

PROGRAM TO SUPPORT THE COMPETITIVENESS OF THE PRODUCING SECTORS

(PN-0109)

EXECUTIVE SUMMARY

BORROWER AND GUARANTOR: Republic of Panama

EXECUTING AGENCY: National Secretariat of Science and Technology (SENACYT), through the Program Coordinating Unit.

AMOUNT AND SOURCE: Local counterpart funding: US\$10,700,000
- Government: US\$4,700,000
- Companies: US\$6,000,000
IDB: US\$14,200,000 (OC)
Total: US\$24,900,000

FINANCIAL TERMS AND CONDITIONS: Execution period: 4 years
Amortization period: 20 years
Disbursement period: 42 months
Interest rate: variable
Inspection and supervision: 1.0%
Credit fee: 0.75%
Currency: Single Currency Facility
United States dollar

OBJECTIVES: The general objective of the program is to boost the competitive capacity of companies in Panama through more effective use of knowledge and know-how for the development of production. Specifically, the program seeks: (a) to promote business innovation and modernization through direct demand-side subsidies for business support services, training programs, and technology development; (b) to try out a pilot plan creating a new institutional mechanism to increase the quantity of investment in R&D and to improve its quality; (c) to strengthen the management of the National Innovation System; and (d) to increase the number of information sources available for small business.

DESCRIPTION: The program has been structured into the following four components: (a) establishment of the Fund for Technology and Business Modernization (FOMOTEC) (US\$14.95 million) to further the process of business modernization and innovation; (b) creation of the Fund for Research, Development, and Dissemination (R&D+D Fund) (US\$4 million) to strengthen national capacity for R&D+D; (c) reinforcement of the National

Innovation System (US\$1.8 million) so as to strengthen and consolidate that system as an institution; and (d) establishment of information centers (Infocenters) (US\$1,040,000) in order to set up a network of public information booths.

**ENVIRONMENTAL
REVIEW:**

The proceeds of the program will be used largely to finance activities such as studies and advisory assistance, which in themselves have little direct impact on the environment. In the case of FOMOTEC, through the FOMOTEC Administration Unit (FAU) and a Service Providers Directory, information will be disseminated on programs, service providers, and production methods employing clean technologies. Also included will be activities to heighten awareness of the environmental effects of production-related activities. The Operating Regulations of the two above-mentioned funds will contain provisions for review with consultants, on a case-by-case basis, of the social and environmental effects and the measures to alleviate them.

BENEFITS:

It is expected that, upon completion, the program will have reached directly approximately 400 businesses. By means of the demonstration effect and the incentive to use support services, the program is expected to have a major impact on the attitudes of entrepreneurs to the process of business innovation. It is also expected to help spur the expansion of research and development capacity in Panama. It is further expected to bring about the establishment of approximately 10 commercially viable Infocenters.

RISKS:

Transparency in the allocation of resources is fundamental for the success of FOMOTEC. The plan adopted is based on an effective cofinancing arrangement and the allocation of resources solely according to technical criteria. It is hoped that this arrangement will maintain a high level of transparency while at the same time contributing to the smooth functioning of the program.

As there are as yet few advisory service providers in Panama, their response capability could become over-extended. An additional demand for these services could lead to an undesirable price inflation. However, the supply of these services tends to be elastic since foreign suppliers can step in quickly to fill the gap. The Service Providers Directory will play a key role in keeping service requesters informed of other available suppliers.

To implement the R&D+D Fund, institutional arrangements will be made to ensure the relevance of the projects to be financed (establishment of Consultative Groups, preparation of an area strategy). This is a new experience in Panama that has no precedent. The annual reviews of the progress of the program will evaluate the effectiveness of these arrangements, and any changes that are needed will be made to ensure that the relationship between research projects and the business sector continues to be effective.

Under the proposed program, SENACYT could see its execution capacity become over-extended. SENACYT will continue in the role of coordinator and facilitator that it has been playing. To this end, it will be assisted by the Program Coordinating Unit and will be allocated sufficient funds to hire experts as the situation warrants.

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

The Bank's strategy for Panama is guided by four general criteria: (i) increasing the benefits of social policy, (b) promoting sustainable development, (c) propelling sustained growth, and (d) strengthening governance. The present operation meshes with the strategy outlined inasmuch as it helps to optimize the use of knowledge in the country as a fulcrum for making Panamanian companies more competitive, helping to bring about sustained economic growth.

**POVERTY-
TARGETING:**

This program cannot be considered as poverty-targeted since the benefits will flow mainly to Panamanian businesses in general; nor would it classify as an operation to achieve social equity or poverty reduction, in accordance with the Eighth Replenishment document.

**EXCEPTIONS TO
BANK POLICY:**

It is recommended that a maximum of 10% of the total funding allocated to the present operation be provided as an advance (paragraph 3.25).

It is suggested that the minimum-cost selection method be used in recruiting consulting services. This method fixes a "minimum acceptable technical level" for assessing the quality of technical proposals. A technical and a financial proposal are presented in two separate envelopes. The technical proposals are opened first and evaluated, and any that do not satisfy the minimum acceptable level are rejected. Only the financial proposals of companies still in the running are opened. The firm submitting the lowest bid price is selected. The use of this

method is intended to ensure that a technical-quality threshold is established and that all of the proposals above this "minimum acceptable level" compete on the basis of cost. The minimum level will be clearly defined in the invitations to submit bids (paragraph 3.21).

**PROCUREMENT OF
GOODS AND
CONSULTING
SERVICES:**

Procurement of goods will be carried out in accordance with the Bank's standard procedures. Procurement will be conducted by international competitive bidding for amounts of US\$350,000 or more. Consultants will be hired in accordance with the Bank's usual procedures except as otherwise provided in the preceding section on exceptions to Bank policy. In the case of consulting services, international calls for proposals will be issued for contracts valued at or above US\$200,000. For amounts below this threshold, a short-list and the minimum-cost method will be used.

In the specific case of the knowledge assessment subcomponent, SENACYT has asked the Bank to grant an exception permitting the *National Research Council* to be hired directly to perform an exhaustive assessment of how efficiently the National Innovation System (NSI) utilizes available knowledge and technology (paragraph 3.16).

**SPECIAL
CONTRACTUAL
CONDITIONS:**

Conditions precedent to the first disbursement of the loan:

In addition to the standard conditions, the loan agreement will contain the following special conditions: (i) SENACYT shall have formed the Program Coordinating Unit (PCU) and appointed its Director (paragraph 3.2); and (ii) SENACYT shall submit to the Bank a draft Model Agreement to be entered into with Administrative Institutions (paragraph 3.12).

