

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

BRAZIL

**INNOVATION PRODUCTION AND DISSEMINATION PROGRAM FOR
LOCAL CLUSTER COMPETITIVENESS IN THE STATE OF
PERNAMBUCO**

(BR-L1020)

LOAN PROPOSAL

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Electronic Links and References	
Annual work plan (AWP)	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=602207
Monitoring and evaluation provisions (i) Draft Program Operating Regulations (ii) Paragraphs 3.28 to 3.30	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=595968
Procurement Plan	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=601361
Basic socioeconomic data	http://www.iadb.org/countries/indicators.cfm?lang=es&id_country=br
Status of loans in execution and loans approved	http://ops/lms/Lms30.asp?UDRCode=CBR
Tentative lending program	http://ops/opsfilters/xmlToHtml.aspx?Output=pdf&AppName=PIPELINE
Information available in the ICF/CMF files	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=598898
Draft PPMR	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=1992239

ABBREVIATIONS

APLs	Arranjos produtivos locais [local industry clusters]
AWP	annual work plan
BNDES	Banco Nacional de Desenvolvimento Econômico e Social
CIEPE	Centro das Indústrias do Estado de Pernambuco [Center for Pernambuco Industries]
CIP	competitiveness improvement plan
CPRH	Agência Pernambucana de Meio Ambiente e Recursos Hídricos [Pernambuco State Environmental and Water Resources Agency]
CRP	Cluster Resource Planning
FIEPE	Federação das Indústrias do Estado de Pernambuco [Federation of Pernambuco Industries]
GDP	gross domestic product
GTZ	German Development Cooperation Agency
ICAS	Institutional Capacity Assessment System
ICB	international competitive bidding
ICTs	information and communications technologies
ITEP	Associação Instituto de Tecnologia de Pernambuco [Pernambuco Technology Institute]
LCS	least-cost selection
LGOs	local governance organizations
LIB	limited international bidding
NCB	national competitive bidding
OS	organização social [social organization]
OSCIP	organização da sociedade civil de interesse público [civil society organization in the public interest]
PMU	Program Management Unit
QCBS	quality- and cost-based selection
SEBRAE	Serviço Brasileiro de Apoio às Micro e Pequenas Empresas [Brazilian Support Service for Micro and Small Enterprise]
SECTMA	State of Pernambuco Department of Science, Technology, and Environment
SIGIOR	Strategic Results-based Management System
SMEs	small and medium-sized enterprises
TDCs	Technology Development Centers

PROJECT SUMMARY

BRAZIL

INNOVATION PRODUCTION AND DISSEMINATION PROGRAM FOR LOCAL CLUSTER COMPETITIVENESS IN THE STATE OF PERNAMBUCO (BR-L1020)

Financial Terms and Conditions ¹				
Borrower: State of Pernambuco			Amortization period:	20 years
Guarantor: Federative Republic of Brazil			Grace period:	4 ½ years
Executing agency: The borrower, through the State of Pernambuco Department of Science, Technology, and Environment (SECTMA)			Disbursement period:	54 months
Source	Amount	%	Interest rate:	Variable
IDB (Ordinary Capital)	US\$10 million	60	Inspection and supervision fee:	*
Local	US\$6.7 million	40	Credit fee:	*
Total	US\$16.7 million	100	Currency:	U.S. dollars from the Single Currency Facility of the Bank's Ordinary Capital
Project at a glance				
<p>Project objective: The program's goal is to contribute to the state's development by boosting the competitiveness of enterprises that are members of the program's <i>arranjos produtivos locais</i> [local industry clusters] (APLs). Its purpose is to help develop mechanisms to produce and disseminate innovation and articulate the activities of the participating cluster actors (cluster enterprises, associated institutions, etc.). (paragraph 2.1)</p> <p>Special contractual conditions: <i>Conditions precedent to the first disbursement:</i></p> <ol style="list-style-type: none"> 1. Creation of the program's Executive Board (paragraph 3.11). 2. Creation of the Program Management Unit (PMU) (paragraph 3.14). 3. Entry into force of a management agreement between SECTMA, on behalf of the State, and ITEP for the program's implementation and of the specific legal instrument between SECTMA, SEBRAE-PE, and the FIEPE system (paragraph 3.14). 4. Opening of a bank account specifically for the PMU to administer the program funds (paragraph 3.18). 5. Submittal to the Bank of the annual work plan, satisfactory to the Bank, for implementation year 1 of the program (paragraph 3.24). 6. Setup of an integrated information system, acceptable to the Bank, in the PMU for the program's financial management, contracting and procurement operations (paragraph 3.18). 7. Entry into effect of the program's Operating Regulations, including an Internal Control Guide and Code of Ethics system (paragraph 3.22). <p><i>Other conditions:</i></p> <ol style="list-style-type: none"> 1. Special execution condition for the use of component 2 financing resources: development of a program data collection and tracking plan. In addition, for use of financing resources in each cluster: (i) the cluster's validated and approved competitiveness improvement plan (CIP); (ii) a baseline survey; (iii) establishment of the respective local governance organization; and (iii) incorporation of the indicators and baseline of each cluster's specific logical framework in the monitoring and evaluation system (paragraph 3.28). 2. A revolving fund that will not exceed 10% of the loan proceeds will be set up (paragraph 3.32). 				
<p>Exceptions to Bank policies: None.</p> <p>Project consistent with country strategy: Yes [X] No []</p> <p>Project qualifies as: SEQ [] PTI [] Sector [] Geographic [] Headcount []</p> <p>Verified by CESI on: 30 September 2005</p> <p>Procurement: See paragraphs 3.34-3.36</p>				

* The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable provisions of the Bank's policy on lending rate methodology for Ordinary Capital loans. In no case will the credit fee exceed 0.75% or the inspection and supervision fee exceed, in a given six-month period, the amount that would result from applying 1% to the loan amount divided by the number of six-month periods included in the original disbursement period.

I. FRAME OF REFERENCE

A. Brazil's economy competitiveness

- 1.1 In recent years, Brazil has experienced increasing economic stability, having achieved growth rates of over 5% in 2007 and 2008 and kept inflation within the Central Bank's range limits over the 2005-2008 period,¹ with an annual average of 4.8%. These stability and growth improvements can be attributed in large measure to the combination of disciplined economic policy and favorable external conditions which in the last decade helped propel exports of traditional products and industrial goods alike.
- 1.2 Brazilian businesses had varying degrees of success in seizing the opportunities afforded by this propitious economic environment—which, with the international financial crisis and negative performance in the terms of trade, is now coming to an end. The small and medium-sized enterprises (SMEs)² that managed to survive the competition created when the economy opened up in the 1990s have shown themselves to be very adaptable and flexible but they still lag far behind their larger counterparts when it comes to productivity and competitiveness. Likewise, though SMEs have bolstered their manufacturing capacity (manufactures and semi-manufactures make up fully 85% of their exports) they have considerably less technological and innovation capacity than larger companies: most SME exports are low or medium-low technology intensive goods.³
- 1.3 Over the last few years, the array of government agencies and private-sector organizations that are endeavoring to make Brazilian SMEs more competitive have focused their work around local industry clusters, known in Brazil as *arranjos produtivos locais* (APLs), which are made up mostly of SMEs.⁴ As one indication of the existing consensus around this approach, Brazil has made cluster support one

¹ The annual inflation range limits for the 2006-2010 period are 2.5% to 6.5%.

² According to Brazil's land survey and statistics bureau (Instituto Brasileiro de Geografia e Estatística—IBGE), service-sector businesses with fewer than 50 employees and industrial concerns with fewer than 100 workers are classed as micro and small enterprises. The Banco Nacional de Desenvolvimento Econômico e Social (BNDES) classification by sales revenues classes a company with sales under R\$1.2 million as a microenterprise, one reporting sales between R\$1.2 million and R\$10.5 million as a small enterprise, and one with R\$10.5 million to R\$60 million in sales as medium-sized.

³ Brazilian Support Service for Micro and Small Enterprise (SEBRAE). 2006: *As Micro e Pequenas Empresas na Exportação Brasileira [Microenterprises and small businesses in Brazilian exports]*.

⁴ Clusters are groupings of enterprises operating in the same geographic area with a common business dynamic for formal and informal dealings. They do business and create partnerships and cooperation and learning arrangements with one another and with other local actors such as government agencies, business associations, and lending, educational, and research institutions.

of the unifying focuses in its industrial, technology, and foreign trade policy,⁵ which entered into force in 2003, and in the Brazilian Industrial Development Agency (ABDI), created in late 2004.⁶ In this regard, the Ministry of Development, Industry, and Trade established a permanent APL working group (MDIC/GTP-APL) to prepare guidelines for a cluster development plan in all Brazilian states. The recently formulated Productive Development Plan (May 2008) establishes targets for productive development plans in APLs for 10 states in 2009 and another nine in 2010, in order to promote more balanced regional development and greater spatial deconcentration of production, with emphasis on areas that are relatively less developed in various states and regions around the country.

- 1.4 To solidify that approach, the program proposed here would help develop and institute a public-private model for cluster support at the subnational level. This would systematize and coordinate the hitherto disperse efforts of the multiple agencies and organizations that are working to enhance the competitiveness of the private sector in the state of Pernambuco.

B. The state of Pernambuco: geography, socioeconomic conditions, and competitiveness

- 1.5 The state of Pernambuco is the Brazilian Northeast region's⁷ second largest economic center, contributing 2.7% of national GDP and 20% of regional output, but its development level still trails the national average at a distance. The state's GDP makeup reflects its traditional role as a major regional supplier of services: service industries account for 60% of aggregate state output, manufacturing for 30%, and agriculture for 10%. The industrial sector is fairly diversified, its chief segments being food and beverages (37% of total output), metallurgy and metal products (34%), and chemical products (9%). Some of the more dynamic service industries are communications, distribution, and transportation and storage, which in recent years have posted annual growth rates exceeding 5%.
- 1.6 The state's leading exports are sugar and sugar products, fresh fruit, shrimp and fish, chemical products, and textile goods. Pernambuco owes its regional economic

⁵ To steer this approach from the federal level and develop a national cluster policy, an Interagency Task Force on Clusters and the "1015 Program" for cluster support were created. Both these initiatives are striving to tighten coordination among the different federal agencies and departments that work with clusters.

⁶ The agency's core mandates are to coordinate and synchronize the work of various institutions and levels of government to achieve coherency in production-sector support policies and improve Brazil's technology base in areas offering the greatest growth potential, including: (i) strengthening the industry structure of industrial property; (ii) helping SMEs build innovation capacity; (iii) creating an investment friendly environment; and (iv) increasing government and private spending on research and development (<http://www.abdi.com.br/>).

⁷ The Northeast region, which occupies 18% of Brazil's territory, takes in the states of Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, and Sergipe.

hub status to a set of competitive and comparative advantages, notably: (i) its geographic location in the heart of the Northeast region, with a coastal belt;⁸ (ii) an extensive rail and highway network linking it to the rest of the country; (iii) excellent port infrastructure (the new port of Suape is today one of the most modern and functional in the country); (iv) a skilled labor pool and institutional base for logistical and communications services; (v) a solid base of educational and research centers; and (vi) a center of excellence in human capital formation in medicine and information and communications technologies (ICTs) in the state capital, Recife.

