

TECHNICAL COOPERATION PROFILE

SEPTEMBER 8, 2008

I. BASIC PROJECT DATA

- **Country/Region:** Regional
- **Program Name/Number:** Creation of a Regional Network of Technology Development Centers for Central America/RG-T1581.
- **Team Leader/Members:** Pedro Sáenz, Team Leader (SCL/SCT), Marisela Parraguez (SCL/SCT), Galileo Solís (SCL/SCT), and Marco Kamiya (SCL/SCT), Jaime García Alba (MIF), Juan Carlos Perez-Segnini (Legal) and Patricia Reyna (SCL/SCT).
- **Date of Request:** July 2008
- **Name of the Trust Fund** Special Funds
- **Beneficiary:** Member countries of the Comisión para el Desarrollo Tecnológico de Centroamérica y Panamá (CTCAP): Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama and Dominican Republic.
- **Executing Agency:** Comisión para el Desarrollo Tecnológico de Centroamérica y Panamá (CTCAP)
- **Financing plan:**

IDB:	US\$	250,000
Local Counterpart:	US\$	35,000
Total:	US\$	285,000
- **Execution and Disbursement deadlines** Execution: This technical cooperation will last 18 months from inception to last disbursement.

II. JUSTIFICATION

- 2.1 During the year 2005, a study was undertaken entitled “Priorities in Science and Technology in Central America” that was financed by the Norwegian Fund of the Inter-American Development Bank. This study observed that despite the serious financial and political limitations for the science and technology sector, there exist in Central America a small number of specialized laboratories and a significant

group of human resources and professionals trained in the area of Bio-Science and its applications in agriculture.

- 2.2 In hindsight, this was a predictable result since the low transaction costs associated with the access to the rich bio-diversity of the countries of the region make it possible for research centers to undertake interesting projects, particularly in areas such as agriculture, forestry, aquaculture, and biology.
- 2.3 However, there were significant weaknesses. One major one was the lack of sectoral focus: too few resources (human, physical and financial) chasing too many areas of research interest. That mismatch, in turn, resulted in small scale or unsustainable efforts, which added little to national productivity and competitiveness. Also related to this mismatch is the absence of adequate policies and/or funding for the support of infrastructure, training, information exchange, joint ventures, inventorship, electronic information sharing platforms for research, freer movement of skilled workers among the countries, a tendency to not pay sufficient attention the demand from business users, and others.
- 2.4 It is noteworthy, that the study and later technical discussions with stakeholders point to two economic sectors where the mismatch is not only smaller but have the greatest potential to contribute to economic growth. These are agro-industry and bio-pharma. As noted above, it is not surprising given the biodiversity and agro-industry experience and exports.
- 2.5 The same study noted the importance of technology development centers (TDC). The goal of most TDCs is to solve technically complex issues related to productivity, cost-efficiency, competitiveness, and innovation in business enterprises, but also in public agencies requiring serious technical support. In countries that lag behind, technologically speaking, such as those of Central America and Panama, the services provided by TDCs are essential. But their investment and infrastructure weaknesses seriously limit the quantity, quality, and dissemination of research. Additionally, the necessity was identified for these centers to have a greater orientation toward the demand of their products on the part of enterprises, a classic weakness of these kinds of centers.
- 2.6 Considering the situation described as a starting point, it would be sensible in terms of the long term development goals of the Central American countries to devise ways to enhance both the TDCs' capacities to produce research and their ability to produce results that are relevant for the interesting parties in Central America, notably the private sector. Nevertheless, given the size of each economy involved and the absolute necessity of achieving a minimal critical mass to generate high class results, a strategy to foster collaboration between these centers is called for by the stakeholders.
- 2.7 In this vein, this technical cooperation aims to foster collaboration among those TDCs that have the greatest potential to grow by offering services more focused on the needs of clients. Instead of devising right away demanding schemes for

promoting alliances, the idea is to start with a diagnostic of the existing TDCs which would lead to concrete initiatives including the provision of a communication platform to allow the centers to better interact among themselves and a stimulus package to induce joint research efforts in specific areas.

- 2.8 Similar initiatives have been successfully carried out in Mexico, leading to the creation of the Mexican Life science Alliance, which is helping four Biotech Poles (Cuernavaca, Monterrey, Irapuato and Guadalajara) collaborate and share information and resources.¹

III. OBJECTIVES

- 3.1 The general objective of this Project is to contribute to global competitiveness through the support of technological knowledge and innovation in the Central American countries. The specific objective of the Project is to design a workable and viable mechanism for the development of a **Regional Network of Technology Development Centers** clustered around the dissemination, adoption and adaptation of biotechnologies in the beneficiary countries.

