



Papers

## New innovative research partnership proposals



Papers

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## New innovative research partnership proposals

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## New innovative research partnership proposals

### A. SYNTHESIS

#### 1. **Project Title: Organization and management of technological integration in agriculture and agroindustry in the Southern Cone<sup>1</sup>**

2. **Duration:** July 1998 – June 2001

#### 3. **Objectives**

This Project aims to promote the technological integration as well as to strengthen the management capacity of the innovate process in the Agri-food and Agroindustrial System (AAS) in the enlarged MERCOSUR<sup>2</sup>. In order to be able to comply with the proposal, the strengthening and assurance

of the re-engineering process of the Cooperative Program for Technological Development in Agriculture in the Southern Cone (PROCISUR<sup>3</sup>) is planned. The new associative model for innovation that is being assumed by PROCISUR constitutes the key for the sub-regional technological integration in the agri-food and agroindustrial areas.

#### 4. **Activities**

To build up the new associative model of technological innovation, the Project develops the following activities:

- Elaboration of the macro and technological scenarios; mapping of technological supply and demand; survey of institutional changes of both, at developed countries and Southern Cone ones; building of reference frameworks of the WTO and agri-food world markets.
- Identification and articulation of the representative actors of the AAS demand, the Scientific and Technological System (STS) supply, and the political and institutional decision taking levels (consulting panels).
- Joint identification of R&D areas and strategies of institutional change (technical-managerial workshop).

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<sup>1</sup> So-called PROCISUR/IDB Global Project for its strategic role.

<sup>2</sup> The enlarged MERCOSUR includes the signatory countries of the Asuncion Treaty in 1991 (Argentina, Brazil, Paraguay and Uruguay), plus Chile and Bolivia that were later associated.

<sup>3</sup> The PROCISUR is a cooperative effort of the National Agricultural Research Institutes (NARIs) of Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay, and the Inter-American Institute for Cooperation on Agriculture (IICA). It has always counted with the Inter-American Development Bank (IDB) financial support through direct contributions or through projects.

- Preparation of an agenda to get consensus and implement the process of technological integration at the sub-regional level (political-institutional forum).
- Formulation of management mechanisms to ensure the actors interaction (specific methodology to articulate networks/innovation nodes).
- PROCISUR design to be the focal point of the technological integration process (new organization and funding model).
- Internalization of the products of the Project in the countries in order to feedback the changes into the National Agricultural Research Systems (NARSs) and the National Agricultural Research Institutes –NARIs (national seminars).
- Dissemination of the Project products and interaction of the sub-regional innovation network (Managerial and Technological Information System of PROCISUR).

## 5. Brief description of the case

The globalization, economic opening and mostly the expansion of the enlarged MERCOSUR, together with the consolidation of the regional market have impacted in the macro-economic basis and raised new problems and technological demands in the agroindustrial, social and environmental areas. Moreover, the new dimensions of the regional bloc need to be considered while planning the institutional reorganization processes.

The answer to these problems implies the improvement of competitiveness, with environmental and social efficiency, as well as the need of an adequate scientific-technological support. The enlarged MERCOSUR needs to meet technological and institutional demands to increase the bloc internal trade but, mainly, requires to increase the exports and reach to third markets (outside the bloc) looking for favorable commercial balances.

To strengthen the technological integration is mandatory so as to re-create dynamic comparative advantages for the regional bloc as a whole.

The opening of the PROCISUR technological and institutional model is the core of the strategy searching to integrate the sub-regional STS. It is intended to use all existing capacities to build new and strong articulation schemes with the main economic and social actors of the AAS at the sub-regional level (agricultural and agroindustrial production, processing, commercialization, distribution and consumption) as well as with public and private STS representatives, either national or international, and mainly with national governments and the MERCOSUR decision taking levels in the agri-food area.