- 1.7 Pernambuco's current production structure is the fruit of the state's restructuring efforts in recent decades to move from a single-crop economy (sugar cane) to a more industrialized, diversified one. Thanks to robust tertiary-sector growth, the result of major industry innovation processes and ICT advances, the state has become one of Brazil's preeminent service hubs. That this industrial restructuring has been propelling the state's economy is evident in its latest output figures which confirm that the heavy investments are boosting growth. According to preliminary data from the Instituto Brasileiro de Geografia e Estatística [Brazilian Institute of Geography and Statistics] (IBGE), Pernambuco grew at an estimated rate of around 7% in 2008, which is two percentage points above national growth in that year and the best performance since 2002.
- 1.8 Two features of Pernambuco's business community are the local industry clusters now operating in some traditional sectors outside the state capital region—for example the apparel, plaster, and fruit growing industries—which also have seen healthy growth, and business hubs (mainly of SMEs) providing high-technology-content products and services in Recife. These sectors offer the state a new economic restructuring opportunity, looking now toward a production structure based on innovation capacity and the global market positioning both of traditional and nontraditional sectors. Prospects for Pernambuco's economy to expand quickly enough to catch up to other Brazilian states will depend largely on how successfully its clustered enterprises can overcome current barriers to their competitiveness.

C. Pernambuco's economic, social, and environmental development strategy

- 1.9 The aim of Pernambuco's development strategy is to remove constraints to competitiveness in the state's businesses and regions, with priority to microenterprises and small and mid-sized businesses. Pursuing balanced, environmentally sustainable development of all regions in the state, the strategy's focuses are employment and income creation and sustainable growth opportunities

⁸ Lying within a radius of 800 kilometers from Recife, Pernambuco's state capital, are the capitals of almost all the Northeast region states as well as five airports and six international ports. Home to 20 million people, this area contributes 90% of the Northeast's gross output.

for Pernambuco residents, boosting local economies, and creating conditions for improving social development indicators, particularly outside the capital region.

- 1.10 The 2008-2011 Multiyear Plan, currently being implemented, identifies “regional balance, with generation of knowledge and environmental responsibility” as one of the focuses of the state’s economic development and has the following strategic objectives: (i) structure and modernize the scientific-technological base and attach priority to environmental protection; and (ii) implement strategic actions and strengthen chains and local clusters. Thus, by seeking to tap into the climate of opportunities existing in the state today, the multiplying potential of investments will be exploited to its fullest and new sources of jobs and income will be created, with emphasis on internalizing and expanding the distribution capacity of generated wealth. To this end, some of the major focuses of the 2008-2011 Multiyear Plan include: encouraging industrial plants and commercial establishments to locate in the interior of the state; strengthening clusters and cooperative association initiatives; relaunching technical assistance in rural areas and expanding credit to small producers; and spurring the recovery of traditional economic activities (such as apparel and furniture-making) and boosting the growth of sectors with potential (ICTs, aquaculture, bee-keeping, and crafts).
- 1.11 The following are some of the main **competitiveness constraints for the state’s private sector**: (i) regulation, taxation, and complicated bureaucratic procedures;⁹ (ii) difficulties in obtaining credit;¹⁰ (iii) infrastructure constraints in the energy, water, communications, and some other sectors;¹¹ (iv) the underskilled labor pool; (v) scant knowledge and use of technology both in terms of up-to-the-minute technology bases and technology innovation, development, and application; (vi) distance from universities and professional-qualification facilities; (vii) weak cluster marketing strategies and weak domestic and international market positioning of clusters and their products; and (viii) largely undeveloped quality strategies.
- 1.12 Though the state government and business organizations have pursued a range of initiatives to alleviate the problems facing Pernambuco SMEs, an **integrated approach has not been sufficiently developed** to foster innovation and productivity improvements in industry clusters—which would mean coordinating all the players’ efforts and coming up with a systematic model for increasing cluster

⁹ In 2003 the state government adopted the ICMS-SIM system to streamline goods and services tax (ICMS) collection for SMEs, replacing the SIMPLES-PE and SIMPLES-II-PE systems that these businesses previously had to use.

¹⁰ The state’s agenda envisages several lines of credit for SMEs, among them Banco do Nordeste’s PROGER income and employment generation program to foster production and training and the Banco do Brasil PROGER Urbano program for Pernambuco SMEs. The state’s SMEs also can tap BNDES and Caixa Econômica Federal credit lines.

¹¹ The Pernambuco government has been working hard to upgrade state infrastructure through water and sanitation, highway, and rural electrification programs.

competitiveness. The program proposed here marks a novel approach to the design and execution of actions intended to remove competitiveness constraints in clustered SMEs, this being an area in which the Bank has developed a body of experience (see paragraph 1.19). The competitive challenge for Pernambuco is to keep clusters and their member enterprises flexible and see that they capitalize on sectoral and geographic agglomeration economies, thereby overcoming the problems of scale and dispersion that are making it hard for clusters to innovate and go out into international markets. A key requirement here is public-private partnering and other cooperation arrangements that engage government, businesses, research institutions, teaching centers, and other relevant actors.

D. Pernambuco's experience in the sector

- 1.13 Pernambuco was one of the first states to promote cluster competitiveness enhancing policies, with an emphasis on innovation through its Technology Development Centers (TDC) Program. That initiative, included in the strategies of the state's 2008-2011 Multiyear Plan, calls for a network of TDCs to be created to assist clusters with technological and organizational innovation via an infrastructure of training schools, laboratories, and incubators offering professional education, innovation, and business development services. These centers, a key tool for local governance of clusters, will be tangible evidence of the state's presence and commitment to the enterprise owners and other local public and private actors. Work is already under way on a TDC for the plaster industry cluster in Araripe and another in Caruaru for the apparel trade grouping, with funding from the Education Ministry's Professional Education Program (PROEP) and the state government.
- 1.14 To make this new TDC-based cluster innovation and local governance policy model viable, in 2000 the Pernambuco government adopted a new institutional arrangement for service delivery via public-private partnerships. One new feature was the creation and regulation of "social organizations" (OSs) and "civil society organizations in the public interest" (OSCIPs).¹² These organizations represent an innovative management model that will see more autonomous management of certain "public interest" activities that traditionally have been the purview of government departments or agencies and thus have been funded, operated, and managed by the government. Under the new approach, Associação Instituto de Tecnologia de Pernambuco [Pernambuco Technology Institute] (ITEP), an agency with a half-century track record in promoting sustainable growth and technology development in the state, secured designation as a "social organization" and successfully took on the management of the TDC Program under a management agreement overseen by SECTMA. More recently, ITEP worked on the Technology Network of Pernambuco, which seeks to address demand for connection—through

¹² OSs and OSCIPs are not-for-profit organizations that are legal persons under private law. The state government has non-majority representation on an OS board; there are no state government representatives on OSCIP boards.

logical networks—of municípios that have technical and vocational training schools, technology centers, technological vocational centers, distance-learning hubs, and other educational, scientific, or technological structures. The pilot project of the fashion technology network of Pernambuco is currently being implemented, which involves 15 municípios in the metropolitan regions of Recife, the *Sertão*, and the *Agreste*.

- 1.15 The Recife “Porto Digital” ICT cluster reflects the state’s innovation capacity and its success in instilling the institutional model developed to promote a cluster support policy. That initiative, launched in 2000, exemplifies the kind of structural change being pursued for Pernambuco’s economy, encouraging innovation and helping to boost value added in existing products and services. It also is an on-the-ground demonstration of the viability of the institutional innovations the state has been promoting through its cluster support strategy, an OS called Núcleo de Gestão do Porto Digital having been created to assume the ICT cluster’s local governance function and work to develop the cluster under a management agreement with the state government. Currently, the Porto Digital ICT cluster is a national reference for the production and development of innovative ICT solutions.¹³ It now proposes to deepen and strengthen an internationalization process to achieve world-class standing.
- 1.16 Meanwhile, various Pernambuco government agencies have been actively engaged in statewide cluster mapping and analysis. A joint study by the applied research agency Instituto de Pesquisa Econômica Aplicada (IPEA), the Pernambuco Department of Planning and Social Development (SEPLANDES), and the Pernambuco Planning Institute using quantitative analysis that looked at economic concentration factors (based on the methodology employed by the San Diego Association of Governments) identified 24 clusters in the state.
- 1.17 SECTMA and ITEP are just two of the agencies and programs that have been backing cluster development. Two other notable organizations are the Federation of Pernambuco Industries (FIEPE), which represents the state’s manufacturers, and the Brazilian Support Service for Micro and Small Enterprise (SEBRAE). SEBRAE has devised a methodology for results-oriented management in clusters and has begun working with a number of clusters, including Pernambuco’s apparel industry and ICT clusters. Another key player is the Pernambuco Business Development Agency (AD/DIPER), whose mandate is to attract investment and foster private enterprise. It, too, has worked with clusters in parts of Pernambuco outside the capital region.

¹³ Annual growth rates of some Porto Digital companies have been averaging more than 18%.

E. The Bank's strategy and rationale for its participation

- 1.18 **The Bank's country strategy.** The lines of activity of the Bank's current strategy with Brazil are: (i) productivity increases and infrastructure improvements; (ii) improvements in poverty, equity, and human capital indices; (iii) raising living standards and improving efficiency in Brazilian cities; and (iv) institution-strengthening and modernization of the State. Though the operation proposed here would pursue all those strategy aims it fits particularly with the first of them, since it entails support for technology innovation and new technology adoption in industry processes and would give SMEs readier access to goods and services that can boost their productivity and give them an entrée into new markets.
- 1.19 **The Bank's experience and lessons learned.** Lessons learned in designing and implementing Bank-funded competitiveness projects¹⁴ were taken into account in preparing the operation described here. The following were some key learnings: (i) actively engage the private sector in priority setting and in managing cluster-related initiatives; (ii) make sure clusters and their member SMEs are guided by a market focus when they develop business strategies; (iii) promote public-private cooperation to enhance SME competitiveness; (iv) before launching an operation ensure that there exists a minimum cooperation base among a cluster's participants, and (v) develop a monitoring and evaluation system to provide continuous feedback for learning.