Notwithstanding the special conditions precedent to the first disbursement, up to US\$100,000 may be disbursed to set up the PCU, when the conditions precedent to the first disbursement established in articles 4.01(a), (b), and (c) of the loan-contract general conditions have been fulfilled.

Conditions precedent to the first disbursement of specific components:

- (i) for the FOMOTEC component, that the FOMOTEC Operating Regulations are in force (paragraph 3.4);
- (ii) for the R&D+D Fund component, that the Operating

Regulations governing the Fund are in force (paragraph 3.11); (iii) for the NSI component, approval by the Bank of a detailed implementation plan (paragraph 3.15); and (iv) for the Infocenter component, approval by the Bank of the business plan (paragraph 3.18).

In addition, the contract will include the Bank's standard conditions on audits, reports, inspections, evaluations, consulting services, and procurement.

I. BACKGROUND

A. Frame of reference

- 1.1 The Government of Panama has been moving ahead with plans to sharply reduce the tariff barriers protecting local producers as part of its program to raise efficiency and spur economic growth. Following the third and last round of reductions, tariffs in Panama, once amongst the highest in the Hemisphere, are now amongst the lowest. ^{1/} These steps will have a considerable impact on the country's producing sectors, which will need to go through an accelerated restructuring and adjustment process in order to contend with stiffer competition.
- 1.2 In Panama, the producing sectors are ill-endowed for the challenge of adapting to the new conditions. Sheltered by high levels of protection, an inward-looking producing sector that catered to a small domestic market evolved with little diversification or intersector integration. An economic model based on import substitution has led to inefficient production methods, an absence of distribution networks outside the country, and a lack of knowledge about external markets. At the same time, major service platforms within the country such as the banking sector, the free trade zone (Colon Free Zone), and the Panama Canal find themselves exposed to the winds of increased global competition.

B. Business sector

- 1.3 Over the last 10 years, the manufacturing industry has been growing at an average annual rate of 2.5%, to account for 10% of GDP. Average growth in this sector is, however, below the average for the economy as a whole, which during the same period expanded at an average rate of 3.3%. The sector, which experienced a period of stagnant growth from 1994 to 1996, recovered sharply in 1997, when the sector expanded by 3.6% fueled by higher demand for building materials thanks to increased investment in infrastructure.
- 1.4 The 1994 census of industry showed that there are 1,162 manufacturing firms in Panama with over five employees, the classification for small and medium-sized businesses. Of these businesses, only a handful (3%) have over 200 employees. Most firms (840) in this group have from five to 40 employees, with average sales of US\$334,000 (1992). There are 287 companies with 30 to 200 employees, posting average sales of US\$3.3 million. These figures reflect the wide variation between firms of different

^{1/} As a result of the changes, the tariff universe ranges from 0% to a maximum of 15%, with the average being 7% except for dairy products, rice, and automobiles, which are subject to temporary import regimes.

sizes. In Panama, manufacturing companies are predominantly family-based concerns, with management centralized in the hands of the owner. They are characterized by scant foreign business, inadequate business practices, and low levels of investment, factors that are indicative of a sector that uses low levels of technology. These businesses are vulnerable and reactive to changes in the business climate, and are limited in their ability to be innovative in positioning themselves to become more competitive in the long run.

- 1.5 The services sector generates nearly 70% of GDP. In the last 20 years, Panama has developed sizeable niches in the exportable services sector: the Panama Canal, the Colon Free Zone, and the country's international banking center account for over 25% of GDP and 70% of export earnings. However, these areas have come under increasing pressure from competition, and growth is expected to moderate in the years ahead. Exportable services are not labor intensive, accounting directly for only 3% of employment. This situation has serious implications for an enclave-based development model and underscores the need for the country to diversify its sources of economic growth. Hence, it is vital that changes be introduced to the country's organizational and management models and to the corporate culture which, as they now exist, impede the ability of manufacturing, agribusiness, and even services companies to compete.

C. Research and development in Panama

- 1.6 In Panama, investment in R&D is no more than 0.25% of GDP, one of the lowest levels in Latin America. The Smithsonian Institution accounts for 65% of total spending, with funds it receives directly from the United States. The Agricultural Research Institute (IDIAP) accounts for 65% of local R&D expenditure, with the government funding 99%. This means that the sectors experiencing the strongest growth (trade, banking, transport, etc.) invest very little in technology improvement.
- 1.7 In the early 1990s, the University of Panama (UNIPAN) and the University of Technology of Panama, the country's public universities, established foundations to permit interaction with other areas of society, particularly in order to raise financing and deliver paid services to companies. These two universities are now designing incentives to encourage researchers to work in areas related to the national system of production.
- 1.8 In 1992, the National Secretariat of Science, Technology, and Innovation (SENACYT) was set up by Executive Order as an office attached to the Office of the President of Panama. Its purpose was to establish formally a National Innovation System as the cornerstone of efforts to develop science and technology in the country. The Secretariat works mainly to promote a culture of innovation in the business sector, to train and retain specialized

human resources and to create linkages between business and research centers. SENACYT coordinates and facilitates this process, with a small but highly qualified staff.

- 1.9 Since 1995, SENACYT has seen its role in promoting science, technology, and innovation strengthened. Law 13, enacted in April 1997, set out the guidelines for a strategic plan for the development of science, technology, and innovation. This law provided a blueprint for SENACYT's involvement in a plan to mold and manage concrete actions and strategies having the common objective of maximizing the use of knowledge and knowhow as the key to business competitiveness.

D. The government's strategy

- 1.10 As part of its plan, the present administration has pursued a bold program to modernize the regulatory and institutional framework for production, with the result that it has passed and introduced a Law for the Defense of Free Competition, a Law for the Standardization of Tax Incentives, reforms of the Labor Code, the privatization of state-owned companies, banking reforms, and comprehensive commercial reforms. The main objective of these actions has been to correct the distortions that exist in the markets and to introduce a system of free competition.
- 1.11 The government has been providing material and policy support for a project to strengthen technological, scientific, and innovative capacity of companies as a basic tool in raising the country's business competitiveness. Amongst the specific actions being taken are the consolidation of SENACYT, the preparation of the first strategic plan for the sector, the establishment and implementation of a study-grant program to train researchers at the doctoral and post-doctoral level (Becas 2003) and passage of Law 13 in 1997. In addition, the government is seeking to strengthen the incentives to encourage technology, management, and innovation development in the private sector, an aspect of economic policy that is crucial for achieving sustainable long-term growth.
- 1.12 Pursuant to Law 13 (described above), SENACYT drew up a national strategic plan for the development of science, technology, and innovation. It was assisted in this process by numerous institutions and professionals involved in R&D. The plan contains an assessment of weaknesses in the National Innovation System and the obstacles hindering its development and shapes a vision and strategy for the sector. The steps to be followed include: (i) expanding and consolidating institutional capacity in Panama to carry out scientific research and to encourage technology development and innovation; (ii) helping to build and strengthen the infrastructure for research and technology development in different areas of economic activity and society, considered of priority for national development; (iii) systematically developing highly qualified human resources for research, technology

development, and innovation; (iv) promoting the modernization of technology and innovation in the business sector; (v) maximizing the use of technical and financial resources received in the form of international assistance; and (vi) furthering the creation and operation of mechanisms for linkages, technology transfer, and innovation.

