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RURAL AGROINDUSTRY *in*  
LATIN AMERICA

AN EVALUATION *of the*  
PRODAR NETWORK



ED WEBER, BERNARD BRIDIER, AND RAUL FIORENTINO

INTERNATIONAL DEVELOPMENT RESEARCH CENTRE

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INTERNATIONAL DEVELOPMENT RESEARCH CENTRE  
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# TABLE OF CONTENTS

<b>Foreword</b> .....	vii
<b>Acknowledgments</b> .....	ix
<b>Executive Summary and Recommendations</b> .....	xi
<b>Résumé et Recommandations</b> .....	xxiii
<b>Resumen Ejecutivo y Recomendaciones</b> .....	xxxvii
<b>Part I: Background, Context, and Issues</b> .....	5
Historical development .....	5
The context for PRODAR .....	7
The political and economic context .....	7
The support-agency context .....	8
Mission and objectives .....	9
Support-agency objectives for RODAR .....	10
Evolution of focus .....	11
Working structure .....	11
Organizational concept .....	11
The REDARs .....	12
Coordination levels .....	12
PRODAR as an information system .....	13
The research fund — FIAR .....	13
Training and technical assistance activities .....	14
Important issues .....	14
Competition, marketing, and scale of operations .....	14
Political and policy role of PRODAR .....	15
Institutionalization of AIR .....	16

<b>Part II: Country and Regional Experiences</b> .....	13
The Andean Region .....	13
REDAR-Colombia .....	13
REDAR-Ecuador .....	17
REDAR-Peru .....	20
REDAR-Venezuela .....	25
The Central America and Caribbean Region .....	30
REDAR-Panama .....	30
REDAR-Nicaragua .....	33
REDAR-Costa Rica .....	36
REDAR-Guatemala .....	38
The Southern Cone Region .....	41
REDAR-Chile .....	41
REDAR-Argentina .....	46
REDAR-Uruguay .....	50
<b>Part III: Observations and Conclusions</b> .....	53
PRODAR activity impact and outcomes .....	53
Identification of constraints to rural agroindustrial growth .....	53
Improved network capacity .....	54
Information availability and sharing .....	54
Research and the FIAR fund .....	55
Training and technical assistance activities .....	56
AIR components and marketable products in rural development ....	56
Improvement of the socioeconomic situation of the rural poorest ....	57
Gender issues .....	58
Preservation of natural resources .....	58
Resources invested in PRODAR .....	59
PRODAR structure, institutional relationships, and activities .....	60
Institutional framework and staffing .....	60
Planning and follow-up .....	62
Information and knowledge dissemination systems .....	62
Research support .....	63
Donor expectations .....	64
Lessons learned and future roles .....	64
Structure and relationships .....	64
Services and actions .....	65
Financing .....	66

<b>Appendix I: Case Studies</b> .....	69
Case study 1: Business management — situation of cassava starch and panela plants in North Cauca .....	69
Case study 2: Utilization of cassava flours and starches in the elaboration of processed meats .....	73
Case study 3: Improvement of the sanitary quality of artisanal cheese in Guatemala .....	75
Case study 4: The productive management of traditional water-powered systems in rural areas of the Andes — the development and diffusion of improved mills .....	77
Case study 5: Evaluation and adaptation of technology and administrative packages for the production of cassava and plantain flours in the Peruvian Amazon .....	80
 <b>Appendix II: Funding</b> .....	83
Table II-1. Resources provided by RODAR supporters, 1991–96 .....	83
Table II-2. Activities financed by FIAR .....	85
 <b>Appendix III: PRODAR Activities</b> .....	87
Publications, 1991–96 .....	87
Andean Region .....	87
Central America and the Caribbean Region .....	89
Southern Cone Region .....	91
Headquarters .....	92
Consultancies, 1992–96 .....	94
Events, 1990–95 .....	95
Training .....	99
Table III-1. Commercialization courses in the Southern Cone Region, 1994–95 .....	102
 <b>Appendix IV: PRODAR and REDAR Survey</b> .....	103
 <b>Appendix V: Acronyms and Abbreviations</b> .....	107

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## FOREWORD

Since the early 1970s the International Development Research Centre (IDRC) has been supporting research projects in rural areas of developing countries. The objective of many of these projects has been to solve problems related to post-harvest activities such as food handling, storage, processing, and use. In Latin America in the 1980s, several of these projects focused on developing a rural agroindustry as a way to reduce food losses and provide stable sources of food and income. Projects supported by other donors in the region, principally those supported by the Centre de coopération internationale en recherche agronomique pour le développement (CIRAD, centre for international cooperation on agronomic research for development) of France, linked up with the IDRC-supported projects to form a network, the Programa Cooperativo para al Desarrollo de la Agroindustria Rural (PRODAR, program for development of rural agroindustry). This network is essentially a federation of national networks, now covering 15 countries in the region, each with its own group of local institutions providing a range of support services for the development of this important rural-enterprise sector. IDRC continues to support PRODAR, together with CIRAD and the Instituto Interamericano de Cooperación para la Agricultura (inter-American institute for cooperation in agriculture), as an important resource in the region for promotion, research, and services for rural enterprises.

In 1996, IDRC, in collaboration with CIRAD and the International Fund for Agricultural Development (IFAD), designed and carried out an evaluation of PRODAR and its potential for increasing the impact of rural agroindustry and enterprises on development in the region.

This publication describes the findings of the mission, as well as those from questionnaire surveys previously conducted at the national network level. This thorough and comprehensive report challenges PRODAR and its supporting donors to strengthen the organization and more actively promote its participation in the development programs of the region. This report will be of value to a wide variety of readers — development planners, rural-development researchers, technical specialists, nongovernmental organizations, donors, and rural community associations. For IDRC, the report provides a rationale for continuing our support to PRODAR and for using its network of contacts and experiences for the



activities of our FoodLinks Initiative, which aims to link producers to markets in a sustainable and equitable manner. It is hoped that other donors active in rural development in Latin America will also be encouraged to support this effort and build on it. Perhaps this will provide a model for rural-enterprise development in other regions of the developing world.

