

## ENVIRONMENTAL MANAGEMENT AND IMPLEMENTATION OF CLEANER TECHNOLOGIES FOR COLOMBIAN ENTERPRISES

(TC-00-05-00-6)

### EXECUTIVE SUMMARY

- Executing agency:** Corporación para la Investigación Socioeconómica y Tecnológica de Colombia (CINSET) (Corporation for Socioeconomic and Technological Research) through the CINSET - ACOPI Project Executing Unit.
- Co-Executing agency:** Asociación Colombiana de Medianas y Pequeñas Industrias (Association of Small and Medium-Size Industries) (ACOPI)
- Beneficiaries:** Amongst the project beneficiaries will be small and medium-sized entrepreneurs who will be sensitized to the issues of environmental management and cleaner production (CP) including a group of enterprises that will be receiving technical assistance and advisory services in implementing CP practices. Other beneficiaries will be environmental consultants (trainers and managers) who can offer specialized services to the small and medium-sized enterprises (SMEs). In addition, environmental consultants, universities, industrial trade unions and enterprises will have access to publications. Indirect beneficiaries will be all other organizations that consult the supply and demand databases, environmental organizations learning about cleaner production, and society in general, given the SMEs' increased environmental responsibility.
- Objectives:** The project goal is to increase the competitiveness of the SMEs by promoting adequate environmental management and a clean production culture with two aims: 1) to serve as a key factor in successfully competing in the markets, and 2) to comply with environmental guidelines. The project covers Colombia's five major industrial cities and their areas of influence: Bogotá, Medellín, Cali, Barranquilla and Bucaramanga.

<b>Description:</b>	To attain this goal, the project has been divided into three components:	
	<ol style="list-style-type: none"> <li>1. will Strengthening the supply of skilled environmental management and CP services to SMEs. This component implements a series of activities geared toward training a critical mass of environmental consultants and managers who can offer such services.</li> <li>2. Increasing the demand for such services, aiming specifically to make SME entrepreneurs aware of environmental management and the use of CP. Since there is no clear knowledge of the implications and opportunities in terms of the economic effectiveness that can be achieved while still complying with environmental guidelines, this component seeks to fill that void, emphasizing environmentally-sensitive subsectors.</li> <li>3. Information and dissemination to help consolidate the start-up of a supply and demand environmental services market for SMEs. Various information, dissemination, promotion and coordination activities will demonstrate the opportunities that such a market can generate.</li> </ol>	
<b>Financing:</b>	Modality: (non reimbursable) (Human Resources Facility)	
	MIF	US\$1,423,000
	Local counterpart:	US\$ 948,000
	Total:	US\$2,371,000
<b>Execution timetable:</b>	Execution period:	36 months
	Disbursement period:	42 months
<b>Environmental and social review:</b>	The Technical Review Group of the Committee on Environment and Social Impact reviewed and approved the proposed project on 9 June 2000. All the comments made at the meeting have been taken into consideration.	
<b>Special contractual clauses:</b>	As conditions precedent to the first disbursement, the executing agency must submit: (i) the signed agreement of understanding between CINSET and ACOPI to form the CINSET-ACOPI executing unit; (ii) evidence of the hiring of the project director; (iii) a working plan and schedule of disbursements for the first six months of the project, prepared to the Bank's satisfaction; and (iv) evidence that the advisory council has been formed.	
<b>Exceptions to Bank policy:</b>	None	

## **I. COUNTRY AND PROJECT ELIGIBILITY**

- 1.1 Colombia was declared eligible for all financing arrangements of the Multilateral Investment Fund (MIF) on 29 October 1993. This project is eligible for financing by the Human Resources Facility of the MIF, for its skills development approach through training in strategic private sectors, fueling entrepreneurial competitiveness.

## **II. BACKGROUND FACTS**

### **A. The small and medium-size enterprise in Colombia**

- 2.1 The small and medium-size enterprise (SME) is a fundamental force worldwide for economic growth and job creation, and Colombia is no exception. The SME is also a substantial player in the entrepreneurial sector's global competitiveness and has a crucial social role in terms of jobs and well-being for economically vulnerable groups, particularly women and artisans in business activities requiring minimal capital that are carried out in all regions of the country.
- 2.2 According to 1998 figures<sup>1</sup> the SME represents 73% of the total number of business establishments, 50% of the jobs created, 36% in added value, and 41% in production. The SME's regional distribution is concentrated in five areas, covering 86% of the total area. Bogota leads with 49%, followed by Valle (15%), Antioquia (14%), Atlántico (4%) and Santander (4%). The SME's labor productivity falls short when compared with large enterprises. Measured as added value by worker, the SME index is US\$23,632, while, for the large enterprise, the figure is US\$44,530.<sup>2</sup> This means that the Colombian SME is an integral part of the entrepreneurial structure and contributes substantially to the creation of jobs. However, its organizational weaknesses limit its productivity and competitiveness, which prevents the SME from participating in national and international markets.
- 2.3 The SME not only faces problems of productivity, but of environmental management as well. The consolidation of the Sistema Nacional Ambiental (National Environmental System) and action by regional environmental authorities are forcing the SMEs to adopt environmental management measures in order to comply with environmental guidelines. For example, 50% of the poultry-farming enterprises have been notified by the environmental authorities.<sup>3</sup> The lack of economic effectiveness, combined with the failure to comply with environmental

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<sup>1</sup> Figures taken from the paper "Promoción del desarrollo de la micro, pequeña y mediana empresa colombiana" (Promoting the development of the microenterprise, and small and medium-size enterprises in Colombia), Ministry of Economic Development (2000).

