects (Rural Health Project, MINSA/IBRD) and in special projects such as PROINLO and FES. This component will be implemented in accordance with local cultural norms and the Land Use Management Plan. The following projects have been identified:

a. Water, sanitation and electricity (US\$3.6 million)

- 2.30 Investments in public services will be directed at: (a) upgrading these services in under-serviced communities, with emphasis on schools, health centers and other public facilities; (b) expanding coverage in producing areas through support for establishment of cooperatives and health boards; and (c) stimulating economic activity, especially in the fishery and lumbering sector, by extending electricity networks.
- 2.31 The priority investments identified in the consultation process are: for water, along the CPA and in towns such as La Palma and Yaviza; for sewage and solid wastes, in Metetí, La Palma and Yaviza; and for electricity, the Metetí - Puerto Quimba transmission line. For execution, the MINSA Integrated Health Directorate will cooperate to provide training for the local water administration boards so that the operation of these systems can be handed over to the communities. Electrification projects will draw upon the institutional capacity of the new Office of Rural Electrification.

b. Health, education and urban planning (US\$2.0 million)

- 2.32 Activities in these areas will be limited to identifying specific measures and activities for financing with other available funds. These sectors have resources available through projects of the Bank and the World Bank. Infrastructure requirements are relatively modest, and are limited by the operating budget.
- 2.33 The local authorities and the communities need support to finance urban planning studies for the major towns of Yaviza, El Real and Metetí, and the capital of La Palma, and advisory services in designing and building small community works identified during the consultation process, which would then be financed from other sources.

D. Dimensioning of the Program

- 2.34 Program dimensioning and cost estimations took account of diagnostic studies and evaluations by various consultants, and the availability of funds in other projects now underway, both nationally and regionally. The minimum amounts have been included necessary to resolve the problems identified.
- 2.35 The land use and institutional strengthening components have been dimensioned to undertake the minimum necessary actions, such as regularizing land title in production areas and implementing the POT, with community cooperation, bearing in mind the need to minimize the fiscal burden.
- 2.36 The productive activities component includes only strategic activities to support or initiate land conversions and production systems that will ensure resource sustainability, and will depend on private initiative to make viable productive investments. This component however provides additional funding for local sustainable development initiatives emerging from the consultation and coordination process.
- 2.37 The largest component is that for rehabilitating the transportation infrastructure. Nevertheless, this is limited to rehabilitating the strategic highway routes, such as the Puente Bayano - La Palma road via Metetí, and river transport along the Chucunque - Tuirá system. Estimated costs are consistent with the prefeasibility study done for the Bayano - Yaviza section of the highway.
- 2.38 The basic services component is intended only to complement activities that have funding from other sources, such as those now underway with financing from the IDB and other agencies. Some funding has been allocated to support initiatives of community priority that are complementary to POT measures.

E. Program cost and financing

- 2.39 The total cost of the program amounts to US\$88.0 million. The Bank's contribution will be the equivalent of US\$70.4 million, and the Government will contribute the equivalent of US\$17.6 million. At the government's request, the Bank will finance its portion in US dollars from the ordinary capital single-currency facility. The proposed terms are: (a) amortization period, 20 years; (b) disbursement period, 6 years; (c) grace period, 6 years; (d) interest rate, variable; (e) credit fee, 0.75%; (f) inspection and supervision, 1.0%.

TABLE OF COSTS AND FINANCING SCHEME (In US\$000)				
Investment category	Bank	Local Counterpart	Total	% of total
<b>1. Administration and supervision</b>	3,500.0	2,600.0	<b>6,100.0</b>	<b>6.9</b>
1.1 Coordinating unit	3,000.0	2,500.0	5,500.0	
1.2 Evaluation and control	400.0	0	400.0	
1.3 Supervision and coordination	100.0	100.0	200.0	
<b>2. Direct costs</b>	<b>58,004.0</b>	<b>10,596.0</b>	<b>68,600.0</b>	<b>78.1</b>
<b>2.1 Land use, titles, management</b>	<b>12,400.0</b>	<b>1,000.0</b>	<b>13,400.0</b>	
2.1.1 Regulatory and legal framework	300.0	0	300.0	
2.1.2 Land Use Management Plan implementation	5,200.0	300.0	5,500.0	
2.2.3 Survey and titles	5,100.0	600.0	5,700.0	
2.2.4 Natural resources inventory	1,600.0	100.0	1,700.0	
<b>2.2 Institutional strengthening</b>	<b>8,100.0</b>	<b>5,500.0</b>	<b>13,600.0</b>	
2.2.1 National institutions	5,300.0	5,000.0	11,300.0	
2.2.1 Provincial/municipal/NGOs	1,800.0	500.0	2,300.0	
<b>2.3 Productive activities</b>	<b>1,800.0</b>	<b>1,200.0</b>	<b>3,000.0</b>	
2.3.1 Agric/forestry tech trans	800.0	400.0	1,200.0	
2.3.2 Critical areas management	200.0	150.0	350.0	
2.3.3 Strategic activities	800.0	650.0	1,450.0	
<b>2.4 Transportation rehabilitation</b>	<b>30,904.0</b>	<b>2,096.0</b>	<b>33,000.0</b>	
2.4.1 First stage	16,904.0	1,096.0	18,000.0	
2.4.2 Second stage	11,200.0	800.0	12,000.0	
2.4.3 Third stage	4,800.0	200.0	5,000.0	
<b>2.5 Basic services</b>	<b>4,800.0</b>	<b>800.0</b>	<b>5,600.0</b>	
2.5.1 Water, sanitation, electricity	3,150.0	450.0	3,600.0	
2.5.2 Health, education, <i>MISSING TEXT</i>	1,650.0	350.0	2,000.0	
<b>3. Basic services</b>	<b>4,600.0</b>	<b>0</b>	<b>4,600.0</b>	<b>5.2</b>
3.1 Contingencies	4,600.0	0	4,600.0	
<b>4. Financing costs</b>	<b>704.0</b>	<b>7,996.0</b>	<b>8,700.0</b>	<b>9.8</b>
4.1 Interest	0	7,468.0	7,468.0	
4.2 Credit fee	0	528.0	528.0	
4.3 FIV	704.0	0	704.0	
<b>TOTAL</b>	<b>70,400.0</b>	<b>17,600.0</b>	<b>88,000.0</b>	<b>100.0%</b>
% of total	80,0%	20,0%	100,0%	

Direct Costs by Component					
	Land use	Institutional strengthening	Production activities	Rehabilitation of transportation infrastructure	Basic services
Services	11,200	11,100	2,300	1,600	300
Goods	1,200	1,300	100	200	1,300
Works	1,000	1,200	600	31,200	4,000
TOTAL	13,400	13,600	3,000	33,000	5,600

### III. BORROWER, EXECUTING AGENCY AND PROGRAM EXECUTION

#### A. Program focus and procedures

- 3.1 The program will bring an integrated focus to a variety of problems that affect the province. It will be scheduled and executed in stages, on the basis of an agreed Strategic Plan, to be implemented by means of annual operating plans (POAs). Planning, validation and execution of activities will be based on the consultation and consensus-building process already initiated during the preparation phase. To ensure the region's sustainability and to promote direct community participation in management, an Environmental and Social Sequencing Matrix has been prepared to ensure an appropriate scheduling of the program's social and environmental components. The proposed components, projects and activities will have quantifiable goals that are directly related to these objectives, and that will be verified by the program's evaluation and monitoring system.

#### B. Institutional framework of the program

##### 1. Borrower

- 3.2 The borrower of the proposed financing will be the Republic of Panama, which will also be responsible for amortizing the loan, and for transferring loan proceeds to the executing agency on a non-reimbursable basis. Proceeds of the loan and the local counterpart contribution will be transferred to the executor in accordance with the POAs.

##### 2. Executing agency and coexecuting agencies

- 3.3 The executing agency will be the MIPPE, through a program coordination unit (PCU). The PCU will have a program steering committee and a local advisory committee (LAC), which will help it to mobilize local community participation. The coexecuting agencies will be qualified public and private institutions and NGOs, which will assist in execution through agreements and contracts with the PCU. Coordination of the coexecuting agencies and other agencies with projects in the region will be achieved through the Inter-institutional Coordination Secretariat (SECOIN), headed by the PCU.

##### 3. Program executive committee (CEP)

- 3.4 This will consist of the Special Representative of the President, as chair, the Administrator of the ANAM, two representatives of civil society, one member appointed from a list submitted by the National Private Business Council (CONEP), and another from a list submitted by local NGOs, the Governor of Darién province, and the

Chief of the Comarca Emberá-Wounaan. This committee will be supported by the International Advisory Committee that was set up during program preparation.

- 3.5 The committee will oversee program execution, to ensure compliance with policy guidelines and the program's strategic plan, and will propose any adjustments necessary. Its main functions will be to: propose general guidelines for preparing the POAs; approve viable and eligible projects and activities consistent with the POAs, pursuant to the operating regulations and the Environmental and Social Sequencing Matrix for the program; support and supervise the PCU in its functions; mobilize political participation among local governments and other regional and national bodies; and channel the recommendations of the international advisory committee. It will meet every three months, with the director of the PCU serving as the committee's executive secretary. The committee may be convened on an emergency basis by any of its members, and may set up specific sub-committees on topics relating to the program.