IV. DESCRIPTION

- 4.1 The technical cooperation will consist of two basic components: (1) a diagnostic of the TDCs and the bioscience/biotechnology policy, entrepreneurial and R&D environment; (2) a proposal of institutional mechanisms, policies and procedures to promote and stimulate collaboration amongst the TDC of Central America regionally and extra regionally. The latter component will consist, in turn, of three subcomponents: (a) a proposal for an ICT platform for communication and research collaboration among the TDCs, nationally, regionally and internationally; (b) a Regional Plan of Action and calendar to carry out the steps needed to turn the proposals into reality; and (c) a joint-research pilot project to test the design.
- 4.2 **Component 1: Diagnostic of the TDCs (US\$95,000).** The Bank will hire individual consultants capable of performing the following services. (i) analysis of demand and supply trends for the most promising TDC based biotechnology services in each country –with particular attention to explaining the gaps; (ii) benchmark analysis having as reference relevant biotech TDC best practices from the international models; (iii) clear definition of strengths, opportunities, weaknesses and possible alternatives facing the TDC biotech services; (iv) market analysis and review of opportunities for Central American TDCs to partner with similar institutions or clients, particularly in Mexico and the US; (v) Organization of a Regional Workshop to be held in a selected Central American country. This meeting will discuss the results of the diagnostics and allow consensus around the

¹ http://www.sandiegodialogue.org/pdfs/Brochure_MLSA.pdf and http://www.sandiegodialogue.org/pdfs/Borderless_Biotech.pdf

priority of the weaknesses. The consultants will include the active participation of private sector stakeholders such as enterprises and providers of risk financing.

4.3 **Component 2: Proposal of institutional mechanisms, policies and procedures.** This component consists of three subcomponents:

4.4 **Subcomponent A: Proposal for an ICT platform for communication and research collaboration (US\$66,500).** Bank resources will contract individual consultants to design the connectivity requirement to facilitate R&D collaborations. That is, the consultants will write a proposal for an ICT platform for communication and research collaboration amongst TDCs –nationally, regionally or extra-regionally. Due to its regional character, the design must integrate an information/data system which will serve as tool to maintain communication and coordination among the actors in the system. This instrument will allow the distribution of reliable and timely information to support permanent communication and efficiency amongst the TDCs. In particular, it will design the vehicles and protocols to process data at a distance utilizing R&D equipment located in other TDCs. Additionally, it will allow for the consolidation of existing inventories of studies, resources and facilities of the TDCs –as such, reducing waste and duplication. The design of this system includes a review of the capabilities, connectivity alternatives, and existing and potential platforms between the various actors of the network.

4.5 **Subcomponent B: Regional Plan of Action** (including a detailed timetable for its implementation) **(US\$50,000):** This subcomponent will finance individual consultants to elaborate and discuss with national stakeholders, including specially those from the private sector, the steps necessary to achieve the goals agreed under the proposals submitted under Component 1. In particular, the following activities and outputs will be delivered: (a) a stakeholders workshop to confirm the experts' assessments of needs and adequacy of existing economic resources –infrastructure, equipment, human capital, training and services in each participating country as well as the policies and mechanisms proposed; (b) a description, by country, of the requirements needed to implement an effective Regional Network of TDCs (for instance, to bring in an on-site peer review scheme or a strategy to procure the equipment needed to implement the ICT communications platform); (c) a proposal of a methodology and mechanisms to link and coordinate the technical requirements and resources of the participating countries, in order to build such Regional TDC Network –this includes connections with neighboring countries, particularly the USA and Mexico (d) Facilitation of a dialogue to build consensus on the priority of the previously identified shortcomings. This will entail financing another workshop to discuss and agree on the **Plan of Action** with activities, responsibilities, dates and estimates of the resources needed. The Plan of Action will include the definition and characteristics of a pilot trial for a joint-research exercise –using the newly designed procedures– among willing TDCs and enterprises. It will also contain a minimum number of indicators that will allow the TDCs to monitor and adjust

their performance on a timely basis. The Table below provides a preliminary list of indicators for each country.

TABLE 2: TDC INDICATORS
Proposed indicators: <ul style="list-style-type: none">• Information access speed• Availability of on-going projects• Number of initiatives and projects in progress and finished• Records of delays
Regional Indicators <ul style="list-style-type: none">• Number of collaborative projects in progress• Implementation record

- 4.6 **Subcomponent C: Pilot Trial (US\$57,000).** Resources will be allocated to individual consultants who will design and implement a trial (short term) joint-research using the scheme and topics agreed under the Plan of Action of Subcomponent B. The consultants along with the participant TDCs and enterprises will detail the objective, mechanisms and outcomes to be expected. The character of the research should be such that while needed and significant, it will also be expected to be carried out within 9 months. There will be a consultant in charge of its coordination and implementation, paying particular attention to lessons learned and how to feedback these into corrective actions.
- 4.7 **Relation to the Bank's regional strategy.** This TC is consistent with the Bank's Document "Science and Technology for Development: An IDB Strategy" (GN 1013-2) which emphasizes a strong regional, sectorial and system-wide approach and strengthening institutional mechanisms. In addition, one of the main objectives of the Bank's regional strategy, as stated in the meeting of Central American and Mexican Presidents in Tuxtla, Mexico (2008) is to contribute to growth and competitiveness. This TC contributes to that goal by enhancing the capabilities of TDCs to provide technological services to enterprises which, in turn, will contribute to productivity or/and cost savings. Further, it increases opportunities to learn and gauge the TDCs degree of competitiveness vis á vis comparable benchmark institutions. It should be noted that the objective and thrust of this TC was awarded a prize in a Bank's call (competition) for proposals for regional TCs.