<sup>2</sup> Figures in Colombian pesos converted to dollars using the average exchange rate of \$1426 pesos/dollar.

<sup>3</sup> See Annex XIII in the technical files

regulations, induces the SMEs to find viable ways of reducing the production and environmental costs that they are compelled to incur to obtain the environmental permits they need to operate. The Corporación para la Investigación Socioeconómica y Tecnológica de Colombia (CINSET) was founded to support the SME in these issues (see paragraph 4.1).

## **B. The Concept of Environmental Management and Cleaner Production (CP)**

2.4 Environmental management is understood to include the environmental variable in decision-making in administrative and productive processes, taking into account the effects of pollution and the inefficient use of natural resources. Cleaner production (CP) consists of the regular application of a preventive environmental strategy integrated into the processes, products and services to increase total efficiency and reduce risks to humans and the environment.<sup>4</sup> The non-sustainable use of natural resources such as raw materials, production inputs, and the use of the environment as a repository for contaminants (waste, emissions and spills), become costly to other economic factors that, if not offset or internalized, will create a loss of well-being. Environmental management and CP seek to correct this problem. In CP, there is a synergy between production efficiency and environmental rehabilitation, in juxtaposition to what are known as "pipe-end" pollution control policies.

2.5 The specific goals of CP are (i) to maximize the use of natural resources and raw materials, (ii) increase energy efficiency and utilize cleaner fuels; (iii) prevent and minimize the production of contaminant waste; (iv) prevent, mitigate, correct and offset environmental effects on the population and on ecosystems; (v) adopt cleaner technologies and regularly upgrade environmental management practices; and (vi) minimize and recycle waste products.<sup>5</sup> Benefits of the CP processes are achieved by small investments or in many cases, no investment. Where investments have to be made, they tend to have short or medium-term returns as shown from successful experiences in various countries.

## **C. The Status of Supply and Demand for Environmental Management and Cleaner Production**

2.6 The market for CP-based environmental management services for the SME in Colombia is in its inception. In 1997, the Ministry of Environment promulgated its national policy for cleaner production which proposed, as a strategy for the productive sectors, a promotional element geared to (i) publicizing the CP concept, (ii) facilitating access to cleaner technologies, and (iii) demonstration projects.

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<sup>4</sup> Definition of the United Nations Environmental Programme.

<sup>5</sup> Taken from "Programa: hacia una "producción más limpia" Ministry of Environment. Colombia, September 1998.

- 2.7 The first environmental window for SMEs was launched in Bogota under the auspices of the DAMA and operated by CINSET. Other environmental windows have opened in Medellín and Cúcuta. The Centro Nacional de Producción Más Limpia y Tecnologías Ambientales (CNPMLTA) began operations in 1998, backed by the Asociación Nacional de Industriales (ANDI) and the Swiss government. A regionalization strategy has recently been developed through CP nodes, on which this project hinges, to maximize its impact nationally (see Annex VIII in the technical files).
- 2.8 These efforts, however, have not succeeded in forming a critical mass of expert consultants to satisfy the needs of the SMEs on the issues of CP and environmental management.
- 2.9 Demand is the result of two additional facts. On the one hand, the need to increase production efficiency gives rise to the adoption of cost-saving production processes or changes, which is particularly more critical for the SME. Environmental legislation is a second driving force. Various production sectors have shown concern over how to comply with environmental regulations and the attitude of environmental authorities is changing (See Annex XIII of the technical files).

**D. Origin and support for the proposed operation**

- 2.10 The preceding section sets forth the rationale for this project, since a process is clearly needed to strengthen a supply capable of satisfying the incipient demand. The present project supplements and complements ongoing efforts since it concentrates on SMEs which until now have not been the focal point of assistance in CP issues. It also seeks to fulfill the dual purpose of helping SMEs to comply with environmental regulations while improving their economic efficiency.
- 2.11 The Bank's strategy, as reflected in the country paper (GN-2052-1), includes the developmental goal of "*protecting the environment to increase productivity with private sector participation*" and states that "*the Bank will support the introduction of an environmental strategy that proposes (i) to negotiate agreements for clean production with industry and agriculture; ...*". The MIF environmental strategy, published this year, also recognizes CP and environmental management as a useful tool within the field of support for "entrepreneurial management and know-how", which seeks to help companies become more environmentally efficient, innovative and aggressive. This project fits within the two strategies for the adoption of CP.