F. Program strategy and rationale for an innovation loan

- 1.20 The proposed program's strategy aim is to help clustered SMEs in Pernambuco become more competitive by developing an environmentally and socially sustainable public-private coordination and collaboration model in the state to promote actions to capitalize on geographic and sectoral agglomeration economies, remedy persistent market failures in the area of business development and internationalization, and help build innovation capacity.
- 1.21 To that end, the program would work with a preselected set of clusters to produce diagnostic assessments and action plans designed to improve their competitiveness. These will be incorporated into cluster-specific competitiveness improvement plans (CIPs). The end product of the exercise, in which Brazilian and international experts will assist, will be the organization and systematization of the cluster enterprises' demands and needs, underpinned by a strategic analysis and using a methodology for building consensus around a common shared vision and the need

¹⁴ In addition to the five operations supporting clusters at the state level in Brazil (see paragraph 1.26), the Bank has executed a series of loans aimed at improving competitiveness by strengthening clusters, for example in the Argentine provinces of Río Negro (AR-0279), Mendoza (AR-L1003), and San Juan (AR-L1022) and in Chile (CH-L1019), Uruguay (UR-L1020), Panama (PN-0145), Honduras (HO-0221), and the Dominican Republic (DR-0152). The MIF has provided funding for several programs to foster business cooperation, among them an industrial district development project in Brazil (TC-0109005).

to drive change processes. The program would connect the targeted clusters to the current pool of providers of technical services and technical assistance to the private sector, via each cluster's CIP and within a framework of common incentives and cluster firm participation requirements,¹⁵ cofinancing collective activities for which financing is not elsewhere available. Thus, the CIP development and implementation exercise under this program will be an opportunity to:

- a. Motivate and mobilize cluster actors (member companies, support institutions, government agencies) about the need to analyze and benchmark the local production system's performance and capacities.
- b. Develop a common shared vision and strategy to boost cluster firms' competitiveness and learning and innovation capacity.
- c. Develop and implement an integrated package of policies and programs to promote innovation and joint learning, overcome technological and environmental problems, and strengthen the local innovation system.
- d. Devise continuous monitoring and evaluation routines and arrangements to track implementation of the strategies, policies, and programs.

1.22 From Pernambuco government mapping studies produced during the design stage of this operation, seven clusters were selected for support under the program,¹⁶ referencing the following criteria: (i) the cluster's importance to the region's economy; (ii) likelihood of yielding good results relatively quickly; and (iii) the cluster's innovation capacity (presence, leadership, and cooperation between the players for technology development). Such a selection had to be done because of resource constraints and the need to set priorities for work with Pernambuco-based clusters to be able to show results within the program's life span. The chosen clusters are made up of actively producing enterprises and offer strong economic potential and competitive capacity that stands to be enhanced in the proposed program.

1.23 Because of existing externalities and the well-known problem of appropriability when it comes to collective action and innovation in SMEs, cluster demand is not well organized, hence the need to work with a cluster preselection and demand inducing mechanism. But essentially the process will be driven by the cluster

¹⁵ For instance, a common cluster-firm contribution arrangement will be set in place for all institutions taking part in the program; contributions will vary according to the appropriability of the various kinds of expenditures. The consultant contracting procedures will ensure that cluster firms have a say in the decisions.

¹⁶ Apparel industry (Agreste region), plaster industry (Araripe region), goat and sheep raising (Serra Talhada), dairy industry (Garanhuns), culture production (Recife), ICTs (Recife), and wine and grape products industry (Petrolina, Valle de San Francisco). See Cluster Map and Description of Initial Clusters [in Spanish] in the program's technical files.

enterprises, with mechanisms in place to ensure that activities proposed by and for them are relevant. Among other requirements: a CIP must be developed for each targeted cluster to address its needs and demands, as identified in concert with the member enterprises; those businesses are to contribute resources, the amount varying depending on the appropriability of the cost-shared activities; for a CIP to be approved it must be underpinned by a minimum level of analysis, have a minimum core content, and evidence a minimum commitment, and there must be funds available for its implementation; and the CIP must be validated, approved, and monitored by the program's state and local level governance bodies.¹⁷

- 1.24 To ensure timely execution of the program and fine-tune its strategy, studies and other work were done during the design stage to develop CIPs for a sample of two initial clusters: the garment industry cluster (Caruaru, Toritama, and Santa Cruz do Capibaribe) and the plaster industry cluster (Araripe region). International consultants hired with Italian Trust Fund resources (ATN/II-9135-BR) supplemented work done by the state and the cluster enterprises to come up with CIPs for those two industry groupings. After analyzing the socioeconomic challenges confronting the clusters, consultants with expertise in that field proposed an environmental and social strategy for the program and specific actions to build into the CIPs. Out of that work came design refinements for the two initial CIPs and a general methodology to employ in the program to produce CIPs for the other clusters (see [Methodology Document](#) [in Spanish]). Once the proposed loan is approved these first two clusters could quickly begin financing and executing the competitiveness-strengthening actions called for in their CIPs. Meanwhile, similar studies would be produced in the other five clusters for subsequent implementation as part of the program.
- 1.25 An innovation loan is being proposed for the operation described here because its strategy is consistent and concordant with the objectives of innovation lending, which include: (i) helping to build an institutional base for consensus generation; (ii) extracting and incorporating lessons about the usefulness of such institutions in fostering competitiveness; and (iii) strengthening the executing agency's implementation capacity before undertaking larger-scale programs. The proposed program will assist in the launch of Brazil's new strategy of using clusters as a public policy instrument to drive industrial development and innovation and enhance state competitiveness. This program builds on efforts already under way in Pernambuco: its additionality consists of the planned activities to introduce and systematize innovations out of which will come the learning necessary to institutionalize a coordinated process of public-private dialogue and consensus on

¹⁷ The Chilean development agency CORFO's experience with its integrated local industry development programs is one example of this kind of approach. Such programs feature an inductive process, coordinating public-private instruments and actions, which calls on businesses to contribute and prescribes an approval process and other requirements and conditions to substantiate the need for actions for which support is sought by way of a strategic plan worked out by all the actors in an industry cluster.

how to enhance cluster competitiveness. In so doing the program will help extract and systematize learnings about clusters and design more effective coordination strategies to maximize the impact of subsequent investments in Pernambuco and other regions of Brazil.

- 1.26 The program proposed here is one of a set of five new Bank-funded cluster-focused operations to foster competitiveness in several Brazilian states (the others being Bahia, Minas Gerais, São Paulo, and Paraná). Prospects for success in these five states are good because they already have been doing much to institute cluster support policies. Given the five states' different development levels, institutional apparatus, and competitiveness challenges and the particularities of the industry sectors in which the different clusters are operating, the body of experiences and outcomes the five programs would yield can provide the Bank, the states, and the country with a balanced view of best practices for this kind of interventions. The hope is that this learning ultimately will create a foundation for the design of future regional or nationwide operations.¹⁸

G. Donor coordination

- 1.27 The proposed program and various projects and events being backed by the World Bank and Germany's development cooperation agency GTZ are mutually complementary. World Bank-funded promotional initiatives have encouraged discussion and dialogue about clusters in a number of Brazilian states (for instance in best practices workshops and presentations), tighter cooperation between cluster development agencies, and so on. GTZ has for some years been implementing programs to assist clustered Brazilian SMEs, mostly in the Northeast, with an emphasis on: (i) environmental protection and sustainable natural resources management; (ii) building awareness of the need for partnerships and explicating and articulating cluster firm owners' needs; and (iii) encouraging public-private dialogue, coordination, and alliances to tackle competitiveness issues.

II. THE PROGRAM

A. Objective and description

- 2.1 The goal of the program is to contribute to the state's development by boosting the competitiveness of enterprises in the state of Pernambuco that belong to up to seven local industry clusters (APLs) where results are achievable during the program's life span (see paragraph 1.22). The program's purpose is to help develop mechanisms to produce and disseminate innovation and articulate actors in the

¹⁸ In the course of preparing this operation the project team has encouraged the sharing of experiences between the projects, one vehicle being workshops with the participation of the different states, federal and state SEBRAE bureaus, and business organizations in each state.

participating clusters (member enterprises, associated institutions, etc.). The program is divided into four components to pursue those aims.

- 2.2 **Component 1: Development of a public-private model to help improve cluster competitiveness (US\$1 million).** This component will help mesh the activities of the various cluster development agencies and organizations through the targeted clusters' local governance organizations (LGOs) and, working with the member enterprises and associated institutions, will assist in the development of a competitiveness improvement plan (CIP) for each cluster. At a minimum each CIP must: (i) state the cluster's business activity and the member firms and associated institutions; (ii) map out a medium- and long-range vision and strategy for the cluster to position itself on domestic and international markets; (iii) provide a diagnostic of the cluster's current situation, including social and environmental impact dimensions, and propose an action plan to pursue the stated objectives; and (iv) propose, with a rationale, services and investments under each of the program's support lines. This component will fund diagnostic assessments, workshops, surveys, studies, and consulting services needed to complete CIPs in the two initial clusters, develop CIPs in the other five clusters, and strengthen the LGOs. Another segment of the component provides modest funding to develop a common action plan for the program clusters, which will define specific activities that can further the development of the seven program-targeted clusters collectively.
- 2.3 The program's Operating Regulations prescribe CIP contents, processes and other requirements and resource commitments for CIP development, review, and approval in the selected clusters. Some key provisions are: (i) international consultants are to be engaged for the CIP development exercise, to assist with and monitor the diagnostic and domestic and international market prospecting and strategy development work; (ii) referencing the socioenvironmental diagnostics, each cluster's CIP will specify actions to institute cleaner production practices and bring the member enterprises into compliance with environmental licensing requirements, concordant with the program's environmental and social strategy; (iii) one piece of a cluster's strategic planning exercise will be a diagnostic of the member firms' current information and communications technologies (ICT) capacity and an action plan to bolster that capacity; (iv) a separate logical framework will be devised for each CIP, containing indicators consistent with those of the program's overall logical framework; (v) as one step in developing CIPs a baseline survey will be done and control groups created for the monitoring and evaluation of each CIP's logical framework indicators; (vi) CIPs must include a detailed plan of activities and associated budget and procurement plan; (vii) business plans with demand and financial sustainability forecasts will be developed for the setup of a Technology Development Center in each program-supported cluster; and (viii) financial sustainability and cost recovery analyses must be done to confirm that the operating and maintenance costs at least of the program activities calling for investments of more than R\$500,000 will be covered.

- 2.4 The validation and approval process devised to make sure CIPs are relevant and of good quality takes in the program's different management and governance bodies, especially at the local and firm level. Outputs sought in this component are: (i) seven CIPs, one for each of the targeted clusters, designed using the methodology and with the content prescribed in the program's Operating Regulations; (ii) a common action plan for the seven program clusters; and (iii) a state coordination apparatus and local governance organizations created for and operating in each of the selected clusters.¹⁹
- 2.5 **Component 2: Implementation of cluster competitiveness improvement plans (CIPs) (US\$12.125 million).** This component would fund part of the cost of activities proposed in the cluster CIPs developed under component 1, with six support focuses: (i) cluster governance, management, and administration; (ii) business advice and training; (iii) core industrial technology and technological and organizational innovation; (iv) environment and social development; (v) logistics; and (vi) marketing, market prospecting, and export development. At the outset support will be provided for implementation of the activities mapped out in the CIPs for the two initial clusters—the garment industry cluster (Agreste region) and the plaster industry cluster (Araripe region). Subsequently, the program will furnish a share of funding for activities in CIPs to be produced for the other five clusters.
- 2.6 Component 2 will fund consultant and training costs for groups of five or more cluster firms and purchases of machinery and equipment that would be collectively used and managed in the respective cluster's Technology Development Center. The program will not finance land or building purchases or maintenance or operating costs. Its Operating Regulations specify eligibility criteria and presentation and cluster enterprise contribution requirements for each of the six proposed lines of support. The following are some of the conditions: (i) a cluster's CIP must be submitted to and approved by the Bank, this being a special condition precedent to disbursement of component 2 funds for each program-supported cluster; (ii) the cluster enterprises must contribute a minimum portion of the cost, which will vary depending on the appropriability of expenditures to be funded in each activity (see the Operating Regulations);²⁰ (iii) investments or support services provided only to individual firms will not qualify for financing; and (iv) cluster enterprise owners will participate in the selection of service providers hired under each of the support lines and activities in which they take part.
- 2.7 The implementation of cluster CIPs will be supervised through continuous monitoring by the program's various management and governance bodies as well as independent evaluators hired for the purpose. The anticipated outputs of this

¹⁹ For more information on the LGOs see paragraph 1.16 and paragraphs 3.22-3.23.

