

**Support Program for the Development of Biotechnology in
MERCOSUR– BIOTECH**

**FINANCING AGREEMENT ALA/2005/017-350
EUROPEAN UNION-MERCOSUR**

**Component: APOYO A INCUBADORAS Y VENTANILLA BIOTECH
MERCOSUR - Referencia: BIOTECH- ALA-2005-017-350 C4 a**

Inventory of programs of support for
innovative biotechnologic projects.

**Juan Carlos Carullo - Centro REDES
Felipe Vismara- Centro REDES**

Buenos Aires, June 22, 2009



Chapter I: Cooperative promotion of biotechnology in Mercosur

1. Introduction:

The aim of this report is to identify those instruments that can help to develop biotechnologic projects in MERCOSUR region directly by exerting influence on the policies, strategies and instruments employed by international cooperation in the field of biotechnology. This contribution is expected to make best use of opportunities generated in other scenarios for the operation of BiotechSur Platform of Cooperation.

The first chapter includes a general introduction and a brief description of the main programs of cooperation in biotechnology which have been historically influential in MERCOSUR region. Biotechnology in MERCOSUR has developed an experience of more than 25 years in the matter of international cooperation, in which period many programs were created, some met their objectives and terminated, others still exist, and new programs were constantly introduced. In some cases, existing programs reformulated their objectives in order to adjust to new situations and to the ever changing demands of such complex technology. In this complex scenario of multiple experiences, most programs, even those discontinued at the end of their cycle contributed to the improvement of opportunities.

The longest-lasting programs of international cooperation in the field of regional biotechnology were devised under the influence of international and/or regional organisms such as¹: the Organization of American States (OAS); Food and Agriculture Organization of the United Nations (FAO); Science and Technology Development Programme (CyTED); International Development Research Center of Canada (IDRC); United Nations University (UNU); United Nations Industrial Development Organization (UNIDO). The cooperation with the European Union and Ibero American entities of promotion is also noticeable. EU cooperation has been remarkable mainly since the VI Cooperation Framework Program in R&D on

¹ The most significant programs have been described with no intention of being comprehensive, as this analysis is oriented towards a better identification and analysis of programs still in force; consequently, they either have resources or support activities towards the strengthening of BiotecSur Platform.

biotechnology applied to health and food security and it increased in the BiotecSur Platform Project.

The subject matter of these Programs and Networks includes concern for the development of knowledge in vacant areas and the better use of innovative opportunities in markets niches or in issues of local relevance that will not result of interest for big enterprises. They also refer to support services of information, data base, technologic resources and specialists in aid of local enterprises' activities including the design of programs for human resource training. In recent years, a significant part of the programs was oriented to a relevant issue which is the regulation of bio-security, particularly for products and processes within the agro-alimentary sector. Finally, it seems worth to highlight the most recent concern to support the creation of new enterprises and improve public perception of bio-technology.

Some programs and networks have tried to integrate activities in the field of bio-technology with the strengthening of the university-enterprise link. These integrative approaches appear in Subprogram XVI and REVYDET of CYTED, which sought to improve countries' biotechnological capacity with instruments that linked universities and enterprises and the CambioTec Program, financed by the International Development Research Center of Canada (IDRC) which encouraged cooperation on bio technologic innovation between enterprises and institutions of R&D.

Based on the previous description, this document aims to identify the main conceptual approaches of the role of international cooperation, opportunities, restrictions, potentialities, actors and priority areas in the current MERCOSUR scenario, as well as the current importance of South-South level of cooperation. This analysis includes the link between university and enterprise, the creation of new enterprises based on the knowledge developed in R&D centers, which are fundamental contributions to innovation in bio-technology. Finally, some aspects referred to the regional development of CTI cooperation between enterprises, which are out of the scope of links, are to be considered in order to identify the necessity of innovation in the business sector.

This chapter displays empirical information and an outlook on the historical evolution and principal actors of bio-technological cooperation in MERCOSUR. Chapter 2

reviews the opportunities and challenges that arise from existing programs, taking a broad perspective which includes innovation, information, capacities, regulations, indicators and public perception of bio-technology. Chapter 3 informs about good cooperation bio-technologic practices of countries' organizations; it also informs of certain selected countries so as to identify possible scenarios of work and relations to increase their current opportunities in this matter and building a work agenda for the platform in the medium term. Final reflections are included in Chapter 4.

Despite its importance, cooperation with the EU is not part of this report, as it concerns European consultants. But it is worth stressing that the European Union VI Framework Cooperation Programme includes two priority areas linked to biotechnology: Food, Agriculture and Research in Biotechnology and Life Sciences, Genomics and Health Biotechnology. Researchers from the region take part in projects on subjects of neurology, cell transplant, epilepsy, detection of resistance in TBC micro-particles; quality and security for the introduction of Latin American foods in Europe, projects of NGOs and food security with respect of toxins and micro-toxins.

MERCOSUR and the EU have made significant efforts to organize a technological platform of cooperation on biotechnology (BIOTECH) within the framework of the Specialized Meeting on Science and Technology of MERCOSUR (RECYT)². The main objective prioritizes Inter-regional cooperation on Biotechnology and sets an area of coordination between enterprises, public and private institutions, universities, NGOs, business organizations and specialized areas in governments with the purpose of identifying regional technologic challenges of common interest.

It is also highlighted that in past decades, some Latin-American countries have promoted South-South collaboration and shown a greater commitment to the international scenario of the CTI as an integral part of their foreign policy. Brazil remains active in bilateral and multilateral programs out of Latin America: the Brazil-China Agreement in the space field and the trilateral agreement of India, Brazil and South Africa (BRIC) which promotes commerce and development of certain sectors such as energy, health and science and technology. Brazil has its own programs:

² Biotechnology as Focal Point of a new program that links Mercosur with the European Union, Buenos Aires, August 24, 2004.

PROSUL which promotes S&T cooperation in South America and PROAFRICA which promotes the same collaboration with African countries such as Angola, Guinea-Bissau and Mozambique, even though both programs only count on limited funds. CABBIO, the International program of CONICYT and the Program RAICES of Argentina, serve as an example of the way countries put great effort to extend their boundaries in the CTI field.

2. Biotechnological Cooperation in the history of Latin America and MERCOSUR

2.1 Some empirical studies on the subject.

A 2001 study³, carried out in Brazil by researchers in biotechnology provides information on the characteristics of international cooperation in MERCOSUR biotechnological field. This study does not portray the general situation, but allows certain considerations on three aspects: the importance of cooperation with different countries; the relevance of purposes and the temporal evolution of international cooperation in the field.

With reference to countries' contribution to the existing cooperation, The United States stands out with 30% of cooperation; secondly, but at considerable distance, France and Great Britain. If the cooperation of Germany is added, these 4 countries concentrate 60% of the total. The cooperation with Argentina is similar to that of Germany, the former being the Latin American country with the greatest participation, as can be seen in the number of years that CABBIO has been in operation. Cooperation in 2001 was limited if compared with countries with advanced biotechnology such as Japan, Israel India and Cuba.