**III. PROGRAM OBJECTIVES AND COMPONENTS**

- 3.1 The project's objective is to increase competitiveness of the SMEs by adequate environmental management and promoting a clean technology culture with two aims: 1) as a key factor for successfully competing in the markets, and 2) to

comply with environmental guidelines. The project has three components: (i) strengthening the supply of environmental consulting services for SMEs; (ii) increasing demand by SMEs; and (iii) disclosure and dissemination. The project covers Colombia's five major industrial cities and their areas of influence: Bogotá, Medellín, Cali, Barranquilla and Bucaramanga. These cities have been selected for the project because of their importance in terms of an SME presence and the latter's environmental impact.

**A. Component 1 – Strengthening of Demand (MIF US\$456,070; LOCAL US\$64,740)**

- 3.2 In order for the community of potential SME-based service providers specializing in CP and environmental management to be effective, they will need enhanced knowledge of these new concepts. Therefore, this component will develop a series of activities geared toward training a critical mass of environmental consultants and managers who will be able to offer these services. According to conversations with trade union managers in the field, the country lacks this critical mass. This component's specific goal is to strengthen supply and create a firm base of support for the SME that will lead to economic and environmental effectiveness.
- 3.3 One of the key activities<sup>6</sup> of this component is the design and preparation of several educational and informative materials to be used in the training courses described below. Local consultants need to be contracted to develop manuals on training, diagnostic and operating and procedural methods. The diagnostic manuals will elaborate on environmental diagnostic procedures, balance of materials and energy, raw materials substitution options, in-plant recycling and pollution reduction, as well as the design of management and final evaluation indicators. The operations and procedures manuals will contain elements for increasing competitiveness through CP, implementation guides, formulation of action plans, monitoring and follow-up mechanisms, design of sector management and evaluation indicators, regulatory aspects, terms for the preparation of an environmental management plan that calls for CP elements, and environment-related occupational health and work safety recommendations.
- 3.4 A second series of activities will focus on raising consultants' skills to a standardized level by means of instruction courses. Two types of events will have a multiplier effect in view of the geographical scope of the project. With the first event, instructor education, consultants will build their skills to the required level by region and sector, and will, in turn, in the second event, head workshops to train managers and a larger group of environmental consultants in each eligible area. Three instructor education workshops will be conducted, one for each of the sectors of production, agribusiness and services. The three workshops for each of the

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<sup>6</sup> A detailed description of the Operating Regulations for each activity can be seen in Annex III of the technical files.

sectors will be replicated in each region (multiplier effect). These sectors were chosen because of their importance in terms of size within the SME sector and their substantial environmental impact<sup>7</sup>. This will make it possible to demonstrate more emphatically the benefits of CP-based environmental management.

- 3.5 To design the instructor education workshops, three international consultants, one for each sector (manufacturing, agribusiness, and services), will have to be contracted, for a seven-day period each, and six local technical consultants will be hired to conduct the course. A total of 30 local consultants will receive training (six for each of the five regions, two for each sector). These consultants, in turn, will be responsible for planning the sector and regional manager training workshops in each city. 15 workshops will be held with the expectation of training an average of 10 managers for a total of 150. With the instructors and managers, a confirmed supply network can be consolidated. The criteria for selecting consultants for the workshops include SME experience, environmental management know-how, communications skills, and residency, among others. The instructors will have additional business and academic experience (see Annex VII in the technical files for the selection guidelines for each group).
- 3.6 The subjects to be covered in the two workshop types include (i) Structure of the Colombian SMEs; (ii) guidelines for the preparation of entrepreneurial training workshops; (iii) guidelines for analysis/diagnosis; (iv) operating and procedural terms and conditions; and (v) environmental management guidelines and implementation of CP solutions.
- 3.7 In addition to materials preparation and training, an environmental consulting supply database will be formed, which can be accessed by entrepreneurs and other interested organizations (environmental authorities, unions, etc.). An environmental self-diagnosis program will be completed to help the entrepreneur evaluate his or her performance. This will require the hiring of local consultants with experience in software for teaching purposes and environmental issues.
- 3.8 The final activity calls for the development of a virtual training course based on the lessons learned from the instructional workshops and in-plant technical assistance exercises, which will provide continuing education to the consultants.
- 3.9 Developing all the activities for strengthening supply and demand in each region requires skilled technical supervision. Therefore, the entire project will have the services of a technical coordinator, with environmental management experience, for each region (see Annex V in the technical files with the terms of reference).

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<sup>7</sup> See document "Valoración del impacto ambiental de la pequeña y mediana industria", prepared by CINSET under the guidance of DAMA. (1999) Bogota.