²⁰ The cluster firms' contributions will range from 20% for environmental protection and social development activities to 50% for support for participation in trade events.

component are: (i) seven CIPs implemented in the seven program clusters, including equipping and startup of Technology Development Centers in each, in accordance with their respective business plans, and (ii) a common action plan implemented in the seven program clusters.

- 2.8 **Component 3: Strategic information and communications technology (ICT) applications for clusters (US\$1.28 million).** This component was designed in light of the limited use that the selected clusters currently are making of ICTs.²¹ Operating horizontally, it will promote mechanisms to encourage clusters to adopt ICTs in their project management work and to expedite ICT use to improve products, processes, and services in the cluster businesses and participating organizations. This includes compliance with socioenvironmental legislation and adoption of cleaner technologies in the clustered companies. Interventions will be based on a diagnostic of clusters' ICT situation and needs as per the content of their individual CIPs and will build on the experience and capacities the state has already developed in this sphere.
- 2.9 The applications to be developed and interventions planned in this component will be organized under a single architecture called Cluster Resource Planning (CRP), which will integrate a set of information technology (IT) tools that can be accessed massively over the Internet. These will assist with knowledge management in each cluster's member companies (strategic, commercial, production, operational, etc. information), management and governance of the proposed program and the clusters (execution and administration of the program and management of each cluster's local governance organization), and management of individual cluster businesses (accounting, finance, human resources, etc). CRP will be implemented and maintained in at least two pilot clusters' Technology Development Centers. The program will fund specialized consultant services to develop the requisite software, the work of technicians hired for CRP implementation, and training for users and cluster business owners and operators, and the associated system connectivity and maintenance costs.
- 2.10 Outputs and outcomes sought in this component are: (i) CRP architecture and components developed and implemented in at least two pilot clusters and (ii) greater capacity in the cluster firms and local governance organizations to employ those IT tools in managing and administering the program, the cluster, and each beneficiary firm.
- 2.11 **Component 4: System for monitoring and evaluation and identification of lessons learned in the program (US\$380,000).** This component's aim is to institute a monitoring and evaluation system that will enable close tracking of interim and final results of the program activities, by way of general and cluster-specific studies and surveys and systematic compiling of lessons learned in the

²¹ According to the data available, close to 90% of the cluster firms are not employing ICTs.

course of the program. This will entail continuous monitoring of the program indicators by reference to targets, control groups, and baselines for each of the targeted clusters, as set out in their separate logical frameworks and the program's overall logical framework. Using a specific IT tool to be introduced in ITEP and an adaptation of SEBRAE's Strategic Results-based Management System (SIGEOR), the program's monitoring and evaluation system will look at each activity line in each cluster as well as the program's overall impact.

- 2.12 Anticipated outputs from this component are: (i) a monitoring and evaluation system implemented in each cluster and for the program overall, and (ii) lessons learned, achievements, and best practices identified, evaluated, and publicized for each cluster and the program overall.

B. Cost and financing

- 2.13 The program's total cost of US\$16.7 million would be funded through a US\$10 million innovation investment loan from the Bank and a US\$6.7 million local counterpart furnished by the State of Pernambuco, which may include contributions from the SEBRAE system and the Federation of Pernambuco Industries (FIEPE) system.

Table II-1. Program cost				
Components	Estimated cost (US\$000)			
	IDB	Counterpart	Total	Share
Administration and evaluation	795	920	1,715	10.3%
Direct costs	9,069	5,716	14,785	88.6%
1. Development of a public-private model to help improve cluster competitiveness	480	520	1,000	6.0%
2. Implementation of cluster CIPs	6,997	5,128	12,125	72.6%
3. Strategic ICT applications for clusters	1,280	0	1,280	7.7%
4. System for monitoring and evaluation and identifying lessons learned	312	68	380	2.3%
External audits	125	0	125	0.7%
Contingencies	11	11	22	0.1%
Financial costs	0	53	53	0.3%
Credit fee	0	53	53	0.3%
TOTAL	10,000	6,700	16,700	100%

III. PROGRAM IMPLEMENTATION

A. Borrower, guarantor, and executing agency

- 3.1 The Government of the State of Pernambuco will be the borrower with the Federative Republic of Brazil as guarantor. The Department of Science, Technology, and Environment (SECTMA) will be the executing agency.
- 3.2 To help SECTMA administer, coordinate, and monitor the program's technical facets and finances, a Program Management Unit (PMU) will be set up in Associação Instituto de Tecnologia de Pernambuco [Pernambuco Technology Institute] (ITEP) under a new management agreement with SECTMA. Under that arrangement, and adhering to current Brazilian legislation governing "social organizations" (OSs), SECTMA would delegate to ITEP—the only agency with a statewide presence and a long and successful track record in cluster support in Pernambuco—the task of implementing public policies pertaining to the provision of specified technology, applied research, technology production and dissemination, business support, and professional education services. The PMU will be in charge of continuous implementation monitoring and will ensure that action is taken as needed to see the program's objectives and commitments fulfilled.
- 3.3 The SECTMA-ITEP management agreement would set out responsibilities, rights, obligations, and authority associated specifically with the program the Bank proposes to finance. It will expressly state that SECTMA may reimburse ITEP only for the actual cost of services provided and expenditures incurred to administer and implement the Bank-financed program. No funding will be furnished to defray any other costs (fees, commissions, overheads, etc.).
- 3.4 Two public and private partner agencies would help carry out the program activities: the Federation of Pernambuco Industries (FIEPE) and the Pernambuco arm of the Brazilian Support Service for Micro and Small Enterprise (SEBRAE-PE). There is no funding in the program budget for those organizations: they will be performing support activities, including some called for in clusters' competitiveness improvement plans (CIPs), using their own resources and following their own procedures, as a technical and financial contribution to the program.
- 3.5 FIEPE, the Pernambuco manufacturers' federation, is a grouping of 39 employers' associations representing different industry segments. It funds its operations from dues paid by manufacturing associations in the state and fees charged by the FIEPE system organizations for providing specialized services. The "FIEPE system" is made up of four related organizations: Serviço Social da Indústria de Pernambuco (SESI); the Pernambuco arm of the National Industrial Learning Service (SENAI), Euvaldo Lodi Institute of Pernambuco (IEL), and the Center for Pernambuco Industries (CIEPE). The FIEPE system will help implement components 2 and 4 of

the proposed program through counterpart contributions to foster business partnerships and organizational innovation and track the program's outcomes.

- 3.6 SEBRAE, a private, not-for-profit institution with a long, respected track record in various microenterprise and small business development facilities, has a National Directorate and a Superintendency in each Brazilian state. The bulk of its revenues come from payroll taxes and other mandated "social contributions" from businesses, which fund the agency's annual budget of roughly US\$340 million, 65% of which it allocates directly to programs run by its state Superintendencies. SEBRAE-PE will help execute components 1 and 2 of the proposed program through counterpart contributions to engage technical assistance services and for studies and training, and component 4 through the use of SEBRAE's SIGEOR system, which will complement the program's computerized monitoring and evaluation system.
- 3.7 The Pernambuco government bureau responsible for environmental policy development and implementation is Agência Pernambucana de Meio Ambiente e Recursos Hídricos [Pernambuco State Environmental and Water Resources Agency] (CPRH), attached to SECTMA. Among its mandates are environmental licensing, monitoring, compliance, and education across the state. Law 11.516 of 30 December 1997 deals with environmental licensing and environmental infractions, among other matters. As the state's environmental policy authority the CPRH is in charge of urban-industrial and rural environmental pollution prevention and monitoring as well as protecting land use and water and forest resources through environmental licensing, compliance actions, and environmental resources monitoring and management, operating as an administrative watchdog in this sphere.
- 3.8 Other CPRH mandates are to monitor activities, processes, construction projects, ventures, and environmental resources exploration activities that alter or could alter environmental characteristics and, when the agency finds that an infraction has been committed, to apply the statutory penalties. The CPRH issues the same kinds of licenses and permits provided for in federal legislation, which prescribes permit classification criteria according to the size and polluting potential of ventures and activities that come under environmental permitting or licensing requirements. There also are specific standards for noise control, disposal of various kinds of solid waste, air pollution, sanitary effluent, etc., and a set of occupational health and safety laws and standards.
- 3.9 The CPRH also monitors potentially polluting activities or ventures, conducts environmental audits, and administers and promotes water and forest resources development throughout Pernambuco, endeavoring to ensure that rational use is made of natural resources. Research and science and technology services directly or indirectly related to its sphere of operation are another CPRH function. Consequently, this agency will play a strategic part in the proposed program,

helping to make sure that the participating cluster firms satisfy social and environmental impact requirements.

B. Program implementation and administration

- 3.10 The institutional arrangement devised for this program's execution and administration avails itself of the institutional capabilities and innovations the state has already developed for cluster and cluster innovation management. The management and governance bodies that make up this apparatus cover the spectrum of institutional spheres involved, from the state to the local and cluster firm level.
- 3.11 **Executive Board of the program.** Since a number of institutions will be interfacing in the program it is imperative that their work be well coordinated to achieve the program targets. The plan is to set up a SECTMA-chaired Executive Board for that purpose, with SEBRAE-PE and FIEPE as the other permanent members and the PMU General Manager as Executive Secretary. **Creation of the Executive Board will be a special condition precedent to the first disbursement of the proceeds of the Bank's loan.**
- 3.12 The Executive Board will take strategic decisions on the program and oversee and track its performance. In consultation with the Bank it will decide on operational modalities and the use of funds. The Executive Secretary will be responsible for implementing the Board's decisions, ensure that they are duly taken and formalized, record the Board's activities, and provide information on the clusters' program-funded activities or other matters considered necessary for the program to operate as planned.
- 3.13 The Executive Board's main terms of reference are to: (a) approve strategic decisions for the program's operation; (b) approve intervention policies and priorities in each cluster after securing the IDB's no objection; (c) approve the program's Operating Regulations, annual work plans, and procurement plan; (d) monitor the planned agreements between the PMU, local governance organizations (LGOs), and other cluster organizations to see that they are duly performed; (e) approve replacement of the PMU General Manager and give the PMU the resources it needs for its work; (f) review and approve monitoring and evaluation reports on the program and track its progression to see that it is concordant with the Pernambuco state government's Multiyear Plan and the program's own programming; (g) review and approve changes needed to the Operating Regulations in the course of the program and secure the Bank's no objection; (h) apprise itself of internal and external audit findings and monitor implementation of audit recommendations to make sure they are followed; (i) direct that internal controls be instituted and monitor their operation, in accordance with the program's Internal Control Guide; (j) approve the engagement of external auditors for the program, follow up on any items they report, and take decisions on corrective actions that do not fall within the PMU Manager's authority; (k) meet at

least quarterly, or upon formal request from the PMU, to closely monitor the program's progress; and (l) approve and validate clusters' competitiveness improvement plans and continuously monitor their implementation.