V. BUDGET

- 5.1 The total amount of the overall project is US\$285.000. The amount to be financed with resources from the Bank is estimated as US\$250,000 while the counterpart to

be provided by the TDCs is estimated in US\$35,000. The budget is outlined in Table 1. The duration of the project is 12 months.

Table 1 Indicative Budget

COMPONENTES	BID	LOCAL	TOTAL
COMPONENT 1. Diagnostic of the TDCs	89,000	21,000	110,000
(i) analysis of demand and supply trends for the most TDC services in each country (7 countries)			
(ii) benchmark analysis against relevant best practice international models;			
(iii) definition of strengths, opportunities, weaknesses and possible alternatives			
Tentative Expenses for (i), (ii) and (iii)			
1 senior consultant * U\$400/day * 80 days	32,000		32,000
2 junior consultant * U\$250/day * 80 days	40,000		40,000
Travels	8,000		8,000
(iv) Organization and coordination of a Regional Workshop to be held in a selected Central American country.	9,000	21,000	30,000
COMPONENT 2. Proposal of institutional mechanisms, policies and procedures	153,500	14,000	167,500
Subcomponent A: Proposal for an ICT platform for communication and research collaboration:	66,500		66,500
1 senior consultant * U\$400/day * 90 days			36,000
1 junior consultant * U\$250/day * 90 days			22,500
Travels			8,000
Subcomponent B: Regional Plan of Action	30,000	14,000	44,000
Workshop stakeholders/ experts'		14,000	14,000
Development of Plan of Action	30,000		30,000
Subcomponent C: Design and implement a trial (short term) joint-research	57,000		57,000
1 senior consultant * U\$300/day * 180 days			54,000
Travels			3,000
Contingencies	7,500		7,500
TOTAL COST	250,000	35,000	285,000

VI. EXECUTION AGENCY AND STRUCTURE OF EXECUTION

- 6.1 The executing agency will be the Comisión para el Desarrollo Tecnológico de Centroamérica y Panamá (CTCAP). The CTCAP, created in 1970, is the official regional office for science, technology and innovation of the Central American Integration System (SICA in Spanish). CTCAP has administered/executed previous technical cooperations with this Bank and other international donors. A

liaison officer from each participating TDC will be officially assigned to report and maintain financial relations and fiduciary support for CTCAP. For selection of consultants, review of reports and participation of workshops the IDB Project Team assigned will provide feedback and continuous supervision and support.

VII. DURATION AND IMPLEMENTATION PLAN

- 7.1 The project will have an execution period of 18 months and payment period for 21 months. The following table shows the execution plan of the project and the expected results.

Activity	Months	Results
1.1 Analysis of demand and supply trends for the TDC services	1 – 3	Diagnosis Report of demand and supply trends for the most TDC services in each country (7 countries)
1.2 Benchmark analysis	1 – 2	A report of Benchmark analysis against relevant best practices international models
1.3 Proposal of new opportunities	3 – 4	Definition of strengths, opportunities, weaknesses and possible alternatives
1.4 . 1 st Regional Workshop	4 – 5	Organization and coordination of a Regional Workshop to be held in a selected Central American country to show the diagnostic and alternatives
2.1 ICT platform for communication and research collaboration	5 – 10	Proposal for an ICT platform for communication and research collaboration
2.2 Workshop stakeholders/ experts'	6 - 7	A report with the summarizing of the meeting
2.3 Regional Plan of Action	5 – 11	Development of Plan of Action
2.4 .Final Regional Workshop to present the Plan of Action	11 – 12	Organization and coordination of a Regional Workshop to present the Action Plan (in a Central American country).
2.5 Design and implement a trial (short term) joint-research	5 - 12	A report with the design and the trial implemented

VIII. ENVIRONMENTAL AND SOCIAL STRATEGY

- 8.1 Environmental impacts are not expected by this project. To select consultants and review reports environmental criteria must be considered as well as gender issues. Based on the afore-mentioned, and according to the ESR Safeguard Classification toolkit, the operation has been classified as "C".

Approved:


Carlos Gonzalo Rivas, SCT/CHF

Date: Sept. 8, 2008