



**Report to the
Program Committee of
CIAT's Board of Trustees
on**

The Latinamerican Irrigated Rice Fund, FLAR

**Prepared by:
Luis R. Sanint
Rice Program Leader (i)
CIAT, January 1995**

The Latin American Irrigated Rice Fund, FLAR

Rationale/Justification

Past accomplishments:

Significant advances in rice production have been made over the past two decades in Latin America and the Caribbean (LAC). About 200 new rice varieties were released, and they now account for more than 90 percent of all flooded rice production, itself representing 70 percent of total rice production in the Region. Average yields in flooded areas have risen from 3.0 tons per hectare in the mid-1960s to 4.5 t/ha in 1990; and total rice production doubled between 1967 and 1990, making the Region largely self-sufficient in rice. With rice prices falling by 40 percent in real terms over the period, consumers have benefitted greatly, rice is well established as a "wage good", and the crop has become the most important source of calories and proteins for that 20 percent of the Region's population with lowest incomes.

Central to these accomplishments have been:

- a linkage by the Region through CIAT to the world's premier source of rice germplasm (IRRI);
- the development of a strong, regionally relevant rice improvement program through a productive partnership of CIAT, Fedearroz, and ICA in Colombia; and
- excellent linkages between CIAT's regional rice program and national programs and producers in major rice producing countries of LAC.

While the upstream linkage to IRRI was a valuable component of this three-part improvement model, high quality downstream activities at the country level, frequently involving cooperation between public programs of research and extension with private producer organizations, as in the case of Colombia, Brazil, Venezuela and Uruguay were key to locally relevant adaptive efforts which accelerated and expanded the spread of improved germplasm, complementary cultural practices, and related institutional and policy developments. Even though the investment commitments made by the private and public sectors all along the way over the past two decades were of major proportions, handsome (even unprecedented) returns have been gained —between 60 and 80 percent annually on each U.S. dollar invested.

The Challenge:

The past two decades have resulted in strong national rice improvement programs, high-yielding rice varieties on farmers' fields, and networks of germplasm improvement and related information linked, via CIAT, to the premier upstream research resource, IRRI.

Building on this model and stock of capital for sustained progress while assuring its continued dedication to the challenges ahead. For this purpose, the Fund appears to be a viable alternative both by reason of several emerging constraints and opportunities.

First, the maturity and high level of development of national capacities for rice improvement in LAC impose a more important role and responsibility than in the past on national organizations in determining the direction and conduct of future rice improvement efforts.

Second, with large returns currently being enjoyed from rice improvement efforts, those organizations that paid for programs of the past are logically expecting that mechanisms can be devised in the future to capture and turn some of those returns to the long-run maintenance of needed programs.

Third, given the "opening of the economies" —a process whose momentum is likely to continue to build in the future— it is well known that the patterns of demand for new technologies of all kinds will change, the quantities demanded of them will increase and the need to participate in economic blocks will also become more pressing. Rice producers and improvement programs will be especially challenged by these changes.

Fourth, the rapid technological advances in the rest of the world imply that countries of LAC must find ways to keep in touch with other regions by maintaining strong linkages to foreign sources of technology. The mechanism of the past has proved to be efficient in avoiding duplication of efforts, using the specialization of tasks, achieving economies of scale and providing a fully participatory research apparatus. In this sense, the new effort must be based in the principle of cooperation and efficiency in research while providing stability to the regional research system.

In short, while building on accomplishments of the past, future rice improvement efforts will need to be organized to address the following four challenges:

- fully participatory, cross-country management;
- mechanisms for stable self-financing;
- rapid response and flexibility to adapt to market-led developments; and
- new upstream demand and consumer preference requirements.

The Mechanism

The Fund constitutes a mechanism that permits stakeholders to participate in and shape the future of the new activities for rice improvement in the Americas, with voting power that is equal for all partners but where short and long term benefits are proportionate to their stakes. A steering committee and a technical commission offer best prospects for ensuring a match between a rapidly changing external environment with the internal constraints and opportunities of the organization, through a shared vision of all partners that is translated into mutually agreed strategies and action plans.

It is a self-financing, not-for-profit fund. The nature of public good is maintained, since most resources being pledged have semi-public origins.