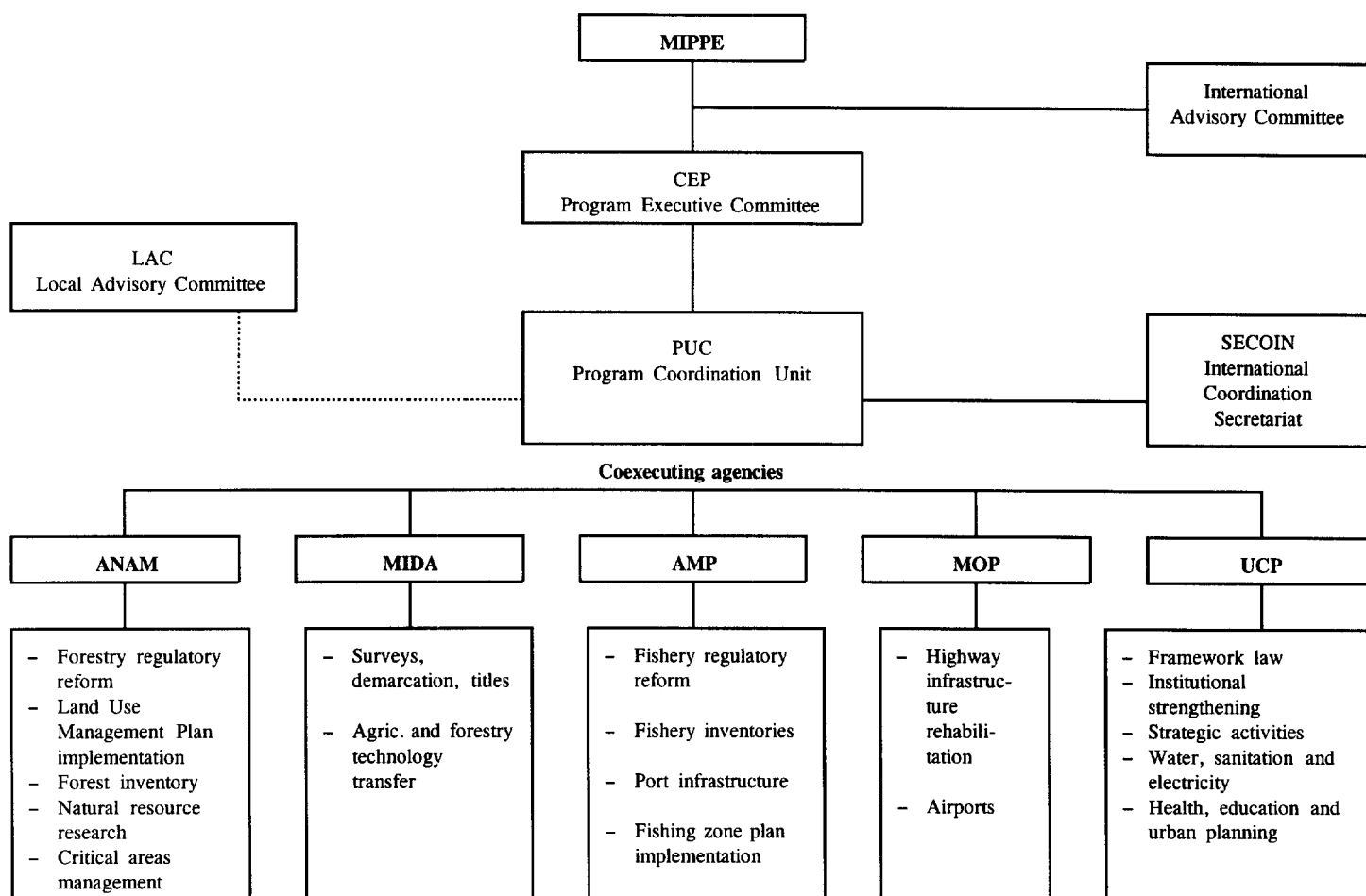
#### 4. Local advisory committee (IAC)

- 3.6 This will be composed of members of the current local committee, and will be expanded to include representatives of beneficiary communities (members of the technical board, mayors, representatives of civil society and the General Congresses - Collective Lands and the Comarca Emberá-Wounaan). This committee will serve as a consensus-building and coordination link to the communities, and will keep the program under continuous review. The committee's functions are to channel community initiatives by means of the program POAs, consistent with the operating regulations and the Environmental and Social Sequencing Matrix for the program, and to monitor investments under the program. The committee will meet at least once a month, and will be chaired by the Governor of the province, with the provincial planner of MIPPE serving as secretary.

#### 5. Program coordination unit (PCU)

- 3.7 The PCU will report directly to the Minister of MIPPE, and will have a director. The PCU will be responsible for direction, supervision, coordination and evaluation of the program. Program activities and those of other donors in the province will be coordinated by the PCU, through SECOIN, which will be established by executive decree. The following graph shows the proposed organization structure for program execution.
- 3.8 The PCU will have the following functions: (a) overall supervision and control of the program; (b) preparing the POAs and assisting in project preparation, pursuant to the operating regulations; (c) helping the technical groups of the co-executing agencies (MIPPE, ANAM, MOP, MIDA, AMP, Ministry of Government and Justice, National Police, etc.) including monitoring the observance of EIAs

and EMPs in project execution; (d) coordination with other institutions involved in other activities in the region; (e) carrying out and monitoring the consultation and consensus-building process and the POAs; (f) assisting and supervising bidding procedures and the award of contracts for construction and the procurement of goods and services; (g) approval of schedules for commitments and disbursements and rendering of accounts; (h) providing continuous information and annual evaluations on the program; (i) preparing and managing the program budget, and ensuring timely availability of funds; and (j) compliance with the conditions of the loan contract and providing annual monitoring reports to the Bank, including those from the external auditors.



3.9 Organization structure of the PCU. The PCU will have a complement of 21 persons, including: a program director, 13 professionals, and 7 administrative support staff. It will also count on the support of the program's co-executing institutions. The government will issue executive decrees to establish the CEP, SECOIN and the PCU. Constitution of the CEP, SECOIN and PCU, and hiring of the

PCU director and minimum staff, pursuant to profiles agreed with the Bank, will be a condition prior to the first disbursement.

C. Program execution scheme

- 3.10 The execution scheme has three basic elements that are essential to ensuring the program's viability: (a) the Strategic Plan and Environmental and Social Sequencing Matrix; (b) consultation and coordination of POAs with the communities; and (c) inter-institutional coordination. These elements will be part of the program's operating regulations.

1. Strategic Plan and Environmental and Social Sequencing Matrix

- 3.11 The need to program investments strategically over time and space is due to the spatial planning arrangements for the program, and the need to anticipate and minimize the environmental impact of certain investments, such as the rehabilitation of the CPA and other infrastructure works. Consequently, two instruments have been defined for scheduling the activities: the Strategic Plan, and the Environmental and Social Sequencing Matrix (See Annex III-1). The first sets out the overall timetable of activities, by "work fronts", and within each front, by sub-zone and over time, indicating the semester of execution. On the basis of this Plan, an environmental and social sequencing has been established for execution, to specify the conditions that must be fulfilled before initiating investments with significant impacts.
- 3.12 The Environmental and Social Sequencing Matrix is linked to performance indicators and verification methods, and depends as well on the duration of execution of the projects and activities, and on the institutional and financial capacity for execution. The sequencing matrix, as agreed during negotiations, will be incorporated as an annex to the program operating regulations. Any substantive change in the matrix will require Bank approval.
- 3.13 In defining this sequencing, two levels of territorial zoning have been taken into account. The first includes establishment of three Integrated Management Zones: (a) the PND and the Serranía de Darién; (b) the Valle del Chucunque; and (c) the Estuary of the Gulf of San Miguel. The second level of zoning subdivides these three zones into protected areas or reserves and Sustainable Development Zones (ZDS). Priorities in these areas have been based on the importance of each area in the region's environmental and socioeconomic context, on the risks of disturbance involved in the program, as well as on the indirect effects of infrastructure investments and on the complementarity of the various activities and projects. Using these criteria, three work fronts have been defined to determine the spatial sequencing of execution.
- 3.14 Work front No. 1. There are important steps to be taken outside the province, since program activity will begin with rehabilitation

of the Bayano - Torti stretch of the CPA. A priority is to demarcate the indigenous reservation of Madugandi, located in the Bayano area. As well, a start must be made on a land and title survey for settlers in the area beyond the *Comarca*. A portion of this work will be financed by the program, to prevent and mitigate the negative effects of paving the highway. The remainder of the investments in the Bayano Basin Plan could be financed under a project now in preparation (PN-0122).

- 3.15 Working front No. 2. This front has been defined by the priority accorded to developing transportation infrastructure on the Torti-Meteti-La Palma loop, which includes paving the CPA by sections, rehabilitating the Meteti-Puerto Quimba stretch, port installations at Puerto Quimba, the Meteti-Puerto Quimba electric grid, the section of the river from Puerto Quimba to La Palma, and the port facilities at La Palma.
- 3.16 Working front No. 3. Darién National Park: on this front, it is recommended that: (a) the PND management plan be updated; (b) PND administrative management and supervision be strengthened; and (c) as a prior condition, to the final highway stretch along the Meteti-Canglon and Canglon-Yaviza routes, as demarcating the northern boundary of the park. A part of the activities within the park will include regulating the use of ZDS 6 (Jaque), which has seen the intrusion of farming via the Rio Jaque plain. Actions in the park will be coordinated with other projects, such as BIODARIÉN, which is studying management improvements for the park.