With reference to objectives of the existing cooperation, there is a clear predominance of basic research. In cooperation with developed countries, this difference is clearer in the case of the United States and less clear with European countries. Cooperation with countries such as Japan, Canada, Israel and India, on

^{3 3} De Souza Paula, C. and Gama Alves, I.: *Inventario de la cooperación internacional en biotecnología en Brasil*, (Inventory of international Cooperation to Biotechnology in Brazil.) Document III, Ministry of Science and Technology webpage: <http://www.mct.gov.br>, October 2001.

the other hand, has a growing predominance of objectives of technologic development. With Caribbean and South American countries, except Cuba, basic research and training of human resources are prominent, given that Brazil has a strong position in biotechnology and is attracted to the training of human resources. Concerning Argentina, cooperation in technology development is not higher than 20%.

Recent studies show that Argentina is Brazil's main collaborator in biotechnology for health and most publications on this subject have been co-written by authors of both countries. During the period 1995-2005, there were 133 publications by Brazilian and Argentine authors, if compared to the 39 published by Colombian and Mexican authors, in the second and third places.

While S&T cooperation between Brazil and Argentina dates back to 1986, when the Argentine Brazilian Center for Biotechnology (CABBIO) was created, S&T cooperation between Brazil and Cuba is more recent; official initiative for biotechnological cooperation dates back to 1990, the first agreement having been signed in 1993, but in the last decade several agreements in health were signed with the participation of the International Centre for Genetic Engineering and Biotechnology (ICGEB) and Oswaldo Cruz Foundation (Fiocruz).

There is another clear difference between the cooperation of Argentina with Brazil and Brazil with Cuba: in most cases, the latter involves public companies and research organizations and they act according to specific governmental agreements. On the other hand, cooperation between institutions, enterprises and government was lost in CABBIO years ago and the new proposals are still to be negotiated.

Most collaborative links of Brazilian enterprises are with other American countries, while China and India represent future opportunities. Enterprises in Argentina are the main collaborators of their Brazilian counterparts, but there is also great collaboration with China and Cuba. While collaboration of Brazilian enterprises mostly involves marketing and distribution, the main R&D collaboration is centered on Cuba.

2.1 Brief summary of the most relevant programs

2.1.1 Argentine-Brazilian Center for Biotechnology:

The Argentine-Brazilian Center for Biotechnology (CABBIO)⁴ is a coordination entity that joins together private and public R&D groups from both countries through defined projects related to production. In an initial stage, Argentine and Brazilian enterprises developed actions of exchange and technological, industrial and business cooperation in order to carry out joint research, to develop social impact technologies in accordance with needs and priorities and to narrow the gap with industrialized countries. It was started in 1986, as Protocol N 9: Biotechnology, Argentine Brazilian bilateral Integration Agreement.

Within the framework of CABBIO, the Argentine-Brazilian School of Biotechnology (EABBIO) trains human resources of excellence and promotes scientific exchange in Biochemical Engineering, Genetic Engineering, Microbiology, Production of animal and plant Cells, Bioethics and Bio-security. It gives support to theoretical-practical specialization courses organized by scientific and academic institutions; it organizes short courses; it supports courses, symposia and seminars of countries' scientific and academic institutions; it backs the publishing of specialized literature and the exchange of professors between institutions of each country. From 1993 on, EABBIO has started to include pupils from Paraguay and Uruguay in their activities, thus meeting these nations' requests which had been made through the integrative mechanisms of MERCOSUR and national organisms of both countries.

2.1.2.PROCISUR Program

The Cooperative Program for the Technological Development of Agro-food and Agro-Industry in the Southern Cone,(PROCISUR) ⁵ created in 1980, represents the joint effort of the National Institutes for Agricultural Research of Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay and the Inter-American Institute for Cooperation on

⁴ Carullo, Juan: *Vinculación Universidad-Empresa. Cooperación e Integración: El caso del Centro Argentino-Brasileño de Biotecnología (CABBIO)*. (University –Enterprise link. Cooperation and Integration. CABBIO [Argentine Brazilian center of Biotechnology] case). Submitted to the VII Seminar USP Agreement, San Pablo, Brazil, October 1994

⁵ See Procisur webpage <http://www.procisur.org.uy>

Agriculture (IICA). Since 2001, it has an agreement for financial support with the Inter-American Development Bank (IADB), which has been assisting the program continuously for twenty years. PROCESUR created strategic areas and subprograms in genetic resources, biotechnology, natural resources and agricultural sustainability, agro industry and institutional development. According to PROCISUR, the Agro-Alimentary System of MERCOSUR (SAA) requires the fundamental contribution of technological innovation to compete with global economy, focused on the need for technological innovation of MERCOSUR SAA.

This approach states the necessity of playing a leading role in the process of regional innovation; strengthening integration of the agro-alimentary system of a widened MERCOSUR, and facilitating its competitive insertion in global economy. Also, it aims to contribute to the generation of knowledge and technology to meet demands of the regional agro-alimentary system through cooperative projects and through the production of prospective information on technology, markets and integration; to identify priorities of technological innovation in the productive chains of regional SAA; to identify the actors who can solve the most urgent technologic problems and to articulate and coordinate their participation. PROCISUR has included the concept of Technology Platforms among Southern Cone countries. One of the Technology Platforms based on modern biotechnology is known as Tecnologic Upgrading (Salto Tecnológico).

2.1.3. Cooperation Program with Pasteur Institute

Private and governmental scientific institutions of MERCOSUR have a cooperation and exchange agenda in R&D in the area of human health with Pasteur Institute of France regulated by the Agreement of Scientific Cooperation between Institutions of Research and Universities in states parties to MERCOSUR, Chile, Bolivia and Pasteur Institute (AmSud-Pasteur). In October 2001 the program was ratified by the Science and Technology Specialized Meeting of MERCOSUR ⁶. AmSud-Pasteur program has the essential mission of developing a biologic, bio-medic and bio-technologic pole in

⁶ MERCOSUR Specialized Meeting of Science and Technology (RECYT): *Nota Técnica Projeto de Cooperação entre Instituições Acadêmicas do MERCOSUL e o Instituto Pasteur da França*, II Reunião da Comissão Temática de Apoio ao Desenvolvimento Científico e Tecnológico da RECYT, Ata 02/04, outubro de 2004, <http://www.recyt.org/documentos/arquivos/850.PDF>

order to stimulate integration of Pasteur Institute with universities and institutes of research and public health of Argentina, Brazil, Chile, Paraguay and Uruguay, and these with each other. One of their activities is to stimulate the creation of new enterprises in biotechnology along with businessmen, specialists in industrial property, in technologic management and venture capital.

In the public health area AmSud-Pasteur network will encourage the activities of response to epidemics, supporting the creation and consolidation of surveillance centers of emerging diseases and it will promote the connection and exchange between health centers and research laboratories. In order to train human resources AmSud will organize regional advanced courses in public health, biology, microbiology, biotechnology, actions of transference and innovation with French and regional specialists. Likewise, it will promote the exchange of researchers between institutions of the states parties to cooperation.

2.1.4. CyTED Program:

The subprogram of Biotechnology of the Program CyTED⁷ completed five research projects and organized four thematic networks, one of which, Net IID –Ibero American Net of Microbial Fertilizers for agriculture– is still operating. The subprogram got involved in the field of promotion of biotechnological innovation through the Ibero American Multimodal Network for Biotechnology Development (REVYDET) that ended its activities.

Initially, REVYDET aimed to identify experts and modules or important unities to carry out the interface, to identify in Ibero America those biologic enterprises which offered specialized services, and identify and analyze biotechnological cases that had been commercially unsuccessful in Ibero America. Since 1997, REVYDET has adopted a new approach and has reoriented towards issues related to the context, such as regulation and public perception of biotechnology. This new approach was part of a process followed by other cooperation programs in the region as CambioTec, and the inclusion of this set of problems by the Regional Program of Biotechnology of United Nations University (UNU-BIOLAC) and United Nations Industrial Development Organization (UNIDO) that organized a network for a similar purpose.