**B. Component 2 – Strengthening of demand (MIF US\$594,600; LOCAL US\$389,000)**

- 3.10 The specific goal is to make SME entrepreneurs aware of environmental management and CP and to provide them with technical assistance. However, there is no clear knowledge of the implications and opportunities in terms of economic effectiveness that can be achieved while complying with environmental guidelines. This component seeks to raise awareness with an emphasis on environmentally-sensitive subsectors.
- 3.11 The first activity under this component will be to update a database of the SME target population. The studies conducted by CINSET provide a preliminary identification of subsectors within the manufacturing, agribusiness, and services sectors.
- 3.12 The awareness-raising process requires various informative materials, such as environmental manuals. Ten manuals developed by CINSET in manufacturing subsectors will be revised to expressly include the issue of CP, and six new environmental manuals will be prepared for service-based SMEs (automotive, waste managers and laundries), and for agribusiness (poultry farming, hog farming and fruit and vegetable processing). The selection of these subsectors is based on studies by CINSET on environmental service demand (see Annex XIV in the technical files).
- 3.13 The focal point of the awareness process is a series of workshops directed at entrepreneurs and middle management and a series of direct in-plant technical assistance activities. The first of these activities is to notify the entrepreneurs identified as the target population concerning the approximately 100 one-day workshops to be conducted on the subjects of the SME and the environment, environmental impact, CP (concepts, tools, opportunities and benefits), environmental guidelines, and case studies. The environmental managers and instructors mentioned in the preceding component will conduct these workshops, which will be coordinated by the regional offices of ACOPI. The number of workshops in each region will be consistent with potential demand and express needs (See Annex VIII in the technical files).
- 3.14 Following these workshops, a group of enterprises interested in receiving direct in-plant technical assistance will be selected. Technical assistance will be provided to 500 enterprises within the target population. Selection criteria will be the type of enterprise, the environmental impact produced, commitment to the project, etc. (See Annex VI in the technical files). The project will finance 70% of the cost of the technical assistance to each enterprise in the first year and the remaining 30% will be financed by the entrepreneur. For the second year, the project will finance 60% and 50% in the final year. The risk assumed by the first participating enterprises as opposed to the later enterprises, which will be better informed on the project's

benefits, accounts for this gradual reduction in funding. Furthermore, the reduction in the amount financed by the project will help make the project sustainable. A tripartite agreement will be signed for purposes of this technical assistance (see Annex X in the technical files for a model agreement).

- 3.15 The technical assistance is expected to be provided by a consultant, whose skills have been enhanced as set forth in the preceding component, who will set up a schedule according to the activities to be carried out, including monitoring. The regional technical coordinator will evaluate the individual technical assistance rendered (see paragraph 3.9).

**C. Component 3 – Information and Dissemination (MIF US\$148,850; LOCAL US\$111,150)**

- 3.16 In order to consolidate the start-up of an environmental services supply and demand market for SMEs, various information, dissemination, promotion and coordination activities will be carried out to demonstrate the opportunities created by such a market. Throughout the project, informational meetings will be held to heighten interest among entrepreneurs. 90 such events are contemplated, with the support of local consultants and logistic support from the ACOPI regional offices. Posters and pamphlets (electronic and printed) will also be used, together with a media plan to publicize the project results, including demonstration videos to be used at each session.
- 3.17 Convinced that putting such events in motion will be an effective promotional tool, 15 SMEs will be the subject of demonstration cases in which cleaner production technologies and environmental management improvements will be implemented with project assistance. The enterprises will have to show a confirmed interest in order for additional implementation costs to be assumed. The enterprise should be an SME considered a leader in its sector (recognized for its advanced vision in environmental management) and should have received technical assistance within Component II (see Annex VI in the technical files with selection guidelines). On average, each demonstration case will require a local consultant in the process. The results will be fully disseminated by way of bulletins and individual cards.
- 3.18 For virtual information, an informational web page will be updated to show results, case models and other relevant information. For this, a local consultant will need to be hired for five days out of each project month. To facilitate the verification of the attainment of goals and objectives, and to monitor the performance indicators, project information will be regularly processed. This requires a local expert on databases and information systems management. Similarly, the executing agency will perform entrepreneurial surveys to determine project acceptance.
- 3.19 To avoid duplication of efforts with other relevant initiatives, cooperation and coordination activities will be included for which an advisory council will meet

three times a year. The council's duties will be to help formulate strategies and standardize criteria, methodologies, and concepts and to propose linkage mechanisms. It is expected that representatives of the Ministry of Environment, Ministry of Economic Development, the CNMPLT, industrial trade unions, environmental windows and academia will participate (see Annex IX in the technical files).

- 3.20 To conclude the project, a final conference will be held for presentations of model cases, project impact, goals attained, project continuity methods, and testimonies of entrepreneurs and consultants who were involved in the project. The full participation of the authorities, entrepreneurs, trade unions, universities and others is expected.