IDRC acknowledges the considerable support, during the design and review stages of this evaluation, from colleagues at CIRAD's department of rural and agrifood systems, particularly Bernard Bridier, and from Oswaldo Feinstein at IFAD's Evaluation Unit. In addition, I wish to thank Raul Fiorentino, Bernard Bridier, and particularly Ed Weber (who led the team and coordinated the production of the report) for their fortitude and understanding in this formidable task. IDRC also appreciates the collaboration and efforts of IICA and the PRODAR members throughout the region in making this review possible.

**Bill Edwardson**

*Head, FoodLinks Initiative*

*Ottawa, June 1997*

## ACKNOWLEDGMENTS

In keeping with the conceptual and operational structure of PRODAR, this evaluation exercise has been a collaborative effort throughout. From the first stages of planning to final report preparation, many people representing hundreds of institutions and producer associations throughout Latin America and the Caribbean have shared their experiences and knowledge.

The first step in the evaluation involved a questionnaire sent to members of all REDARs and interviews with REDAR leaders at a hemispheric planning and reporting meeting held in Bogota, Colombia, in March 1996. This work was organized and funded by IDRC and carried out by Edward J. Weber under an IDRC consultancy. Information from this exercise was used in the design of the present evaluation; the survey is discussed in Appendix IV.

Resources for this second stage of the evaluation were provided and the evaluators chosen through consultation among four key institutional supporters of the network, including the International Development Research Centre of Canada (IDRC), the Centre de coopération internationale en recherche agronomique pour le développement of France (CIRAD), the Interamerican Institute for Cooperation on Agriculture (IICA), and the International Fund for Agricultural Development (IFAD). IDRC took on the main organizing role and provided the services of the Mission Coordinator, Mr Edward J. Weber, a private consultant with many years' experience in research management, rural development, and rural agroindustry (AIR). IFAD contracted Dr Raul Fiorentino of Argentina, an economist and business consultant who also has many years of experience in rural development programs. CIRAD provided the services of a senior staff member, Mr Bernard Bridier, from its Department of Rural and Agrifood Systems. IICA gave logistical support in most of the countries visited, and key officials contributed their assessments and vision for PRODAR's future.

Independently, the evaluators visited 11 of the 15 countries where AIR networks (REDARs) have been created. The final week of the evaluation was spent at IICA headquarters in San José, Costa Rica, where discussions took place with a wide range of IICA officials including the regional representatives, who were at headquarters for a meeting at the time. The evaluators wish to

acknowledge and thank the many individuals at all levels who willingly shared their time and ideas with us. They are far too many to mention separately. Nevertheless, it is appropriate to mention a few of the individuals who were particularly helpful and provided us with indispensable insights into the evolution and future potential of PRODAR and the REDARs.

First, François Boucher, PRODAR Executive Director and Coordinator for the Central America Region, who has played an energetic leadership and conceptual role from the beginning and was always available to assist us. Next, Hernando Riveros and Waldo Bustamante, the regional coordinators for the Andes and Southern Cone regions, who provided us with background and conceptual information, organized our itineraries, and accompanied us on some of the visits. The REDAR leaders in each country dedicated days of their time to discuss and travel with us, provide information, and introduce us to producers' association and REDAR member representatives. Much was learned by the evaluators from listening to these representatives present their views and hopes related to AIR. Finally, two senior officials of IICA were especially helpful — Gerardo Escudero, Director of External Relations, and Rodolfo Martínez-Ferrate, Director of Sustainable Rural Development, provided us with an ample view of a changing IICA and the place for PRODAR in the new structure. We are grateful for the assistance of all of these informants and participants in the evaluation exercise.

The ideas and views presented here come largely from our many respondents, and we trust these are presented fairly and objectively. However, the interpretation and recommendations are ours and may not necessarily reflect the position of the supporting agencies and their collaborators.

## EXECUTIVE SUMMARY AND RECOMMENDATIONS

The Programa Cooperativo para el Desarrollo de la Agroindustria Rural (PRODAR, cooperative program for the development of rural agroindustry) in Latin America and the Caribbean (LA&C) was officially formed in 1989 to link a variety of institutions concerned with promoting the potential of rural agroindustry (AIR) and improving the social and economic well-being of rural people and their communities. This initiative evolved out of rural research and development dealing with individual aspects of rural enterprises, especially the modification and introduction of technologies for processing and manufacturing products from agricultural raw materials. Alongside these initiatives, official support agencies and ministries focused their efforts and resources on the production of the raw materials, with almost no attention to what happened to the raw materials after harvest. It was assumed that ministries of industry and private enterprise were well able to attend to subsequent steps in the food- and fibre-production chain. Unfortunately, the interests of small-scale AIR participants fell outside the focus and development thrust of the mainline institutions. Nevertheless, a variety of small projects and experiments undertaken in LA&C countries demonstrated that, with support for AIR, considerable income-generating capacity could be developed.

Gradually, the idea emerged that support for AIR needed a more integrated approach, one that involved not only the technological aspects, but also government policy, institutional awareness, training programs for technical staff and rural producers, university curricula, and rural-development programs. Consequently, several international support agencies — the Centre de coopération internationale en recherche agronomique pour le développement – Département des systèmes agroalimentaires et Ruraux (CIRAD–SAR, centre for international cooperation in agronomic research for development – department for rural and agrifood systems), the International Development Research Centre (IDRC), and the Interamerican Institute for Cooperation on Agriculture (IICA) — joined efforts to promote, and bring more focus to, the widespread but isolated AIR interests and initiatives throughout LA&C. PRODAR was conceived as a cooperative program

to integrate the efforts of international and national entities, financial and other support groups, and nongovernmental organizations (NGOs) — any institution involved in the development of AIR. The objective has been to help producers solve their problems and improve their AIR enterprises or form new ones.