## 2. Consultation and consensus-building for the POAs

- 3.17 During program preparation, there was broad consultation with the communities of Darién. The program has been designed in large part with an eye to community initiatives. The diagnosis indicates that community participation is indispensable for effective implementation of land use planning, and local cooperation is essential to enforcing the rules governing resource exploitation. Consequently, consensus-building with the communities directly affected is a key element in defining and executing projects.
- 3.18 Consensus-building for the POAs will thus represent a continuation of the consultation process. To this end, the PCU will have the Local Advisory Committee, through which to coordinate participation by local communities and regional institutions. The PCU will also have a community relations coordinator who will handle the process of consensus-building for the POAs, until they are submitted to the CEP for approval and inclusion in the program. The operating regulations include the rules and procedures for carrying out this consensus-building process.
- 3.19 The POAs will contain all of the projects to be executed each year during the program execution period. Projects to be included in the POAs must be consistent with the Strategic Plan and

Environmental and Social Sequencing Matrix, they must comply with the criteria in the operating regulations and with the indicative content for each component of the program, and they must contain community initiatives resulting from the conflict resolution negotiation fora. The POAs will be compiled on the basis of: guidelines from the Steering Committee, the consultation and consensus-building process with the community through the IAC, coordination with other institutions and programs, and their incorporation by the PCU. The POAs will be submitted no later than March 30, together with the annual report on the program referred to in paragraph 3.25, in the year prior to its approval by the Bank. Any amendment to this plan during the year of execution must be approved by the Bank.

### 3. Inter-institutional coordination of the program

- 3.20 The diagnosis clearly indicates the shortcomings in coordination among the various programs and projects in Darién. The nature of the program requires proper coordination of its actions with those of other projects underway in the region, in particular to ensure that efforts to promote land use planning are not frustrated by other projects. To this end, the program will create and finance the SECOIN, which will consist of coordinators for each of the major projects (BIODARIÉN, PRODARIÉN, FRONTERA AGRÍCOLA, PROINLO, FES and others), and the regional sector directors (from MINSA, ME, MIDA, ANAM, and others), who will meet every three months to report on progress under each of their plans, and to agree on any necessary action.

#### D. Operating regulations

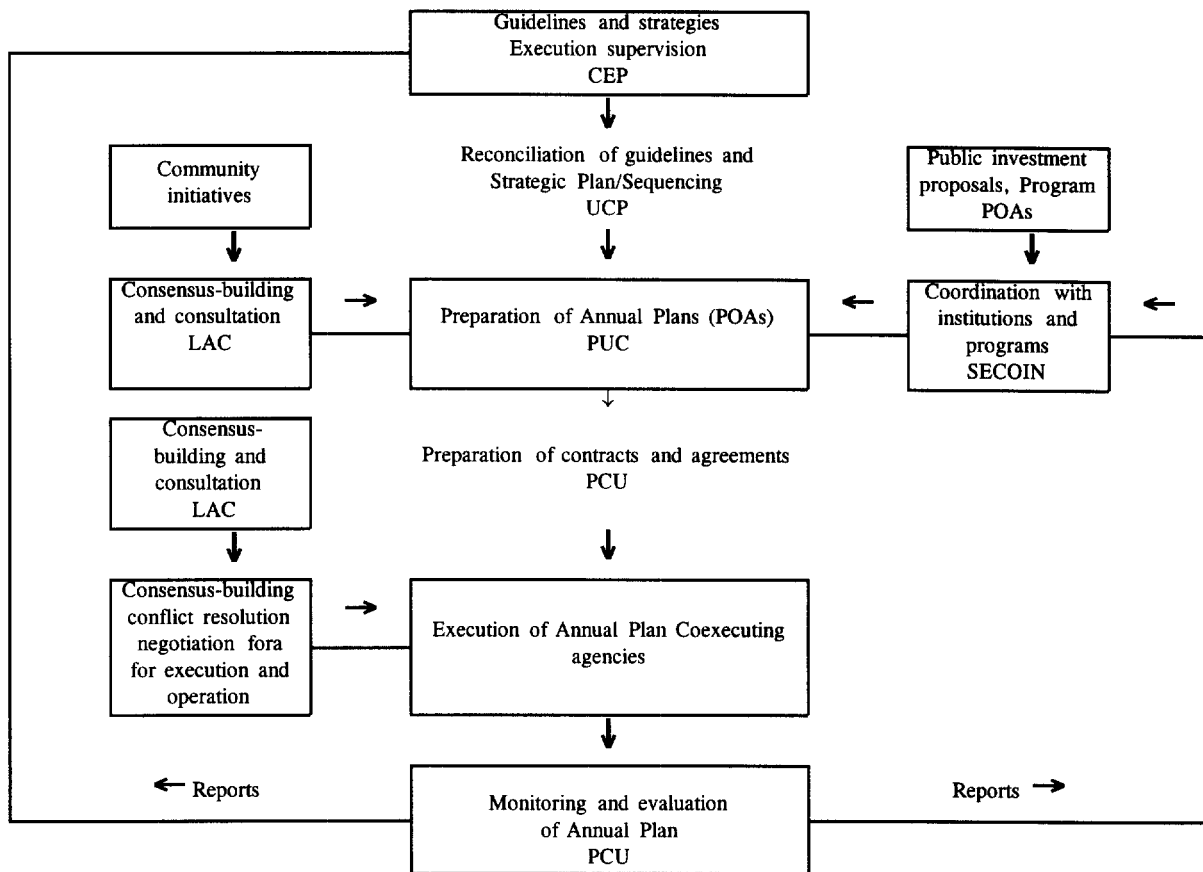
- 3.21 These set out the rules and procedures for executing each of the program components, including criteria for project eligibility, feasibility and selection, procedures for preparing and evaluating the annual plans, procedures for acquisition and contracting of goods and services, the evaluation and monitoring methodology for program POAs, and the model agreements and contracts to be signed with the coexecuting agencies and the program's funding transfer mechanisms. These regulations are currently in preparation and their entry into force, after final review by the Bank, will be a condition prior to the first disbursement (See paragraph 3.12).

#### E. Execution procedure for the program and its components

- 3.22 The PCU will also be responsible for coordinating activities within the Province. A high percentage of investments will be made through agreements with coexecuting agencies, as noted above. Evaluation of the POAs will examine the performance of the coexecuting agencies, the quality of projects executed, the observance of the operating regulations, compliance with the Environmental and Social Sequencing Matrix, the functioning of the management system, the totality of public and private investments

in the region, any amendments to the plan, and recommendations to continue with the coexecuting agencies and to approve the next annual year.

Program Execution Flow Chart



F. Program monitoring and evaluation system (SISEE)

- 3.23 The program will have a monitoring and evaluation system (SISEE). This will start with the information from the program base line used in the diagnosis, which will be updated and compared against the goals for each component. The PCU will operate the system. The first SISEE report (baseline) will be submitted within two months after entry into force of the loan contract.
- 3.24 Within 90 days after entry into force of the loan contract, the project team will make a technical mission to Panama and will work with the country office and the MIPPE, through the PCU, to launch the program in its administrative, technical and financial aspects.
- 3.25 The country office will be responsible for the **program monitoring system**, and will monitor the quality, timeliness and effectiveness

of activities. The purpose of such supervision will be to track actions as they are taken and to identify any problems or roadblocks to implementation of the program and its components, and propose any necessary redesign.

- 3.26 As part of this monitoring, MIPPE will meet with the Bank by April 30 during each year of program execution, beginning in 1999, to examine progress and reach agreement on planned activities for the coming year. It is recommended that the borrower, through MIPPE, should prepare reports covering the activities indicated in each component of the program, and present these to the Bank each year, at latest 15 days before each meeting. If the Bank is not satisfied with the program's execution status, as revealed in the monitoring meetings or in the corresponding reports, the borrower, through the executing agency, would be expected to present the planned corrective measures, and a timetable for carrying them out, to the Bank within 60 days after receipt of such notification.
- 3.27 The **evaluation system** will be intended to establish the effect or impact of program activities on the target population, in light of the program's general and specific objectives, strategy and goals. This system will provide information to decision-making and coordination bodies for strengthening, reformulating, eliminating or supplementing elements in the program monitoring system. The evaluation will be based on a specific methodology for which indicators will need to be established before each component gets underway. With respect to environmental audits, these will be performed by independent consultants and will be incorporated into the cost of the projects.
- 3.28 In addition, the program calls for an evaluation of the applied research kind on the impacts of the highway and the infrastructure works, in accordance with the ESIR. Consulting services will be contracted to perform this evaluation and monitoring work. The research will be part of the interim evaluations called for in the program
- 3.29 The PCU will be responsible for systematic evaluation of the program, and for preparing the reports to be examined at the monitoring meetings. The reports will be prepared by the executing agency and submitted to the Bank, in accordance with the work plan to be agreed for the program. The country office will have administrative responsibility for the program, supported by the project team, and will conduct the periodic reviews. The PCU must submit reports as described below.

1. Initial report (program work plan)

- 3.30 As a condition prior to the first disbursement, the executing agency must present a program work plan, with the execution timetable for each component and activity. This plan must be

consistent with the Strategic Plan and Environmental and Social Sequencing Matrix, and must include indicators, means of verification and assumptions for each case, according to the logical framework.

2. Progress reports and monitoring meetings

- 3.31 In the place of semi-annual progress reports, annual reports will be presented throughout the execution period. Those reports will include an overview of progress in comparison with the work plan, the loan contract, and the Environmental and Social Sequencing Matrix of the program. As annexes, the annual reports will include lists of activities by component, and their evaluations, and information on procurement and consultant contracting for the period.

3. Interim and ex-post evaluations

- 3.32 Within six months after the end of the second and fourth years of execution, interim evaluations will be prepared, by an independent consultant financed from the Bank loan. These evaluations will draw on all of the annual reports, mission reports, and evaluations submitted during execution. In addition, MIPPE has agreed to conduct an ex-post evaluation of the program, to be done by an independent consultant, financed with government resources.