⁷ See CyTED webpage: <http://www.cyteted.org>

2.1.5 Bio Network

The Technical Cooperation Network on Plant Biotechnology (REDBIO) started brewing in 1990, through an initiative of the regional office of FAO for Latin America and the Caribbean. In 1998, during the III Latin American Meeting of Plant Biotechnology, National Coordinators of REDBIO/FAO and Latin American Referents of Plant Biotechnology decided to set up a Civil Association. It was formed to facilitate the concretion of initiatives in the field of Plant Biotechnology for Latin America and the Caribbean.

The International RedBio Foundation has been recently created as an NGO non-profit organization; it promotes development and the responsible use of biotechnology as a key tool for competitive and sustainable growth of regional agriculture and forest production. It assembles more than 2300 researchers working in more than 643 laboratories belonging to R&D Centers, Universities and SMEs in 32 countries of Latin America and the Caribbean. This institution leads several activities related to research, training of human resources and technical assistance to governments in issues of Agricultural Biotechnology.

2.1.6. OAS Program of Biotechnology

OAS has been particularly active in the issue of biotechnology and food technology, priority subjects for the organization in the S&T field for several years. As a result of the effort of Latin American and Caribbean countries SIMBIOSIS System was created; through their joint action, they were able to employ the accumulated experience of three multinational OAS projects: Biotechnology and Food Technology, Micro electronics, Computer Science Information and the Hemispheric Inter-University Net of Scientific and Technologic Information.

OAS currently works in subjects related to biotechnology indicators and promotes the creation of an Innovation Network in Biotechnology with the participation of countries such as Mexico, the United States, Canada, Jamaica, Dominican Republic, Guatemala

and Colombia. This network will coordinate efforts and share knowledge for countries to develop productive projects in order to improve life quality of the population in conditions of poverty. The main objective is to have specialists in biotechnology to collaborate with governmental, social and business sectors, research centers and universities. OAS also coordinates Centers of Excellence for Agro Alimentary Biotechnology in order to reinforce academic connection and exchange with international research centers.

2.1.7 Hemispheric Biotechnology and Bio security Program (HBBP-IICA)

The Inter American Board of Agriculture, formed by the Ministries of Agriculture of American countries, requested the Inter American Institute for Cooperation on Agriculture (IICA) to form a specialized work group in biotechnology and bio-security, which has been in action since 2005. This group and IICA guided the process that culminated in this program. HBBP sums up the need and importance of including new technologies, such as agro biotechnology in national policies, as well as the contribution of the mentioned technologies to the competitiveness of the countries' agro sector. This brings up the fact that agro biotechnology not only has significant implications in commerce and transport of modified live organisms (MLO) across borders but also in certain aspects of regulations on bio security, evaluation of risk management, intellectual property, responsibility, compensation and improvement of capacities.

During the reframing process, HBBP has taken into account all existing regional initiatives on biotechnology cooperation; among them, the Regional Strategy of Biotechnology and Biosecurity for Central America and the IICA Caribbean Regional Initiative of Biotechnology. This program is aware of the need to strengthen and share experiences with other models of regional cooperation in biotechnology. These include the North American Biotechnology Initiative Program (NABI) of Canada, United States and Mexico and those that form the group of the Agricultural Biotechnology Council of the South, dependent on the Ministries of Agriculture of Argentina, Brazil, Bolivia, Chile, Paraguay and Uruguay.

2.1.8. CamBiotec Program:

The Canada Latin America Initiative on Biotechnology for Sustainable Development (CamBioTec)⁸, promoted by the International Development Research Center of Canada (IDRC) aimed to encourage the employment of biotechnology to strengthen agriculture and agro industry development. Their main objectives were to disseminate technical and market information, to promote associations between enterprises and institutions towards the emergence of collaborative R&D projects; also, to introduce elements of prospective biotechnology and to stimulate the definition of priorities in public policies on biotechnology. Focal Points of Argentina, Canada, Chile, Colombia, Cuba and Mexico were part of it.

CamBioTec promoted the development of strategic alliances between enterprises of the states parties to the Program by divulging profiles of biotechnological enterprises, offers and demand of technology, processes, products, technical assistance and training, and it got involved in market research and entrepreneurial management for innovative projects. CamBioTec developed actions towards awareness in the development of rules and regulations on bio security, ethics, and public perception of bio technology.

^{8 8} Carullo, Juan: *El Punto Focal Argentino de la Iniciativa Canadá-América Latina en Biotecnología, Medio Ambiente y Desarrollo Sustentable*, (Argentine Focal Point of the Canada-Latin American Initiative in Biotechnology, Environment and Sustainable Development) in the I Meeting of the Multimodal Ibero American Network of Bio technologic Development (REVYDET) and XVI Subprogram “Management of Research and Technologic Development”, both included in the CYTED Program, published in Review of Technological Management N. 35

Núcleo de Política e Gestao de Ciencia e Tecnologia da Universidade de Sao Paulo, CYTED, (Group of Politics and Management of Science and Technology of Sao Pablo University) XVI Subprogram, 1996.

CHAPTER II: Inventory of Organisms, programs and cooperation instruments

This chapter reviews policies, instruments, and lines of support of organisms, programs and agencies that promote international cooperation in science and technology and those that specifically support development of biotechnology. The concept of promotion in a broad sense includes aspects related to innovation, development of regulations, creation of national frameworks, and subjects specific to sectors, information, indicators, public perception and, generally speaking, all those activities that contribute to the development of biotechnology in a country or a region.

Listed organisms, agencies, programs and countries:

1. Multilateral Credit Organisms:

- 1.1 International Bank for Reconstruction and Development (IBRD-World Bank)
- 1.2 Inter American Development Bank (IADB or IDB)
- 1.3 Multilateral Investment Fund of IADB (MIF)

2. United Nations Organisms

- 2.1 United Nations Food and Agricultural Organization (FAO)
- 2.2 United Nations Education, Science and Culture Organization (UNESCO)
- 2.3 United Nations Industrial Development Organization (UNIDO)
- 2.4 World Health Organization (WHO)

3. International Organisms and Programs

- 3.1. World Intellectual Property Organization (WIPO)
- 3.2 International Union for the Protection of New Varieties of Plants (UPOV)
- 3.3. Codex Alimentarius Commission
- 3.4 Biological Diversity Agreement (BDA)
- 3.5 United Nations Environment Program (UNEP)
- 3.6 Global Environment Facility (GEF)
- 3.7 UNEP-GEF Capacity Building Project
- 3.8 International Centre for Genetic Engineering and Biotechnology (ICGEB)
- 3.9 United Nations University (UNU)
- 3.10 UNU/BIOLAC