- 3.14 **Program Management Unit (PMU).** Since SECTMA, on behalf of the State of Pernambuco, would execute the program under a management agreement with ITEP, the Program Management Unit will be set up within ITEP. The agreement dealing specifically with implementation of the program described here will contain sections on the following matters, inter alia: (i) object and purpose; (ii) objectives and targets; (iii) obligations of ITEP—a “social organization”—and of the government; and (iv) financial resources, human resources, government property management and administration, supervision and compliance monitoring, outcomes monitoring and evaluation, rendering of accounts, duration of agreement, amendments, rescission, and general provisions. **Entry into effect of the SECTMA-ITEP management agreement and of the specific legal instrument between SECTMA, SEBRAE-PE, and the FIEPE system for program execution as well as creation of the PMU within ITEP will be a special condition precedent to the first disbursement of the IDB loan proceeds.**
- 3.15 The PMU will help the Executive Board coordinate the program's general operation and will be the principal liaison with the Bank. As such, the PMU will administer, on the executing agency's behalf, the program's operations, finances, and accounts (payment processing, documenting use of funds and supervising their correct application), monitor the tendering timetable, coordinate consultant contracting, and develop the implementation data required as per the loan document guidelines.
- 3.16 The PMU's staff will consist of a general manager, a financial coordinator, a technical coordinator, a specialist in charge of the program monitoring and evaluation work, a legal advisor, and the requisite technical and administrative support personnel. With prior Executive Board approval the PMU may engage ad hoc consultants to provide as-needed support for technical facets of the program.
- 3.17 Among the PMU's specific functions are to: (i) manage allocation of the program budget resources and inclusion in the annual Treasury Budget Plan; (ii) prepare annual work plans concordant with the clusters' CIPs and the program's objectives, components, and logical framework; (iii) prepare or (if the technical portion was prepared by third parties) review the procurement plans, as part of the annual work plans; (iv) review and process for Executive Board approval and secure the Bank's no objection for the targeted clusters' CIPs that come out of program component 1; (v) help the clusters with schematic planning, development, and execution of subprojects associated with the planned CIP actions, working with each cluster's designated LGO and observing the criteria and procedures set out in the Operating Regulations; (vi) assess eligibility of candidate LGOs for the program's operation in accordance with its Operating Regulations; (vii) supervise and monitor

- implementation of clusters' subprojects, in accordance with the approved CIP activities; (viii) ensure that the impact evaluation and measurement system is operating properly, consolidate its findings, and disseminate lessons learned; (ix) prepare tender documents and monitor bidding processes; conduct procurement and contracting processes; make payments for goods purchased and services provided; secure and retain proof of receipt and observe other internal control requirements to process goods and services payments, securing the Bank's no objection where applicable; (x) keep adequate accounting and financial records and operate sound internal control systems that satisfy the Bank's requirements for managing the loan proceeds and program counterpart funds; (xi) open and operate separate bank accounts specifically to manage the loan funds and the local counterpart funds for the program and process disbursement requests adhering to Bank requirements; (xii) prepare and submit to the Bank semiannual reports on the use made of revolving-fund monies, semiannual and annual program progress and monitoring reports, and the program's annual financial statements expressed in local currency and U.S. dollars, duly audited by an independent audit firm acceptable to the Bank, engaged with program funds; and (xiii) give the independent audit firm the information it requests and act on the firm's reported findings, to assure the continued operation of an internal control system and a quality reporting system on the program that are acceptable to the Bank.
- 3.18 **The following will be special conditions precedent to the first disbursement of the IDB loan proceeds: (i) opening of a bank account specifically for the PMU to administer the program funds; and (ii) setup in the PMU of a computerized integrated information system acceptable to the Bank for the program's financial and contracting and procurement management operations.**
- 3.19 **Local governance organizations (LGOs).** To expedite and coordinate execution of activities mapped out in the clusters' CIPs and ensure good governance, ownership, and leadership of the program at the local and cluster enterprise level, the PMU and business associations representative of each cluster will by mutual agreement create a local governance organization for the cluster. Initially the LGO will consist of a PMU-appointed local cluster manager and a Local Management Committee of cluster business owners and operators and representatives of associated business organizations and government and private agencies. In principle, the PMU will be involved only temporarily in the LGO's management: that function may gradually be transferred to the local level. Ultimately the LGO will preferably become a "civil society organization in the public interest" (OSCIP) or other organizational model known in advance by the PMU, managed by the cluster businesses' owners and local agencies. Thus, the PMU (on behalf of the State of Pernambuco) and each LGO will sign a specific legal instrument to formalize cooperation ties between the parties to develop and execute the program's "public interest" activities.

- 3.20 The LGOs' functions are, inter alia, to: (i) prepare or advise on the preparation of terms of reference for consultants to be hired according to their field of expertise and the activities called for in a cluster's CIP; (ii) work with the PMU and, adhering to the Operating Regulations, consult with cluster enterprise owners who are participating in CIP activities to select, by mutual agreement, providers of the desired services; (iii) working with the PMU, monitor the quality and timeliness of consultants' performance as provided in their terms of reference; (iv) prepare or review interim and final accountings of providers or consultants and technical reports following PMU-approved guidelines, before forwarding them for PMU review and approval, and (v) monitor subprojects' continuous-improvement activities and help disseminate their outcomes among the cluster members, encouraging support and ownership of these initiatives.
- 3.21 **Beneficiary enterprises.** The program will benefit clustered enterprises that participate directly or indirectly in each of the activities in the respective cluster's competitiveness improvement plan (CIP). Firms that stand to benefit directly will formalize their involvement in the program by signing an Agreement of Undertaking with the cluster's LGO. They will pledge to perform their obligations under that Agreement, work with the LGO to carry out the planned activities, and furnish information to the LGO for reports it is to deliver to the PMU, as pacted in the respective agreements. The LGOs also must confer with the beneficiary enterprises to decide, by mutual agreement, on contract awards for activities in which the firms plan to engage.
- 3.22 **Operating Regulations for the program.** This set of regulations spells out the program implementation arrangement, procedures for executing the different components and activities, and implementation responsibilities of each of the program participants, including compliance with federal and state environmental and workplace health and safety laws and standards (see the [draft Operating Regulations](#)). **Entry into effect of the Operating Regulations, including the Internal Control Guide and Code of Ethics, will be a special condition precedent to the first disbursement of the IDB loan proceeds.**

C. Program monitoring and performance reports

- 3.23 The Bank will inspect and supervise the program's operation by way of its Brazil Country Office. The Bank may delegate all or part of the supervision work to individual consultants or consulting firms, in which case it will inform the PMU of the tasks so delegated and the PMU will give the consultants the information and support they need to perform the work and discharge the responsibilities the Bank has assigned them. These may include: (i) reviewing or providing an opinion on technical and/or financial facets of the program; (ii) reviewing or providing an opinion on institutional aspects of the program's implementation; (iii) ex ante or ex post reviews of disbursement documentation and of an item's eligibility for funding under the loan; (iv) reviewing or providing an opinion on accounting elements of

the program; and (v) reviewing or providing an opinion on the proper procurement of goods and services and the maintaining or termination thereof.

- 3.24 **Annual work plans (AWPs).** The proposed program will operate around annual work plans for each of its components. After the program's Executive Board has approved an AWP the Bank's no objection must be secured. The AWP will set out each component's specific objectives, planned activities for the year, and the timetable and budget, indicating separately the local counterpart funds and IDB loan funds needed to achieve the set targets. They also must analyze risks associated with pursuing the objectives and targets and set out risk management and mitigation measures. **Submittal to the Bank's satisfaction of the annual work plan for year 1 of program implementation will be a special condition for release of the loan proceeds.**
- 3.25 **PMU program progress reports.** The PMU will give the Bank semiannual progress reports on the program, referencing the performance tracking system, the annual work plan, and the program's general implementation plan, as updated. A status report on the revolving fund is to form part of these semiannual reports, which the PMU must submit within 60 days after the end of each half-year. The report encompassing the year-end also must provide an implementation progress report on the program and achievement of its logical framework targets, the status of the risks identified when the annual work plans were prepared and, generally, the status of compliance with the loan contract covenants. The Bank will review these reports to assess the technical quality of the program's progress and progression toward the prescribed targets.
- 3.26 **Financial reports.** The Bank's Guidelines for the Preparation of Financial Statements (AF-300) provide financial statement presentation guidelines. The program's financial statements must be presented in U.S. dollars and may be presented also in Brazilian reais provided the local-currency statements are presented together with the statements expressed in U.S. dollars. Whether statements are presented in U.S. dollars only or in the two currencies, a note explaining the currency translation method used must be provided. Other required reports elaborating on the program's basic financial statement data will analyze and describe its financial execution—for example reports on account reconciliation, cashflow, and disbursement requests. These must be delivered in the form and within the time limits prescribed by the Bank, principally in document AF-300 and in the loan contract.
- 3.27 **External audits.** The executing agency would provide the Bank with annual financial statements of the program throughout its operation, audited by an independent audit firm acceptable to the Bank in accordance with certain terms of reference agreed on in advance with the Bank (document AF-400). One requirement will be an explicit audit opinion on the operation of or adherence to the program's Internal Control Guide. Using funds from the loan, the executing agency

will engage an audit firm—selected and retained following the Bank’s standard procedure for procurement of audit services (document AF-200)—for the duration of the program, subject to a termination clause if the Bank should find the firm’s performance to be unsatisfactory. The audited financial statements are to be submitted each year within 120 days after the executing agency’s fiscal year-end. The final audited statements must be presented not later than 120 days after the date of the last disbursement.

D. Monitoring and evaluation system

- 3.28 The monitoring and evaluation system designed for the program will contain a baseline and set up control groups and allow for continuous monitoring of logical framework indicators and progress toward the logical framework targets. To that end the system will record the baseline and performance indicators proposed in each cluster competitiveness improvement plan, in accordance with the logical framework indicators. Indicator progress will be monitored using a computerized system to be introduced in ITEP, which will be supplemented by SEBRAE’s Strategic Results-based Management System (SIGEOR). Together, these systems will record the performance indicators specified in each CIP. A data collection and tracking plan to be developed as one piece of the monitoring and evaluation system will specify the parties responsible for data collection, the collection and evaluation methodology and frequency, baseline values, and the program’s targets and indicators. Yearly progress monitoring reports on CIP activities and their outcomes, which will come out of the aforementioned data plan, will feed back into the program’s monitoring and evaluation system. **Development of a program data collection and tracking plan will be a special execution condition for component 2 disbursements. Moreover, the following special execution conditions for component 2 disbursements for each cluster will apply: (i) approval by the Bank of the CIP for each cluster, which will have been prepared in accordance with the Operating Regulations; (ii) a baseline survey for each cluster; (iii) evidence that the respective LGO has been established and that the respective CIP has been validated and approved by the LGO and the program’s Executive Board, as stipulated in the Operating Regulations; and (iv) incorporation of the indicators and baseline of each cluster’s specific logical framework in the program’s computerized monitoring and evaluation system, which will make it possible to provide input for SEBRAE’s SIGEOR.**
- 3.29 A midterm review of the program is to be completed 24 months after the start of program execution or when the loan is 50% disbursed, whichever occurs first, to gauge progress toward the program’s targets as well as its management and implementation efficiency. A final evaluation would be conducted 48 months after the program begins operating or when the loan is 80% disbursed, whichever occurs first, to track achievement of the logical framework indicators and evaluate final outcomes and impact, comparing against the baseline and the control groups. As noted above in paragraph 3.25, other annual evaluations are planned specifically of

activities and outputs, addressing at a minimum the program's logical framework indicators. Using aggregated data collected over the course of the program and analyses of that information, the final evaluation will include an ex post assessment of the operation's chief socioeconomic benefits for a sample of clusters (see paragraph 4.6). The PMU will coordinate the midterm and final evaluations, which will be performed with the participation of international consulting firms with recognized capacity and experience in performing this type of evaluation. The firms will be hired in accordance with terms of reference previously agreed by the Bank.