#### **IV. EXECUTING UNIT AND BENEFICIARIES**

- 4.1 The Corporación para la Investigación Socioeconómica y Tecnológica de Colombia (Corporation for Socioeconomic and Technological Research) (CINSET) is a private non-profit institution, founded in 1987, whose main purpose is to promote economic and technological development within standards of social and environmental responsibility, focusing on the small and medium-size enterprise (SME). The Asociación Colombiana de Medianas y Pequeñas Industrias (Association of Small and Medium-Size Enterprises) (ACOPI), founded in 1951, is the largest union, representing the majority of small and medium-size enterprises, and has a broad national presence (1,370 affiliates and 16 divisions).
- 4.2 CINSET and ACOPI have gained sound experience in the area of environmental management, providing training and advisory assistance to SMEs. More recently for DAMA, in a process in which various organizations competed, CINSET was awarded a contract to design and operate the first environmental window for SMEs (ACERCAR) which serves Bogota (where 70 training sessions were held and assistance was furnished to 650 companies). Also, it is in charge of an industrial modernization program for SMEs with the CAR (Cundinamarca environmental authority). ACOPI also has a long-standing tradition of supporting SMEs, which are its main constituency. For more than 13 years, ACOPI and CINSET have been working together on training, technical assistance, and research programs in different areas in which the issue of SME environmental management featured prominently.
- 4.3 CINSET and ACOPI have had experience working with the MIF. CINSET made some welcome contributions to project ATN/MH-4573-CO "Strengthening of nongovernmental organizations to offer training and services to displaced workers" in training activities. ACOPI is part of the executing unit for project ATN/ME-4911-CO "Program to establish business development centers" by fostering the delivery of nonfinancial services to SMEs across the country. This has

enabled it to gain considerable working experience with an extensive database of SMEs in the country, to the benefit of the present project. Also, ACOPI is on the board of directors of the ATN/MH6752-CO "Program to improve quality control and environmental management in small and medium-sized companies". The focus on SMEs in the work of these two institutions in conjunction with CINSET's technical experience in environmental matters, ACOPI's constituent strength and national presence, and its proven execution capacity make these entities ideal for this project. In addition, considerable expertise has already been acquired with MIF projects.

- 4.4 CINSET will be the executing agency for the project and ACOPI will be a co-executing agency. As executing agency, CINSET will be responsible to the Bank for implementing the program and administering its resources. CINSET and ACOPI will form a partnership to which the CINSET-ACOPI executing unit will report (see paragraph 4.7). The two entities will be represented by the executive director of CINSET and the President of ACOPI (see Annex XI in the technical files with the terms and conditions of the agreement). To ensure that the project is properly coordinated with the different plans and programs of the Colombian government and other institutions, the Partnership and the executing unit will benefit from the services of an advisory council as described in paragraph 3.19. CINSET, acting on behalf of the two institutions, will be responsible to the Bank for all implementing activities, including: (i) counterpart contribution; (ii) reports; (iii) contracting of goods and services; (iv) compliance with contractual terms; and (v) achievement of results.
- 4.5 The project will last three years (36 months in execution and 42 for disbursement) (See Annex IV in the technical files with the schedule).
- 4.6 CINSET-ACOPI, through its representative, will submit semiannual progress reports to the Bank within 30 days after each six-month period, and a final report within 30 days after the final disbursement. These reports will follow a format agreed beforehand with the Country Office and will deal with project activities, finances and outcome. The Country Office will use these reports to monitor the project and prepare a final report within the three-month period following the final disbursement.
- 4.7 For the project, CINSET and ACOPI will form an executing unit, and, with the project funds, hire a project director and administrative assistant, the terms of reference of which are described in Annex V in the technical files. CINSET will be responsible for activity coordination, management of project activities, management oversight and budget management in accordance with the procedures established and agreed with the Bank. Fund disbursement under the grant and procurement of goods and services will be in accordance with the Bank/MIF regulations. The Country Office will be responsible for project oversight, for which it will rely on the headquarters' technical support. The project will be carried out in

accordance with the Operating Regulations (Annex III in the technical files) which describes the activities planned.

- 4.8 **Monitoring.** CINSET-ACOPi, through the executing unit, will be in charge of monitoring and the preparation of the applicable reports. Six-month progress reports will be prepared, documenting the activities carried out during that period. A working plan and disbursement schedule will also be prepared for the following period.
- 4.9 Once the conditions precedent to the first disbursement have been fulfilled, the executing unit will draw on the financing to set up a revolving fund for administration of the MIF funding. The fund will be limited to a maximum of 10% of the MIF donation. This figure was recommended by the Project Team and is considered justifiable on the basis of the initial expenses to be incurred. CINSET-ACOPi shall present to the Bank within 30 days after the end of each six-month period, a semiannual report on the status of the fund as of 30 June and 31 December. Disbursements of grant funds and procurement of goods and services will conform to the standards and policies of the Bank and the MIF.
- 4.10 **Accounting and Audit.** CINSET-ACOPi will be responsible for: a) establishing and maintaining adequate accounting, financing and internal oversight, as well as the file systems to determine in detail the sources and uses of the program funds. The program records will contain: i) determination of the sums received from the various sources; ii) program expenditure information distinguishing between the MIF contributions and funds from other sources; and iii) details necessary to identify the goods purchased and services contracted; b) separate and specific bank accounts to administer the MIF contribution and local counterpart funds; c) processing the Bank disbursement orders, and d) prepare and submit to the Bank the program's audited annual financial statements and six-month revolving fund reports.
- 4.11 During the ninety- (90) day period following the final project disbursement, CINSET-ACOPi will submit to the Bank the financial statements of the contribution of MIF funds and local counterpart funds, audited by an independent auditing firm acceptable to the Bank. The auditing costs will be paid out of the MIF funds, in accordance with Bank procedures.
- 4.12 **Beneficiaries.** The project's beneficiaries will include: (i) 3,000 entrepreneurs who have been sensitized to the issue of environmental management and CP; (ii) 500 enterprises that will receive technical assistance; (iii) 15 enterprises that will participate in the demonstration cases; (iv) environmental consultants who will be able to provide skilled services: 30 consultants whose skills have been enhanced to the required level as instructors, 150 environmental managers for SMEs, and 150 consultants who will receive virtual training; and (v) environmental consultants, universities, industrial trade unions and enterprises that will be access to