G. Procurement of goods and services and tendering schedule

- 3.33 Purchases of goods and services, construction of works and contracting of consulting services will be done in conformity with the Bank's standard procedures. International competitive bidding will be used for purchases of goods above US\$350,000, for contracting works above US\$1.5 million, and for hiring consulting services above US\$200,000.
- 3.34 For purchases and contracts in amounts below these, simplified procedures will be used, and these will be included as Annex D to the loan contract. Pursuant to this special procedure, local competitive bidding will be required for goods between US\$50,000 and US\$350,000, works between US\$500,000 and US\$1,500,000, and consulting services between US\$100,000 and US\$200,000. For amounts below these limits, the procedure will be limited local calls for proposals or bids, or direct contracting.
- 3.35 For the selection of consulting services, the least-cost selection method is proposed. Under this method, a "minimum technically acceptable" level is set for the quality of technical proposals. Proposals are submitted in two envelopes, and the technical proposals are opened first and evaluated. Proposals that do not achieve the minimum acceptable level are rejected, and the quotation envelopes are opened only for the remaining bidders. The

firm offering the lowest price is the selected. Under this method, it is understood that all those proposals judged to be above the "minimum acceptable technical level" will be compared against each other solely on the basis of cost. The minimum acceptable level will be spelled out clearly in the calls for proposals.

- 3.36 The equipment procurement plan will be conducted through five rounds of international competitive bidding (ICB), for a value of some US\$31.7 million, and three rounds of local competitive bidding (LCB), for equipment and works valued at approximately US\$1.6 million. As well, 13 international calls for proposals will be issued for consulting services, valued at about US\$7.95 million. (Major Program Acquisitions, Annex III-2).

H. Execution deadlines and schedule

- 3.37 The proposed disbursement period is 6 years, following entry into force of the loan contract with the Bank. The tentative disbursement schedule for the loan and for the local counterpart funds is shown below:

Disbursement schedule (In US\$000)								
Source of Funds	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total	%
IDB	8.0	12.0	16.0	16.0	12.0	6.4	70.4	80%
Government	2.0	3.0	4.0	4.0	3.0	1.6	17.6	20%
Total	10.0	15.0	20.0	20.0	15.0	8.0	88.0	100%
Percentage per year/cumulative	12%	29%	52%	75%	92%	100%	100%	

I. Recognition and reimbursement of expenses

- 3.38 The government has requested the Bank to recognize a series of expenditures made with MIPPE financing, under an expenditure agreement and other accords that call for spending of up to US\$50,000 prior to January 30, 1999, the date by which the Bank is expected to consider this operation. It is estimated that expenses equal to US\$50,000, which were incurred in the 12 months before loan approval, could be charged to the Bank loan.
- 3.39 In addition, the Bank has signed two letters of agreement in support of preparation and implementation of the program: No. 1032/OC-PN in the amount of US\$1,300,000, and No. 1444/OC-PN for US\$250,000, amortization of which will be debited against the first disbursement of the loan. The contract will include a clause for the retroactive financing of those resources. It is recommended that the Bank recognize the amounts indicated as a charge to loan funds and to the local counterpart contribution,

subject to demonstration that they comply with requirements substantially analogous to those established in the loan contract.

J. Maintenance of works and equipment

- 3.40 MIPPE will make it a requirement of its agreements with the coexecuting agencies that they undertake to operate and maintain the works and equipment financed under the program, in accordance with generally accepted technical standards, and that they will permit the Bank and official agencies to conduct inspection visits. If it is found that levels of operation and maintenance are not acceptable, they must undertake to adopt the appropriate measures to remedy all such deficiencies. The borrower, for its part, will undertake to cover the operating costs of equipment financed under the program.

K. Program audits

- 3.41 The financial statements for the program, audited by an independent firm of public accountants acceptable to the Bank, will be submitted by the borrower within 120 days after the close of the budget year, throughout the execution period.

#### IV. FEASIBILITY, BENEFITS AND RISKS

##### A. Program feasibility

##### 1. Technical feasibility

- 4.1 As part of program preparation, an indicative land use management plan was prepared, based on a detailed study of the characteristics of the different areas and their potential use, in accordance with climatic, edaphic, ecological, geological, ethno-cultural and legal criteria. That study included an analysis of satellite images at three separate points in time, and a comparison with the OAS land use study of 1978, which revealed trends in resource use over the last 30 years. The transport infrastructure component was analyzed with respect to the feasibility of the multimodal system and optimizing investment in rehabilitation of sections of the Panamerican highway. The technical specifications of the highway were adjusted for traffic expectations, and it was found that investment costs could be lowered without affecting the level of service. The remaining components will consist of small works and investments, for which appropriate technical criteria will be established in the program's operating regulations.

##### 2. Institutional and financial feasibility

##### a. Institutional feasibility

- 4.2 To ensure smooth execution of the program, it was agreed to set up an institutional structure based on the PCU and supported by consultant services. The PCU will draw upon the existing capacity of the institutions and ministries indicated as coexecuting agencies of the program. In order to establish the organizational, institutional, administrative, technical and operating bases for sound management at all levels, specific institutional strengthening projects will be undertaken, for short-and medium-term impact. On the basis of these experiences, and during program execution, an efficient institutional system will be designed and set up to provide long-term support to the development process in Darién.

##### b. Financial feasibility

- 4.3 The major fiscal impact of the program is related to investment and maintenance costs for the highway; the latter are estimated at US\$900,000 a year, and the fiscal impact of investment is equal to 50% of loan amortization installments. Nevertheless, this represents a savings with respect to the maintenance costs that the government has to cover at present, or the rehabilitation costs that it would incur in the near term in the absence of proper maintenance and paving, because climatic conditions are such that

the road would deteriorate rapidly. To ensure that maintenance funds will be available, and to recover a portion of the investment, a cost recovery mechanism has been recommended, to be designed at the outset of the program.

- 4.4 Another important fiscal impact of the program is the increase in the operating budget for health and education. In the health sector, the major problem is the lack of budget for hiring additional medical personnel: an allocation of US\$400,000 per year has been recommended to this end, since Darién has less than half the national average of medical personnel per 1,000 inhabitants. Nevertheless, over the short run, this allocation could be effected in part through transfers from other regions, while the government adjusts its budgets in this sector. The education sector shows a similar impact. The remaining services do not impose a significant impact as a result of the program, since their operating and maintenance costs will be paid for by users.
- 4.5 The requirements for the land use, institutional strengthening and production support components are reasonable. For example, ANAM has 40 persons assigned to Darién, and all that is needed is a small increment in staffing and a retraining plan for them to be able to perform the new functions called for under the program. The number of officials assigned by MIDA and AMP is limited. They do not have transportation equipment, nor resources for managing and supervising the activities under their charge, but these requirements are modest.
- 4.6 In general, when all fiscal impacts are taken into account, both direct (increased current revenues and outlays for public institutions) and indirect (broadened tax base from economic growth in forestry, fishing and farming), the net fiscal effect is positive. Moreover, the quality and coverage of public services are expected to be improved on a sustainable basis. The design of the evaluation and monitoring system will include an indicator of the program's fiscal impact.
- 4.7 In addition, during the program preparation process, consultations were held with the government over ways to ensure the financial sustainability of the province. As part of the program, financial alternatives will be explored, ranging from the creation of a trust fund to receive and manage the proceeds from resource use rights (which would be capitalized through the sale of forestry concessions, fishing rights, carbon emission permits and mining exploration licenses, among others) to enhancing the revenue potential of ANAM from stumpage fees (currently set at US\$0.02 per board foot) and acreage fees (US\$2 per hectare), by increasing the area under forestry concessions and improving its administration. Such revenues have contributed significantly to covering ANAM's operating costs. In the fishery sector, the impact is similar.

### 3. Economic feasibility

- 4.8 The feasibility of the larger investments under the program is illustrated by the cost savings in vehicle operations that will result from paving the highway. The analysis shows that, even with very modest traffic growth, and assuming lower maintenance savings, the benefits significantly outweigh the costs. Similarly, the cost of land-use planning is modest compared with the benefits mentioned in the preceding section. For example, if a more rational approach to resource management can maintain lumber output at 1994 levels (approximately 20 million board feet), and considering that no less than 5 cents of the price of US\$0.23 per board foot represents net profit, the sector would generate US\$1 million annually, or some US\$8 million, discounted at 12%, over a 25 year period. That is to say, the forestry sector alone could cover the cost of the land-use planning component. The contribution of the fishery sector is probably even greater, although there are no suitable statistics available.
- 4.9 The program operating regulations include economic criteria for evaluating specific projects, and sets feasibility parameters for financing them. The economic feasibility of each component will be measured using the cost-benefit method. For those components or projects where benefits are less easy to quantify, the least-cost principal will be used. Prefeasibility studies have been done for the sections of the Panamerican Highway, since these represent the greatest investment outlays under the program. The results of that analysis show in general an IRR above 12 percent.

### 4. Social and environmental feasibility

- 4.10 The recommended operation implies risks of both a socio-cultural and an environmental nature. This reflects the difficulty of implementing actions to supervise areas where the demand for conservation is still very recent. Nevertheless, in the technical opinion of the project team, the risks of not proceeding with the program are even greater. This operation provides an opportunity to achieve important progress, in terms of both conservation and the living standards of the inhabitants of Darién.
- 4.11 The feasibility and success of the program will depend to a large measure on compliance with the Strategic Plan and Environmental and Social Sequencing Matrix (Annex III-1) which establishes the steps needed to avoid the negative impacts identified in the Environment and Social Impact Report (ESIR). These actions, such as demarcating protected areas and indigenous reservations, land surveys and title certification, and resolving landholding conflicts through consensus-building conflict resolution negotiation fora, are fundamental to the success of the program. The sequencing approach makes it possible to define steps that must be met prior to bidding together with the performance indicators and verification methods for each stretch of the highway or other

works identified as having highly negative impact. The matrix will be a key part of the program operating regulations, and will be a condition for preparing the annual operating plans.