The mission statement developed for PRODAR reads as follows:

PRODAR promotes, supports and helps strengthen rural agroindustry in Latin America and the Caribbean, as well as the associated institutional and political systems, as a means of boosting small farmers' participation in markets and improving conditions in rural areas.

PRODAR aims for agroindustry to become an element that strengthens rural development efforts by enabling disadvantaged sectors of the population, such as the poor, women, young people, ethnic groups, displaced persons and refugees, to increase their incomes and become part of the production chain.

National AIR networks (REDARs), in different stages of development, presently operate in 15 countries. The structure and functioning of these country networks vary substantially as a result of differences in context, leadership, history of establishment, and government policies. The REDARs are loosely linked in three regional groups: Central America and the Caribbean, the Andean area, and the Southern Cone. PRODAR has three coordination levels: hemispheric, regional, and national. Hemispheric coordination is responsible for analysis and evaluation of overall policy issues, design of program strategies, and coordination and implementation of hemisphere-wide activities. Regional coordination deals with problems and activities in a group of countries related by physical proximity and similar rural socioeconomic structures and problems. Responsibilities and activities include the design of strategic policy and the articulation of hemispheric and national coordination. At the national level, members carry out program activities as part of the normal pursuit of their own development objectives.

Lacking resources and a defined structure, PRODAR initiatives have depended heavily on communication tools to spread AIR knowledge and increase awareness. Newsletters, bulletins, workshops, international meetings, technical exchanges, horizontal cooperation, training courses, and publications have been the major tools supporting local initiatives. The recently established PRODARNET, an electronic communication system, will accelerate this dissemination of information and broaden its influence.

PRODAR initiated research cofunding in 1992. Although there had always been some research activities, the Fondo de Investigación en Agroindustria Rural (FIAR, research fund for rural agroindustry) was introduced to give this aspect of the work more emphasis. The initiative sprang from a growing awareness of the

importance of research in defining problems and documenting the extent and role of AIR in local economies. National diagnostic surveys carried out by each country were key elements in raising awareness of the importance and potential of AIR in rural and national development. Research and horizontal cooperation made it apparent that weak management practices, lack of marketing strategies, restricted finances, indifferent product quality, and little product differentiation were hampering the growth of small-scale AIR. Research cofunded by FIAR has had positive impacts in the poor communities of several countries.

Through its regional coordinators, PRODAR has provided technical assistance in project formulation and implementation to almost all of the REDARs. Training programs and workshops have been important to this initiative. The network acts as a forum to connect teaching needs with the capabilities of its members. This has been an important support service of PRODAR, and given the limited resources available, it has produced useful results both in expanding technical and management capabilities and in encouraging broader awareness of the importance and potential of AIR.

PRODAR activities have undergone important changes in recent years in response to modifications in socioeconomic and market environments. All AIRs face a good deal more competition and need to participate in wider markets. They are not just oriented to self-sufficiency, as was so long assumed, and economies of scale in operations and associated services have become key issues. Consequently, PRODAR has shifted its focus from technology to markets, organization, and management. This is a crucial move for AIRs because, if they cannot adopt strategies, such as product differentiation, better quality, flexibility, and networking, to cope with increased competition, their very existence will be in question.

Through its national and international meetings, publications, country diagnostic studies, and the creation of national REDARs, PRODAR has played a major role in the promoting institutionalization of AIR and the recognition of its social and economic contribution. Many government ministries, generally those of agriculture, and public development organizations are now REDAR members, along with NGOs and universities. Large international development lending agencies have asked PRODAR to help them identify and define projects and policies for the AIR component of their rural-development programs. A number of university programs integrate AIR components or provide whole degree options. Now that the institutionalization of AIR has been accomplished, relevant policies and programs for support and promotion can be developed in many countries. However, this is just the beginning, and considerable effort is still required to increase the momentum and stability of the movement.

For the evaluation, 11 of the 15 PRODAR member countries were visited, and detailed information was collected on the activities and impact of each REDAR and its members. Significant variation in level of activity, as well as in operational and structural forms, was noted. Part II of the report discusses the initiatives in each country, summarizing their background, mission, objectives, and organization (as applicable); activities such as research (and development), information synthesis and dissemination, training (and technical assistance), and horizontal cooperation and institution building; funding; and observations. Information on activities supported by FIAR is presented in the five case studies found in Appendix I.

PRODAR has resisted becoming institutionalized, preferring to remain flexible and provide interactive leadership in a rapidly changing political and economic environment. The time has come however, for PRODAR to take on a legal personality of its own so that it can more easily and independently provide a space for multilateral collaboration; present perspectives of its own; and facilitate rapid sharing of information and ideas throughout the hemisphere via PRODARNET. Most members are amenable to the idea of forming a consortium of financing and technical-assistance institutions and REDAR representatives. This would allow all interested institutions to contribute to planning and policy-design activities.

A long discussion has been taking place within PRODAR about the impact of AIR programs on the socioeconomic position of the very poorest of rural inhabitants. Evidence from a number of countries and several of the case studies shows that there has been an impact, but the issue needs more analysis from technical, logistical, and socioeconomic perspectives. Not enough attention has been paid to the conditions required for small AIRs and microenterprises to compete and to the basic forms of support they need, such as credit, training, group organization, and marketing chains. It is important to recognize that these needs vary according to local situations and products and that the accumulation process leading to greater economic security is built on a variety of linkages and supports. PRODAR is making a useful contribution and needs to continue systematic, in-depth studies to document the processes and interactions involved.

To address environmental and gender issues, PRODAR has produced and published several studies on the roles of women in rural agroenterprises. A major work is a gender analysis of AIR processes done in Colombia in 1995. REDAR member institutions appeared to be making efforts to raise awareness of the need to preserve natural resources, but these efforts were not a direct result of PRODAR. PRODAR has an opportunity to bring environmental issues more explicitly into the program's activities through training and horizontal cooperation.