4. Ibero American Organisms and Programs

4.1. Organization of Ibero American States (OIS)

4.2. Science and Technology for Development of the Ibero American Program (CYTED)

4.3. Innovation Projects IBEROEKA

4.4. Ibero American Network of Science and Technology (RICyT)

4.5. Ibero American Observatory of Science, Technology and Innovation

5. Hemispheric Organisms and Programs

5.1. Organization of American States (OAS)

5.2. Pan American Health Organization (PAHO)

5.3. Inter-American Institute for Cooperation on Agriculture (IICA)

5.4. Hemispheric Biotechnology Program (PREHAB)

5.5. Regional Fund for Agricultural Technology (FONTAGRO)

5.6. Cooperative Program for the Technological Development of the Southern Cone (PROCISUR)

5.7. Multinational System of Specialized Information on Biotechnology and Food (SIMBIOSIS)

5.8. Latin American Biology Network (RELAB)

5.9 Biotechnology Network (REDBIO)

5.10. INFOCYT

5.11. Biotechnology Program OAS

5.12. Activities of OAS in the field of Biotechnology indicators

6. Programs and Agencies of International Cooperation of Countries

6.1. International Development Research Center (IDRC)

6.2. Japan International Cooperation Agency (JICA)

6.3. Pasteur Institute Program

7. Programs of countries in MERCOSUR of international or regional approach

7.1. Argentine Brazilian Center for Biotechnology (CABBIO)

7.2. Network of Argentine Researchers and Scientists Abroad (RAICES)

7.3. Cooperation with specific countries (China, India, France, etc)

7.4. Prosud Program

7.5. Proafrica Program

MULTILATERAL ORGANISMS OF CREDIT

Organism/country	Regional Government Property Program	lines	Brief description of program/line	Activities it funds	BIO specific?	Financing amounts
World Bank	Mutinational project on biodiversity	strengthening of technical capacity in the generation of knowledge for the assessment and management of risk in biosecurity	The aim of the first component is to strengthen regional technical capacity for selected crops (yuca, cotton, corn, potato, rice) using them as models to develop the know-how of methods to assess and manage environmental risk; to analyse the socio-economic impact adapted to tropical conditions of great biodiversity where farmers play a social role in preserving and generating biodiversity in some of these crops.	fieldwork, laboratory work, studies, data collection, analysis, trial and training		
		strengthening of the decision-making capacity in biosecurity	It aims to strengthen the capacity of the four participant countries to carry out the Cartagena Protocol (CP) on biosecurity, It is specifically focused on strengthening technical capacity in the generation of knowledge to assess and manage biosecurity risk; it also aims to strengthen decision-making capacity in the field of biosecurity.		BIO	
		Project for the strengthening of productive innovation	The objective is to increase Argentina's innovative capacity in intensive areas of knowledge, (1) facilitating the creation of new intensive-knowledge enterprises; (2) improving infrastructure in ICT areas (3) strengthening the framework of ICT productive policies.		It is a priority area	
		Agriculture research	Research and generation of technology provide rural population with knowledge and the necessary innovations to increase the productivity and sustainability of their agricultural production. During the last 20 years the Bank has financed more than US\$ 2,500 million dollars in investments for agricultural research in developing countries.		S&T	
BID	Mul	• Non-refundable technical cooperation	the Bank indirectly takes part in the promotion of scientific and technologic progress in Latin America through loans and technical assistance for the introduction of scientific and technologic improvements, as well as the updating of activities and productive institutions; directly, through its contribution to the financing of projects of higher education and development of science and technology.	1. Promotion of a scientific and technologic policy in the state members. 2. creation of demand for services and applied research staff. 3. Support to basic and applied research. 4. Technologic Research and Regulation Institutes. 5. Emigration of Technicians and Professionals. 6. Multinational or Regional Institutions. 7. Transference of Technology	S&T	
		• Non-refundable contingency recovery technical cooperation				
• Refundable technical cooperation						
	Program for Regional Government Property (RGP)		The program yearly provides up to US\$ 10 million in non-refundable financial resources (donations) for joint proposals of minimum 3 countries that decide to approach a common challenge or a wasted opportunity for the benefit of social and economic development. either jointly or individually.	Financing of state property	S&T	up to US\$ 10 million a year

UNITED NATION ORGANISMS

Organism/country	Program	line	Brief description of program/line	Activities it funds	BIO specific?
FAO	Technical Cooperation Network on Plant Biotechnology (REDBIO/FAO)	FAO's Regional Office Plant Production Program for Latin America and the Caribbean	The Technical Cooperation Network on Plant Biotechnology began in 1990 sponsored by FAO. By December 2008 it had brought together 5467 researchers from 738 laboratories of Agricultural Biotechnology in 32 countries of Latin America and the Caribbean (LAC). The network broadly fulfills the objectives and premises of technical cooperation and knowledge; it focusses on the implementation of various regional and subregional activities in order to promote the exchange of knowledge , technology and biological material and to support rational use of biotechnology, teaching, training and biotechnologic innovation. It also promotes the conservation of fitogenetic resources in the region in public and private organizations and institutions of LAC countries.	Latin American meetings every 3 years which provide the regional thematic platform for the exchange of information, the production of projects and training on basic issues and issues applied to agricultural biotechnology.	BIO
				training	BIO
				development of national regulation frameworks.	BIO
				scholarships and workposts, development of protocols.	BIO
	case studies, project and program making.	BIO			
	International REDBIO foundation (FRI)		The idea was devised in 1998; it was created in 2002 as a non-profit non - governmental organization. Foundation REDBIO International (FRI) is the executive arm of REDBIO; its main objectives are to facilitate and promote cooperation, research in general, and to promote the transference of agricultural bio technology, as these are considered priority activities by REDBIO/FAO network.		BIO
UNIDO			UNIDO provides assistance to all the member countries through two basic functions: as a world forum it produces and disseminates knowledge on issues of industry and provides a forum to various development agents- those in charge of decision making in private and public sectors, civil society organizations and the international community-which makes possible to intensify cooperation, produce dialogue and make alliances to face onrising challenges. As an organism of technical cooperation it draws and implements programs of support to sustainable technical development for its clients,bearing in mind the three components of sustainability: economy, ecology and employment.		S&T
WHO			FAO and WHO have been providing scientific expert advice on the innocuousness of foods obtained by biotechnologic means since 1991. In spite of not being an official part of the Codex Alimentarius Commission, FAO/WHO consultation Experts provide independent expert advice to the Commission, its Committees and specialized Action Groups. FAO and WHO have separate websites where they publish their work from the point of view of each of the sponsoring organizations.		S&T

INTERNATIONAL ORGANISMS AND PROGRAMS (1)

Organism/ country	Program	lines	Brief description of program/line	Activities it funds	BIO specific?
WIPO	Specialized Course on Intellectual Property (I P) and Biotechnology		It aims to prove that the current system of intellectual property can be used to protect and commercialize inventions in the field of biotechnology. Once completed the course, the student will have acquired sound knowledge on various legal instruments related to the protection of bio technologic inventions and will be able to develop strategic plans to commercialize inventions in that field.		BIO
UPOV	Distance-learning Course (DL-205) on the introduction to UPOV System for the protection of varieties of Plants in accordance with the UPOV Agreement.		the aim of this 11 module course is to provide a detailed introduction to the system for the protection of plant varieties in the framework of the International Agreement for the Protection of New Varieties of Plants.		BIO
Codex Alimentarius Commission		Intergovernmental Task Force on foods derived from Biotechnology	Codex Alimentarius Commission was created in 1963 by FAO and WHO to develop food norms, regulations and other related texts such as codes on activities within the Joint FAO/WHO Food Standards Program. The main subjects in this Program are: protection to consumers' health, guarantee of clear commercial rules and coordination of norms agreed between governmental and non-governmental institutions.	<ul style="list-style-type: none"> •Giving legal advice on specific issues. •Developing and strenghtening institutions. •Producing guidelines and instruments to create capacity (handbooks, guides, computer programs, studies and other publications). •Revising and updating food regulations. • bringing food regulations and norms in line with Codex and other international regulative instruments •Training technical and managing staff in various disciplines related to food innocuousness. 	BIO