B. Program benefits

- 4.12 The program will bring short-and medium-term benefits to the people of Darién, raising living standards by increasing the quality and coverage of health, education, water and electricity services. Over the medium and longer term, the program will benefit the entire population by ensuring the sustainable and more efficient use of the region's resources in general. Rational management of the forestry sector will ensure that the benefits generated in the past are maintained in a sustainable manner, since the forest is now losing its capacity and value.
- 4.13 In the fishery sector, better resource management will reverse the tendency towards lower catches due to overexploitation. In agriculture, the benefits are related to taking advantage of the potential of some 150,000 hectares that are currently being used for extensive livestock grazing and traditional crops of low yield. Other benefits include: preserving biodiversity and unknown species; carbon sequestration; soil and water conservation; keeping open future productive options; sustainable exploitation through ecotourism in protected areas, and protection of the region's cultural identity and diversity.

C. Program risks

- 4.14 Institutional management capacity. The major risk to the program relates to the weakness of existing institutions. The program's success will depend on how effectively these institutions can carry out their control and supervisory functions under the new regulations, and how effectively they can execute and monitor specific projects and activities. Institutional strengthening measures are planned for the key entities under the program: ANAM, MIDA and AMP. Nevertheless, this will be a slow process, since these are entities with long-standing traditions and ingrained institutional cultures.
- 4.15 Institutions like ANAM and AMP will need a radical shift in attitude towards enforcing compliance with rules and regulations by forestry and fishing companies, small producers, and the general public. MIDA, and in particular its Agrarian Reform Directorate, needs to enforce the law in a much stricter and better-informed manner. All of them together require more coordination and greater discipline to keep other factors from intervening in their technical assessments. These are difficult changes to bring about, and for this reason special steps have been taken, such as the Executive Decree establishing an inter-institutional coordination mechanism at the regional level, and creation of a PCU with sufficient capacity and authority to give support to those

institutions that need it. The PCU will help to reduce this risk by serving as a flexible and responsive management mechanism to ensure effective interinstitutional coordination, with the government's support and commitment.

- 4.16 Consensus-building for the program. There is also an inherent risk in the program's requiring or restricting people's movement within the protected areas of Darién, and discouraging new settlers, however well designed the regulatory and institutional tools may be. The program will be considered effective if it can succeed at least in slowing the pace of occupation of fragile and protected areas, even though it would be preferable to halt that movement entirely. This risk can be reduced, to the extent that the consensus-building process with the communities has some success, and local people can be enlisted to participate in and benefit from the program, and if it can be more attractive for people to move into zones that are suitable for production. Resources have been assigned to establish consensus-building mechanisms (conflict resolution negotiation forum, consultation committee, funding for community projects) that will facilitate cooperation with the communities affected.
- 4.17 Land use planning. An immediate risk relates to possible problems that the government may encounter in winning approval of the regulatory instruments for land use planning in the region. A special law for Darién is considered a prerequisite for achieving the program's objectives. Such a law would cover the proposed Land Use Management Plan for the entire province to support sustainable development of the region's resources. The General Environmental Law, however, already gives the Executive the power to declare special protection areas by means of other instruments such as executive decrees and ANAM resolutions, and these instruments will be used until the framework law for Darién can be enacted.

**SUSTAINABLE DEVELOPMENT PROGRAM FOR Darién**  
**(PN-0116)**  
**LOGICAL FRAMEWORK FOR THE PROGRAM**

PROGRAM/OBJECTIVES	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<p>the restoration, protection, management and sustainable exploitation of the province's natural resources and raise living standards for the people of the province in a manner consistent with resource sustainability</p>	<p>Upon conclusion of the program, indicators should have been established for settled areas: the over-use indicator and the Basic Unmet Needs index for production areas should have declined by X%.</p>	<ul style="list-style-type: none"> <li>The Program Monitoring and Evaluation System (SISEE) will include regular statistics, periodic information on coverage and soil use and specific data on the program's process</li> </ul>	<p>Government political will with respect to:</p> <ul style="list-style-type: none"> <li>Compliance with land use plans and plans</li> <li>Rationalization of public investment in the Province</li> <li>Regulation of the fishery and forestry sectors</li> <li>Establishing consensus-building conflict resolution negotiation fora</li> <li>Coordinating program activities with other projects</li> <li>Law governing Darién la Amable</li> <li>Issuing decrees for PCU, CEP and SECOIN</li> </ul>
<p>to sustainable social and economic development and to the management and protection of the province's natural resources.</p> <p><b>COMPONENTS</b></p> <p>Components have been designed:</p> <ul style="list-style-type: none"> <li>Land use planning, titling, management and protection of natural resources</li> <li>Technical strengthening</li> <li>Support for sustainable production</li> <li>Improvement of the transport system</li> <li>Improvement of basic services</li> </ul>	<p>The Basic Unmet Needs indicator should have improved by X% at least (current levels between 20 and 35)</p>	<ul style="list-style-type: none"> <li>Official Gazette with decrees creating PCU, CEP and SECOIN</li> </ul>	

PROGRAM/OBJECTIVES	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<b>ENT: Land use planning, titling, environmental management and protection</b>			
<p>struments for regulating land use, sustainable resource exploitation, and g and regularizing land ownership, in verse current trends and modify ble practices.</p> <p>with community participation and n, a rational and effective land use int plan for the province that ensures and sustainable exploitation of resources</p>	<p>The "suitable use" indicator must have risen to 90% by the end of the program (current level: 75%)</p>	<ul style="list-style-type: none"> <li>• SISEE report on updating the land use base line</li> <li>• Consensus agreement with the communities</li> </ul>	<ul style="list-style-type: none"> <li>• MIDA must effectively implement restrictions on recognizing possessory r in protected areas</li> </ul>
<p><b>S</b></p> <p><b>y reforms and legal framework</b></p> <p>on appropriate regulatory structure to ecution of the Land Use Management Plan e for efficient regulation of the forestry and tors</p>	<ul style="list-style-type: none"> <li>• Framework law approved by Legislative Assembly in year 3</li> <li>• Amendments to the fisheries and forestry regulatory frameworks approved by the executive the first year</li> <li>• Implementing regulations for the law in place by the fourth year</li> </ul>	<ul style="list-style-type: none"> <li>• Official Gazette with publication of the Framework Law</li> <li>• Executive Decrees in effect</li> </ul>	<ul style="list-style-type: none"> <li>• The Executive can win ap of the Framework Law in Assembly</li> <li>• Cabinet approves sector reforms</li> </ul>
<p><b>ation of the Land Use Management Plan</b></p> <p>management plans for integrated nt areas and for priority areas pursuant to c plan. Begin the process for fragile areas</p>	<ul style="list-style-type: none"> <li>• Reduce land overuse from 160,000 ha to 60,000 ha</li> <li>• Settled areas of the PND Park must not exceed 3%</li> <li>• Settled areas in other protected zones must be stabilized at 1999 levels</li> <li>• No commercial farming in absolute protection zones declared according to management plans agreed with NGOs</li> </ul>	<ul style="list-style-type: none"> <li>• SISEE report on updating the land use base line</li> </ul>	<ul style="list-style-type: none"> <li>• Success in consensus-bu efforts with the community</li> <li>• Substantially better inter-institutional coordination</li> <li>• Success in the community education campaigns</li> </ul>

PROGRAM/OBJECTIVES	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<p><b>Keys and title</b></p> <p>• Establish a landholding pattern that ensures legal title for farmers so as to promote sustainable production and access to credit</p>	<ul style="list-style-type: none"> <li>• 350.000 ha surveyed by end of program</li> <li>• 50.000 ha with title in production zones at end of year 2</li> <li>• 200.000 ha with title at end of program</li> <li>• Demarcation of the Comarca Madugandí in the first year</li> <li>• Demarcation of the Comarca Emberá-Wounaan in year 2</li> </ul>	<ul style="list-style-type: none"> <li>• Annual reports from the Public Registrar and the MIDA Agrarian Reform Unit</li> <li>• SISEE reports</li> <li>• Charter for the Comarca Emberá-Wounaan</li> </ul>	<ul style="list-style-type: none"> <li>• Dispute resolution mechanisms effective (conflict resolution fora)</li> <li>• Delegation of authority from MIDA to province for land survey and title activities</li> <li>• Success in contracting for support services for MIDA</li> </ul>
<p><b>Resource inventories and research</b></p> <p>• Obtain adequate knowledge of the resources for exploitation through forestry, and an instrument to administer fishery sustainably</p>	<ul style="list-style-type: none"> <li>• 30.000 ha of forest inventoried in year 1</li> <li>• 50.000 ha of forest inventoried in year 2</li> <li>• 50.000 ha of forest inventoried in year 3</li> <li>• Fishery resources in the Golfo de San Miguel inventoried in year 2</li> <li>• Regular technical reports on research</li> <li>• Implementation of the Binational Plan</li> </ul>	<ul style="list-style-type: none"> <li>• SISEE reports</li> <li>• ANAM records</li> <li>• AMP records</li> <li>• Binational Plan agreement (Governments of Colombia and Panama)</li> </ul>	<ul style="list-style-type: none"> <li>• Bidding procedures for contracting studies will be successful</li> <li>• Execution of agreements with other programs for research the area</li> <li>• Political will to sign and implement agreements on PND</li> </ul>