Therefore, the Project is oriented to create a new associative model for innovation which will support the technological development of the regional bloc, while re-designing the institutional basis, organization and financing of PROCISUR. Simultaneously, programmed actions will integrate the technical, managerial and political-institutional bases of the AAS and inside the STS, feeding all the re-engineering processes of the different components integrating the NARSs, particularly, the NARIs.

## 6. Thematic Area

It is related to “Policies and Institutions”. Through self-elaborated studies the Project generates its own knowledge basis. Nevertheless, this knowledge is applied to guide R&D planning, to reformulate institutional changes and to lay out an associative model for technological innovation in the agri-food and agroindustrial STS in the enlarged MERCOSUR context. This central purpose is associated to the political-institutional area.

**7. Region:** Latin America and The Caribbean

## 8. Tenderer Information

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E-mail: [sejecutiva@procisur.org.uy](mailto:sejecutiva@procisur.org.uy)[http:// www.procisur.org.uy](http://www.procisur.org.uy)**B. STAKEHOLDERS****1. Beneficiaries**

The direct beneficiaries are classified in three groups. First, the sub-regional STS as a whole, and the PROCISUR particularly. The STS obtains direct benefits since the Project addresses to achieve consensus on the agenda that will set up the mechanisms to integrate the technological components of the sub-region. On the other hand, the Project generates the basic information to develop a strategic vision and lays out the new model that will guide PROCISUR future actions. The new Agreement that will guarantee the institutional and legal bases of PROCISUR will be signed on December, 2000.

Secondly, the demand sectors of the AAS, either private or public, are also direct beneficiaries. The Project provides technical and economical information that feeds the respective areas of planning, business and markets. In addition, the resulting projects of the new associative model benefit the different agents that interact in the agri-food chains (essentially aiming at improving the competitiveness profiles), the predominant agro-ecosystems (ensuring the environment protection) and small agriculture (seeking for social equity).

Thirdly, are also direct beneficiaries those supply sectors represented by the main components of the NARSs and the NARIs specifically. The NARSs representatives and the NARIs technical staff have worked in the identification of the most relevant areas of R&D at the sub-regional level, but will mainly

interact with the demand sector and the science and technology international system (International Research Centers and Advanced Research Institutes) to form strategic alliances addressing to solve common problems through cooperative projects. The supply sector has also the opportunity to identify alternative paths for institutional changes, as well as open alternatives to consolidate their own innovation networks.

Indirect beneficiaries of the Project are national governments and MERCOSUR organizations. The prospective analysis as well as the identification of technological demands related to strategic markets within the enlarged MERCOSUR becomes an important input for the economical, environmental and social areas of the governments, and for the working subgroups of the regional bloc.

**2. Partners**

The main partners are:

- The leading private enterprises on the agri-food chains inside the enlarged MERCOSUR: cereals, oils, meat, milk by-products, fruits and vegetables.
- Institutions and organizations dealing with natural resources, environment and bio-diversity preservation (public institutions and NGOs that commonly interact with PROCISUR through the environmental and genetic resources areas).
- MERCOSUR and government areas and/or working groups dealing with small farmers and family agriculture.
- Public and private institutions (mainly NARIs, principal universities and agroindustrial and agri-food enterprises) recognized to be the most important technological suppliers in the enlarged MERCOSUR.
- MERCOSUR and national governments decision-taking areas, which are involved in agri-food and agroindustrial development.

### 3. Donors (Budget)

The Project total cost is US\$ 865.000. The IDB contributes with US\$ 375.000 (43%) through a non-reimbursable loan; PROCISUR, US\$ 220.000 (26%) and the NARIs, US\$ 270.000 (31%). IDB and PROCISUR contributions constitute cash funds while the NARIs counterpart provides infrastructure and professional staff directly involved with the Project execution, plus IICA administrative and operative support. It should also be considered the support provided by the stakeholders, consultancies, and also the NARIs regarding the raising of information, studies carrying out, and seminars, forum and training programs participation, what increases the budget up to a total of approximately US\$ 1.200.000

## C. RESULTS AND EXPECTED IMPACTS

### 1. Main innovations

The change of the cooperative model is based on the following innovations:

- The Project installs and provides continuity to a prospecting and identification process of relevant technological problems for the sub-region through direct consultation with the AAS and STS representatives (the basic forum originally formed by the NARIs is substituted by the open associative model).
- It strengthens the sub-regional innovation network by the articulation of innovation nodes integrated by economical and technological actors, either from private or public sectors, organizing the problems through three central axes: agri-food chains, eco-regions/agro-ecosystems and family agriculture (it surpasses the disciplinary approach with the identification of problems directly related to competitiveness, environment and social equity).
- It organizes the solution to regional problems integrating disciplines and institutions to ensure

an added value and positive impact in the economical, environmental and social areas (it substitutes the intervention through specific activities for the execution of multidisciplinary and inter-institutional projects of multi-national character);

- It intends to achieve consensus at the political-institutional level on the need to provide funding to ensure the implementation of the strategic R&D lines in the enlarged MERCOSUR, which require the integration of infrastructure, human resources and operative capacity (it seeks to complement the access to competitive funds with specially assigned resources by the regional bloc, articulated to external sources).
- It expands the “know how” dissemination to all the AAS productive and scientific-technical scope, which is reinforced by a managerial and technological information system that feeds back the interchange and the research process (disciplinary circles related to the supply side are overcome by the society/markets, economic actors, science and technology interaction, which is articulated from the demand side).

### 2. Outstanding results

These innovations pretend to modify a model that has gone through interchange and cooperative phases into an institutional arrangement to promote technological integration. Consequently, the fundamental result is to create alliances, capabilities and institutional scale to organize and operate the technological integration in the AAS inside the enlarged MERCOSUR.

On this path, the achieved and/or expected products are the following:

- Creation of a multidisciplinary and inter-institutional working team, conceptual and methodology capable to make diagnoses and proposals to promote the technological integration of the AAS at the sub-regional level.

- Development of methodological schemes to:
    - study with a prospective view the technological development of the economic (agri-food chains), environmental (eco-regions/eco-systems), social (family agriculture) and institutional bases at regional and sub-regional levels;
    - articulate technological proposals as an input on entrepreneurial planning allowing the access to strategic markets;
    - promote, strengthen and manage networks and/or innovation nodes.
  - Integration of technological demand/supply “panels” and the institutional basis representing the AAS and STS leading sectors at the sub-regional level (organic and representative articulation of the integration model partnership basis).
  - Elaboration of proposals on relevant R&D areas for the sub-region and recommendations for institutional changes at national and sub-regional levels, prepared by the representative panels.
  - Identification of clusters, networks and/or nodes focusing the innovative process in the agri-food chains, eco-regions/eco-systems or sectors of the small rural production context. This framework of articulation between firms and institutions belonging to both private or public sectors, built over specific problems, helps to identify project profiles. This map is the main instrument to strengthen strategic alliances.
  - Proposal of policies and intervention mechanisms to consolidate the alliances articulation process through a new associative model for innovation, supported by technical and political-institutional bases in the enlarged MERCOSUR .
  - Implementation of PROCISUR new agreement to guarantee its role as focal point and dynamic agent of the new associative model of technological innovation for the sub-region.
  - Training of directors, managers and/or researchers from private or public sectors, in methodology and management of processes and projects technological integration.
  - Implementation of a Managerial and Technological Information System, to disseminate the products of the Project, guarantee the interaction of the partnership basis at technical, political and institutional levels, enable the management of the associative model, and articulate with the hemispheric and world spheres.
  - Design of intervention programs and/or multidisciplinary and inter-institutional cooperative projects to solve the most relevant technological problems arising from the agri-food chains, eco-regions/eco-systems, and family agriculture areas, as well as financing schemes integrating sub-regional funds, internal resources from partnership and external resources from donors.
- ### 3. Dissemination of results and products
- The Project achievement and products are communicated at different levels, from global public and general specific to beneficiary sectors, partners and donors, which jointly constitute the stakeholders of the Project. The majority of the access paths are complementary. The different dissemination levels are:
- Global: general public through Internet <[www.procisur.org.uy/proglobal.html](http://www.procisur.org.uy/proglobal.html)> .
  - General specific: 1.200 people which are technical, political and institutional contacts, to whom published materials are sent or are advised that such material is available in Internet. They usually receive strategic and/or operative information from PROCISUR.
  - Regional and international: the interaction with the IDB Environmental Division and the Institute