E. The Bank's country strategy

- 1.13 The Bank's strategy for Panama is guided by four general criteria: (a) increasing the benefits from social policy, (b) promoting sustainable development, (c) propelling sustained growth, and (d) strengthening governance. The present operation dovetails with this strategy inasmuch as it helps to optimize the use of knowledge and knowhow in making Panamanian companies more competitive in order to bring about sustained economic growth.

F. Rationale for the operation

- 1.14 The government has asked the Bank to help with the structuring of an operation to furnish support, that in the short term will encourage companies to adapt to new market conditions and facilitate this process and in the longer term will develop capacity to ensure a flow of business and technological knowhow towards the country.
- 1.15 This operation aims at encouraging more effective and more vigorous use of knowledge in the process of economic modernization particularly in the business sector. It seeks to have an impact on two fronts: it will offer incentives to viable companies that wish to bolster their capacity to compete for business-support services through a system of *matching funds* and it will spur the development of Panama's capacity and structure to acquire, evaluate, adapt, and apply knowledge of best practices in organization, management, and production.

II. THE PROGRAM

A. Objectives of the program

- 2.1 The main objective of the program is to boost the competitive capacity of companies in Panama through more effective use of knowledge and knowhow for the development of the producing sectors. Specifically, the program seeks: (a) to promote business innovation and modernization through direct demand-side subsidies for business support services, training programs, and technology development; (b) to establish a pilot plan for creating a new institutional mechanism to increase the quantity of investment in R&D and improve its quality; (c) to strengthen the management of the National Innovation System; and (d) to increase the number of information sources for small business.

B. Description of the program and its components

- 2.2 The program has been structured into the following four components: (a) establishment of the Fund for Technology and Business Modernization (FOMOTEC) in the amount of US\$14.95 million, to stimulate the process of business modernization and innovation; (b) the creation of the Fund for Research, Development, and Dissemination (R&D+D Fund) in the amount of US\$4 million, to strengthen national capacity for R&D+D; (c) strengthening of the National Innovation System, in the amount of US\$1.8 million, to strengthen and consolidate that system as an institution; and (d) establishment of information centers (Infocenters) in the amount of US\$1,040,000, to set up a network of public information booths.
- 2.3 The program is expected to provide assistance directly to approximately 400 businesses. By means of the demonstration effect and the incentive to use support services, the program is expected to have a major impact on the attitude of business operators to innovation in business. It is also expected to help hasten the expansion of support services and R&D capacity development in Panama. It is further expected to bring about the establishment of approximately 10 commercially viable Infocenters (Annex I, Logical Framework).

1. Fund for Technology and Business Modernization (FOMOTEC) (US\$14.95 million)

- 2.4 The purpose of this component is to encourage innovation and modernization of business through direct demand-side subsidies for business support services, training programs, and technology development through the establishment of FOMOTEC. This fund will function according to a system of *matching funds* (up to 50% for individual companies and 70% for industry groups), whereby

cofinancing will be provided for projects designed to achieve modernization in the areas of management and technology innovation.

- 2.5 This component is expected to have a substantial impact on the quantity and quality of business support services offered in Panama. The following types of projects will be eligible for financing under FOMOTEC:

a. Business innovation

- 2.6 These are R&D projects concerned with products, processes, and services and the introduction or adaptation of production and management technologies tailored to increasing business operating efficiency and competitiveness in the following areas: (a) R&D activities having to do with products, processes, or services; (b) introduction of new technologies to improve operating and management efficiency; (c) introduction or adaptation of new production technologies; (d) introduction or adaptation of new modern business practices; and (e) activities relating to product quality certification, including metrology, standardization, and testing.

b. Technology infrastructure and institutional development of R&D

- 2.7 Projects of this kind are intended to support the production process and technology development in businesses, and include: establishment of R&D laboratories (the value of investment in equipment and facilities should not exceed 20% of the total cost of the project); training for R&D personnel in technical aspects concerned with the handling of equipment and technology upgrading; training for administrative and technical staff in business R&D management.

c. Promotion and transfer of technology

- 2.8 This component covers activities to promote and protect knowhow in technology breakthroughs, the acquisition of technology, and its adaptation to companies in Panama through technology missions and in-service training in companies abroad; seminars on technology transfer at the company level and international technology alliances; national patents and international certification; and promotion of locally developed technologies.
- 2.9 FOMOTEC will include features that ensure the effective use of clear technical guidelines in project selection, transparency in decision making, and allocation of subsidies. To this end, a private firm with an international track record in similar projects will be hired to serve as the FOMOTEC Administration Unit (FAU). The FAU will be required to set up a business services platform whereby account executives will work to attract companies to the

program, help them to draft a business development plan, and examine the technical and financial viability of the projects.

- 2.10 All companies established in Panama are considered eligible for cofinancing, without distinction as to line of activity, location, organization, and operating capacity, if they afford assurances of proper use of the resources (see draft Operating Regulations and eligibility criteria). The businesses may include (a) industrial and agribusiness concerns and commercial and services companies; (b) private centers for technology and business development; (c) business or trade associations; and (d) engineering and consulting firms. FOMOTEC will not normally finance the purchase of equipment.

2. Fund for Research, Development, and Dissemination (R&D+D Fund)
(US\$4 million)

- 2.11 The purpose of the R&D+D Fund is to establish an institutional mechanism that makes it possible to attract investment in R&D projects in science and technology and to improve the quality thereof. To achieve this goal, financing will be provided for research, development, and technology dissemination in emerging areas of the economy and priority areas of science and technology with a sound base of scientific or technological knowledge that could prove commercially viable. The proceeds of this component will be used to finance the following items, among others, on a nonrecoverable basis: (a) supplementary salaries for research personnel involved in the projects, (b) short training courses, (c) technology missions, (d) equipment and machinery and their installation and library materials, and (e) subcontracting of services.
- 2.12 One essential component of the Fund which justifies its designation as a "pilot" project is the structuring of an organizational plan that is designed to maintain a sustained effort in this field. A plan is proposed to stimulate linkages between business and the scientific and technological community that may be continued once the funding provided for this component is exhausted. This component fits in with the national strategic plan for the development of science, technology, and innovation prepared by SENACYT. This plan identifies a number of strategically important areas for the country with development potential in the local and/or international market. Those areas possessing a critical mass of expertise and professionals to permit their rapid development are: (a) marine resources, (b) bioprospection, (c) ecotourism, and (d) electronic commerce. New areas could be added, however, under the operating plan being proposed for this component.