PROGRAM/OBJECTIVES	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<b>ENT: Institutional strengthening</b>			
<p>the institutional structure needed to the sustainable use of natural resources, program execution and investment impact measures, and support the decentralization by strengthening capacities of local governments and indigenous districts</p> <p>effective institutional structure to administer the sustainable use of natural resources, execute investment impact mitigation measures, financial management by local governments in indigenous districts and promote participation by local organizations</p>	<ul style="list-style-type: none"> <li>• Institutional structure established and functioning, implementing the Land Use Management Plan</li> <li>• Management plans for forestry concessions supervised and executed according to concession contracts</li> </ul>	<ul style="list-style-type: none"> <li>• ANAM resolution establishing its 3 regional offices</li> <li>• AMP resolution establishing its organization in the province</li> <li>• MIDA resolution restructuring its offices in the province</li> </ul>	<ul style="list-style-type: none"> <li>• The government will take legal and regulatory steps to execute institutional reform</li> <li>• Institutional capacity to keep trained staff in the province</li> </ul>
<p><b>S</b></p> <p><b>Strengthening national institutions</b></p> <p>Regional directorates for ANAM, AMP and MIDA under the Land Use Management Plan</p>	<p>Directorates of ANAM, MIDA and AMP established in year 1 and fully operating in year 3, with Work Plans</p>	<ul style="list-style-type: none"> <li>• SISEE report</li> <li>• Annual reports from ANAM, AMP and MIDA</li> </ul>	<ul style="list-style-type: none"> <li>• The entities concerned cooperate in establishing new structure</li> </ul>
<p><b>Strengthening provincial, municipal and Comarcal institutions</b></p> <p>Basic capacity for local governments to administer their administration and finances and to participate in administering the Land Use Management Plan and in regulating forestry and mining activities</p>	<ul style="list-style-type: none"> <li>• Establishment of 4 government structures at the town, provincial and comarcal levels</li> <li>• Significant increases in municipal tax revenues (up by at least 40% from present)</li> <li>• Increased project execution capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Government, comarcal and local offices in operation</li> <li>• Administrative and financial systems operating</li> <li>• Annual plans of the province better prepared</li> </ul>	<ul style="list-style-type: none"> <li>• Local authorities will accept restructuring schemes and support decentralization</li> </ul>

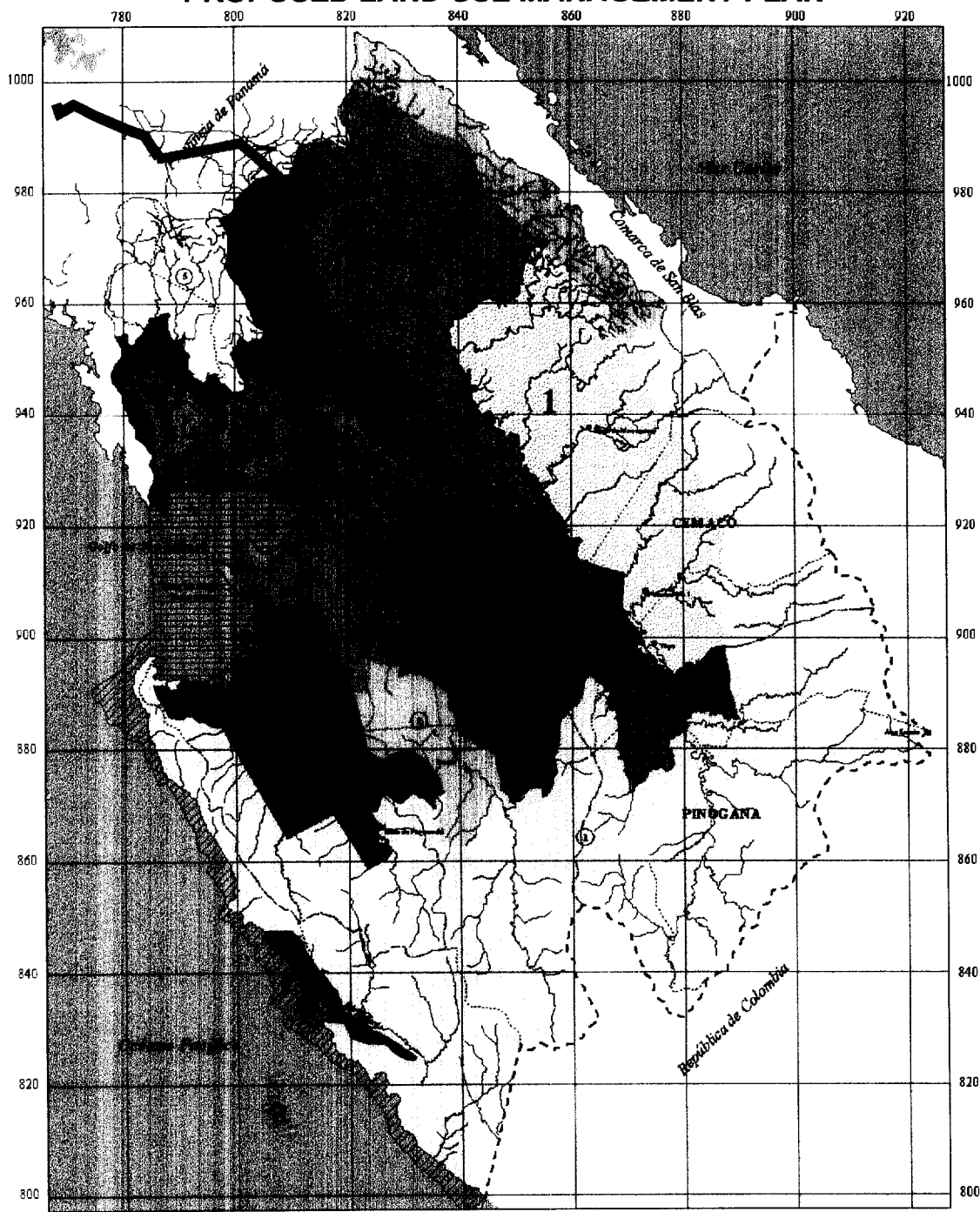
PROGRAM/OBJECTIVES	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<p><b>Engaging non-governmental organizations</b></p> <p>Qualified institutions that can support administration and provision of community</p>	<ul style="list-style-type: none"> <li>• NGOs and communities participating in program activities</li> </ul>	<ul style="list-style-type: none"> <li>• SISEE report</li> </ul>	<ul style="list-style-type: none"> <li>• NGOs are interested in pursuing activities consistent with program objectives</li> <li>• There is a demand for training among community and local organizations</li> </ul>

PROGRAM/OBJECTIVES	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<b>ENT: Productive activities</b>			
<p>Restructuring of the local economy, improve efficiency and sustainability and promote diversification</p> <p>With conditions for restructuring the local economy to improve its efficiency and sustainability and promote its diversification through private investment</p>	<ul style="list-style-type: none"> <li>The pattern of cultivation should gradually reflect a change to higher-value crops and greater yields per hectare for traditional crops</li> <li>Increased use of resources from the BIODARIÉN and PRODARIÉN Funds</li> </ul>	<ul style="list-style-type: none"> <li>Agricultural statistics</li> <li>Annual reports from BIODARIÉN and PRODARIÉN</li> </ul>	<ul style="list-style-type: none"> <li>Other donors' projects can be successfully integrated</li> <li>Systemization of the data and information can be strengthened.</li> </ul>
<p><b>S</b></p> <p><b>of farming, forestry and fishing</b></p> <p>Specific information and knowledge to facilitate decisions for facilitating restructuring of forestry and fishing activities</p>	<ul style="list-style-type: none"> <li>20.000 ha diversified or improved technically with respect to land management and conservation by end of program</li> <li>2.000 traditional fishermen helped</li> </ul>	<ul style="list-style-type: none"> <li>SISEE report</li> <li>MIDA reports</li> <li>AMP reports</li> </ul>	<ul style="list-style-type: none"> <li>Success in working with communities</li> <li>Success in contracting for consulting services in support of MIDA and AMP</li> </ul>
<p><b>critical areas</b></p> <p>Project as possible mechanism for selling environmental services to restore and protect forest with a compensation system for occupants of critical areas</p>	<ul style="list-style-type: none"> <li>By end of year 3, a concrete analysis of feasibility of selling environmental services and participation by small landowners</li> </ul>	<ul style="list-style-type: none"> <li>Special evaluation report on the pilot project</li> </ul>	<p>Permanent monitoring of work in the communities</p>
<p><b>activities</b></p> <p>Specific and strategic activities for developing new economic activities or converting existing activities in farming, fishing, forestry and tourism</p>	<ul style="list-style-type: none"> <li>During program execution, required actions taken to support restructuring of productive systems, including preinvestment studies</li> <li>At end of year 3, must have capacity to determine demand for eligible projects that are economically and financially viable, or properly supported studies on the objectives of each project</li> </ul>	<ul style="list-style-type: none"> <li>SISEE report</li> <li>Annual operating plans</li> </ul>	<ul style="list-style-type: none"> <li>Land Use Management Plan and regulatory framework for forestry and fishery effectively enforced</li> <li>Success in consensus-building for AOPs</li> <li>Success in identifying the executing agency.</li> </ul>

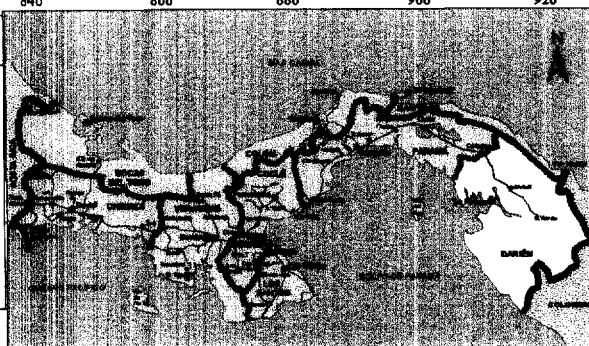
PROGRAM/OBJECTIVES	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<b>ENT: Intermodal transport infrastructure</b>			
<p>the province's intermodal transport systems, ensure internal mobility for passengers and</p> <p>transport costs in production areas and intermodal transport operations, so as to ensure internal mobility for passengers and freight</p>	<ul style="list-style-type: none"> <li>Effective transport costs (B./km/passenger/ton) must be reduced by 30% once CPA sections are completed, and river transport system must have been implemented</li> </ul>	<ul style="list-style-type: none"> <li>SISEE report</li> <li>MOP reports</li> </ul>	<ul style="list-style-type: none"> <li>Compliance with Strategy and Program Sequencing respect to conditions of route</li> <li>Proper maintenance</li> <li>Introduction of an efficient recovery system for the C</li> </ul>
<p><b>S</b></p> <p><b>tion and upgrading of Puente Bayano - La Palma system</b></p>	<ul style="list-style-type: none"> <li>Increase in average daily traffic on river section La Palma - Puerto Quimba</li> </ul>	<ul style="list-style-type: none"> <li>SISEE report</li> </ul>	
<p><b>tion and upgrading of Metetí - Yaviza</b></p>	<ul style="list-style-type: none"> <li>Increase in average daily traffic on the Yaviza-Metetí section</li> </ul>	<ul style="list-style-type: none"> <li>SISEE report</li> </ul>	
<p><b>of transport system in the La Palma area</b></p>	<ul style="list-style-type: none"> <li>Local traffic</li> </ul>	<ul style="list-style-type: none"> <li>SISEE report</li> </ul>	