INTERNATIONAL ORGANISMS AND PROGRAMS (2)

Organism/ country	Program	lines	Brief description of program/line	Activities it funds	BIO specific?
Biologic Diversity Agreement (BDA)	Cartagena Protocol		The Protocol establishes: 1. a "Biosafety Clearing-House" to help countries exchange scientific, technical, environmental and legal information about living modified organisms (LMOs). 2. It creates an advance informed agreement (AIA) procedure that in effect requires exporters to seek consent from an importing country before the first shipment of an LMO meant to be introduced into the environment. 3. It requires bulk shipments of LMO commodities to be accompanied by documentation stating that such shipments "may contain" living modified organisms and are "not intended for intentional introduction into the environment." 4. The Protocol establishes a process for considering more detailed identification and documentation of LMO commodities in international trade. 5. It includes a "savings clause," which states that the agreement shall not be interpreted as implying a change in the rights and obligations of a Party under any existing international agreement, including, for example, WTO agreements. 6. The Protocol calls on Parties to cooperate with developing countries in building their capacity for managing modern biotechnology.		BIO
United Nations Environment Program (UNEP)			To encourage the protection of environment, inspiring, informing and providing nations with means to improve quality of life without compromising future generations. A great part of UNEP's activities are focused on gathering knowledge in order to assist decision making in environmental issues as well as sustainable development of scientific and technical nature; for this purpose, several groups of scientific advice have been created by UNEP.		BIO/ Environment
World Environment Fund (WEF)			World Environment Fund (WEF) is the main international organism that faces global threats to biodiversity. It also acts as financing mechanism of Biodiversity Agreement.		BIO/ environment

ORGANISMS AND INTERNATIONAL PROGRAMS (3)

Organism/ country	Program	lines	Brief description of program/line	Activities it funds	Bio specific?
UNEP-WEF project Development of National Biosecurity Frameworks.			United Nations Environmental Program (UNEP) started a program of advice on the benefits and risks of GMOs crops for developing countries. This project is financed by the Global Environment Fund (GEF) and is aimed to help countries develop their National Biosecurity Structures (NBS) for the application of Cartagena Protocol.		BIO
ICGEB	Collaborative Research Programme (CRP)		Subsidies granted by ICGEB for research are the only financing source for projects oriented to new scientific issues, potentially relevant in the solution of problems in the participant countries. This support is available for research projects in several fields of basic research, human health, agricultural and industrial biotechnology and environmental bio remediation.	It buys consumable goods, scientific literature and esencial equipment for conventional laboratories. Expenditure in trips and training can also be included as an item to promote the evolution of knowledge. Neither the PIs salaries nor expenditures in infrastructure, (such as rental fees and maintenance of important equipment, building, etc) are accepted or payed for.	BIO
United Nations University (UNU)	United Nations University Program/ Biotrechnology for Latin America and the Caribbean (UNU-BIOLAC)	Training and research scholarships	UNU-BIOLAC is an autonomous institution oriented to the training and the strenghtening of research among university level professionals. Activities are organized and executed jointly with institutes and scientific and academic institutions and with the collaboration of an international network of researchers and academic experts in biotechnology. Its aims are: to coordinate and promote research oriented to the improvement of economic welfare in Venezuela and countries of Latin America and the Caribbean; to give impulse to research, to promote specialized, high-level training for professionals and to disseminate knowledge in bio technology and related subjects; to concentrate in promoting tranference of knowledge and expertise among researchers and technicians in the region or in other regions.	scholarships for research and training topics within the following priority areas: Agricultural biotechnology, Bioethics, Biosecurity, Bio computing, Medical Biotechnology, Molecular Biology, Genomics, Manufacture of products of advanced biotechnology, Industrial Microbiology, Molecular Pathology and Connection between academic research and biotechnologic Industry.	BIO
		Academic training courses for graduates			BIO
		Networks of research and Training			BIO
Organization for Economic Cooperation and Development (OECD)		Biotechnology indicators	It is not a cooperation instrument.		BIO
World Organization for Animal Health (OIE)			OIE is an inter-governmental organisation in charge of animal health in the world. Since it was created it has played a key role as it is the only international reference organisation in animal health; it has been benefited by international acknowledgment and direct collaboration of veterinary services. Due to the close relationship between animal health and protection, OIE has turned into the international guiding institution in matters of animal protection.		no

IBERO-AMERICAN ORGANISMS AND PROGRAMS

Organism/ country	Program	lines	Brief description of program/line	Activities it funds	BIO specific?
OIS	OIS University Studies Center	Networks of Excellence	<p>It promotes the creation of inter university networks to coordinate activities related to the courses that are being taught. OIS gives priority to those activities linked to strategic objectives defined by the Main Board and to those transversal areas that are in compliance with the IberoAmerican Conferences of Education, Science and Culture.</p> <p>Each network will be headed by an Ibero American Public University and coordinated by a correspondent member. Newtworks will be formed by universities but other groups from the Ministry of Education, Science and Culture can be members and join the networks as collaborators or sponsors.</p>		S&T
	Ibero- American program on science and technology for development	General	<p>It is an inter-governmental program of multilateral cooperation in Science and Technology that takes different perspectives and views into account to promote cooperation in Research and Innovation for the development of Ibero-America. Its main objective is to contribute to a balanced development of the region through cooperative mechanisms between research groups of universities, R&D Centers and innovative enterprises that are seeking for technologic and scientific results to transfer them to productive systems and social policies.</p>	Establishment of mechanisms of collaboration	S&T
		Iberoeka innovation programs	<p>IBEROEKA innovation projects are instruments directed to the industrial sector to promote cooperation between enterprises in the field of research and technologic development. The action of IBEROEKA is included in the Ibero American Management Network appointed in all countries participating in the program.</p>	R&D	S&T
		Ibero- American Network on Science and Technology Indicators (RICYT- CYTED)	<p>The Ibero-American Network of Science and Technology (RICYT), which assembles all the countries in America, Spain and Portugal was constituted by the Ibero-American Program on Science and Technology for Development (CYTED). The Ibero-American and Inter-American Network of Science and Technology Indcators (RICYT), which assembles all the countries in America, Spain and Portugal, was constituted by the Ibero-American Program on Science and Technology for Development (CYTED) and arose from a proposal of the First Ibero-American Workshop on Science and Technology Indicators carried out in Argentina in 1994. It became effective by the end of April 2005.</p>	Indicators	S&T

LATIN AMERICAN AND HEMISPHERIC ORGANISMS AND PROGRAMS(1)