Awareness of both environmental and gender issue came up spontaneously in many discussions and in a variety of contexts.

PRODAR and its member REDARs can provide a stable base and channels for AIR development planning and resources. Action is needed by the entities closest to the people, families, communities, and associations working to improve their own situations through AIR development. At the hemispheric and regional levels, PRODAR provides the context and the matrix — the “space” — in which dialogue, promotion, and exchange of ideas with international supporters and all other members can take place. At the country or REDAR level, many of the same services and activities can be provided within a national context to support member institutions involved in field-level activities or those working in collaboration with the higher level or other countries. At the field level, local REDARs and members can interact with participants to define problems, determine solutions, and facilitate collaboration with a view to focusing and combining available resources for more efficient and effective results. Networks at all levels can be catalysts, combining the interests of members in the search for resources. It might be interesting to identify AIR components in large rural-development projects and offer to facilitate, manage, support, and promote these activities.

PRODAR has not had a large enough budget to create a centrally orchestrated and managed program. Many resources supporting PRODAR and REDAR activities have come from member institutions through related activities. Given the considerable number of activities performed in these countries, it is clear that the multiplier effects of the scarce local and international resources that have been invested are substantial.

However, if the PRODAR network of networks is to continue to evolve, stabilize, and address its stated mission, it will have to emphasize well-defined priorities in workplans and structural relationships and become more creative in its search for support. Overall, there appear to be more opportunities for national public and private funding and collaboration than most members realize. Finding partners and tapping into these funds will require imagination, initiative, and a willingness to collaborate. A strong base has been created, and the next phase of PRODAR development should focus on consolidation of collaborative efforts and relationships to optimize the use of scarce resources provided by all members.



## **Recommendations**

The evaluation team presents the following recommendations for consideration of PRODAR donors, supporters, members, and participants:

### **Functions and relationships**

1. The structure and organization of PRODAR need to be more clearly defined to provide a flexible mechanism for efficiently articulating and facilitating the interests, contributions, and participation of all members and supporters. This structure should have three levels:
  - National and subnational REDARs;
  - Regional committees representing REDARs in Central America, the Andes, the Southern Cone, and if resources are available, a fourth in the Caribbean; and
  - The broad hemispheric-coordination level, based in IICA.
  
2. To fulfil its mandate and direct its strategic development, PRODAR needs to achieve the status of a legal entity, with a Board of Partners that broadly represents supporting agencies and REDAR members. A form of consortium is suggested, with equal participation of its membership in defining policies and initiatives. The Board should include
  - One representative from each of the active international donor organizations;
  - One representative appointed by IICA;
  - One representative from each of the three (or four) regions, selected by members of the regional committees; and
  - The Executive Director of PRODAR.

The regional committees should be composed of one representative from each member REDAR and a representative from a major international technical institution, such as the International Centre for Tropical Agriculture (CIAT), Instituto de Nutrición de America Central y Panama (INCAP, institute for nutrition for Central America and Panama), or Centro

International de la Papa (CIP, international centre for the potato). The regional coordinators should support and participate in these committees and provide secretariat services.

3. The Board of the consortium should meet annually to discuss and guide PRODAR strategy and policy, in keeping with its statutes. Policy formulation is a continuing effort, and between meetings an ongoing electronic conference among Board members should be established and maintained through PRODARNET.
4. The Board should be responsible for setting the terms of reference for, and selecting, the Executive Director of PRODAR, possibly through a personnel subcommittee. The regional coordinators should be selected by the Executive Director in consultation with this subcommittee. The Executive Director's office should remain at IICA headquarters to clearly separate it from the regions and link it with the Information Centre in a hemispheric facilitating and information-brokering role. The Executive Director's office should also serve as Secretariat for the Board. The present staffing and organization should remain in place until these recommended changes can be implemented and adequate funding is available.
5. PRODAR should continue to be closely associated with IICA to benefit from its extensive infrastructure, communications, and conceptual capabilities. However, PRODAR should be a separate entity from IICA which nevertheless would remain a key member, providing intellectual, operational, political, and financial support at country, regional, and hemispheric levels. In this context, IICA's rural-development and AIR-support activities should be viewed as separate initiatives, which may be partially or wholly delivered through the PRODAR mechanism, at its option.

## **Finances**

6. Supporters at all levels need to substantially augment financial contributions to PRODAR if it is to continue to evolve as an effective AIR-support facilitation-and-delivery mechanism. Currently, resources tend to be spread too thin in an effort to respond to the requests and needs of PRODAR's 15 national REDAR members. Financing should be oriented by PRODAR strategy and policy planning and be adequate to achieve agreed-on goals and objectives. Should funds be inadequate to achieve these

goals and objectives, priorities must be set within overall strategies to invest in those areas where they will be most productive.

The following basic annual estimates derived from existing support levels, can provide a guide to the resources required to maintain a minimal level of activity in all 15 current REDARs:

	USD
Basic cofunding linked to REDAR self-financing: 15 × USD 15,000	225,000
PRODAR personnel, services, and logistics	200,000
FIAR cofunding: (15 × USD 15,000) + USD 25,000 for theses	250,000
Annual requirement	675,000

Note: USD, United States dollars.

7. REDAR members need to more actively pursue local funding for such things as bulletins and the cost of REDAR operations. One possibility is looking for participation in large rural-development projects and the promotion of AIR components at the program-planning stage. Any financial support from PRODAR should be contingent on local fund raising and a cofunding arrangement.
8. All members of PRODAR, especially members of the Board of Partners, need to participate in fund raising for PRODAR and REDAR initiatives, particularly field-level activities and supporting mechanisms.