for Latin American and The Caribbean Integration (INTAL), as well as the national, regional and central levels of IICA, allows the access to the Project products. It is been planned that the web sites belonging to these organizations also offer the results of the Project within their own publics. The articulation with the Executive Secretaries of the Global Forum for Agricultural Research and the Regional Forum for Agricultural Research for Latin America and the Caribbean Area will do alike.

- Sub-regional: it constitutes the main field to contact the stakeholders of the Project, using direct communication ways (fax, e-mail or mail). On the other hand, during the execution of the Project the stakeholders interact participating in interviews, and in two events: the Workshop that took place in Buenos Aires, Argentina on 30/11 and 01/12, 1999 (technical and managing levels) and the Forum on Technological Integration which will be held in Montevideo, Uruguay, on the first fortnight of August, 2000 (political-institutional level). Both events allow to adjust information and evaluate proposals and future actions lines with stakeholders sub-regional representatives.
- National: methodological and prospective studies produced by the Project as well as the results of both events will become the basic material for the training program to be taken by approximately 150 directors and managers from private and public sectors of the agri-food and agroindustrial areas of the Southern Cone. These activities will enable to internalize the Project information, methodology and recommendations in the national institutions, and to interact with each country representative stakeholders.

#### 4. Expected Impacts

This Project central hypothesis is that the scientific-technological system would gain in efficiency and in the magnitude of its economic, environmental and

social impact if it were possible to prioritize and assign the resources on the basis of the sub-regional dimension of the agri-food chains, the eco-regions/eco-systems and the small production agriculture. The model promoted by the Project implies to coordinate innovation programs (relating scientific, technological, organizational, managing and institutional areas), and to integrate infrastructure capacities, as well as to define strategies of specialization and to adopt policies and instruments that allow sharing human, operative and funding capacities. As much as the political-institutional consensus facilitate this possibility in the enlarged MERCOSUR context, basic conditions will set up allowing the design and implementation of cooperative projects that, using economies of scale and scope embodied in the technological integration, will generate economic, environmental and social surplus.

The studies carried out by the Project and the stakeholders interaction in the Workshop held in Buenos Aires allow to anticipate that the main impacts will be related to:

- Competitiveness of agri-food chains (with environmental restrictions): more efficiency and quality in the commodities cycle; segmentation of commodities and differentiation of agroindustrial products; general quality assurance and traceability; biosafety, and alternative agriculture.
- Environmental protection (mainly associated to major scale problems): environment accounting and monitoring; contamination control and correction; sustainable use of lands; recuperation of degraded areas; sustainable use of water; climate global change.
- Social inclusion (intersection between technology and family agriculture); technological interchange in similar agro-ecological areas; definition by basic typologies of R&D strategies; access to the new generation of technologies; economic organization and management; R&D relation to the agricultural and agroindustrial interface.

The main action lines in competitiveness will maximize the expected impacts, as much as the vertical organization of the sub-regional AAS allow to create dynamic comparative advantages and to secure surplus obtention, strengthening the enlarged MERCOSUR participation in the world agri-food market.

## D. PARTNERSHIP

### 1. Project design

The Project comes up so as to contribute with NARIs and PROCISUR need of changes. In the case of the NARIs, to support their experiences of institutional reorganization gained from the sub-regional vision and scale. In the PROCISUR case, to feed its re-engineering process and provide it with a new vision and intervention model. Consequently, the Project design comes from PROCISUR internal discussions and with NARIs managerial staff, interacting with technical IDB working teams. The main idea was to strengthen the opening of the technical and institutional model of the cooperative program, inserting its action at the enlarged MERCOSUR level.