3. Strengthening of the National Innovation System (SNI)
(US\$1.8 million)

- 2.13 This component is aimed at consolidating the National Innovation System (SNI) as an institution. SENACYT has established the SNI as a network of institutions, agents, and policies for the generation, adaptation, and dissemination of new technologies for the economy. Under SENACYT's strategic plan for science, technology, and innovation, investment will be made in areas of key importance for the development of the SNI. This component includes seven subcomponents that dovetail with SENACYT's strategy for strengthening the SNI and will complement actions it has already initiated and financed with funding of its own and from other sources.

a. Linkages between business and universities (US\$300,000)

- 2.14 To expand ties between universities and business, two liaison offices will be established, one at the University of Panama and the other at the University of Technology of Panama. These offices will have the following functions: (a) to promote services that universities can provide to assist business, (b) to advise universities on the design of these services, and (c) to act as a contact for both sides during negotiations. The resources will be used to finance start-up costs and training for personnel and, on a declining basis, the current expenses of the offices. The costs of running each office will be fully recognized in year one, with 60% being recognized in year two and 30% in year three.

b. Learning in science and technology (US\$200,000)

- 2.15 Under this subcomponent, technologies that have been used successfully in other countries will be adapted to improve the quality of learning in science and technology in primary and secondary school education. These technologies will be introduced under a pilot program at about six educational centers.

c. SNI monitoring and indicators (US\$150,000)

- 2.16 The purpose of this subcomponent is enhance decision-making capacity and the quality of investment in the National Innovation System, by devising an information system on the performance of research and development nationwide and on the status of SENACYT activities and their track record. Monitoring will consist of a data base and data collection system on the status of research and development activities from a financial and material standpoint and in terms of performance. This information will be used for follow up, control, and sector policy decisions.

d. Metrology, standards, testing, and quality system
(US\$400,000)

- 2.17 The purpose of this subcomponent is: (a) to get producing sectors to recognize the benefits of using metrological standards and quality certification, and (b) to underpin the establishment of a national system for metrology, standardization, and quality assurance with participation by the private sector (SENACYT has already begun to establish contacts with the Association of Manufacturers). These resources will be used to purchase equipment for the UTP's Central Metrology Laboratory, to review technical standards and metrology procedures, and for training and dissemination activities.

e. Knowledge assessment (US\$200,000)

- 2.18 The methodology known as *knowledge assessment*, developed by the *National Research Council*, is intended to determine a country's actual and potential technology core competencies and institutional barriers to optimum development. Participating in this analysis are experts from firms on the cutting edge in a high-tech country, in areas of priority for the economic development of Panama. The move to strengthen the SNI will be enhanced by additional actions, and assistance will be provided to determine the guidelines for the subsequent phases in investment for technology development.

f. Dissemination of science and technology issues in Panama
(US\$300,000)

- 2.19 This subcomponent will finance the planning and implementation of a mass publicity campaign on the day-to-day importance of science and technology to the general public, businesses, and national institutions. The campaign will heighten awareness of how important technology is in bringing comparative and competitive advantages to the nation and to businesses. Also, financing will be provided for activities to encourage State entities and companies in the private sector to use the Internet as their principal medium for making known their existence and communicating.

g. Evaluation an upgrading management and organizational practices (US\$250,000)

- 2.20 The purpose of this subcomponent is achieve more extensive use of modern management technologies, particularly in those areas most exposed to international competition such as the services sector. Initially, the use of modern business management and control tools in the services sector will be evaluated, using focus groups of entrepreneurs and business executives, including managers of foreign firms operating in Panama, to identify current uses and come up with appropriate recommendations. The way in which these issues are addressed in schools of business and engineering will be

evaluated in a subsequent phase, with a review of the quality and qualifications of teachers, curricula, reading lists, conceptual models, and physical conditions in which classes are given. The project will conclude with a series of recommendations on improving university programs.

4. Information centers (Infocenters) (US\$1,040,000)

- 2.21 The Infocenters are a pillar of the national strategic plan for dissemination of general knowledge, technological knowhow, and market research, and as a means of advertising services. An Infocenter is a kiosk equipped with computers with public access to the Internet, that also offers services of other kinds, such as training in the use of the Internet, photocopying and printing, basic guidance on sources of information on different markets. Ten pilot Infocenters will set up on the basis of a feasibility study, which will focus on whether they are economically viable. The number of centers addresses the need to attain minimum coverage geographically and by sector.
- 2.22 This component is intended to benefit in particular middle- and low-income communities (in rural and suburban areas) with production potential, which would be demonstrated by the requirement that significant production activities exist in the area where the Infocenter is to be located. Judging from experience with the "Public Booth" project in Peru, it appears that once the initial investment has been made in organization and promotion and the public is aware of the products being offered by the Infocenters, these services prove profitable and attractive to private investors.
- 2.23 The funds allotted for this component will be used to finance, on a declining basis, the basic cost of the Infocenters, for a maximum period of 24 months. By the end of this period, the centers that have proven to be commercially viable will be sold off while those that are not will be closed down. Before the start of this component, a marketing study will be performed to identify suitable incentives and the steps that need to be followed in privatizing the Infocenters.

C. Scaling of the program

- 2.24 FOMOTEC is expected to cofinance nearly 400 projects at an average cost of nearly US\$30,000, from proposals put forward by manufacturing and services companies. In the producing sector, around 250 establishments, or nearly 25% of all those covered in the business census, are expected to be reached. Given the considerable differences in company size, demand may be concentrated among the small-companies group with average sales of US\$334,000 and which will generate projects with an average cost of US\$15,000. The average sales of the next group of companies is substantially higher (US\$3.3 million) and presumably the average

cost of the projects they generate will be much higher (US\$80,000). In the services sector, 125 businesses are expected to be involved, with an average cost per project of US\$40,000.

- 2.25 With respect to the R&D+D Fund, the projects identified cost approximately US\$2 million (bioprospection, US\$950,000; marine resources, US\$550,000; electronic commerce, US\$250,000; and ecotourism, US\$250,000). Additional projects in a similar amount (US\$2 million) are expected to be identified by means of strategic plans by area, over the four-year life of the program.
- 2.26 SENACYT has prepared itemized budgets for the subcomponents which served as a basis for the scaling of the "SNI strengthening" component (program technical files).
- 2.27 The idea is to set up six rural and four suburban Infocenters, at an estimated unit cost of US\$400,000 in investment and US\$640,000 to cover, on a declining basis, operating costs for up to two years.