The vision, or overarching goal, of the Fund is widely shared, simple, and easily understood: to assume the control and responsibility of irrigated rice research in the region, provide a stable framework and make it available to LAC countries as a public good. Support for development of a highly competitive rice economy in LAC describes the participants' goal: one which secures sufficient rice to meet domestic consumers' needs at minimum cost, while maintaining a rice sector that is profitable, competitive, efficient and that does not harm the environment. Progress against that goal would be measured by higher yields, new varieties, lower unit costs, more rational pesticide use and decreasing relative prices to consumers, among other indicators.

As stated in the heads of agreement, the mission, objectives and strategies are:

Mission of FLAR

To carry out activities in countries of Latin America and the Caribbean (LAC), towards a sustainable development of the irrigated rice sector, so as to make it competitive, profitable and efficient, while protecting the environment, to achieve lower unit costs of production and, consequently, more attractive relative rice prices to the consumer.

Objectives of FLAR

To fulfill its mission, the Fund aims to:

- A. Create a permanent forum for LAC, where information on the commercial needs and opportunities of member countries is permanently updated.
- B. Increase sustainable rice production (keeping in mind efficiency, equity, and environment) in terms of:
 - greater stability, with enhanced genetic diversity,
 - increased profitability, with reduced unit costs,
 - greater technical and economic efficiency,
 - more attractive prices for the consumer,
 - more competitive in the context of an open economy, and
 - no environmental risks.
- C. Assume a commodity approach by program in areas of common interest to all Fund participants:
 - work not only with germplasm but with the entire system, including crop management, postharvest issues, alternative uses, quality, etc.
 - bring into the picture markets, consumption issues, etc.
- D. Focus research on irrigated rice:
 - defined as rice for which water use in flooded conditions (anaerobic) is controlled,
 - where the greatest efficiency of production is feasible, and
 - where producers are commercial, whether large- or small-scale.

Strategies to achieve objectives

To achieve its objectives, FLAR will follow these strategies:

- A. Identify and develop practical projects and activities applicable to its mission. A well rounded research agenda will have to include:

1. Germplasm: continued, wide access by the Americas to the world's best materials and active exchange with all regions of the world;
 2. Breeding: productivity-increasing, regionally relevant varietal improvement to secure a continuing stream of new varieties;
 3. Crop management: integrated approach for a more rational use of inputs, to achieve more efficiency, lower unit costs and less risk to the environment;
 4. Post harvest: high payoff market intelligence and business development which identify and exploit trends in (and the requirements of) traditional and new markets and uses; and
 5. Institutions: viable, self-governed national organizations for cost-effective rice improvement, promotion, and technology transfer.
- B. Obtain sufficient and stable financing on behalf of participating countries and institutions. Each country will be responsible for the internal mechanisms of capturing funds and of establishing legal commitments.
 - C. Obtain financial resources from donors interested in promoting activities congruent with the Fund's mission.
 - D. Attract the participation of all LAC countries. Each member country, in turn, will search for mechanisms to strengthen the participation of private and public institutions.
 - E. Identify sources of rice technology and information, both in LAC and in other countries, and search for exchange mechanisms.
 - F. Identify and assume common positions regarding intellectual property rights on products and materials resulting from research carried out by the Fund, in consonance with the laws of each country member.
 - G. Facilitate training and communications with nonmember institutions.

The role of CIAT

CIAT has been instrumental in coordinating the process that gave life to FLAR. It was clear that the Center has a great deal of credibility among regional rice institutions and, together with IRRI, is seen as a fundamental piece in the irrigated rice research structure. For the stability of FLAR, CIAT's participation is basic.

First, and more importantly, CIAT's participation gives FLAR the reliability and credibility needed for such international effort.

Second, it can also provide the institutional mechanisms to gather the resources. The Fund has been created through bilateral agreements between each institution representing a participating country and CIAT. But the Fund does not have legal status. Once the Fund is created, CIAT makes it legally viable at the international level by contracting, buying, selling, etc. of goods and services in the name of FLAR.

Third, CIAT will house some of FLAR's scientists at headquarters and will also facilitate the use of infrastructure and know-how for germplasm exchange, breeding activities and other tasks.