PROGRAM/OBJECTIVES	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<b>ENT: Upgrading basic services</b>			
<p>improving standards for the people of Darién, in coverage and quality of basic services</p> <p>stabilize settlement in productive areas by improving living conditions in those areas</p> <p>community support in education, health, electrification, community facilities, planning, using and supplementing resources in other projects</p>	<ul style="list-style-type: none"> <li>Coverage indicators for basic services must increase significantly each year by end of program, with respect to the base line</li> </ul>	<ul style="list-style-type: none"> <li>MIPPE household survey for calculating the Basic Unmet Needs index</li> </ul>	<ul style="list-style-type: none"> <li>Willingness of Ministries of Health and Education to give priority to the functioning of their programs and facilities in the province</li> </ul>
<p><b>Water and electricity</b></p> <p>improving services and coverage in communities and schools, health centers and public facilities</p>	<ul style="list-style-type: none"> <li>Water service coverage in the CPA area must rise to 90% by end of year 2</li> <li>2,000 new homes with water service by end of program</li> <li>Electricity coverage indicators in public facilities must be 100% at end of program</li> <li>Availability of electricity in Puerto Quimba to support commercial operation of program</li> <li>Waste collection and disposal systems operating in Metetí, Yaviza and La Palma in year 3</li> </ul>	<ul style="list-style-type: none"> <li>SISSEE reports</li> <li>Coverage statistics and quality evaluations for water and MINSA services</li> <li>Rural Electrification Office statistics on number of connections</li> </ul>	<ul style="list-style-type: none"> <li>ANAM provides services to improve intake [bocatoma] in the Filo del Tallo reserve</li> <li>MINSA continues executing rural health program</li> <li>Rural Electrification Office continues operation</li> <li>Agreements with ministries to provide conditions for electricity supply to public facilities</li> </ul>
<p><b>Education and Urban Planning</b></p> <p>utilizing existing national resources to initiatives in the province in these sectors</p>	<ul style="list-style-type: none"> <li>Significant reduction in morbidity indicators</li> <li>Improvement in student retention indicators in elementary and secondary schools</li> <li>Introduce bilingual education in the Comarcas</li> <li>Improved vocational and technical education, with new programs and education centers</li> <li>Urban plans for Metetí and La Palma in year 1, and for Yaviza in year 2.</li> </ul>	<ul style="list-style-type: none"> <li>SISSEE reports</li> <li>Statistics from the Integrated Health Unit of Darién and from MINSA</li> <li>Statistics prepared by the Ministry of Education</li> <li>MIVI reports</li> <li>Agreements with study centers and INAFOR</li> </ul>	<ul style="list-style-type: none"> <li>Doctors can be hired for health posts in hospitals and health posts</li> <li>Execution of the educational modernization program adapted to Darién conditions</li> <li>Education and Health Ministries' operating budgets assure funding</li> <li>Agreements with MIVI on planning</li> </ul>

# DARIEN SUSTAINABLE DEVELOPMENT PROGRAM PN-0116 PROPOSED LAND USE MANAGEMENT PLAN



Zonas de Manejo Integrado Provincia de Darién			
Simbología		Leyenda	
—	Costa	1	Parque Nacional Darién
—	Ríos y Quebradas	2	Corredor Biológico Negro
—	Camino Principal	3	Corredor Biológico S. de Darién
—	Camino Secundario	4	R.H.F. de Vito del Yello
---	Límite Internacional	5	R.H.F. de Serranía de Caimas
---	Límite de Distrito	6	Humedal Punta Patillo
---	Límite de Corregimiento	7	Reserva Forestal Congón
---	Límite de Pesca Industrial	8	Manglares
▨	Área Especial de Manejo Contorno	9	R.V.S. Río Congo - Ocucaiti
▨	R.V.S. Río Congo - Ocucaiti	10	R.V.S. Río Congo - Ocucaiti
▨	Zona 1	11	R.B. Punta Patillo - Ancón
▨	Zona 2		
▨	Zona 3		
▨	Zona 4		
▨	Zona 5		
▨	Zona 6		






**Strategic Plan of the Darién Sustainable Development Program**  
**Schedule of Activities by Work Front**

Schedule of Activities by Work Front											
Zone of Activity	Year and Semester of Execution										
	1		2		3		4		5		
	I	II	I	II	I	II	I	II	I	II	I
C (La Palma –		Urban Dev. Plan – La Palma		Basic Social Services							
		Extension									
Cémaco)	Institutional Strengthening	Pilot Plan for traditional land use management									
Area											
Miguel	Establish Regulations	Declaration and Management Plan	Inventory								
ching Zone		Demarcation	Technical Assistance								
Work Front No. 3 (Sub-Zones 2, 4, and 6)											
nal Park	Strengthening ANAM / Park Authority	Revise Management Plan	Urban Dev. Plan - El Real								
		Conflict Resolution									
A (Yaviza) Zone)	Coordination with: BIODARIEN & European Union	Urban Dev. Plan - Yaviza	Extension								
			Basic Social Services	Conflict Resolution	Basic Social Services						
B (Camogantí) Zone)		Management Plan	Extension	Fluvial Transport	Conflict Resolution					Basic Social Services	
Jaqué) Zone)			Management Plan	Conflict Resolution						Basic Social Services	
atusagaratí y Río nds							Mngt. Plan				
A (Comarca		Agreements regarding protection of PND									
B (Taimatí) Zone)				Conflict Resolution							
lógico Bagre				Conflict Resolution							
eserve Pta. Patiño				Demarcation							
Wetlands											
agement Area		Legal Framework (AMP)		Management Plan							

 to mitigate possible negative impacts

 Actions with possible negative impacts

 Work Fronts

## Environmental and Social Sequencing Matrix

Work Front No. 1 (Sub-Zone outside of Darién Province)						
No. 1: Torti	Aerial Photography of the Bayano Watershed and Darién - 10 km margin along highway	UCP-Contract	Report	Margin Photographed Bayano-Yaviza	100%	Postpone Segm
	Strengthening ANAM in the Region	ANAM/UCP	Report	Work Plan for Zone 3 Metetf	80%	Postpone Segm
	Demarcation and Cartography of the Comarca Madugandí	MGJ/UCP-Contract	Field Inspection	Perimeter demarcated	70%	Postpone Segm
	Land Tenancy Conflict Resolution	MIDA/UCP/MGJ	Report	Negotiation Tables Installed	100%	Postpone Segm
	Negotiation Tables in Bayano Watershed			Processing of cases presented	80%	
	Cadastral of the Bayano Area (outside of the Comarca) - 10 km margin along highway	MIDA/UCP	Report	Cadastral of margin	20%	Postpone Segm
	Titling of Collective land of Emberá-Wounaan in the area of Bayano	MIDA/UCP/MGJ	Evidence of Titles	Titles	60%	Postpone Segm
	EIA of Segments 1 & 2 approved by ANAM	MOP/UCP	ANAM Resolution	ANAM Resolution	100%	Postpone Segm
	Evaluation of Conflict Resolution Mechanisms	UCP-Contract	Report	Analysis of the Effectiveness of the Mechanism	100%	Postpone Segm
Work Front No. 2 (Sub-Zones 1,3 and 5) of Darién Province						
No. 2: gua Fría	Declaration of the Corredor Biológico Serranía of Darién, including Consultation	UCP/Contract	Field Inspection	Area declared	80%	Postpone Segm
	Establishment of Conflict Resolution Negotiation Tables in Sub-Zones 5, 3A & 1	MIDA/UCP	Report	Negotiation Tables Installed	100%	Postpone Segm
				Processing of Cases Presented	80%	
	Aerial Photography of the Bayano Watershed and Darién – Remaining Areas	UCP/Contract	Report	Remaining Areas Photographed	100%	Postpone Segm
	Cadastral and Titling of the Bayano Area (outside of the Comarca) Margin of 10 km	MIDA/UCP	Report	Cadastral Titling	100% 50%	Postpone Segm
	Cadastral and Titling – margin of 10 km along the highway, segment 2	MIDA/UCP	Report	Margin surveyed & titled	50%	Postpone Segm
	EMP of Segment No. 1 implemented	MOP/UCP	Environmental Audit	EMP Implemented	80%	Postpone Segm
	Strengthening of ANAM in the Region	ANAM/UCP	Report	Work Plan (Zone 3) implemented	30%	Postpone Segm