- 3.30 The PMU will compile and retain information, including annual work plans, monitoring reviews, and the final evaluation to enable (i) the Bank to prepare the project completion report (PCR) and (ii) the Bank's Office of Evaluation and Oversight (OVE) to ascertain the operation's impact via an ex post evaluation, if this were required according to the document GN-2254-7 guidelines.

E. Implementation period and disbursement timetable

- 3.31 The program will be implemented over a 48-month span and the disbursement period will be 54 months long, following the timetable shown in Table III-1. The Bank will review disbursements ex ante during the first six months of the program or until the first revolving fund replenishment. Depending on the review findings the Bank may allow sample ex post reviews (at least one review every six months).

Table III-1: Disbursement Timetable (US\$000)							
CATEGORIES	Year 1	Year 2	Year 3	Year 4	Year 5	Total	%
Administration, audits and evaluation	292.3	169.0	188.8	135.7	145.2	931.0	9.3
Direct costs	817.9	3,981.2	2,808.2	1,096.3	365.4	9,069.0	90.7
TOTAL	1,110.2	4,150.2	2,997.0	1,232.0	510.6	10,000.0	100.0
%	11.1	41.5	30.0	12.3	5.1	100.0	

F. Revolving fund

- 3.32 A revolving fund that will not exceed 10% of the total loan proceeds will be created. This percentage is justified given the amount of annual expenses financed with loan proceeds during the execution period (over US\$2 million in most years) and the cycle of operations estimated at about six months. Based on these two factors, a revolving fund of about US\$1 million, or 10% of the total amount of the loan, is required. The executing agency would report semiannually to the Bank on the fund's status, within 60 days after the end of each calendar half-year.

G. Retroactive financing and recognition of expenditures

- 3.33 Possible expenditures have been identified that could be covered retroactively against the Bank's loan for a total of up to US\$500,000, primarily for

reimbursement of expenses to develop the computerized system for monitoring and financial control and for procurement; program administration expenses; and actions to support implementation of component 1. The borrower has asked the Bank to recognize as local counterpart contributions up to the equivalent of about US\$500,000 in expenditures or obligations incurred during preparation of the program. Such expenditures may be reimbursed or recognized, as appropriate, provided they substantially comply with the Operating Regulations once the Bank has verified that procurement procedures substantially similar to those subsequently established in the Bank loan contract were followed and that the expenditures were incurred during the 18 months preceding the date of the loan's approval by the Bank's Board of Executive Directors and after approval of the program Profile.

H. Procurement

- 3.34 The Program Management Unit will conduct and supervise bid processes. Construction work is to be performed by private companies, studies and technical assistance services by specialized firms or specialized independent entities. Goods procurement, works contracting, and consultant hiring will be governed by the Bank's procurement policy and procedures (documents GN-2349-7 and GN-2350-7).
- 3.35 International competitive bidding will be mandatory for works contracts with cost estimates of US\$25 million or more and purchases of goods and related services of US\$5 million or more. Works contracts between US\$500,000 and US\$25 million will be awarded through national competitive bidding; below US\$500,000 they may be awarded through shopping. Goods estimated to cost US\$100,000 to US\$5 million will be purchased through national competitive bidding; below US\$100,000 they may be procured through shopping. International publicity is required for the selection and hiring of consultants on contracts with a value of US\$200,000 and up. With the exception of consulting services for preparing the CIPs and the midterm and final evaluations, which will be performed by consulting services that include participation by international firms or specialists, as appropriate, shortlists of consultants for work costing US\$1 million equivalent or less per contract may be comprised entirely of national consultants, in accordance with Bank procedures.
- 3.36 Standard bid documents agreed upon and approved in advance by the Bank are to be used in calls for bids for works projects and goods. To expedite the workings of the program the Bank's prior no objection will need to be sought only for works contracts exceeding US\$500,000, purchases of goods over US\$250,000, consulting firm contracts over US\$100,000, and individual consultant contracts over US\$50,000. The Bank will do sample post reviews of bid procedures (at least one review every six months).

IV. VIABILITY AND RISKS

A. Institutional viability

- 4.1 The structure devised for this program delineates the roles and functions falling to each of its implementation partners, to be spelled out in specific agreements executed between the parties. The proposed institutional arrangement is nimble and flexible, to be able to respond well to the participating cluster enterprises' needs.
- 4.2 As part of the evaluation of institutional capabilities of agencies chosen to execute the program an Institutional Capacity Assessment System (ICAS) analysis was done of Associação Instituto de Tecnologia de Pernambuco (ITEP), which in SECTMA's estimation could manage the program. ITEP's administrative and financial capacity came out as medium in the analysis, so those areas will need strengthening to equip the agency for this program management role.
- 4.3 In the ICAS risk analysis, two of the three capacities examined—Programming and Organization, and Execution—were rated medium risk and the other—Control Capacity—substantially high. The scores were 75.25%, 74.97% and 44.72%, respectively, with a weighted score of 65.96%. After the ICAS findings were discussed with the counterparty an institution-strengthening plan was agreed on; its recommendations were taken into account in the Program Management Unit (PMU) design and setup.

B. Socioeconomic viability

- 4.4 The crux of the program's socioeconomic viability is the prospect of improving the competitiveness of SME members of the Pernambuco industry clusters targeted for support, by instituting a public-private coordination and collaboration model in the state to promote initiatives that can capitalize on geographic and sectoral agglomeration economies, remedy persistent market failures in the area of business development and internationalization of small enterprises, and boost innovation capacity. This is expected to enhance the competitiveness of companies in the targeted clusters, manifested in new product development and inroads into new markets. The program's strategy aim is to foster more efficient use of the funds being expended by the array of agencies that are working to advance Pernambuco's private sector, by interfacing their efforts around a strategic plan that addresses the cluster firms' demands, underpinned by exhaustive market analysis and generating a shared common vision for each cluster.
- 4.5 The first step to assure the program's socioeconomic viability was a general cluster mapping exercise in Pernambuco, the definition being based on quantitative and qualitative criteria of geographic concentration of enterprises in a given industry sector, the presence of different links in the chain and associated players, and

existence of comparative advantages. This exercise revealed 24 clusters operating in the state, from which a group of seven were selected for support under the proposed program, looking at objective criteria to choose the most competitive clusters that had the greatest economic weight (see paragraphs 1.22-1.23). This cluster identification and selection process ensures that the program will work with industry clusters whose member enterprises offer the best prospects for productivity and business performance improvements by capitalizing on agglomeration economies and overcoming the market failures mentioned above.

- 4.6 Because the envisaged interventions are innovative and there are insufficient data for an ex ante estimate of the program's benefits²² it is proposed that a detailed economic evaluation be done ex post, during the program's final evaluation. It would analyze socioeconomic benefits in a sample of clusters using a purpose-designed methodology that the state government has used in the past to measure the state GDP contribution of various industry sectors. To make sure the largest investments will be financially viable, one part of the core content of each program-supported cluster's competitiveness improvement plan will be a financial evaluation and cost-recovery strategy for any investment exceeding R\$500,000.

C. Financial and fiscal viability

- 4.7 The focus of the financial and fiscal viability analysis was the Pernambuco state government's capacity to take on the proposed loan and furnish the local counterpart. The analysts found the state's finances to be quite sound and prudently managed in recent years. Pernambuco has been reaching all the targets and observing all the principles that characterize sound fiscal management. As a further mark of this solid management the state also met all the Fiscal Responsibility Law targets. As for the financial viability of the loan for the program proposed here, a recent Brazilian Treasury Department mission found Pernambuco to be meeting the targets of the State Debt Refinancing Agreement signed under Federal Law 9.496/1997. At this writing the state's estimated borrowing capacity is considerable. These two conditions—borrowing capacity and repayment capacity—are key requirements for the Treasury to be able to recommend in favor of a federal government guarantee for the proposed loan to the State of Pernambuco.

D. Social and environmental impact

- 4.8 **Legal and institutional framework.** Brazil has a vast and complex body of federal, state, and municipal environmental laws, including complementary (enabling) and supplemental (subnational) legislation. The state's environmental compliance agency Agência Pernambucana de Meio Ambiente e Recursos Hídricos

²² Factors that make for great uncertainty in benefit forecasting for this program are the heavy public-good component, the presence of strong externalities, and the fact that the activities to be carried out by each cluster would only be decided on in the course of the program.

(Pernambuco State Environmental and Water Resources Agency) (CPRH) will be issuing the following kinds of environmental permits: (i) preliminary permit, at the preliminary planning stage, prescribing basic requirements for a project's execution; (ii) setup permit, authorizing the venture or activity to set up in accordance with the approved specifications; and (iii) operating permit, authorizing the venture or activity to operate. Brazil also has numerous workplace health and safety laws and standards at the different levels of government. Many measures along those lines have already been implemented at state level.

- 4.9 **Environmental and social strategy.** The proposed program will not directly finance productive investments in the selected industry clusters; instead, it aims to improve their current member firms' productivity, efficiency, and profitability. Focuses of the planned support for that purpose include cluster governance, management, and administration, business advice and training, core industrial technology and technological and organizational innovation, environment and social development, logistics, marketing and market prospecting, and export development. Though no major construction projects are anticipated, there will be minor adaptations of existing buildings and technical equipment will be installed where a cluster needs it to be able to provide specialized services.
- 4.10 Actions called for in the environmental and social strategy to be pursued in the clusters are designed to promote two agendas: (i) a compliance agenda, mandatory for all the benefiting enterprises, to bring them into compliance with national and state laws; the CPRH's presence in the seven cluster regions will be strengthened for this purpose, and (ii) a socioenvironmental responsibility agenda based on the United Nations Millennium Goals. The cluster partners will work together to develop that agenda, focusing on negative impacts to be remedied and identifying actions the program might support. At least one activity must be selected from each of six components indicated. Options are to: (i) plan and develop activities and/or (ii) identify and support ongoing activities. Each cluster must fulfill the activity relating to the environmental sustainability target (organization of a cleaner production program).