### **Planning, programing, and monitoring**

9. In the programing area, both PRODAR and the REDARs should develop strategic plans as a guide for prioritizing activities and the application of scarce resources. With greater resources, PRODAR would be able to assist with planning and monitoring initiatives to operationalize the strategic plans.
10. Flexible annual plans should be prepared within the context of more general strategic plans and serve as the basis for cofunding, monitoring, and horizontal cooperation.

11. At the regional-coordination level, the focus should be on regional strategy, support for REDARs, and planning and facilitation of horizontal-cooperation events.
12. At the hemispheric level, initiatives should facilitate horizontal cooperation between regions and provide other necessary support and information gathering to ensure that overall strategies are adequately pursued.
13. To improve program implementation, capture information on lessons learned, and provide basic information for correcting weaknesses, a systematic monitoring and evaluation function at each of the three program levels is needed. Adequate funds should be provided to carry out this important function.
14. PRODAR should continue to focus on the creation and improvement of small to medium-sized enterprises, with the objective of alleviating poverty by providing opportunities for employment, expanding markets for local goods and services, and raising local entrepreneurial and management capabilities.

### **Research and development**

15. FIAR is an excellent mechanism for promoting AIR development and has had positive impacts in several poor communities of Colombia, Ecuador, Guatemala, and Peru. However, to be effective, the fund requires substantially increased funding (at least an average of USD 15,000 per year for each REDAR).
16. To ensure high-quality and effective application of FIAR support, allocation of the funding should continue to be on a competitive basis, with support awarded on merit according to defined criteria of conceptual, methodological, and organizational quality. Direct linkages to AIR-development actions and impacts should be required.
17. PRODAR should improve publicity for FIAR competitions, selection processes, and the results of FIAR-funded research. This information can be disseminated and updated through PRODARNET. Where necessary to upgrade the quality and applied focus of proposals, support for their preparation should be available through PRODAR's Grupo de Acompañamiento y Apoyo (accompaniment and support group). Monitoring and

evaluation of the research and development work supported by the fund needs to be improved.

18. The FIAR screening process for selecting research projects needs to be clear and to be seen as fair. The current procedures are objective but could be improved by providing a wider range of reviewers and a clearer explanation of the process and subject priorities.
19. Support should be continued for student theses, but better selection criteria and procedures are needed to ensure that the work relates directly to the development activities of REDAR members and that the work has adequate supervision. Tighter deadlines and a guide for expected outputs should be established.
20. PRODAR should be encouraged to develop, promote, and maintain the highest possible standards consonant with the realities of human and institutional capabilities at various levels. At the hemispheric and regional levels, high standards should be set for all initiatives and outputs, and support should be given to raise the levels of competence and excellence at field and operational levels. In this context, international institutions, such as CIAT, INCAP, and CIP, collaborating with national entities, have an important integrating, prioritizing, methodological, and synthesizing role to play. They can also ensure a continuity in activity focus and strategy, which is sometimes difficult for national institutions to maintain.
21. Research topics should have a practical orientation and come out of, or be part of, problem-specification activities where substantial spillover or multiplier effects are possible. Use of participatory research methods should be encouraged, and an awareness of gender issues and the application of gender-study results should be emphasized.
22. In the context of markets and commercialization, greater attention should focus on defining and controlling product quality and establishing standards. Studies and activities leading to market development should be encouraged. Scale economies in operations and competitiveness are other important market-related topics requiring analysis. These are crucial areas for AIRs because, without the strategies and technologies they need for product differentiation, improved quality, flexibility, and networking, they

will not be able to cope with increased competition, and their very existence will be in question.

23. PRODAR-related experiences in Latin America are a rich source of information and lessons on promoting and facilitating AIR development. This information should be analyzed, synthesized, systematized, and disseminated. CIAT is interested in, and is in a good position to assist with and add value to, this important documentation task. Emphasis should also be placed on the processes of technology transfer, extension, training, and methodology evaluation.

### **Training**

24. Special attention should be given to ensure that the trainees selected for training programs are in positions to use the new skills and knowledge they acquire in the development and delivery of AIR programs. For maximum impact, emphasis should be on “training the trainer” programs. Adequate follow-up should be provided to ensure the optimum application of training skills.
25. Some very good training materials have been developed and published by PRODAR but have not been widely distributed. The PRODAR coordination team should augment the dissemination, application, and adaptation of these training materials and courses.
26. People at all levels should be provided with training in the effective use of information systems, including new electronic media such as PRODAR-NET. This emphasis should be especially strong in REDARs and at the field level so that development agents, local associations, cooperatives, etc., have timely and more complete access to a wide range of relevant information.

### **Information**

27. As an information agent and broker, PRODAR should develop the best retrieval, storage, analysis, and dissemination system possible, with access to all media. PRODAR should also actively promote the use of PRODAR-NET as quickly and widely as possible. The establishment of REDAR-NETs should be encouraged wherever feasible, to facilitate greater exchange of information within and between countries.

28. **PRODAR and the REDARs should continue preparing and disseminating high-quality publications and training materials, both in hard copy and in electronic formats. Some improvement needs to be made in the capture and dissemination of materials produced as a result of PRODAR-related activities. PRODAR should maintain a central repository of documentation and develop electronic storage and distribution capabilities.**
  
29. **Market information on prices, product volumes, quality standards, and opportunities such as FoodLinks should be readily available throughout the networks. This could be linked to IICA's planned agricultural commodity-market information system, soon to go on-line. Information from diagnostics, competitiveness studies, and problem identification could also be included.**