D. Cost and financing of the program

- 2.28 The total cost of the program will be US\$24.9 million, of which the equivalent of US\$14.2 million will be financed by the Bank, the equivalent of US\$4.7 million by the government, and the equivalent of US\$6 million by companies.
- 2.29 The Bank's contribution of US\$14.2 million will be drawn on the ordinary capital Single Currency Facility, at the request of the Panamanian government. The proposed terms and conditions of the financing are as follows: (a) amortization period, 20 years; (b) disbursement period, 42 months; (c) grace period, four years; (d) interest rate, variable; (e) credit fee, 0.75%; and (f) inspection and supervision, 1.0%.

TABLE OF COSTS AND FINANCING PLAN
(in US\$000s)

Investment categories		IDB	Local counterpart		Total	% of total
			Govern- ment	Busi- ness		
1.	Administration	800	300	0	1,100	4.4
1.1	Coordinating Unit	600	300	0	900	
1.2	Evaluation and monitoring	200	0	0	200	
2.	Direct costs	12,890	2,900	6,000	21,790	87.5
2.1	FOMOTEC	7,950	1,000	6,000	14,950	
2.1.1	FOMOTEC Fund	6,000	1,000	6,000	13,000	
2.1.2	Program Administration Unit	1,700	0	0	1,700	
2.1.3	Directory of Service Providers	250	0	0	250	
2.2	R&D+D Fund	3,000	1,000	0	4,000	
2.3	National Innovation System	1,300	500	0	1,800	
2.4	Infocenters	640	400	0	1,040	
3.	Unallocated	368	0	0	368	1.5
3.1	Contingencies (3%)	368	0	0	368	
4.	Financing costs	142	1,500	0	1,642	6.6
4.1	Interest	0	1,240	0	1,240	
4.2	Credit fee	0	260	0	260	
4.3	Inspection and supervision	142	0	0	142	
TOTAL		14,200	4,700	6,000	24,900	100.0
% of total		57.01	19.0	24.0	100.0	

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

A. The borrower and the executing agency

- 3.1 The borrower will be the Republic of Panama and the executing agency will be the National Secretariat for Science and Technology (SENACYT), through the **Program Coordinating Unit (PCU)** which will be formed to help with program execution. The PCU will be in charge of management, supervision, coordination, and evaluation of the program.
- 3.2 To assist with program execution and to perform the functions of accounting control, logistical support, management information, and financial management that are needed for the program's success, a Program Coordinating Unit will be created within SENACYT. The PCU will report to the National Secretary of SENACYT who will be the General Manager of the program. The members of the PCU will be the General Manager of the Executing Unit, who will be in charge of the unit, an assistant to the Manager, a manager of the Infocenter program, two administrative assistants, and two executive assistants or secretaries. In addition, the Unit will have sufficient funds to cover the hiring of temporary technical advisors. **As a condition precedent to the disbursement of funding for the four components, SENACYT must have formed the Coordinating Unit and appointed the Manager.** The resources required to set up the PCU will be available once eligibility has been declared.

B. Arrangements for implementation of the program components

1. Fund for Technology and Business Modernization (FOMOTEC)

- 3.3 Organization of the Fund: The Program Coordinating Unit will hire an agency to serve as the **FOMOTEC Administration Unit (FAU)** and will supervise its work. The FAU's basic functions will be as follows: (a) to make recommendations to the PCU on a detailed plan for the establishment and administration of the Fund; (b) to design the definitive operating manuals, including proforma evaluations; (c) to assist companies, that so request, to draw up and design business development plans and proposals for financing, through duly qualified account executives; and (d) to administer the program resources. **As a condition precedent to disbursement of funds for this component, a firm must be selected to perform the functions of FAU.**
- 3.4 The FAU will formulate an account-executive-based platform for business services. The account executives will assist entrepreneurs and show them the benefits of FOMOTEC and means of access, and will provide guidance to entrepreneurs in their relations with service providers. They will also help companies requesting assistance to formulate a business development plan and

draft a financing proposal. The FAU will receive remuneration in a fixed amount (60% to 70% of the total) to cover the fixed costs and a variable amount based on performance. As a condition precedent to disbursement of funds for this component, SENACYT shall implement the Operating Regulations for the functioning of the FOMOTEC Fund, subject to the Bank's approval.

- 3.5 The FAU will have the help of a Coordinating Committee (CC), consisting of five individuals including a representative from SENACYT, who will act Secretary of the CC, and representatives from the Ministry of Planning and Economic Policy, the Panamanian Association of Manufacturers, the National Association of Small and Medium-sized Businesses, and the National Business Council. The CC's main role will be to serve as the highest administrative authority. Some of the CC's functions will be to determine the policies and general guidelines for the component, to supervise, with the support of the PCU, the operation of the Fund and the performance of the FAU, and to approve the inventory of projects submitted by the PCU. As part of its duties, the CC may request an ex post review of individual projects. The FAU will submit bimonthly reports to the CC on the progress of this component.
- 3.6 In addition, the PCU will hire a company with international experience in generating, developing, and updating a **Directory of Service Providers** (DSP). That firm will be in charge of gathering, managing, and distributing systematically organized information to encourage and facilitate access by companies to the technical assistance and training available and other business support programs at home and abroad. The companies taking part in the program may hire only providers listed in the DSP (technical files, see FOMOTEC draft Regulations). FOMOTEC's Operating Regulations will set out the conditions for obtaining impartial access to the Directory in a transparent manner.
- 3.7 FOMOTEC will cofinance a maximum of 50% of the cost of the project or US\$50,000, whichever is less, for projects submitted by an individual company. For projects presented by an established business or trade association, it will cofinance a maximum of 70%, or US\$105,000, whichever is less.
- 3.8 To ensure that this component is environmentally viable, information on programs, service providers, and production methods employing clean technologies will be disseminated through the PAU and the Service Providers Directory. The Administration Unit's terms of reference will require that the account executives have sufficient knowledge and know-how to be able to give entrepreneurs a general assessment on the environmental impact of production activities and on alternatives that are available. Should the project in question have obvious and substantially adverse effects on the environment, SENACYT may, at its discretion, hire a specialized consultant who, with the support of the COF/CPN

environmental specialist, will make recommendations on courses of action. Terms of reference have therefore been drawn up so that an environmental consultant can be hired for a specific period (three months) to assist the PCU and SENACYT in drafting environmental guidelines for inclusion in the Funds' Operating Regulations.

- 3.9 The extent to which the business assistance system needs to be modified in order to meet the needs of women entrepreneurs will be determined during the annual meetings.