### 2. Implementation

The Project has planned its implementation through the following phases:

- Conceptual and methodological development<sup>4</sup>: performed by the Executive Secretary and the Project Team, constituted by International Coordinators (Biotechnology, Genetic Resources, Environment, Agro-industry and

Institutional Development) and the Scenarios and Policies Group of PROCISUR, as well as External Consultancies.

- Studies<sup>5</sup> execution: these studies were carried out by external consultancies, supported by the NARIs, IICA and PROCISUR structures, as well as another national institutions. The INTAL/IDB provided special contribution in the consultancies identification and selection. The studies included the work of five Southern Cone universities, two foreign universities (extra-bloc), one governmental area, three private consultant firms, two foundations, one international center of the CGIAR helped by six national consultants from developed countries, and twelve national liaisons provided by the NARIs with IICA support. The inputs of the consultancies were substantial for the incorporation of the external vision to the strategic conception that PROCISUR was designing.
- Interaction with the stakeholders: the studies allowed to interact with a representative sample chosen among the universe of beneficiaries and potential partners, based in their role and leadership in the AAS and sub-regional STS performance. The constitution of the sample is shown in Table 1.

This sample was interviewed in order to identify the sub-region main technological problems and the scientific-technical capacities available, as well as to map the strategies of institutional change that were being executed in the NARSs, and NARIs context.

- Articulation of technological demand and supply: approximately, 25% of interviewed stakeholders was chosen to organize the demand, supply and institutional panels that participated in the Buenos Aires Workshop. In this meeting the more relevant R&D areas at sub-regional level were identified, institutional changes were recommended, as well as guidelines to promote the STS integration within the enlarged MERCOSUR were provided. The Workshop

<sup>4</sup> See: PROCISUR/BID. Global Project. Organization and management of technological integration in agriculture and agroindustry: conceptual, methodologic and operative guidelines. Montevideo, Uruguay. October, 1998.

<sup>5</sup> See in PROCISUR Web site the executive summaries of the fifteen documents produced until now.

**Table 1**

Sector	Public Sector			Private Sector		Foundations and Others	Total
	NARIs	Univ.	Others	General	Univ.		
Demand	21	3	33	112	1	10	180
Supply and Institutional Basis	24	10	28	57	8	11	138
Total	45	13	61	169	9	21	318

was organized jointly by PROCISUR and INTAL/IDB. The Workshop Report was sent to the participants who were consulted on strategic aspects that may contribute to consolidate the regional innovation network based on the interaction maintained until this moment.

- Strengthening of strategic alliances: within the first two weeks of August, 2000 a Forum of Technological Integration will be held with the attendance of managing and political-institutional levels, both private and public, as well as national governments and MERCOSUR. The main objective is to agree an agenda to define policies and mechanisms to make feasible STS integration in the agri-food and agroindustrial area. The so far Project generated products will constitute the basic input to promote debate and compromise among the involved sectors. PROCISUR and INTAL/IDB will jointly organize the event.
- Information System Design: the PROCISUR Managerial and Technological Information System is being organized as one of the Project specific activities. It creates the informatic framework to guarantee the communication and interaction among all stakeholders, in addition to facilitate the articulation with the S&T

specialized world in the agri-food and agroindustrial areas. This system will allow to share the data bases, the Global Project products, the managing of cooperative projects and, mainly, to access to the technological information that consolidates the interaction among the different elements of the sub-regional STS inside the PROCISUR. It will become the most dynamic mechanism to ensure, in the future, the interaction of the sub-regional innovation network.

- Management for the changes: all national events to be held aim to use the methodology and knowledge of the Project with a view to improve the participants performance in the managing of technological integrating processes. In that framework, R&D most important problems of the national AAS will be identified and will be intended to promote cooperation schemes to integrate the NARS institutional capacities.