Organism/country	Program	lines	Brief description of program/line	Activities it funds	BIO specific?
Organisation of American States (OAS)	Directory for Science, Technology and Innovation (DSTI)	BIONNA	Bio-innovation for the Americas is a network of groups concerned with biotechnology that are seeking for innovation in their work field.		BIO
		MUCIA	It is a network of women working in S&T with the main objective of strengthening feminine leadership in Latin America and the Caribbean.		S&T
		PIPRA	In collaboration with the University of California, DSTI expects to advance in the work of scientists involved in agricultural innovations for humanitarian and commercial purposes in small scale.		S&T
PAHO	Research, Promotion and Development Team		The team for Promotion and Development of Research contributes to the mission of the Pan American Sanitary Bureau (PSO) by developing strategies to strengthen national systems of health research in the member countries and to reinforce the action of PSO in technical cooperation for research.		S&T
Inter American Institute for Cooperation in Agriculture. (IICA)		Specialized Work team in biotechnology and biosecurity	It is a specialized organism of the American System that aims to promote and encourage efforts in the member countries to achieve agricultural development and the welfare of rural population.		AGRO
Hemispheric Biotechnology and Biosecurity Program (HBBP)			It is based on the resolution of the Inter American Committee of Agriculture (IACA) (JIA) and includes the Ministries of Agriculture of American Countries. The HBBP sums up the importance and necessity of including new technology, such as agro-biotechnology in national policies and the contribution of this technology to the competitiveness of the agricultural sector of the member countries to IICA.		BIO

LATIN AMERICAN AND HEMISPHERIC ORGANISMS AND PROGRAMS (2)

Organism/country	Program	lines	Brief description of program/line	Activities it funds	BIO specific?
Regional Fund for Agricultural Technology (FONTAGRO)			The Fund was created in 1998 and has 15 country members; it aims to reduce poverty, increase agricultural competitiveness and promote a sustainable management of natural resources through the development of technologies and innovations with the characteristics of regional government property. The Inter-American Development Bank (IADB) and the Inter American Committee of Agriculture (IACA) (JIA) sponsor the Fund and provide it with strategic, technical, administrative and legal support.		AGRO
Cooperative Program for the Agro Alimentary and Agro Industrial Technologic Development of the Southern Cone (PROCISUR)	Biotechnology Sub program		Its general purpose is to foster technologic capacity in the country members for them to employ the appropriate biotechnology for their agricultural development, trying to make its application compatible with the current heterogeneous condition; it seeks to make this possible by implementing a cooperative scheme to warrant the countries' access to available technology through horizontal technologic transference and by supporting interdisciplinary training programs and joint research.		BIO
Multinational System of Specialized Information on Biotechnology and Food for Latin America and the Caribbean (SIMBIOSIS)			The Multinational System of Specialized Information on Biotechnology and Food (SIMBIOSIS) for Latin America and the Caribbean is a mechanism sponsored by OAS to connect people and institutions interested in biotechnology, food technology and related areas. Simbiosis aim is the access and exchange of relevant information, emphasizing the existing information in Latin America and the Caribbean.	To strengthen specialized information centers in biotechnology and food technology. To train researchers in biotechnology and food technology; to support exchange of information and knowledge; to make compatible and standard methodology; to identify human resources; to organize workshops, seminars, on line conferences and contacts; to identify information resources; to cooperate with other organizations, networks and groups, and to cooperate, train and disseminate information in biotechnology and food technology.	BIO
Latin American Network of Biological Sciences (RELAB)		Scholarships for research and training	The objective of RELAB is to step up the scientific and technologic development of the participating countries in the field of basic biology sciences; to promote scientific research on biologic problems related to the development and welfare of the region's population; to encourage scientific and technologic cooperation between participating countries through the collaboration provided by the product of biologists' research and training.	Researchers who reside in country members will be financially assisted by RELAB enabling them to work as interns in their speciality for periods not shorter than a month in centers of excellence in countries other than their own. RELAB also finances courses, simposia and workshops in the area of biologic science.	BIO

BILATERAL COOPERATION PROGRAMS AND AGENCIES

Organism /country	South-South Cooperation Program	lines	Brief description of program/line	Activities it funds	BIO specific?
IDRC - Canada	Innovation, Politics and Science program (IPS)	IDRC Research Partnerships Challenge Fund	IDRC created new networks and research consortia through the Research Partnerships Challenge Fund in order to face the challenge posed by international development. Provisionally, the Challenge Fund supports the participation of researchers and research organizations in developing countries in very few alliances of greater scale; these are supported by Canadian researchers and international research organizations.	Research programs on a large scale in collaboration with Canadian and international financing agencies.	S&T
JICA	South-South Cooperation Program	Technical Cooperation Project	The objective of these projects is to train the necessary human resources for an autonomous economic development in emerging countries. These projects are performed jointly by the Japanese government and the applicant country and the duration is from 3 to 5 years. They can be comprehensive and include planning, execution and assessment. The measures that are to be adopted by each country as well as their responsibilities are settled in an R/D Agreement endorsed previous to the commencement of the project, in which the most important requirement is that of sustainable development. That is to say to be able to guarantee the continuity of the project once Japanese cooperation ends.		S&T
AMSUD-PASTEUR Program			It arose as a scientific and technologic cooperation initiative between academic and scientific institutions of countries in South America and the Pasteur Institute in Paris. Its general aim is the development of a biologic, bio-medic and bio-technologic pole to contribute to the integration of Universities and Research Institutes in Brazil, Uruguay, Paraguay, Argentina and Chile and Pasteur Institute in Paris. This association will give incentive to and favour the training of human resources of high technical and scientific level in the region as well as promote regional programs of research and biotechnologic development of great impact and scientific excellence.	internships scholarships scientific exchange courses	BIO

MERCOSUR PROGRAMS OF INTERNATIONAL SCALE (1)

Organism /country	Program	lines	Brief description of program/line	Activities it funds	BIO specific ?
MinCyT	Network of Argentine Researchers and Scientists Abroad RAICES (ROOTS) Program	General	Its objectives are to strengthen the country's scientific and technologic capacity through the connection with argentinian researchers living overseas and to promote the permanence of researchers in the country and the repatriation of those willing to develop their activity in Argentina.		S&T
		PICT RAÍCES	Projects of Scientific and Technologic Research that include a member of Raíces Program in the Responsible Group. Those projects submitted in this category will be focussed on the promotion of links between a research group in the country and one or more members of Raices Program, aiming to develop a joint research project in an institution in Argentina.		S&T
		Repatriation Subsidies Sub-Program	It aims to facilitate repatriation of those argentinian researchers working overseas who received a work offer from a public or private institution in Argentina. This subsidy is complemented with a CONICET reinsercion scholarship.		S&T
		César Milstein Sub Program	This subsidy promotes the link between argentinian researchers living overseas and local scientific and technologic circles. It gives support to stays between one and four months for those researchers who wish to spend part of their sabbatic year in Argentina.		S&T
		Local notification of projects of development of virtual research networks in four areas of knowledge: Social, Exact, Natural and Biologic Sciences, Health Science and Engineering.	In order to form these virtual networks that will include argentinian scientists living overseas in their respective thematic areas, leaders in each area will be appointed to coordinate fora, promote cooperative projects and activities to integrate the participating scientists.		S&T
		Notification of micro projects and small technology-based enterprises.			S&T
		Subprograma Volver a Trabajar	It disseminates work offers by private enterprises in Argentina calling for high-profile researchers, scientists and technologists such as: TECHINT, TECPETROL, SIDERCA, SIDERAR, CORE, IBM, ARCOR, ACEITERA GENERAL DEHEZA (AGD), VOLKSWAGEN ARGENTINA, DU PONT, CIPIBIQ, INTEL, CAMARCO y ADIMRA		S&T

MERCOSUR PROGRAMS OF INTERNATIONAL SCALE (2)