2. Fund for Research, Development, and Dissemination (R&D+D Fund)

- 3.10 As part of the operational arrangement for this component, consultative groups will be created in each area of priority. The function of these groups will be to facilitate on an ongoing basis communication between business owners and technologists, ensuring that projects that are eligible for financing satisfy the expectations of both groups. Each Consultative Group will have a maximum of six members, of whom at least one half will be representatives of the business sector. With the guidance and advisory assistance of the Consultative Group, SENACYT will draw up itself or commission a strategic development plan for each area of priority. The strategic plans will permit individual projects undertaken to proceed according to plan in a manner consistent and in line with previously identified objectives. The strategic plans will be presented to the corresponding Consultative Group for approval and to the National Council of Science, Technology, and Innovation and the Bank for their nonobjection. 2/
- 3.11 Organization of the Fund: SENACYT will be responsible for financial and accounting control and for coordinating the component, through the PCU. The members of the Consultative Groups will be appointed and removed by the Secretary of SENACYT. the National Commission on Science, Technology, and Innovation of SENACYT will act as an executive board and its nonobjection will be required for requests made to the R&D+D Fund. The members of the Commission, which will be chaired by the Secretary of SENACYT, come from business, the government, and the academic community. The use of Fund resources will be governed by a set of Operating Regulations to include standards, guidelines, and procedures that need to be observed in project execution (see program technical files). For disbursements from the R&D+D Fund to begin, SENACYT shall implement the Operating Regulations governing the operation of the Fund, subject to approval by the Bank.

2/ For biodiversity in particular, the strategy will include measures to ensure that in this area of priority the rights of indigenous peoples are observed insofar as they may be affected.

- 3.12 To streamline program execution and the procedures for collecting and making payments for services, SENACYT may subcontract this task to Administrative Institutions (AI), with the Bank's consent. The AIs will perform essentially administrative functions and will be responsible for carrying out some or all of the activities planned under the strategic plan.
- 3.13 Financing of individual projects by the Fund. Once the strategic plan has been approved, the process of contracting specific work may begin. The Consultative Group will evaluate the eligibility of each project and its quality, in accordance with the strategic plan, and will select those most in keeping with the objectives set out. The projects will be evaluated using the methodology described in the strategic plan and, after they have been approved by the Consultative Group, they will be forwarded to the National Commission on Science and Technology for its nonobjection. The funding for any one project financed from the Fund may not exceed the equivalent of US\$200,000 unless otherwise approved by the Bank.
- 3.14 The Operating Regulations will provide for a review with consultants, with the individual support of the COF/CPN environmental specialist, of the environmental and social effects as well as ways of mitigating these effects for certain projects (see terms of reference in technical files and paragraph 3.8).

3. National Innovation System (SNI)

- 3.15 SENACYT will be the executing agency and will be in charge of financial and accounting matters as well as coordination of the component through the PCU. A detailed plan outlining the execution of the seven SNI subcomponents will be forwarded to the Bank by SENACYT. **Approval of this plan by the Bank is a condition precedent to disbursement of funds for this component.**
- 3.16 In the specific case of the national knowledge assessment subcomponent, **the government, through SENACYT, has asked the Bank for a waiver so that the *National Research Council* can be hired directly** to perform an exhaustive evaluation of how efficiently the National Innovation System utilizes available knowledge and technology. This institution is linked to SENACYT ^{3/} and was selected because it has developed a special methodology for this purpose (knowledge assessment). It is a nonprofit institution of recognized standing with the technological expertise and experience to perform the tasks required for this component successfully and efficiently.

^{3/} The National Research Council has already done work for SENACYT that will be continued under the present program.

4. Information centers (Infocenters)

- 3.17 SENACYT will be the executing agency for this component. An Infocenter director will be appointed. Each Infocenter will, in turn, have a manager who will be in charge of its operations. The manager will be hired on an incentives-based contract, whereby remuneration is linked to the center's performance.
- 3.18 The Director will prepare a business plan for the Infocenters, which will set out the operating parameters and rules for the centers. The plan will need to be forwarded to the Bank for its nonobjection within two months of the date on which the Director assumes his/her functions. **Approval of the business plan by the Bank will be a condition precedent to commencement of the disbursements for this component.**
- 3.19 Under the program, financing will be provided for each Infocenter for a maximum of two years, from the date on which it starts functioning. As part of the program monitoring process, the Director of Infocenters will present to the Bank a divestment or liquidation plan for the Infocenters by the second annual evaluation meeting, at the latest. The Director, the managers, and the technical staff will have a revenue-linked compensation plan and bonus based on the sale value of the company (or Infocenter). The program will finance the entire cost of operations in year one and up to one half in year two. The Infocenters will supply information on international centers for clean technologies and establish contacts with these centers.

C. Procurement of goods and services and bidding schedule

- 3.20 Procurement will be carried out in accordance with the Bank's standard procedures. Procurement will be conducted by international competitive bidding for goods costing US\$350,000 or more. Consultants will be hired in accordance with the Bank's standard procedures except as otherwise specified in the following paragraph. The bidding on amounts below these thresholds will be done according to national legislation, which calls for local competitive bidding for the procurement of goods valued at from US\$10,000 to US\$250,000. For contracts under US\$10,000, procurement may be arranged by soliciting three quotes. The Bank's procedures will be used for the engagement of consulting services valued at less than US\$200,000.
- 3.21 It is suggested that the minimum-cost selection method be used in selecting consulting services. This method fixes a "minimum acceptable technical level" for assessing the quality of technical proposals. A technical and a financial proposal are presented in two separate envelopes. The technical proposals are opened first and evaluated, and any that do not satisfy the minimum acceptable level are rejected. Only the financial proposals of companies

still in the running are opened. The firm submitting the lowest bid price is selected. The use of this method is intended to ensure that a minimum technical-quality threshold is established and all of the proposals above this "minimum acceptable level" compete on the basis of cost. The minimum level will be clearly defined in the invitations to submit bids.

- 3.22 The program does not provide for bidding on works with the proceeds of the loan. The only works on which there will be bidding (office renovations) will be financed from the local counterpart resources. The equipment will be procured in two sets of international competitive bidding, in an amount of approximately US\$1,060,000, and four sets of local competitive bidding for the purchase of laboratory and technical equipment, for approximately US\$405,000. Also envisioned are four international calls for proposals for consulting services, valued at approximately US\$2,325,000, and one local call for proposals for a total of US\$100,000 (Principal procurement for the program, Annex II).