### 3. Management

The Project is executed according to the terms of the Agreement signed between the Southern Cone NARIs and IICA. The IDB also associates to this institutional basis through the Environmental Division/Department of Sustainable Development

and the Institute for the Integration of Latin America and The Caribbean (INTAL)/ Department of Integration and Social Programs.

The general coordination is under PROCISUR Executive Secretary responsibility in close interaction with the Project Team.

The execution of the Project holds on the Subprograms technical staff provided by the Southern Cone NARIs and the work teams of external consultancies, articulated to the 318 members of demand/supply of technology of the agri-food and agroindustrial system that were interviewed and participated through representatives in the adjustment of results and preparation of recommendations. IICA also provides technical and administrative support through the Cooperation Agencies in the Southern Regional Center (Argentina, Brazil, Chile, Paraguay and Uruguay) and the Andean Regional Center (Bolivia), plus the Direction of Science, Technology and Natural Resources in IICA Headquarters.

#### **4. Results dissemination**

The Project scheduled events with stakeholders representatives of the sub-region, as well as the informatic structure—either of PROCISUR or the other involved institutions—allow a satisfactory dissemination of the results. Nevertheless, as a consequence of the Buenos Aires Workshop, the participants have reconfirmed the need that national events be used to adjust the information and debate the R&D most important areas at each country level, from a sub-regional focus, establishing mechanisms so that national institutions become the disseminating agents of these results.

### **E. CONCLUSION**

#### **1. Partnership added value**

- External Consultancies: they enriched PROCISUR conceptual and strategic vision and supplied arguments to rationalize its scope and purposes.

- AAS and STS partners: they made feasible the technical and institutional opening of PROCISUR; increased its diagnostic and survey capacity; strengthened the basic conditions to surpass the interchange/disciplinary cooperation model for the sub-regional technological integration network. They increased the chances to associate R&D in the agri-food and agroindustrial area to the solution of specific technological problems in the sub-region, and favoured a closer approximation in the search of a vertical entrepreneurial organization of the sub-regional agribusiness, in order to gain access to the world market. Simultaneously, they clarified future environmental challenges and tried to assign a logic to the technological role applicable to the small rural production. Last but not least, they managed to abstract themselves from the interaction of institutional changes in different national spheres, procuring to improve the integration of the sub-regional STS.

#### **2. Success factors**

To succeed in this enterprise it is indispensable not to avoid physical and economical efforts, in order to ensure the “representativity of the information” generated, and the involvement of the “representative sectors”, both during the diagnostic process, or at the elaboration of recommendations and proposals. The process of technological integration requires technical credibility and political-institutional consensus to achieve a final situation that ensures important and long lasting impacts for the sub-region. The document agreed upon is not the important item, as it is the technical, social and political legitimacy of the process carried out.

#### **3. Next steps**

Once the Forum of Technological Integration is held within the first quarter of August, 2000, the Project will have complied with all scheduled activities at sub-regional level. From there on, it will be ready to devote itself to internalize its philosophy and products at country level through national seminars.

#### **4. Sustainability and cooperation perspectives**

The Project faces few risks to arrive at the proposed results. The fundamental matter is to ensure the projection of the obtained results, aiming to achieve the expected impacts.

This situation is defined at two levels. On the technical level the Project generated the necessary conditions to provide continuity to a process of technological prospection and identification of cooperative projects within a model opened to AAS and STS, with possibility to access and compete for funds. Within this framework, it will be possible, in general lines, to attain incremental

steps over the present-day technological development.

At the political-institutional level figures the possibility of agreeing an agenda on policies and mechanisms to legitimize the space for technological integration and guarantee the resources to develop those priority actions that best attends to competitiveness, environmental protection and social inclusion in the enlarged MERCOSUR. Under these circumstances, adequate conditions will be available to generate radical and strategic innovative developments that help to improve the insertion of the regional bloc in the world market, accompanied by internal rules and external negotiation power that contribute to this challenge.

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