E. Benefits

- 4.11 Local industry clusters play an important role in pursuing a type of development that is not driven by economic growth alone but that aims for a high degree of sustainability, respecting the environment and the physical territory in which a cluster operates, addressing social cohesion considerations, and contributing to the eventual reduction of poverty. However, it is important to stress that the clusters must supply market demands and, in particular, contend with the constraints and challenges facing SMEs to enable them to compete in a global economy. In fact, maintaining the competitive advantages often mentioned as a benefit of the specific organization of a cluster in a local territory also requires that the SMEs that make up the cluster continually improve their own competitive position as well as the

cluster's overall efficiency. Thus, devising policies and interventions to help clusters become more competitive can unleash a virtuous circle that can vastly improve local community welfare and the local environment.

- 4.12 By virtue of the proposed program the benefiting cluster firms are expected to boost their sales, profits, and productivity, upgrade their technological processes and product offerings, and develop a shared common vision that will enable the cluster to bolster its market position in Brazil and internationally and equip it to more sustainably manage the challenges of an increasingly competitive global marketplace. The program also is expected to help improve public policies in this sphere through the planned development and validation of a participatory model for state promotion of the production sector, based on a market-focused identification of cluster enterprises' specific needs and demands. Such a model should make for better coordinated and better organized interventions of the government and private agencies that are working to advance the production sectors.

F. Risks

- 4.13 Given the program's innovative institutional features, the chief risk has to do with getting institutions that traditionally have not interfaced closely to work in concert. Three factors minimize this risk: (i) the state agencies concerned have in recent years begun coordinating cluster diagnostic and support work; (ii) those agencies will be furnishing counterpart resources for the program's operation; and (iii) the proposed program management arrangement calls for participation of the leading Pernambuco government and private sector agencies, at the strategic level and within each cluster.
- 4.14 A second risk might be weaker-than-anticipated demand for the program's services on the part of the cluster firms. Several factors and actions taken allay that risk: (i) in lengthy discussions in the different clusters during the program preparation stage it was confirmed that their member businesses were very keen to participate; (ii) decisions about the proposed services in clusters were made in concert with their member enterprises through a participatory planning process that will be manifested in the individual cluster competitiveness improvement plans; and (iii) employers' associations in each of the targeted industry clusters have been very engaged in the program preparation process from the outset.

**Innovation Production and Dissemination Program for Cluster Competitiveness in
the State of
Pernambuco (BR-L1020)
Annex I - Development Effectiveness Matrix (DEM)**

The content of that document is confidential.

Innovation Production and Dissemination Program for Local Cluster Competitiveness in the State of Pernambuco (BR-L1020)

Logical Framework Matrix

NARRATIVE SUMMARY	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
GOAL Further sustainable growth of Pernambuco's economy, improving competitiveness of clustered enterprises in the state's industry sectors that possess a comparative advantage.	At the end of the program and two years after its completion, the following increases for the program clusters, on average, relative to the control groups ¹ and the respective baselines: <ol style="list-style-type: none"> At least a 10% increase in sales per employee in the cluster firms. At least a 10% increase in the value of exports of firms in the clusters served by the program. 	Program Management Unit (PMU) program progress reports. Competitiveness improvement plan (CIP) implementation reports. Midterm and final evaluations of the program. Federal government (IBGE, RAIS, etc.) and state government (SEFAZ, CONDEPE) databases. Surveys of a sample of cluster businesses.	A stable, investment-friendly political and macroeconomic environment; exchange rate within an acceptable range; sustained international market access for Brazilian goods. The state continues to pursue a knowledge- and equity-centered economic development policy. SME support legislation is solidified and there is continuity in export development programs.
PURPOSE Help develop a mechanism for producing and disseminating innovation and articulating actors in the targeted clusters (enterprises, related institutions, etc.).	At the end of the program the following increases in the participating clusters, on average, relative to the baseline: <ol style="list-style-type: none"> 25% increase in number of cluster firms that say they have engaged in innovative activities or brought new products and/or processes to the market. 30% increase in number of consortia, partnerships, etc., formed between cluster firms and between those firms and other supply chain players, to promote common activities. 20% increase in number of associated institutions (universities, research centers, etc.) participating in the respective clusters' development activities. 	PMU program progress reports. CIP implementation reports. Midterm and final evaluations of the program. Federal government (IBGE, RAIS, etc.) and state government (SEFAZ, CONDEPE) databases. Surveys of a sample of cluster businesses.	No sudden demand or product or factor price shocks. Continuity in national cluster and innovation support policies. Measures recommended are those requested by the cluster firms. The cluster enterprises and other institutions are interested and participate.

¹ Indicator baseline values for each cluster and control group design will be decided on in the course of developing each cluster's CIP, and will be a core eligibility requirement for a CIP's approval and eventual financing.

NARRATIVE SUMMARY	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<p>Component 1</p> <p>A public-private model developed to help enhance competitiveness of selected industry clusters.</p> <p>(i) Coordination arrangement devised for state government and local cluster development agencies.</p> <p>(ii) Competitiveness improvement plans (CIPs) developed for each of the selected clusters.</p>	<p>At the end of implementation month 18 of the program:</p> <ol style="list-style-type: none"> 1. A state coordination apparatus and seven local governance organizations created and operating for the program clusters. 2. A CIP devised for each of the seven program clusters and approved by the local and state governance structures. 3. Common Strategic Improvement Plan (PEMC) prepared and approved for the clusters. 4. Information and communications technology (ICT) capacity and needs diagnosis produced for the program clusters. 	<p>PMU program progress reports.</p> <p>CIP implementation reports.</p> <p>Common Plan implementation report.</p>	<p>Cluster actors are interested in cluster development planning.</p> <p>Targeted clusters receive support on the planned terms and conditions.</p> <p>State government-ITEP contract remains in force.</p>
<p>Component 2</p> <p>Cost-sharing arrangement instituted for the clusters' specific CIP actions.</p> <p>(i) CIPs implemented in the seven program clusters.</p> <p>(ii) Common development strategies implemented in the seven program clusters.</p>	<p>At the end of the program (interim targets, end of month 18):</p> <ol style="list-style-type: none"> 1. 11,000 persons trained (end of month 18: 2,300): (i) plaster industry cluster: 1,600 (600); (ii) garment industry cluster: 3,100 (1,200); (iii) other clusters: 6,300 (500). 2. 400 cluster businesses in partnering arrangements in CIP implementation (end of month 18: 110): (i) plaster industry cluster: 80 (30); (ii) garment industry cluster: 180 (70); (iii) other clusters: 140 (10). 3. 50 technical and environmental certifications obtained (end of month 18: 3): (i) plaster industry cluster: 10 (1); (ii) garment industry cluster: 20 (2); (iii) other clusters: 20 (0). 4. 40 quality and cleaner production programs implemented (end of month 18: 5): (i) plaster industry cluster: 8 (2); (ii) garment industry cluster: 7 (2); (iii) other clusters: 25 (1). 5. 6 Technology Development Centers created and operating (end of month 18: 2): (i) plaster industry cluster: 1 (1); (ii) garment industry cluster: 1 (1); (iii) other clusters: 4 (0). 6. 40 marketing and market prospecting ventures developed (end of month 18: 7): (i) plaster industry cluster: 10 (3); (ii) garment industry cluster: 10 (3); (iii) other clusters: 20 (1). 7. 100 export contracts signed (end of month 18: 25): (i) plaster industry cluster: 30 (10); (ii) garment industry cluster: 40 (10); (iii) other clusters: 30 (5). 8. 85% (on average) of the seven clusters' member enterprises say they are satisfied with services provided under the component (end of month 18: 80%). 	<p>CIP implementation reports.</p> <p>PMU program progress reports.</p> <p>Adapted SIGEOR.</p> <p>Midterm and final evaluations of the program.</p>	<p>Private-sector players are favorably disposed to inter-firm partnering and prepared to put in resources.</p>

NARRATIVE SUMMARY	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
Component 3 Strategic ICT applications for clusters: (i) Cluster Resource Planning (CRP) applications architecture designed and developed and CRP components procured. (ii) Support provided to implement the CRP components and build ICT capacity in the clusters.	At the end of the program (interim targets for end of month 18): 1. CRP applications architecture developed and implemented in the clusters (end of month 18: CRP architecture developed). 2. 70% (by number) of CRP components implemented (30%). 3. 7 Technology Development Centers (TDCs) are using ICT resources for the respective cluster's management (end of month 18: 2 TDCs employing ICT resources).	PMU program progress reports. CIP implementation reports.	Cluster firms are interested in using and willing to use CRP.
Component 4			
System developed and implemented to monitor and evaluate the program and identify and disseminate lessons learned in the program: (i) Computerized monitoring, tracking, and evaluation system implemented and operational. (ii) Lessons learned, achievements, and impact of the program evaluated and disseminated.	At the end of program implementation month 18: 1. The model, systems, and practices for monitoring and evaluation of the program and identifying lessons learned have been implemented. 2. The program's communication plan has been designed and implemented. 3. Monitoring and evaluation system implemented for the program overall and for each of the seven clusters in the program. At the end of the program (interim targets at the end of month 18): 1. 2 papers examining the experience and disseminating achievements have been published for each cluster. 2. 2 workshops and evaluation, learning, dissemination, and experience-sharing events have been held for each cluster (end of month 18: 1 workshop and evaluation, learning, dissemination, and experience-sharing activity held for the plaster and garment industry clusters).	PMU program progress reports. Surveys of a sample of cluster businesses.	Statistical data and ICT tools are available. Participating firms provide reliable information on their business dynamics. The actors involved continue to show interest and engage in the monitoring, learning, and evaluation activities.

ACTIVITIES	BUDGET
Component 1 1) Development of competitiveness improvement plans (CIPs) for the program-supported clusters 2) Diagnostic of the clusters' information and communications technology (ICT) use and needs 3) Devising of common development strategies for the participating clusters	Total: US\$1,000,000 1) US\$800,000 2) US\$100,000 3) US\$100,000
Component 2 1) Cluster governance, management, and administration 2) Business advice and training 3) Core industrial technology and technological and organizational innovation 4) Environment and social development 5) Logistics 6) Marketing, market prospecting, and export development	Total: US\$12,125,000 1) US\$1,893,000 2) US\$1,933,000 3) US\$4,066,000 4) US\$ 735,000 5) US\$ 735,000 6) US\$2,763,000
Component 3 1) Design and development of Cluster Resource Planning (CRP) applications architecture and procurement of CRP components 2) Support for CRP component implementation in the plaster and garment industry clusters and addressing clusters' ICT needs	Total: US\$1,280,000 1) US\$1,780,000 2) US\$ 500,000
Component 4 1) Implementation of the computerized monitoring, tracking, and evaluation system, monitoring systems and practices adopted, and evaluation of the program and identification of lessons learned 2) Evaluation and dissemination of the program's outcomes and lessons learned	Total: US\$380,000 1) US\$262,000 2) US\$118,000

INNOVATION PRODUCTION AND DISSEMINATION PROGRAM FOR LOCAL CLUSTER COMPETITIVENESS IN THE STATE OF PERNAMBUCO (BR-L1020)
PROCUREMENT PLAN