D. Maintenance of works and equipment

- 3.23 The executing agency will include in financing agreements with the beneficiaries a commitment that the works and equipment being financed under the program will be operated and maintained in accordance with generally accepted technical standards. SENACYT will be required to enter into agreements with Administrative Institutions (AIs) on the conditions for use and eventual transfer of equipment acquired with program funding. **SENACYT shall submit to the Bank a draft of the Model Agreement to be entered into with AIs as a condition precedent to the first disbursement of the program.** The agreement will specify the method to be used by the AI in administering the funds derived from the commercial use of the equipment and installations. The charges for research services (researcher time and facility and equipment use) will be earmarked first to cover equipment operating expenses.

E. Terms, timetable for the works, and disbursements

- 3.24 The proposed execution period for the project is four years from the effective date of the loan agreement with the Bank. A tentative disbursement schedule for the loan and the local counterpart funding is shown below:

Disbursement schedule
(in US\$000)

Source of funds	YEAR 1	YEAR 2	YEAR 3	YEAR 4	TOTAL	%
IDB	1,900	3,400	5,400	3,500	14,200	57.0
Companies	720	1,800	2,280	1,200	6,000	24.0
Government	410	1,380	1,670	1,080	4,700	19.0
Total	3,190	6,580	9,350	5,780	24,900	100.0
Percentage per year/Cumulative	13%	26%	38%	23%	100%	

3.25 The proceeds of the loan will be disbursed over a maximum of 42 months from the date of signature of the financing agreement. At SENACYT's request, the project team recommends that, as an exception to the Bank's disbursement procedures, a maximum of 10% of the total funding for the present operation be provided as an advance in order to allow enough time and sufficient resources for efficient procurement of goods and services. This exception is requested for purposes of expediting the process of awarding contracts and to permit the Bank to respond rapidly especially for the FOMOTEC and R&D+D Fund components.

3.26 At the outset, ex ante controls for disbursements, established in Bank policy, will be kept in place. As SENACYT and the Administration Unit acquire experience in program management, the possibility of performing ex post reviews after the disbursements will be explored during the annual reviews.

F. Monitoring of the program

3.27 Within two months of the effective date of the loan contract, or by any other deadline that the parties may mutually agree on, the project team will conduct a technical mission to Panama to carry out, in conjunction with the Country Office and SENACYT, activities relating to the start-up of all of the administrative, technical, and financial aspects of the program.

3.28 As part of the monitoring process, commencing in 1999, SENACYT will meet with the Bank and specifically the project team, each year during implementation of the program, by April 30 at the latest, to examine the advance of the program and to reach agreement on the activities envisaged to begin the following year. To this end, it is recommended that the borrower, through SENACYT, present each year to the Bank, at least 15 days prior to each meeting, the reports specified as being needed to examine the activities for each component of the program. If, at its monitoring meetings or on the basis of the reports presented, the Bank finds that the rate

of advance of the program is unsatisfactory, the borrower, through the executing agency, will be required to indicate within 60 days of the date on which the Bank communicates its dissatisfaction the corrective action it plans to take and the schedule for performing such action.

G. Program evaluation and reports

- 3.29 SENACYT will be in charge of systematically evaluating the program as well as preparing the corresponding reports to be examined at the monitoring meetings. The reports will be drafted by the executing agency and forwarded to the Bank in accordance with the agreed work plan. The Country Office in Panama will be responsible for administering the program and will perform periodic reviews. SENACYT will be required to present the reports described below.

1. Initial report (work plan)

- 3.30 As a condition precedent to the first disbursement, the executing agency shall present a work plan, together with a timetable for implementing each component and activity of the program. This plan is to include the indicators, means of verification, and assumptions for each case.

2. Progress reports and monitoring meetings

- 3.31 Rather than semiannual progress reports, an annual report describing the progress made shall be submitted within 30 days of the close of each year for the duration of the program, commencing on the date on which the work plan is presented. These reports must include a summary of what has been accomplished and what was scheduled in the work plan and the work plan for the following year. The progress reports must include annexes in which activities are listed by component, together with their evaluations, procurement, and hirings of consultants for the period in question.

3. Mid-term and ex post evaluation

- 3.32 Within six months of the end of year two of program execution, a mid-term evaluation will be performed by an independent consultant, using all of the progress reports, mission reports, and evaluations submitted during program execution. The mid-term evaluation will be funded out of the proceeds of the IDB financing. In addition, it was agreed with SENACYT that an ex post evaluation of the program, chargeable to the IDB financing, would be performed by an independent consultant. The results of this analysis will be used to assess the possibility of organizing a program to monitor the program.

H. Audits

- 3.33 The financial statements of the program, to be audited by a firm of independent public accountants acceptable to the Bank, will be presented by the borrower within 120 days of the close of each fiscal year for the duration of the program.

IV. FEASIBILITY AND RISKS

A. Feasibility of the program

- 4.1 The government's economic policy is aimed at maintaining macroeconomic stability, and correcting distortions in the systems of incentives. Great strides have been made towards creating a climate friendly to private investment. The government has taken on the role of a catalyst in promoting and facilitating the development of science and technology as part of a medium-term strategy. However, because Panama lags behind in this area, the government's actions under the program signal the start of a pioneering effort to implement a coherent policy. Consolidating its capabilities in these areas is a long-term endeavor that has just barely begun.

1. Socioeconomic viability

- 4.2 Commencing in 1998, the manufacturing sector will need to come to grips with a major adjustment process, owing to growing competitive pressures from imported goods. The absence of a network of support services to permit effective management of knowledge in managerial and production methods addressing the needs of Panamanian companies will hinder the process, making it fairly costly. In the case of Panama, subsidies for business support services may entail benefits that cannot be not fully internalized by companies that use them. These benefits include acquisition of technology, improvements in learning capacity, and more extensive worker training at the sector level.
- 4.3 The actions proposed to strengthen the capacity of the SNI and enhance the quality and quantity of investment in research and development are an initial step in this direction. The projects of the R&D+D Fund will be based on a strategy of strengthening in areas with economic development potential. The investments made through this Fund will serve as a catalyst for investment in other areas and will help to forge ties between the business sector and research and development service providers within the country and abroad. The Consultative Groups are expected to help ensure the relevance and viability of Fund activities.
- 4.4 The Infocenters will need to prove that they are financially viable and it is expected that those that are profitable will be sold to the private sector within two years after they are established. In addition, it is hoped that a demonstration effect will be achieved to encourage replication by other centers with private investment. Experiences in other countries show that services of this kind may be an attractive investment.