publications. Indirect beneficiaries will be all enterprises that access the supply and demand databases, environmental organizations learning about CP, and society in general, given the SMEs' increased environmental responsibility.

- 4.13 **Preparedness.** The project is in an advanced state of readiness, since the contemplated design, budget and activities have been prepared with stakeholder involvement, technical assistance of experts on the subject and the Bank team. Counterpart funding has been identified and the members of the advisory council presented letters of acceptance, confirming that they will take part.

## V. COST AND FINANCING

- 5.1 The program cost is estimated to be equivalent to US\$2,371,000, of which US\$1,423,000 will be contributed by the MIF (Human Resources Facility), in non-reimbursable funds, and the balance of US\$948,000 will be in local counterpart funds, according to the table below. The local counterpart will consist of US\$500,550 contributed in cash and US\$447,450 in kind. The itemized budget is shown in Annex II of the technical files.
- 5.2 **Sustainability.** This project's sustainability is tied to the development of the supply and demand for environmental services (management and CP). The project is expected to unleash activities that create a growing market that is dynamic and sustainable. It is projected to be a market driven by demand spurred by a combination of two forces. The first is the action of the environmental authorities that compel the SMEs to adopt changes in environmental management. This activity has been stepped up in recent years. The second force will be a constant interest on the part of entrepreneurs in achieving greater economic efficiencies including in the environmental dimension. With dynamic demand and a capable professional body attending supply, the market is expected to be sustainable in the long term.
- 5.3 The goal of project sustainability will be achieved through the development of this market and not the strengthening of the executing institutions, which is just a means of attaining such a goal and they will ultimately become another element in the network of professionals and institutions that the project seeks to consolidate. To complement these demand-oriented actions, the project will also generate a product (sale of manuals and course and workshop registration costs) to be utilized exclusively to provide in the long-term the services necessary for the market to function (database maintenance, consultant references, continuing education, etc.). In the long term, this market will be reinforced through academic initiatives which recently added the subject of CP to curriculums in related professional careers. As the country has more trained professionals and relevant local experience, entrepreneurs will have better alternatives for assistance.

**BUDGET  
(US\$ EQUIVALENT)**

<b>CATEGORIES</b>	<b>MIF</b>	<b>LOCAL</b>	<b>TOTAL</b>	<b>%</b>
I. Strengthening of Supply	456,070	64,740	520,810	22.0
II. Strengthening of Demand	594,600	389,000	983,600	41.5
III. Information and Dissemination	148,850	111,150	260,000	11.0
Executing Entity	100,800	359,150	459,950	19.4
Evaluation	40,000		40,000	1.7
Independent Financial Audit	15,000		15,000	0.6
Contingencies	67,680	23,960	91,640	3.9
<b>TOTAL</b>	<b>1,423,000</b> (60%)	<b>948,000</b> (40%)	<b>2,371,000</b>	<b>100.0</b>

## VI. PROJECT BENEFITS AND RISKS

### A. Benefits

- 6.1 The project benefits include: (i) promotion and dissemination of the economic and environment advantages of environmental management and CP, owing to the consolidation of supply and demand services; (ii) increased incentive for the creation of SMEs that use cleaner production methods; (iii) greater competitiveness of SMEs with positive effects on economic growth and job creation; (iv) enhanced environmental quality in the SMEs' areas of influence; and (v) greater institutional (communities, enterprises, authorities) understanding with respect to their environmental responsibilities.
- 6.2 The SME program participants will enjoy the following direct benefits, among others: (i) greater economic effectiveness as a result of substantial savings due to more efficient use of materials, energy and water; (ii) compliance with environmental regulations, improving the relationship with environmental authorities and reducing the risk of fines and other penalties; (iii) exchange of environmental, technical and entrepreneurial information among the SMEs; and (iv) improved community relations and public image.