Organism /country	Program	lines	Brief description of program/line	Activities it funds	¿especifico BIO?
Conicyt Chile	International Cooperation Program		The International Cooperation Program of CONICYT fosters integration between the national scientific community and its peers living overseas, on the basis of mutual scientific excellence and common interests; it implements and manages international cooperation policies developed by CONICYT and links the institution's work with international and national organisms in scientific and technologic circles.	<ul style="list-style-type: none"> •To exchange researchers within the framework of joint research projects. •To support doctoral and post-doctoral research students. •To organize international seminars, workshops and lectures in Chile and abroad. • To exchange and disseminate scientific information. • To coordinate visits of representatives of foreign S&T organisms. • To promote new collaboration guidelines. 	S&T
Programa Sudamericano de Apoyo a las Actividades de Cooperación en Ciencia y Tecnología (PROSUL)			This program aims to support activities of international cooperation in Science, Technology and Innovation (S&T&I) in various areas. Those projects toward the improvement of life quality in the participant countries are of main importance.	<ul style="list-style-type: none"> ·To form thematic networks in S&T&I ·To implement projects in this area ·To call meetings in Brazil on subjects of South American scale 	S&T
Brazil Thematic Cooperation Program in Science and Technology (PROAFRICA)			Due to its strategic importance and priority interest in scientific and technologic cooperation, PROAFRICA aims to enhance scientific-technologic capacity in the participant countries by financing mobility of scientists and researchers that take part in projects in the chosen areas.	To implement exploratory visits, joint projects and S&T&I meetings.	S&T
Argentine Brazilian Center for Biotechnology (CABBIO)			Argentine-Brazilian Center for Biotechnology (CABBIO) is a coordination entity that joins together private and public R&D groups from both countries through defined projects related to production. In an initial stage, Argentine and Brazilian enterprises developed actions of exchange and technological, industrial and business cooperation in order to carry out joint research, to develop social impact technologies in accordance with needs and priorities, and to narrow the gap with industrialized countries. It was created in 1986, as Protocol N 9: Biotechnology, Argentine Brazilian bilateral Integration Agreement.	Technologic development projects; support to theoretical-practical courses promoted by scientific and academic institutions; development of short-term courses; support to courses, academic and scientific seminars; support to the production of specialized literature and to the exchange of professors from institutions in each country.	BIO

GOOD REGIONAL PRACTICES: REGIONAL BODIES OF COOPERATION AND/OR INTEGRATION

Organism/country	Program	lines	Brief description of program/line	Activities it funds	BIO specific ?
ASEAN	ASEAN Committee on Science and Technology (COST)	Action plans in Science and Technology	Asean leaders have acknowledged science and technology to be important factors for sustainable economic growth to strengthen integration and welfare of the community. Its leaders have anticipated that in the year 2020, ASEAN will provide competent strategic technology; it will be a source of specialized and qualified labor force and will have strong networks of scientific and technological institutions and centers of excellence..	i) food science and technology ii) biotechnology iii) meteorology and geophysics iv) marine science and technology v) research on non-conventional energy vi) micro electronics and computer science vii) science and technology of materials viii) spatial technology and its applications ix) S&T infrastructure and development of resources.	S&T
Organizations of the Pacific Basin	APEC	High Policy Level Dialogue on Agricultural Biotechnology (HPLDAB)	<p>It acknowledges the importance that APEC ministers and leaders give to the safe introduction of biotechnological products and to obtain public acceptance of these products.. The 2007-2009 work plan focusses on the following interest areas:</p> <ul style="list-style-type: none"> • policy of information exchange on agricultural biotechnology • public perception and understanding of agricultural bio technology • legal considerations related to the use of agricultural biotechnology • private and public sectors relationships in agricultural bio technology • effective collaboration with other APEC fora. 		BIO
	APEC	Agricultural Technical Cooperation Working Group (ATCWG) Research, development and Agro Bio Technology Extension Subgroup (RDEAB).			BIO

GOOD COOPERATION PRACTICES IN SELECTED COUNTRIES (1)

Organism/country	Program	lines	Brief description of program/line	Activities it funds	BIO specific?
AUSTRALIA	Australian Government/ Department of Innovation, Industry, Science and Research	Australia-China Special Fund for S&T Cooperation	The Australian Government in conjunction with the Government of the People's Republic of China has established the Australia-China Special Fund for S&T Cooperation (Australia-China Special Fund). The Australia-China Special Fund is jointly managed by the Australian Government Department of Innovation, Industry, Science and Research (Department of Innovation) and its Chinese counterpart, the Ministry of Science and Technology (MOST)	The Fund provides support, on a competitive basis, for Australian researchers to participate in strategically focussed, leading edge, international scientific research and technological collaborations with Chinese partners.	S&T
	Australian Government/ Department of Innovation, Industry, Science and Research	International Science Linkages (ISL) Program	The International Science Linkages (ISL) program aims to assist Australian researchers to increase their participation in international leading edge scientific research, to leverage access to international research funds, to raise the profile of Australian research, and to support the development of strategic alliances between Australian researchers and international researchers and industry. The ISL program will increase Australia's capacity to attract overseas research and development (R&D) investment, promote innovation, and increase the economic and social impact of Australian research.	<ul style="list-style-type: none"> ·Promote access to and participation by Australian researchers in strategically focussed, leading edge, international scientific research and technology. ·Summmon relevant scientific lectures in Australia --Facilitate Australia's access to the global S&T system, networks and programs, internships, missions and workshops. -Support bilateral and multilateral relations in S&T with other countries. 	S&T
	Australian Government/ Department of Innovation, Industry, Science and Research	Australia-Europe Research Collaboration Fund	This fund provides a vehicle for the Australian Government to establish, reinforce and leverage strategic research links and relationships with the European Union, and with member states.	<ul style="list-style-type: none"> ·Programs linking Australian with European researchers ·Bilateral activities with European countries; ·Australian participation in European research organisations ·Other strategic activities involving European Union and European countries that meet the objectives of the ISL program. 	S&T
	Australian Government/ Department of Innovation, Industry, Science and Research	ISL – Science Academies Program	ISL- Science Academies Program complements Competitive funding and Strategic Policy by providing targeted support for specific activities using the networks and expertise of the Australian Academy of Science (AAS) and the Australian Academy of Technological Sciences and Engineering.	international exchanges and fellowships frontiers of science and technology missions and workshops	S&T
CHILE	CONICYT	Program of International Cooperation (bilateral agreements)	The National Commission for Scientific and Technological Research CONICYT promotes the integration of national scientific community with its peers overseas on the basis of mutual scientific excellence and shared interests; it implements and manages international cooperation policies developed by CONICYT and links the institution's work with national and international organizations in the S&T field..	Projects of associated resesarch in health, education, Energy, Information Technology, Bio technology, Fruits, Processed Foods, Aquiculture and Mining Industry. To provide funding in order to define and start an international cooperation strategy or to develop an international cooperative strategy, either complete or partially. To fund aChile-Finland joint project of research in non-conventional renewable energy.	S&T

GOOD COOPERATION PRACTICES IN SELECTED COUNTRIES (2)