2. Institutional viability

- 4.5 SENACYT has a suitable organizational structure, and has been limited to serving as a project facilitator and promotor. Under the structure of the present program, it will continue to perform these functions, minimizing its duties of direct involvement in execution. Most of the activities envisioned under the program will be outsourced.
- 4.6 To ensure that the program is a viable undertaking and to handle its administration, significant strengthening has been planned for SENACYT, through the Program Coordinating Unit. The Bank in conjunction with SENACYT will ensure that the PCU is given administrative procedures for supervision and financial control so that it can properly administer the loan resources and the budget needed to hire local and international experts in different fields of science and technology. The support provided by the FOMOTEC Administration Unit (FAU), associated with FOMOTEC, and the Administrative Institutions, associated with the R&D+D Fund, will make it easier still to administer and execute the program.

3. Environmental feasibility

- 4.7 The proceeds of the program will be used largely to finance activities such as studies and advisory assistance, which in themselves have little direct impact on the environment. The only program component that involves direct investment is the Infocenters. The other components consist of studies, workshops, visits, research, etc. Accordingly, only general guidelines for alleviating environmental effects are being considered. The Infocenters, being small physical structures serving the community, do not in themselves have any adverse affect on the environment, but will indirectly help to improve it through the information components relating to clean technologies, environmental training, etc.

B. Risks of the program

- 4.8 Transparency in the allocation of resources is a key ingredient for the success of the FOMOTEC. The plan that has been adopted is based on an effective cofinancing arrangement and the allocation of resources solely according to technical criteria. It is hoped that this arrangement will maintain a high level of transparency while at the same time contributing to the smooth functioning of the program.
- 4.9 As advisory service providers in Panama are still in the early stages of development, their response capability could become over-extended. An additional demand for these services could lead to an undesirable inflation in prices. However, the supply of these services tends to be elastic since foreign suppliers can step in rapidly to fill the gap. The Service Providers Directory will play

a major role in keeping those demanding these services informed of other available suppliers.

- 4.10 To implement the R&D+D Fund, institutional arrangements will be made to ensure the relevance of the projects to be financed (establishment of Consultative Groups, preparation of an area strategy). This is a new experience for Panama that has no precedent. The annual reviews of the progress of the program will evaluate the effectiveness of these arrangements, and any changes that are needed will be made to ensure that the relationship between research projects and the business sector continues to be effective.
- 4.11 SENACYT's execution capacity could become over-extended under the present program. Every effort has been made to continue for this program the role of coordinator and facilitator that SENACYT has been playing. To support SENACYT, the PCU will be established and allocated sufficient funds to hire experts as the situation warrants.

**PROGRAM TO SUPPORT THE COMPETITIVENESS OF THE PRODUCING SECTORS
(PN-0109)**

LOGICAL FRAMEWORK OF THE PROGRAM

Objectives	Components	Indicators	Means of verification	Assumptions
Objective 1				
Effective use of technology and knowhow for the improvement of production.				
Objective 2				
Promote business modernization and innovation	FOMOTEC (Fund for Technology and Business Modernization)	<p>400 to 500 business projects completed</p> <p>The participating businesses post sales growth of 10% over the average for the sector.</p> <p>10 new business services companies established in Panama within 3 years' time.</p>	<p>PAU reports</p> <p>Reports by business associations, sector statistics</p> <p>Service Providers Directory</p>	<p>Economic policy remains unchanged and is aimed at eliminating distortions in the structure of incentives.</p> <p>Unexpressed demand for assistance services exists</p>
Improve the quality and efficiency of investment, production, and development. Technical capacity will have been strengthened for managing and executing investment and development	R&D+D Fund	<p>Commencing in year 2, R&D projects valued at US\$100,000 will be carried out with funds other than program resources. The amount will increase to US\$200,000 in year 3 and US\$400,000 in year 4.</p> <p>Strategic plans reviewed, approved, and implemented in at least six strategic areas.</p> <p>At least four investment projects come into being as a result of the works financed under the R&D+D Fund.</p>	Statistics of the SNI	<p>By strengthening the development planning and increasing the amount of investment in R&D projects, an eventually self-sustaining local capacity will be created.</p> <p>Given the embryonic nature of scientific capacity in Panama, more effective use of R&D with immediate application</p>

Objectives	Components	Indicators	Means of verification	Assumptions
Strengthening of SNI (national information system) as an instrument for small business	Strengthening of the SNI through seven subcomponents	<p>Two university-business liaison offices envisaged are set up and at least one is self-sustaining two years after commencement of the project.</p> <p>Five schools adopt the new learning methodology in the areas of science and technology.</p> <p>Revenues from subscription rights will be received from at least 50 institutions or persons.</p> <p>The curriculums in modern management technologies are modified in at least two universities and two technical educational centers.</p>	<p>Annual progress reports, annual meetings</p> <p>SNI statistics</p>	Strengthened through the support of SENACYT will have the capacity to implement the project
Identifying and sources of financing for small business	Infocenters program	<p>15 Infocenters or similar businesses functioning independently with private investment within two years.</p> <p>All of the Infocenters established with program funding have been sold (10), with at least 60% recovery of costs.</p>	Annual progress reports, annual meetings	The Infocenter plan which was successful in other countries can be implemented in Panama

PROGRAM TO SUPPORT THE COMPETITIVENESS OF THE PRODUCING SECTORS

(PN-0109)

Principal procurement for the program

Consulting services-goods and equipment	Financing (%)		Method	Prequalifi- cation	Semester
	IDB	Local			

SERVICES

Administration Unit (PAU) (US\$1,700,000)	80	20	ICP	Yes	I
actory (US\$250,000)	100	0	ICP	Yes	I
of MNPC system, Firm (US\$200,000)	80	20	ICP	No	II
ional capacity to utilize knowledge, consulting firm (National Research Council) (US\$195,000)	80	20	DC	No	I
ng campaign and heightening of national awareness of technology issues (US\$100,000)	40	60	LCP	No	IV
of technology, recruitment of consultants (US\$175,000)	80	20	ICP	No	III

EQUIPMENT

n, laboratory equipment (US\$630,000)	100	0	ICB	Yes	II
ces, laboratory equipment (US\$75,000)	80	20	LB	No	II
merce, technology equipment (US\$130,000)	40	60	LB	No	III
of MNPC system, laboratory equipment (US\$100,000)	80	20	LB	No	III
ng campaign and heightening national awareness of technology issues, publications (US\$100,000)	80	20	LB	No	II
program, 10 Infocenters (US\$430,000)	100	0	ICB	No	I

onal competitive bidding
 dding without restrictions as to participants from other member countries
 ontracting
 onal open call for proposals
 ll for proposals

RGII-PN0117P
PN-0109
Original: Spanish

PROPOSED RESOLUTION

PANAMA. LOAN ___/OC-PN TO THE REPUBLICA DE PANAMA
Program to Support Productive Sectors Competitiveness

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 to Support Productive Sectors Competitiveness. Such financing will be for the amount of up to US\$14,200,000, 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.