Work Front No. 3 (Sub-Zones 2, 4, and 6)						
No. 3: La Palma	Organic Law of the Comarca Cemaco	MGJ/MIDA/UCP	Official announcement	Executive Decree	100%	Postpone Segment
	Demarcation of the Corredor Biológico Serranía of Darién	UCP/ANAM/Contract	Field Inspection	Southern Perimeter demarcated	100%	Postpone Segment
	Strengthening of ANAM in the Region	ANAM/UCP	Report	Office in Zone 2 (La Palma) Work Plan Implemented	75%	Postpone Segment
	Cadastral and Titling – margin of 10 km along the highway for Segment 3	MIDA/UCP	Report	Margin surveyed and titled	50%	Postpone Segment
	Cadastral and Titling Sub-Zone 3C	MIDA/UCP	Report	Sub-Zone surveyed and titled	70%	Postpone Segment
	EIA of Segment 3 approved by ANAM	MOP/UCP	ANAM Resolution	ANAM Resolution	100%	Postpone Segment
	EMP of Segment No. 2 implemented	MOP/UCP	Environmental Audit	EMP Implemented	80%	Postpone Segment
Improvements to La Palma (Quimba)	EIA of improvements to the ports approved by ANAM	AMP/UCP	ANAM Resolution	ANAM Resolution	100%	Postpone Improvements
	Study of Gulf of San Miguel	UCP/AMP	Contracting of Study	Progress of study	50%	Postpone Improvements
	Urban Development Plan of La Palma	MIVI/UCP/Contract	Report/Plan	Plan Approved	100%	Postpone Improvements
Road 1: Puerto	EIA of Road approved by ANAM	MOP/UCP	Resolution	ANAM Resolution	100%	Postpone Feeder 1
	Cadastral and Titling of Sub-Zone 3B	MIDA/UCP	Report	Sub-Zone surveyed	70%	Postpone Feeder 1
Line: Pt.	EIA of line approved by ANAM	UCP	Resolution	ANAM Resolution	100%	Postpone line
Work Front No. 3 (Sub-Zones 2, 4, and 6)						
No. 4: Canglón	Demarcation of the Darién National Park	ANAM/UCP/Contract	Field Inspection	Northern Perimeter demarcated	100%	Postpone Segment
	Strengthening of ANAM in the Region	ANAM/UCP	Report	Office Zone 1 (Yaviza) Work Plan Implemented	80%	Postpone Segment
	Land Tenancy Conflict Resolution Negotiation Table in Sub-Zones 2, 4, and 6	MIDA/UCP	Report	Negotiation Tables Installed	100%	Postpone Segment
				Processing of Cases Presented	80%	
	Cadastral and Titling Sub-Zone 2A	MIDA/UCP	Report	Sub-Zone surveyed and titled	50%	Postpone Segment
	Cadastral and Titling Sub-Zone 2B	MIDA/UCP	Report	Sub-Zone surveyed and titled	50%	Postpone Segment
	EIA of Segment No. 4 approved	ANAM/UCP	ANAM Resolution	ANAM Resolution	100%	Postpone Segment

No. 5: Yaviza	Demarcation of the Comarca Sambu	UCP/Contract/ MGJ	Field Inspection	Perimeter demarcated	80%	Postpone Segm
	EMP of Segment 3 and 4 implemented	MOP/UCP	Environmental Audit	EMP Implemented	80%	Postpone Segm
	Cadastre and Titling Sub-Zone 4 B	MIDA/UCP	Report	Sub-Zone surveyed and titled	50%	Postpone Segm
	EIA of Segment 5 approved by ANAM	MOP/UCP	ANAM Resolution	ANAM Resolution	100%	Postpone Segm
eder	Cadastre and Titling in a 5 km margin along road to be rehabilitated	MIDA/UCP	Report	Area surveyed and titled	70%	Postpone Road
	EIA of the road to be rehabilitated	ANAM/UCP	ANAM Resolution	Resolution ANAM	100%	Postpone Road
	Urban Development Plan of La Palma	UCP/MIVI/Gob. Local	Report	Plan Implemented	25%	Postpone work
aviza	Urban Development Plan of Yaviza	MIVI/UCP/Gob. Local	Report	Plan Approved	100%	Postpone work

**PROCUREMENT PLAN FOR THE PROGRAM**

Major procurement items by program component	Estimated amount US\$000	Financing (%)		Method	Pre-qualification	Estimated date of bidding	
		IDB	Local			Year	Quarter

**and use, title conveyance, environmental management and protection**

General management plans	300	80	20	ICP	No	1999	II
Specific area management plans							
Groups A & B	830	80	20	ICP	No	1999	III
Groups C & D	340	80	20	ICP	No	2000	I
Group E	180	70	30	ICP	No	2000	II
Regulatory reforms	300	80	20	ICP	No	1999	I
Aerial photog. (1,200,000 hectares)	600	90	10	ICP	No	1999	I
Survey (500,000 hectares)	2,000	80	20	ICP	No	1999	II
Land conveyance (350,000 hectares)	750	80	20	ICP	No	1999	III
Forest inventory (50,000 hectares)	250	80	20	ICP	No	1999	II
Forest inventory (100,000 hectares)	500	80	20	ICP	No	2000	II
Threat diagnosis and research	450	80	20	ICP	No	1999	IV

Country	Year	Value
Algeria	2006	0.00
Algeria	2007	0.00
Algeria	2008	0.00
Algeria	2009	0.00
Algeria	2010	0.00
Algeria	2011	0.00
Algeria	2012	0.00
Algeria	2013	0.00
Algeria	2014	0.00
Algeria	2015	0.00
Algeria	2016	0.00
Algeria	2017	0.00
Algeria	2018	0.00
Algeria	2019	0.00
Algeria	2020	0.00
Algeria	2021	0.00
Algeria	2022	0.00
Algeria	2023	0.00
Algeria	2024	0.00
Algeria	2025	0.00
Algeria	2026	0.00
Algeria	2027	0.00
Algeria	2028	0.00
Algeria	2029	0.00
Algeria	2030	0.00
Algeria	2031	0.00
Algeria	2032	0.00
Algeria	2033	0.00
Algeria	2034	0.00
Algeria	2035	0.00
Algeria	2036	0.00
Algeria	2037	0.00
Algeria	2038	0.00
Algeria	2039	0.00
Algeria	2040	0.00
Algeria	2041	0.00
Algeria	2042	0.00
Algeria	2043	0.00
Algeria	2044	0.00
Algeria	2045	0.00
Algeria	2046	0.00
Algeria	2047	0.00
Algeria	2048	0.00
Algeria	2049	0.00
Algeria	2050	0.00
Algeria	2051	0.00
Algeria	2052	0.00
Algeria	2053	0.00
Algeria	2054	0.00
Algeria	2055	0.00
Algeria	2056	0.00
Algeria	2057	0.00
Algeria	2058	0.00
Algeria	2059	0.00
Algeria	2060	0.00
Algeria	2061	0.00
Algeria	2062	0.00
Algeria	2063	0.00
Algeria	2064	0.00
Algeria	2065	0.00
Algeria	2066	0.00
Algeria	2067	0.00
Algeria	2068	0.00
Algeria	2069	0.00
Algeria	2070	0.00
Algeria	2071	0.00
Algeria	2072	0.00
Algeria	2073	0.00
Algeria	2074	0.00
Algeria	2075	0.00
Algeria	2076	0.00
Algeria	2077	0.00
Algeria	2078	0.00
Algeria	2079	0.00
Algeria	2080	0.00
Algeria	2081	0.00
Algeria	2082	0.00
Algeria	2083	0.00
Algeria	2084	0.00
Algeria	2085	0.00
Algeria	2086	0.00
Algeria	2087	0.00
Algeria	2088	0.00
Algeria	2089	0.00
Algeria	2090	0.00
Algeria	2091	0.00
Algeria	2092	0.00
Algeria	2093	0.00
Algeria	2094	0.00
Algeria	2095	0.00
Algeria	2096	0.00
Algeria	2097	0.00
Algeria	2098	0.00
Algeria	2099	0.00
Algeria	2100	0.00
Algeria	2101	0.00
Algeria	2102	0.00
Algeria	2103	0.00
Algeria	2104	0.00
Algeria	2105	0.00
Algeria	2106	0.00
Algeria	2107	0.00
Algeria	2108	0.00
Algeria	2109	0.00
Algeria	2110	0.00
Algeria	2111	0.00
Algeria	2112	0.00
Algeria	2113	0.00
Algeria	2114	0.00
Algeria	2115	0.00
Algeria	2116	0.00
Algeria	2117	0.00
Algeria	2118	

Computer equipment	220	80	20	LCB	No	1999	II
Vehicles	210	80	20	LCB	No	1999	II
Airien mapping	750	80	20	ICP	No	1999	III

Productive activities
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Transfer of farming technology	1.000	80	20	ICP	No	2000	I
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## habilitation of transport infrastructure

Rehabilitation Puente Bayano-Tortí	8.000	90	10	ICB	No	1999	II
Rehabilitation Tortí-Metetí	9.000	80	20	ICB	No	2000	II
Over transport	800	80	20	ICB	No	2000	I
Rural roads	6.400	60	30	ICB	No	2001	IV
Rehabilitation Metetí-Canglón - Canglón-Yaviza	8.500	70	30	ICB	No	2002	I

[illegible]

Transmission line Metetí-Puerto Quimba	270	80	20	LCB	No	1999	IV
Metetí hospital construction	900	70	30	LCB	No	2001	IV

P = International Call for Proposals; LCB = Local Competitive Bidding; ICB = International Competitive Bidding

PROPOSED RESOLUTION

PANAMA. LOAN \_\_\_\_/OC-PN TO THE REPUBLICA DE PANAMA

(Program for the Sustainable Development of Darién)

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the República de Panamá as Borrower, for the purpose of granting it a financing to cooperate in the execution of a Program for the Sustainable Development of Darién. Such financing will be for the amount of up to US\$70,400,000, from the resources of the Single Currency Facility of the Bank's Ordinary Capital, and will be subject to the "Terms and Financial Conditions" and to the "Special Contractual Conditions" of the Executive Summary of the Loan Proposal.