Organism/country	Program	lines	Brief description of program/line	Activities it funds	BIO specific?
CHINA	Program of Key International Science and Technology Cooperation Projects		The main purpose is to identify a group of international S&T cooperation projects which are of strategic implications to the promotion of national S&T innovation capacities, the speeding up of the high-tech industrialization process and enhancing the international cooperation, centralizing and rationalizing effective social resources.		S&T
ISRAEL	MATIMOP - Office of the Chief Scientist (OCS) of the Ministry of Industry and Trade	Multi-lateral Programs	<ul style="list-style-type: none"> * European Union 6th Framework Program for Research and Technologic Development * EUREKA - * CELTIC - Telecommunication solutions through Collaborative research * GALILEO -EU led global navigation satellite system 		S&T
		Bi-lateral Programs (Ø Argentina - Program for Industrial, Scientific and Technological Research and Development Cooperation)	The program supports R&D joint projects oriented to commerce between enterprises in Israel and entities in Argentina in all fields of technology, with special emphasis in Natural Sciences.	Collaborative research	S&T
		Exchange of researchers	The purpose of the program of exchange of researchers is to create a network of scientists to promote science. This program is of reciprocal activity.		S&T
COLOMBIA	Colombian Institute for the Development of Science and Technology "José Francisco de Caldas" (COLCIENCIAS)	Programs of scientific and Technological Exchange	Using the method of bilateral and multilateral meetings, activities are performed through calls to the national scientific community and to the scientists of the countries in the agreement, in accordance with the counterparts. In this way, within the framework of joint research projects produced by scientists of both countries, exchanges are made in agreement with conditions stipulated by each country in previous virtual or physical meetings. Therefore, the compliance with the explicit agreement's requirements becomes effective and the intervals are determined.	Agreement of Bilateral Cooperation for the mobility of researchers in exchange programs.	S&T

GOOD COOPERATION PRACTICES IN SELECTED COUNTRIES (3)

Organism/country	Program	lines	Brief description of program/line	Activities it funds	BIO specific?
CHINA	Chinese Academy of Science			Cooperation programs/Scientific Meetings/Projects	S&T
FINLAND	Academy of Finland			It funds research projects, training of human resources . Mobility of researchers.	S&T
	TEKES		Tekes Finnish Technology and Innovation Fund is the main financing fund and center of excellence for research and technologic development in Finland. Tekes funds projects in industrial R&D as well as projects in universities and research institutes. Tekes promotes innovative and risk-intensive projects.	It finances research projects..	S&T
	SITRA		<p>Sitra, the innovative Finnish Fund, is a public independent fund controlled by the finnish parliament that promotes the welfare of finnish society. Sitra's responsibilities have been stated by law.</p> <p>Since it was started, Sitra has committed to promote sustained and balanced development in Finland, qualitative and quantitative growth of finnish economy, international competitiveness and cooperation.</p>		S&T

GOOD COOPERATION PRACTICES IN SELECTED COUNTRIES (4)

Organism/country	Program	lines	Brief description of program/line	Activities it funds	BIO specific ?
JAPON	Japan Society for the Promotion of Science	Bilateral Programs	Sitra, the innovative Finnish Fund, is a public independent fund controlled by the Finnish parliament that promotes the welfare of Finnish society. Sitra's responsibilities have been determined by law. Sitra, el Fondo de la Innovación finlandés es un fon	Bilateral agreements; Cooperation Agreements; Scientific visits; Doctoral Scholarships and Scientific Cooperation Postgraduate Courses; University-enterprise Programs.	S&T
COREA	Korean Institute of Science and Technology (KAIST)		KAIST is facing the importance and the increasing demand for highly qualified scientists and engineers to support Korea's industrialization process; it has been applying its economic development plans since 1962. Currently, It is the main formation and research center in S&T in Korea.	Study scholarships/ Cooperation Projects/Scientific Visits	S&T
INDIA	2004-2006 Biennial program of cooperation in Science and Technology		The Program of Cooperation in Science and Technology for the period 2004-2006m between the Science and Technology Department of India and the Science, Technology and Productive Innovation Secretariat of Argentina includes an action program to link research groups and technology-based enterprises from both countries.	<ul style="list-style-type: none"> • Biotechnology applied to agro food production • TIC's • Medical Technology • Technological Parks and Poles 	S&T

Chapter III: Conclusions

1. Biotechnology is currently attracting significant attention in an international level for various reasons, being the most important those regarding opportunities, its potential to create new businesses, its transversal nature that impacts in several sectors of the productive network, and its importance on the grounds of regional development.

2. In this sense, biotechnology is included as significant priority in public policies of most countries, either as general approach or else associated to different and significant productive sectors. Naturally, countries that form MERCOSUR and their preferential partners have considered the same approach regarding priorities.

3. This explains the importance of biotechnology in international cooperation; it is included in most projects of integration, in multilateral and bilateral agreements between countries, in general programs or those from specific productive sectors.

4. For more than 25 years the Latin American region has directed its efforts in turning applied biotechnology into a driving force for social and economic development as well as one of the main opportunities to insert the region into a knowledgeable society.

5. There have been many programs seeking that objective with dissimilar results; most have left a trace in the region, some are continued, others have been reformulated, some have disappeared or have been reenacted by other actors, but all the issues introduced by the programs into national or regional agendas still remain, or have been reintroduced and some have been prioritized or renewed by different actors.

6. It is important to highlight that we are facing a process of strong institutional autonomies, with very scarce intra institutional coordination, absence of significant regional debates in order to adopt guidelines, criteria and most of all, to program growth on the basis of medium and long term consensus.

7. The previous list shows that a considerable number of multilateral credit organisms, international organisms and programs and Ibero-American and hemispheric programs have included biotechnology in their work agendas. Likewise, MERCOSUR as the principal process of regional integration, has doubled efforts through BioTecSur Platform.

8. As this inclusion comprises multiple issues, it has significantly expanded the original agenda. While the initial concern was the development of capacity and innovation, nowadays the subject of regulations, public perception, indicators, systems of information, institutional structures to encourage the formation of new enterprises, Bio regions and innovation networks have been added, shaping a much richer and complex scenario.

9. Interest is still focused on agro-food biotechnology, even though there is a rising interest in those subjects that stem from the application of biotechnology in other sectors, such as pharmaceutical industry, industrial microorganisms, environmental remediation, genetic therapy and use of stem cells among others.

10. The emergence of these subjects, the increasing debate on the safety of GM foods, the enforcement of Cartagena Protocol and other subjects related to the international commercialization of GMFs, public concern about the applications of modern biotechnology and the ethical aspects in the matter, have lead countries and blocs to an intense international debate which is taking place in different forums, pervading public policies and national debates.

11. Within this frame, we have considered that the presentation of available instruments in support of biotechnologic development for BioTecSur Platform should not be limited to an inventory of programs of direct support which number is decreasing in the international scenario.

12. In that sense, it seems that efforts towards innovation are moving into the sphere of domestic responsibility of countries and blocs, while other subjects, such as regulations on bio security and intellectual property, impact on international commerce, public awareness and related ethics, are of such relevance that the

international community has a say and is ready to give support although it will be conditioned by political decisions, interests and strategies of countries and blocs.

13. In broad terms, there are no simple programs oriented to specific purposes; programs show an increasing complexity and consider several general variables. On this account it has not been possible to make specific classifications, but to show them as a list ordered by institutional hierarchy.

14. MERCOSUR is a region that shows substantive growth in the application of bio technology to economic and social activities, but it is far from having obtained the cooperation standards necessary to support such efforts. The pioneering effort of CABBIO is still the most important.

15. BiotecSur platform represents a significant opportunity, as long as it is articulated with an integral approach to those problems derived from the use of bio-technology for economic and social development and if it is used to improve the quality of life of people of those countries that form the bloc. We expect this work to be a contribution to this purpose.