Ref. No.	Description of contract and estimated cost (US\$000)	Procurement method	Review (ex ante/ ex post)	Source of financing (US\$000)		Prequalif./ expression of interest	Date Publication of Special Procurement Notice (SPN)	Status (Pending, in process/specification. awarded. cancelled)
				IDB	Local			
1. Consulting services								
1	Component 1 Consulting services on strategic planning and economic survey to prepare baselines US\$130.00	QCBS	Ex ante	62.40	67.60	No	Aug/09	Pending
2	Component 1 Consulting services on information and communication technology (ICT) for diagnostic assessment of ICT needs of clusters US\$100.00	QCBS	Ex post	48.00	52.00	No	Aug/09	Pending
3	Component 1 Consulting services for review and consolidation of diagnostic assessments and CIPs of plaster and garment industry clusters and drafting of business plans for plaster and garment industry TDCs US\$100.00	QCBS	Ex ante	48.00	52.00	No	Aug/09	Pending

Ref. No.	Description of contract and estimated cost (US\$000)	Procurement method	Review (ex ante/ ex post)	Source of financing (US\$000)		Prequalif./ expression of interest	Date Publication of Special Procurement Notice (SPN)	Status (Pending. in process/specification. awarded. cancelled)
				IDB	Local			
4	Component 1 Consulting services for drafting of CIPs for the other five clusters US\$670.00	QCBS	Ex ante	321.60	348.40	No	April/10	Pending
1. Consulting services								
5	Component 2 Consulting services on organization, management, and quality control programs for governance of plaster and garment industry clusters US\$299.91	QCBS	Ex ante	173.95	125.96	No	April/09	In process
6	Component 2 Consulting services on organization, management, and quality control programs for governance of the other clusters US\$699.79	QCBS	Ex ante	405.88	293.91	No	Dec/09	Pending
7	Component 2 Consulting services for setup of market observatories for all the clusters US\$500.00	QCBS	Ex ante	290.00	210.00	No	Jan/10	Pending
8	Component 2 Business consulting for firms in the plaster and garment industry cluster US\$133.00	LCS	Ex post	77.14	55.86	No	June/09	Pending

Ref. No.	Description of contract and estimated cost (US\$000)	Procurement method	Review (ex ante/ ex post)	Source of financing (US\$000)		Prequalif./ expression of interest	Date Publication of Special Procurement Notice (SPN)	Status (Pending. in process/specification. awarded. cancelled)
				IDB	Local			
9	Component 2 Business consulting for firms in the other clusters US\$247.00	QCBS	Ex ante	143.26	103.74	No	Mar/10	Pending
10	Component 2 Consulting services for design and organization of plaster and garment industry TDCs US\$102.46	QCBS	Ex post	59.43	43.03	No	April/09	Pending
11	Component 2 Consulting services for improving the organization, processes, and products of the plaster and garment industry clusters US\$365.94	QCBS	Ex ante	212.25	153.69	No	June/09	Pending
12	Component 2 International consulting services for innovation and design in the plaster industry cluster US\$73.19	LCS	Ex post	42.45	30.74	No	Jan/10	Pending
13	Component 2 International consulting services for innovation and design in the garment industry cluster US\$146.38	QCBS	Ex post	84.90	61.48	No	Jan/10	Pending

Ref. No.	Description of contract and estimated cost (US\$000)	Procurement method	Review (ex ante/ ex post)	Source of financing (US\$000)		Prequalif./ expression of interest	Date Publication of Special Procurement Notice (SPN)	Status (Pending. in process/specification. awarded. cancelled)
				IDB	Local			
14	Component 2 Consulting services for technological modernization of firms in the plaster industry cluster US\$109.78	QCBS	Ex post	63.67	46.11	No	Jan/10	Pending
15	Component 2 Consulting services for technological modernization of firms in the garment industry cluster US\$73.19	LCS	Ex post	42.45	30.74	No	Jan/10	Pending
16	Component 2 Consulting services for design and organization of TDCs in the other clusters US\$109.78	QCBS	Ex post	63.67	46.11	No	July/10	Pending
17	Component 2 Consulting services to improve organization, processes, and products of firms in the other clusters US\$439.13	QCBS	Ex ante	254.70	184.43	No	July/10	Pending
18	Component 2 International consulting services for innovation in the other clusters US\$200.00	QCBS	Ex ante	116.00	84.00	No	Aug/10	Pending

Ref. No.	Description of contract and estimated cost (US\$000)	Procurement method	Review (ex ante/ ex post)	Source of financing (US\$000)		Prequalif./ expression of interest	Date Publication of Special Procurement Notice (SPN)	Status (Pending, in process/specification, awarded, cancelled)
				IDB	Local			
19	Component 2 Consulting services for technological modernization of firms in the other clusters US\$200.00	QCBS	Ex ante	116.00	84.00	No	Aug/10	Pending
20	Component 2 Consulting services on logistics for firms in the plaster industry cluster US\$75.63	LCS	Ex post	43.87	31.76	No	Oct/10	Pending
21	Component 2 Consulting services on logistics for firms in the garment industry cluster US\$75.63	LCS	Ex post	43.87	31.76	No	Oct/10	Pending
1. Goods								
22	Component 2 Procurement of furniture, permanent fixtures, and physical installations for garment industry cluster's LGO office US\$19.33	NCB	Ex post	11.21	8.12	No	May/09	Pending
23	Component 2 Procurement of furniture, permanent fixtures, and physical installations for plaster industry cluster's LGO office US\$19.33	NCB	Ex post	11.21	8.12	No	Sep/09	Pending

Ref. No.	Description of contract and estimated cost (US\$000)	Procurement method	Review (ex ante/ ex post)	Source of financing (US\$000)		Prequalif./ expression of interest	Date Publication of Special Procurement Notice (SPN)	Status (Pending. in process/specification. awarded. cancelled)
				IDB	Local			
24	Component 2 Procurement of furniture, permanent fixtures, and physical installations for LGO offices of other clusters US\$154.64	NCB	Ex post	89.69	64.95	No	Mar/10	Pending
25	Component 2 Procurement of furniture, permanent fixtures, physical installations, equipment, and tools for plaster industry TDC US\$95.14	NCB	Ex post	55.18	39.96	No	Sep/09	Pending
26	Component 2 Procurement of furniture, permanent fixtures, physical installations, equipment, and tools for garment industry TDC US\$95.14	NCB	Ex post	55.18	39.96	No	Sep/09	Pending
27	Component 2 Procurement of equipment for technological modernization of firms in the plaster industry cluster US\$219.56	NCB	Ex post	127.34	92.22	No	Sep/09	Pending
28	Component 2 Procurement of equipment for technological modernization of firms in the plaster industry cluster US\$182.97	NCB	Ex post	106.12	76.85	No	Sep/09	Pending

Ref. No.	Description of contract and estimated cost (US\$000)	Procurement method	Review (ex ante/ ex post)	Source of financing (US\$000)		Prequalif./ expression of interest	Date Publication of Special Procurement Notice (SPN)	Status (Pending. in process/specification. awarded. cancelled)
				IDB	Local			
29	Component 2 Procurement of equipment for technological modernization of firms in the other clusters US\$300.00	ICB	Ex ante	174.00	126.00	No	June/10	Pending
30	Component 2 Procurement of logistics equipment for plaster industry cluster US\$75.63	NCB	Ex post	43.87	31.76	No	Dec/09	Pending
31	Component 2 Procurement of logistics equipment for garment industry cluster US\$75.63	NCB	Ex post	43.87	31.76	No	Dec/09	Pending
32	Component 2 Procurement of logistics equipment for other clusters US\$151.25	NCB	Ex post	87.73	63.53	No	Jan/10	Pending
1. Consulting services								
33	Component 3 Consulting services on ICT for the development and implementation of CRP in the PMU and the plaster and garment industry clusters US\$790.10	QCBS	Ex ante	458.26	331.84	No	Aug/09	Pending

Ref. No.	Description of contract and estimated cost (US\$000)	Procurement method	Review (ex ante/ ex post)	Source of financing (US\$000)		Prequalif./ expression of interest	Date Publication of Special Procurement Notice (SPN)	Status (Pending. in process/specification. awarded. cancelled)
				IDB	Local			
2. Goods								
34	Component 3 Procurement of IT kits (computer, printer, telecom. support), physical, electrical, and logistical inst. for 7 clusters US\$200.00	NCB	Ex post	116.00	84.00	No	Aug/09	Pending
1. Consulting services								
35	Component 4 Implementation and setup of SIGEOR model, systems and practices for monitoring, evaluation, and input of the data and information processing system, drafting of reports US\$117.90	NCB	Ex post	68.38	49.52	No	Sep/09	Pending
36	Component 4 Consulting services on communication for dissemination of program results US\$53.10	NCB	Ex post	30.80	22.30	No	Dec/09	Pending

Ref. No.	Description of contract and estimated cost (US\$000)	Procurement method	Review (ex ante/ ex post)	Source of financing (US\$000)		Prequalif./ expression of interest	Date Publication of Special Procurement Notice (SPN)	Status (Pending. in process/specification. awarded. cancelled)
				IDB	Local			
1. Consulting services								
37	Administration Consulting services for design and implementation of program management structure and model and program management and organization US\$30.00	NCB	Ex post	15.00	15.00	No	May/09	In process
38	Administration Consulting services for preparing the AWP for Year 1. Consulting services for designing and implementing risk analysis methodology for AWP's US\$38.00	NCB	Ex post	19.00	19.00	No	May/09	In process
39	Administration Training for staff involved in the program on applicable IDB requirements and rules US\$20.00	NCB	Ex post	10.00	10.00	No	June/10	Pending
40	Administration Consulting services to design the program's Internal Control Guide and to organize and implement the internal audit function in ITEP US\$25.00	NCB	Ex post	12.50	12.50	No	May/09	Pending

Ref. No.	Description of contract and estimated cost (US\$000)	Procurement method	Review (ex ante/ ex post)	Source of financing (US\$000)		Prequalif./ expression of interest	Date Publication of Special Procurement Notice (SPN)	Status (Pending. in process/specification. awarded. cancelled)
				IDB	Local			
41	Administration Consulting services for establishing guidelines and instructions on procedures for handling, maintaining, and controlling inventory and other items purchased with program funds US\$20.00	NCB	Ex post	10.00	10.00	No	July/09	Pending
42	Administration Independent audit for external control of the program US\$125.00	QCBS	Ex ante	62.50	62.50	No	Aug/09	Pending
43	Administration Consulting services for regular operation of the program's support structure and services (PMU) US\$307.67	QCBS	Ex ante	153.84	153.84	No	April/09	Pending
1. Goods								
44	Administration Procurement and installation of integrated IT solution for administrative and financial management of the program US\$50.00	LCS	Ex post	25.00	25.00	No	May/09	Pending
45	Administration Procurement of equipment, furniture, and permanent fixtures US\$60.00	LCS	Ex post	30.00	30.00	No	May/09	Pending

Ref. No.	Description of contract and estimated cost (US\$000)	Procurement method	Review (ex ante/ ex post)	Source of financing (US\$000)		Prequalif./ expression of interest	Date Publication of Special Procurement Notice (SPN)	Status (Pending, in process/specification, awarded, cancelled)
				IDB	Local			
46	Administration Procurement of equipment, furniture, and permanent fixtures for physical facilities of the PMU's office US\$77.00	NCB	Ex ante	38.50	38.50	No	April/09	Pending

ICB: International competitive bidding
NCB: National competitive bidding
QCBS: Quality- and cost-based selection
SBQ: Selection based on qualifications

LCS: Least-cost selection
QBS: Quality-based selection
S: Shopping