## RÉSUMÉ ET RECOMMANDATIONS

Le Programme coopératif pour le développement de l'industrie agroalimentaire en Amérique latine et Caraïbes ( PRODAR ) a été lancé officiellement en 1989 afin de nouer des liens entre divers intérêts qui étaient soucieux de promouvoir l'essor de l'industrie agroalimentaire et d'améliorer le bien-être social et économique des collectivités rurales. Cette initiative a pris forme dans le prolongement de recherches effectuées en milieu rural et d'actions de développement axées sur des aspects ponctuels des entreprises, notamment l'avènement et l'introduction de nouvelles technologies de transformation et de fabrication de produits à partir des matières premières. À côté de ces initiatives, les ministères et les organismes officiels concernés ont concentré leurs efforts et leurs ressources sur la production de denrées de première nécessité, sans jamais se préoccuper de la transformation de ces produits après la récolte. On présuma que les ministères de l'industrie et les entreprises du secteur privé seraient en mesure de prendre les dispositions permettant d'influer sur la chaîne de production et d'utilisation des produits alimentaires et des fibres. Malheureusement, il semble que les petites industries agroalimentaires ( PIA ) aient évolué pour leur propre compte sans retenir l'intérêt des grandes institutions. Ce nonobstant, nombre de petits projets et expérimentations ont essaimé dans la plupart des pays d'Amérique latine et des Caraïbes, démontrant que des capacités considérables de production de recettes pouvaient s'affirmer grâce à l'apport des PIA.

Petit à petit, l'idée de l'utilité d'une approche plus intégrée s'est imposée, non seulement sur le plan technologique mais également sous l'angle de la réforme des orientations gouvernementales, d'une prise de conscience institutionnelle, des programmes de formation offerts au personnel technique et aux producteurs agricoles, des programmes universitaires et des programmes de développement rural. Partant de cette sensibilité plus aiguë et d'un leadership affirmé, des organismes d'aide internationaux ( Centre de coopération internationale en recherche agronomique pour le développement-SAR, Centre de recherches pour le développement international et Institut interaméricain de coopération pour l'agriculture ) ont uni leurs efforts pour promouvoir et créer une plus grande synergie entre les intérêts et les initiatives diffuses mais éparses des



PIA en Amérique latine et dans les Caraïbes. PRODAR a été conçu comme un programme coopératif destiné à conforter les diverses organisations nationales et internationales, des institutions financières et d'autres groupes de soutien et organisations non gouvernementales — en somme, toute institution intéressée au développement de la PIA. L'objectif a été de contribuer à la résolution des problèmes des producteurs et de les aider à améliorer leurs entreprises ou à en créer de nouvelles.

L'énoncé de mission du programme se lit comme suit :

PRODAR se propose de promouvoir, d'appuyer et d'aider le renforcement de l'industrie agroalimentaire en Amérique latine et dans les Caraïbes, ainsi que les systèmes institutionnels et politiques connexes, comme moyen d'encourager la participation des petits exploitants sur les marchés et d'améliorer les conditions de vie dans les zones rurales.

PRODAR vise à faire en sorte que l'industrie agroalimentaire devienne un élément qui consolide les efforts du développement rural en habilitant des secteurs défavorisés de la population et en permettant aux pauvres, aux femmes, aux jeunes, aux minorités ethniques, aux personnes déplacées et aux réfugiés d'accroître leurs revenus et de réintégrer la vie productive.

Les réseaux nationaux « REDAR », parvenus à différents stades de développement, sont actuellement en activité dans 15 pays. Leur structure et leur fonctionnement varient beaucoup d'un pays à l'autre en raison des différences de contexte, et selon le leadership, leur évolution et les politiques gouvernementales. Ils sont reliés de façon tenue dans trois regroupements sous-régionaux concentrés en Amérique centrale et dans les Caraïbes, dans les zones andines et le cône Sud. PRODAR a trois « paliers de coordination » appelés respectivement « hémisphérique », « régional » et « national ». La coordination hémisphérique est chargée de l'analyse, de la coordination ou de la mise en œuvre d'activités à cette échelle. La coordination régionale agit et prend en compte les problèmes d'un groupe de pays liés par la proximité physique et ayant des activités ou des structures socio-économiques rurales semblables. Les responsabilités et les activités comprennent la conception de politiques stratégiques et l'articulation de la coordination hémisphérique et nationale. Au palier national, les activités de développement sont mises à exécution dans le cadre du programme de chaque membre et dans le cours normal de la poursuite de ses objectifs de développement.

Manquant de ressources et d'une structure définie, les initiatives de PRODAR ont été très tributaires des instruments d'information et de communication pour faire connaître les PIA et sensibiliser la population. Bulletins, ateliers et colloques internationaux, échanges techniques et coopération horizontale, cours de

formation et publications ont été les principaux outils de soutien des initiatives locales. L'établissement récent de PRODARNET, un système électronique de communications, s'avère très prometteur pour véhiculer plus rapidement l'information et faire connaître PRODAR.

Le cofinancement de la recherche a été entrepris par PRODAR en 1992. Bien que certaines activités de recherche aient toujours existé, le fonds FIAR a été introduit pour reconnaître l'importance de cet aspect. L'initiative est le résultat d'une prise de conscience croissante du rôle de premier plan que joue la recherche dans la définition de la problématique et du besoin de documenter l'étendue et le rôle des PIA au sein des économies locales. Les enquêtes de diagnostic national réalisées dans chaque pays sont à l'origine de cette prise de conscience de l'importance et des possibilités des PIA pour le développement rural et national. La recherche et les efforts de coopération horizontale ont permis de constater que les contraintes pesant sur l'expansion agroindustrielle paysanne incluent, entre autres, des pratiques de gestion insuffisantes, une absence de stratégies de marketing, des moyens limités, une qualité et une différenciation presque nulles des produits. Des effets positifs ont été constatés chez des populations pauvres de plusieurs pays grâce à la recherche cofinancée par FIAR.

Par l'entremise de ses coordonnateurs régionaux, PRODAR a prêté à presque tous les REDAR son assistance technique à la formulation et à la mise en application de projets. Les programmes de formation et les ateliers se sont révélés très utiles. Le Réseau agit comme un « forum » d'interconnexion des besoins en enseignement et des capacités manifestées par ses membres. Cette intervention a constitué de la part de PRODAR un service de soutien important qui, au vu des moyens limités mis en œuvre, a donné de bons résultats à la fois sur le plan du renforcement des capacités techniques et des capacités de gestion tout en amenant une plus large considération de l'importance et du potentiel des PIA.