The participants

Early in 1994, CIAT coordinated the process to create a mechanism to support irrigated rice research activities funded by the private sector of LAC. Four countries showed their firm commitment from the beginning to bring FLAR into existence: Brazil, Colombia, Uruguay and Venezuela. In these countries, unions between public programs of research and extension with private producer organizations have been successful and are well consolidated. Another institution, IICA, also decided to join the effort. These were the founding participants of the Fund.

There is consensus among founding participants that the financial contribution to the Fund should be related to the amount of rice produced by each country member but also that short and long term benefits should be proportionate to their stakes.

Contributions were set as follows:

- A fixed amount of US\$20,000 per year of participation
- A variable contribution correlated to paddy rice production: for each 400,000 Metric Tons, the representative institution from the country will pay US\$5,000 per year of participation.

Resources pledged for 1995 are as follow:

Brazil:	US\$70,000	
Colombia:	US\$40,000	
Uruguay:	US\$30,000	
Venezuela:	US\$30,000	
CIAT:	US\$40,000 plus half of the time of the Rice program leader (some US\$55,000 more)	
IICA:	US\$50,000	

Total yearly pledges: US\$315,000

Other countries were directly visited during the process, where the rice sector is relatively well organized and there is an important public effort being supported by rice producers: Argentina, Ecuador and Dominican Republic. These countries are almost ready to join, but could not make the definite commitment this past January 16, when the Agreement of Acceptance for membership in FLAR was signed. The Dominican Republic was even represented in the signature. The steering committee decided to allow until the end of February for additional participants to pledge resources as founding members with full representation in the committees during 1995. Along with them, Costa Rica and Guyana received relevant material.

Beneficiaries from FLAR's activities

FLAR is based on the principle that all founding partners participate in the decision making process with equal voting power. The activities promoted and executed by the

Fund will be of common interest and, therefore, decisions should be reached by consensus. If consensus is not reached, there are clear clauses about quorum and conditions to decide by the vote of a majority.

However, the contributions of each country is correlated with its ability to pay: higher rice production implies higher royalties and benefits and therefore, higher contributions. It was also agreed that those that pay more can also participate more in FLAR's activities. In each project, the amount to be distributed to in-country activities will be proportional to the contribution of each country.

With respect to intellectual property rights, a clause was included in the Heads of Agreement, by which participants will treat FLAR's products as public goods. A given country can, subject to its own internal laws, protect products within its legal boundaries (including custom unions) and make them the subject of royalties, but that product must remain freely available to FLAR and/or to other countries of the world.

Next Steps

First, high priority has been placed in continuing informal consultations with representatives of the rice industry in the non-participating countries including representatives of national programs of agricultural research, seed producers, associations of rice producers and with IRRI to check the provisions of the Heads of Agreement already approved by founding participants and secure their membership in FLAR. To this end, CIAT's scientists will participate in a Caribbean Rice Workshop, where the mechanism will be discussed with representatives from the region to seek their participation. Later in the year, Central American countries will also be visited with the same purpose.

Participation of other international institutions is also very important. Institutions like IRRI, CIRAD, IIMI, etc. can bring their own expertise into the group and contribute to maintain a balance of activities towards all countries of the region.

Second, a "technical workplan" will be developed with input from researchers that are members of the technical commission. That meeting was set for March 11-14, 1995, at Porto Alegre, Brazil. The project will be finalized and approved by the Steering Committee, when will be ready for submittal to the donor community. The project will be targeted to the Interamerican Development Bank.

The main aspects of the technical agenda include research, extension and/or training in topics such as:

- Securing access to the world's elite germplasm, through INGER-LAC and other complementary mechanisms.
- Maintaining a well focussed breeding effort to characterize progenitors and develop new lines with higher and more stable yields.
- Improving crop management through sound research and extension in Integrated Pest Management projects.
- Optimizing the flow of knowledge and technologies generated by CIAT in its biotechnology unit in disease control (mainly blast).

- Conduct market intelligence and business development activities in traditional and new market opportunities for member countries.

FLAR has advertised the position to hire a breeder that will be based at CIAT's headquarters in Palmira.