### B. Risks

- 6.3 The delicate economic recovery in Colombia can foster apathy among entrepreneurs and demand may be less than anticipated. To mitigate this possibility, the project will particularly emphasize demonstration cases to indicate the benefits of CP in reducing costs and each sector's activities will create group pressure to "jump on the bandwagon". The enterprises' financial limitations can also be an obstacle. The strategy for mitigating this issue is based on gradual reduction of the technical assistance subsidy under the project to provide more assistance to those entrepreneurs who assume the risk of being the first to participate in the program. With the first group showing benefits, convincing other entrepreneurs will be easier, requiring a smaller subsidy so that, as the market develops, the need for a

subsidy will be eliminated. In addition, sensitivity workshops will provide information on sources of financing accessible by SMEs, a topic that will also be covered in in-plant technical assistance.

## **VII. EVALUATION AND PERFORMANCE INDICATORS**

- 7.1 With project resources, the Bank will hire individual consultants to perform two project evaluations: a mid-term evaluation when at least 50% of the disbursements have been made, and a final evaluation to be performed within three months of project completion and before the final disbursement. The mid-term evaluation will analyze: a) the degree of completion of scheduled activities and attainment of the oversight indicators set forth in the project's logical framework found in Annex I; b) execution of the CINSET-ACOPi activities; and c) results of monitoring the project's various activities. The principal instruments of oversight will be the evaluation reports and monitoring contracted with independent advisory services, as well as regular progress reports prepared by the CINSET-ACOPi management jointly with the project director. Based on the external evaluations and progress reports, the Country Office will perform an analysis, with support from headquarters if necessary, to determine whether the project should be continued, suspended or cancelled.
- 7.2 CINSET-ACOPi will compile quantitative and qualitative indicators for project monitoring and mid-term and final project evaluations. The qualitative indicators will include: (i) type of enterprises evaluated based on the established eligibility criteria; (ii) specific services offered or provided to the enterprises; (iii) environmental benefits attained with the implementation of the recommendations; (iv) evaluations done by the participants; and (v) project impact, including results of the enterprise monitoring study.
- 7.3 The quantitative indicators for project monitoring and evaluation will include: (i) project impact, including results of oversight and enterprise participation in the program (number of enterprises evaluated, number of recommendations made and estimated amounts necessary to implement them, number of recommendations implemented); impact of training and awareness-raising events (number of training events carried out, number of participants per event); (iii) the effect on CP demand (number of requests for information from the Center, amounts collected for participation and services); and (iv) the program's cost effectiveness.

## **VIII. EXCEPTION TO POLICIES AND PROCEDURES**

- 8.1 No exceptions to Bank policies have been anticipated.

## **IX. SPECIAL CONTRACTUAL CONDITIONS**

- 9.1 As conditions precedent to the first disbursement, the executing agency must submit: (i) signed agreement of understanding between CINSET and ACOPI to form the CINSET-ACOPI executing unit; (ii) evidence of hiring of the project director; (iii) working plan and corresponding disbursement schedule for the first six months, prepared to the Bank's satisfaction; and (iv) formation of the advisory council.

## LOGICAL FRAMEWORK

ACTIVITY DESCRIPTION	INDICATORS	VERIFICATION METHODS	ASSUMPTION
Competitiveness of small and medium enterprises by strengthening environmental effectiveness and complying with environmental regulations	<p>Raising SME productivity indices</p> <p>Improving environmental performance of participating enterprises</p>	<p>Periodic evaluations by the executing unit among the target population</p> <p>Statistics of environmental authorities on the impact of the SME on the environment</p>	Macroeconomic conditions for the industry are maintained for the industry, particularly for the SMEs
SMEs on the concepts of environmental management and cleaner production (CP) as a competitive tool.	<p>More SMEs are complying with environmental regulations</p> <p>SMEs pay less in environmental fines and/or charges</p> <p>Costs of energy consumption by product unit are reduced</p> <p>Reduced use of water by product unit</p>	<ul style="list-style-type: none"> <li>- Entrepreneurial surveys</li> <li>- Project evaluation reports</li> <li>- Figures of public utility companies (power, water, sewerage)</li> </ul>	<p>There is a shift in attitude among entrepreneurs, accompanied by environmental actions</p> <p>Environmental authorities keep pressure on SMEs</p>
<b>ENVIRONMENTAL CAPACITIES</b>			
Environmental consulting for SMEs is strengthened	I. Skilled environmental consultants include 30 consultants whose skills have been brought up to a standardized level as instructors, 150 environmental managers for SMEs, and 150 virtually trained consultants	- Registries of consultants and environmental consulting firms managed by environmental windows and authorities	There is a critical mass of consultants available to participate in building skills to the required level
Use of environmental services by SMEs is increased	II. 500 enterprises received technical assistance; 3,000 entrepreneurs sensitized to the issue of environmental management and CP	- Inquiries to environmental support organizations (environmental facilities, nodes, etc.)	There is a growing demand for production services given the benefits
Flow of information and knowledge is implemented	III. Information services network is operating	<ul style="list-style-type: none"> <li>- Entrepreneurial surveys</li> <li>- Number of database inquiries</li> <li>- Publication of environmental directories</li> </ul>	