Ces dernières années, les activités de PRODAR ont connu d'importants changements par suite de la transformation des marchés et de l'environnement socio-économique. Toutes les PIA font aujourd'hui face à une concurrence beaucoup plus forte et doivent élargir leurs parts de marché. Elles ne sont pas seulement orientées vers l'autosuffisance, comme on l'a tenu si longtemps pour acquis, et les économies d'échelle au niveau de leur exploitation et des services connexes sont devenues un souci permanent. Par conséquent, PRODAR a modifié son orientation et, d'une action axée sur la technologie, il a embrassé une approche focalisée sur les marchés, l'organisation et la gestion. Ce passage est crucial pour les PIA car si elles ne sont pas en mesure d'adopter des stratégies leur permettant d'affronter la concurrence au moyen de la différenciation des

produits, d'une meilleure qualité, d'une plus grande flexibilité et capacité de maillage, leur existence même serait mise en cause.

Par l'intermédiaire de son organisation de réunions nationales et internationales, de ses publications, des études de diagnostic nationales et de la création des REDAR nationaux, PRODAR a joué un rôle majeur dans l'institutionnalisation des PIA et la reconnaissance de la contribution sociale et économique qu'elles peuvent faire. Beaucoup de ministères gouvernementaux — notamment les ministères de l'Agriculture et des organismes publics de développement — ont adhéré à REDAR, conjointement avec les organisations non gouvernementales et les universités. Dans la sphère du développement international, les grandes institutions de crédit ont requis l'assistance de PRODAR pour identifier et définir des projets et des politiques liés à la composante PIA des programmes de développement rural. Un certain nombre de programmes universitaires intègrent des composantes PIA ou offrent des options de spécialisation dans ce domaine. L'institutionnalisation des PIA est aujourd'hui un fait attesté sur lesquelles des politiques et des programmes de soutien et de formation peuvent se greffer dans beaucoup de pays. Toutefois, ce développement n'en est qu'au stade initial et des efforts considérables doivent être déployés pour accroître le potentiel et la stabilité du mouvement.

Au cours de l'évaluation, la visite s'est élargie à 11 des 15 pays membres de PRODAR et il a été possible de recueillir des informations circonstanciées sur les activités et les répercussions de ces activités. On a noté une variation significative du niveau d'activité ainsi que des structures et des caractères opérationnels. La partie II du rapport donne un aperçu des initiatives de chacun des pays sous les titres suivants : historique et précédents, mission et objectifs, activités et travaux de recherche en particulier, synthèse et diffusion de l'information, formation, coopération horizontale et renforcement des institutions, aide au financement et observations relatives aux réalisations et aux difficultés éprouvées. Les résultats obtenus grâce aux fonds de FIAR consacrés à la recherche sont présentés dans les cinq études de cas figurant à l'Annexe I.

Plutôt que d'être une entité de programme structurée, PRODAR a voulu demeurer souple et assurer un leadership interactif dans un environnement politique et économique en évolution rapide. Le moment est venu cependant pour PRODAR d'assumer une personnalité juridique. Il pourra ainsi fournir, plus facilement et de façon plus autonome, un espace propice à une collaboration multilatérale et ouvrir par lui-même de nouvelles voies, par exemple en facilitant un échange prompt d'informations et d'idées dans l'hémisphère par la voie des médias électroniques aujourd'hui plus accessibles. La plupart des membres sont favorables à l'idée d'un « consortium » composé d'institutions de financement et

d'assistance technique et d'une représentation des REDAR. Cela permettrait à toutes les institutions intéressées de contribuer à la planification et aux activités de conception des politiques.

PRODAR a réfléchi et il a longuement débattu des conséquences des programmes PIA sur la position socio-économique des populations les plus démunies des campagnes. L'expérience d'un certain nombre de pays et plusieurs études de cas semblent démontrer qu'une influence s'est effectivement exercée mais que la question exige d'être analysée plus à fond sous les angles technique, logistique et socio-économique. On n'a pas accordé suffisamment d'attention aux conditions requises pour que les PIA et les microentreprises puissent devenir compétitives et sur les formes essentielles de soutien indispensables moyennant l'accès au crédit, à la formation, à l'organisation collective, aux chaînes de commercialisation, etc. Il importe de reconnaître que ces besoins varient en fonction des situations qui prévalent sur place et des produits et à mesure que le processus d'accumulation conduisant à une stabilité économique mieux assurée s'intègre dans des formes de liens et de soutiens très variées. PRODAR est en voie d'apporter un précieux concours et a besoin de s'appuyer sur des études méthodiques et approfondies afin de documenter les processus et les interactions connexes.

Au chapitre de l'égalité des sexes et du respect de l'environnement, PRODAR a produit et publié plusieurs études sur le rôle des femmes au sein des entreprises du secteur agroalimentaire. Le principal travail, réalisé en Colombie en 1995, est une analyse des processus des PIA considérée sous l'angle de la condition féminine. Les efforts déployés par les institutions qui adhèrent aux REDAR dans le but de sensibiliser la population à ce problème et aux enjeux de la protection des ressources naturelles se sont affirmés sans résulter directement de PRODAR. Ce dernier a la possibilité d'intégrer de manière plus explicite les aspects écologiques aux activités des programmes par la formation et la coopération horizontale. La conscience de l'environnement et les aspects liés au rôle de la femme et de l'homme en société sont ressortis de nombreuses discussions et dans les contextes les plus divers.