Early in the second semester of 1995, FLAR, together with INGER-LAC and with CIAT's Rice program, will organize a rice breeders' workshop in Palmira, where elite germplasm, mainly of interest to FLAR members, will be evaluated. Lines from IRRI's new plant type will also be displayed. Breeders from the region will assist together with some experienced consultants that will be hired to express their views

Third, donors will be identified to promote a project where the current Fund's resources will be used as seed capital, or collateral, for additional funds in the ratio of 1:2 from Fund pledges to donor resources. The project's duration may be longer than three years, in which case, a unanimous support from all participants must be reached to extend the Fund's life.

The role of FLAR as a hub for information gathering and dissemination is also crucial. FLAR constitutes a rice forum for the region. In that sense, it has to contribute to organize meetings, workshops, etc. and will have its own newsletter, where business information, market developments and rice related news will be spread to participating members.

FLAR and nonmember countries of LAC

Membership has its benefits. While the products of FLAR will be public, the decision making process will certainly be biased by the needs and objectives of participating countries. Some projects, such as INGER-LAC, will have a regionwide coverage and participation, but most of them will be executed, to a large extent, by participating countries. Information sharing is mainly designed to for the network of participants.

A critical issue is how to achieve balance in the region, to ensure that strategic projects that are not attractive to the participants but are important to society at large, can be addressed. Another critical issue is how to maintain a balance of activities that alleviates the bias against nonmember countries that are the smaller and/or poorer in the region. These questions are typical of any new initiative of this kind. The international institutions that participate in FLAR can play an important role in this regard by monitoring these issues and helping to make FLAR more participatory and meaningful for the region at large.

Chronology of the process

Nov. 1993. CIAT's management decides to terminate core-based irrigated rice breeding activities in December, 1994.

Jan. 1994. Meeting in Bogotá: CIAT, Fedearroz, ICA, to discuss mechanisms to continue irrigated rice activities at a regional level, with support from industry. A consultant (L.R. Sanint) was hired to coordinate efforts. Meetings with Fedearroz (rice producers' association, Colombia) and Aproscello (rice producers' association, Venezuela), in Cúcuta.

Feb. 1994. Consultant meets with representatives from IRGA (rice producers' association, Rio Grande do Sul, Brazil), the rice producers' association of Uruguay and INIA (Uruguay's public research institution).

March, 1994. Telephone and mail contacts with Ecuador and Argentina. Consultant visits the Dominican Republic. Meeting of interested parties in forming the new mechanism in Goiania; attending representatives from Argentina, Brazil, Colombia, Uruguay and Venezuela, besides CIAT and IICA. A technical consultant is hired (F. Cuevas) to elaborate technical proposal. IICA contributes \$5,000 to cover part of costs.

May, 1994. Dr. F. Cuevas (Technical consultant) elicits research needs. In Caracas, he meets with representatives from Colombia, the Dominican Republic and Venezuela, to elicit research needs. In Concepción del Uruguay he meets with representatives from Argentina, Brazil and Uruguay.

June 1994. Dr. F. Cuevas comes to CIAT to finalize a project. CIAT's Board of Trustees extends core funding for irrigated rice breeding activities for one more year, until December, 1995.

June through August, 1994: CIAT reacts to consultants' proposal and prepare a project draft that is sent to interested countries for reaction. A meeting at CIAT on October 10, 1994 is planned.

August, 1994. Changes in IRGA's representatives and prohibition of brazilian public servants to travel on official business for the rest of the year.

November, 1994. Rice program leader (L.R. Sanint) travels to Brazil, Argentina and Uruguay, where he gets written commitment from all three countries to participate. Argentina has problems meeting the deadline of January, 1995. He also travels to Venezuela to secure its participation.

January 16, 1995. The Act of Agreement to constitute the Latin American Irrigated Rice Fund, FLAR, is signed at CIAT by representatives from Brazil, Colombia, Uruguay, Venezuela, IICA and CIAT. Also present at the act there were Colombian officials Juan José Perfetti, Viceminister of Agriculture, Alvaro Balcázar, Jefe Unidad de Desarrollo Agrario-DNP, Juan Manuel Ramírez, Director-ICA, Germán Aya, Director Regional 9-Corpoica, Edmundo García, breeder-ICA, Michel Desmidts, project officer-IDB. Two observers came from the Dominican Republic: José Bisonó, rice farmer, and José Sánchez, President Mingoló Rodríguez farmers' association.