ACTIVITY DESCRIPTION	INDICATORS	VERIFICATION METHODS	ASSUMPTIONS
and publication of training manual	- 1000 copies of training procedures manual	- Consulting service payment vouchers	Consultants are watching for calls for tenders
and publication of diagnostic manual	- 1000 copies of the diagnostic manual	- Manual publication records - Consulting service payment vouchers	Environmental consultants are in expanding their market horizons
and upgrade of self-diagnosis of environmental management	- 1000 CDs with the self-diagnosis program	- Manual publication records - CDs printing payment voucher	Consultants are interested in enhancing their skills in clean production methods
and publication of operations procedures manual	- 1000 copies of the operations and procedures manual	- Consulting service payment vouchers - Manual publication records	Consultants have Internet access
on of supply database	- Press notices - Approximately 500 professionals in the database	- Service records and databases on magnetic media	
of consultants	- List of 30 trainers and 150 managers	- Vouchers by mail - Selection committee minutes	
of instructors	- 3 training workshops for instructors - 30 consultants trained to conduct workshops for managers	- Consulting services payment voucher - List of attendees and programs	
of environmental managers	- 15 manager training workshops - 150 environmental managers trained	- Facilitators reports - Consulting service payment vouchers - Lists of attendees and programs	
virtual training of consultants and environmental managers	- 150 consultants whose skills are updated by correspondence method	- Facilitators reports - Coordinators' evaluation	
		- Number of registered persons	
and update target population	- Number of enterprises in the database	- Consulting service payment vouchers - List of enterprises	Demand by enterprises for environmental technical assistance is growing

ACTIVITY DESCRIPTION	INDICATORS	VERIFICATION METHODS	ASSUMPTIONS
of environmental manuals	- 1000 manuals of each of the ten guides	- Consulting service payment vouchers	International market trends in environmental demands on producers
f environmental manuals	- 1000 copies of each manual	- Guide publication record - Consulting service payment vouchers - Manual publication record	
awareness of entrepreneurs the management	- 100 awareness workshops  - Average attendance of 30 entrepreneurs per workshop	- Mail vouchers  - Consulting service payment vouchers  - List of attendees and programs - Facilitators reports	
l assistance to enterprises d within the target population	- 500 enterprises receiving technical assistance	- Consulting service payment vouchers  - Coordinators' reports	
information and promotion	- 1000 advertising posters - 3000 brochures - radio advertising minutes  - five launching events	- Payment vouchers - Reports on launching events	Growing demand for information
ance and update of web page	- Web page	- Payment vouchers for consulting services and server use	Entrepreneurs are responding in the competition process
ion and coordination with grams	- Number of inquiries - Nine meetings of the Advisory Council	- Council minutes	Entrepreneurs want to know about experiences
information processing	- 24 trips of coordination director - Information is processed	- Vouchers - Consulting service payment vouchers	Trade unions respond to the A training notice
ration cases	- 15 model enterprises implement the CP processes	- Consulting service payment vouchers	Trade unions want to provide environmental services to their members
onal events	- 90 awareness events	- Technical coordinators reports - Consulting service payment vouchers	
ion and publicizing of results	- 12 bulletins	- Accounting records of bulletin publication	

SUMMARY DESCRIPTION	INDICATORS	VERIFICATION METHODS	ASSUMPTIONS
3.8 Final conference	<ul style="list-style-type: none"> <li>- radio advertising minutes</li> <li>- Three videos and photographic records</li> <li>- 100 cards produced for 50 participating enterprises</li> <li>- Event realized</li> </ul>	<ul style="list-style-type: none"> <li>- Payment vouchers</li> <li>- Budget records</li> <li>- Event schedule</li> <li>- List of attendees</li> </ul>	

PROPOSED RESOLUTION

COLOMBIA. NONREIMBURSABLE TECHNICAL COOPERATION FOR  
A PROJECT FOR ENVIRONMENTAL MANAGEMENT AND  
CLEAN TECHNOLOGIES FOR COLOMBIAN ENTERPRISES

The Donors Committee of the Multilateral Investment Fund

RESOLVES:

1. That the President of the Inter-American Development Bank or such representative as he shall designate is authorized, in the name and on behalf of the Multilateral Investment Fund, to enter into such agreements as may be necessary with the Corporación para la Investigación Socioeconómica y Tecnológica de Colombia (CINSET), and to take such additional measures as may be pertinent for the execution of the project proposal contained in document MIF/AT-\_\_\_\_ with respect to a technical cooperation program for a project for environmental management and clean technologies for Colombian enterprises.
2. That up to the sum of US\$1,423,000 or its equivalent in other convertible currencies, shall be authorized for the purpose of this resolution, chargeable to the resources of the Human Resources Facility of the Multilateral Investment Fund.
3. That the above-mentioned sum is to be provided on a nonreimbursable basis.