PRODAR et ses membres REDAR peuvent fournir une assise stable et être les canaux par lesquels passent la planification du développement des PIA et leurs ressources. Les actions devraient être mises à exécution par les instances placées le plus près des gens, des familles, des collectivités et des associations qui désirent améliorer leur propre condition à la faveur du développement des PIA. Aux paliers hémisphérique et régional, PRODAR prépare le terrain et constitue la « matrice », l'« espace » dans lequel le dialogue, la promotion et les échanges d'idées avec les aidants internationaux et tous les autres membres peuvent prendre place dans une

perspective mondiale. Au niveau national et à celui du REDAR, un grand nombre de ces mêmes services et activités peuvent être fournis, cette fois dans un contexte national, à l'appui des institutions membres qui interviennent sur le terrain ou qui œuvrent en collaboration avec un autre pays ou avec le palier supérieur. Sur le terrain, les REDAR locaux et les membres sont directement en contact avec les participants afin de définir ensemble les problèmes, déterminer les solutions et faciliter la collaboration et obtenir ainsi des résultats plus efficaces et réels en se concentrant et en conjuguant les ressources disponibles. Les réseaux à tous les niveaux peuvent jouer un rôle catalyseur en vue d'une convergence des intérêts des membres à la recherche de moyens. Une possibilité intéressante consiste dans l'identification active et la promotion des composantes des PIA dans de grands projets de développement rural et permet de faciliter, de gérer, d'appuyer et de promouvoir ces activités.

Le budget de PRODAR ne lui a pas permis de créer et de diriger un programme orchestré et géré à partir du centre. Beaucoup de ressources à l'appui des activités de PRODAR et des REDAR proviennent des institutions membres, pour des activités ponctuelles. Considérant le nombre considérable d'activités réalisées dans ces pays, il est clair que les effets « multiplicateurs » des maigres ressources investies à l'échelle locale et internationale ont été importants.

Toutefois, si le réseau des réseaux PRODAR est appelé à évoluer, à se stabiliser et à mener à bien sa mission énoncée, il devra se fixer des priorités bien définies, articulées en fonction de plans de travail et par l'intermédiaire de relations structurelles, et devenir plus dynamique dans sa recherche de soutien. Dans l'ensemble, il semble exister davantage de possibilités pour un financement et une collaboration des secteurs privé et public au sein des pays que ne le pensent les membres. Créer des partenariats et tirer parti de ces sources de financement requiert de l'imagination, beaucoup d'initiative et le désir de collaborer. Une bonne base existe et la prochaine phase du développement de PRODAR devrait se concentrer sur la consolidation des efforts concertés et le renforcement des liens établis afin d'optimiser l'utilisation des ressources réduites qui proviennent de tous les membres.

## **Recommandations**

L'équipe d'évaluation propose les recommandations suivantes à l'attention des donateurs, amis, membres et participants de PRODAR :

### **Fonctions et relations**

1. La structure et l'organisation de PRODAR doivent être plus clairement définies afin de procurer un mécanisme flexible susceptible d'offrir un

cadre fonctionnel favorisant les intérêts, les contributions et la participation de tous les membres et amis. Cette structure devrait s'élargir à trois niveaux :

- les REDAR nationaux et subnationaux ;
- les comités régionaux représentant les REDAR en Amérique centrale, les territoires andins et le cône Sud et, si les ressources le permettent, un quatrième comité dans la zone des Caraïbes ;
- le palier de coordination hémisphérique basé auprès de l'IICA.

2. Afin de remplir son mandat et d'orienter son développement stratégique, PRODAR doit acquérir un statut juridique régi par un conseil des partenaires représentant d'une manière large les institutions d'appui et les membres des REDAR. Une forme de « consortium » est suggérée, avec une participation égale des membres à la définition des politiques et des initiatives proposées. Le conseil devrait comprendre :

- un représentant de chacune des organisations internationales donatrices intéressées ;
- un représentant désigné par l'IICA ;
- un représentant de chacune des trois ( ou quatre ) régions sélectionnées par les membres des comités régionaux ;
- le directeur exécutif de PRODAR.

Les comités régionaux devraient se composer d'un représentant de chacun des membres des REDAR et d'un représentant d'une grande institution internationale technique telle que le Centre interaméricain des administrateurs fiscaux (CIAT), INCAP (Instituto de Nutrición de America Central y Panama) ou CIP (Centro Internacional de la Papa). Les coordonnateurs régionaux appuieraient l'action de ces comités, y prendraient part et fourniraient des services de secrétariat.

3. Le conseil du consortium devrait se réunir une fois l'an pour traiter de la stratégie et des orientations de PRODAR, en conformité avec ses statuts.

La formulation des politiques est un effort continu. Entre les réunions, une conférence électronique continue devrait s'établir parmi les membres du conseil, par l'intermédiaire de PRODARNET.

4. Le conseil devrait se charger de définir le mandat et de choisir le directeur exécutif de PRODAR, si possible par l'entremise d'un sous-comité du personnel. Les coordonnateurs régionaux devraient être choisis par le directeur exécutif, de concert avec ce sous-comité. Le bureau du directeur exécutif devrait se trouver toujours au siège de l'IICA afin de le maintenir distinct des régions et de le relier au Centre d'information dans son rôle d'animation et de courtage de l'information hémisphérique. Le bureau du directeur exécutif servirait également de secrétariat du conseil. Les procédures de dotation et d'organisation devraient demeurer jusqu'à ce que les changements recommandés puissent être mis en place et qu'un financement suffisant soit assuré.
5. PRODAR devrait continuer à être étroitement lié à l'IICA afin de bénéficier de sa vaste infrastructure et de ses capacités de communication et de conceptualisation. Toutefois, PRODAR devrait former une entité distincte de l'IICA qui devrait néanmoins demeurer un membre clé fournissant le soutien intellectuel, opérationnel, politique et financier aux paliers national, régional et hémisphérique. Dans ce contexte, les activités de développement rural de l'IICA et les activités de soutien aux PIA devraient être considérées comme des initiatives séparées pouvant être fournies dans leur totalité ou en partie au travers du mécanisme de PRODAR et selon l'option qu'il lui plaît d'exercer.

## **Finances**

6. Les intéressés à tous les paliers devront augmenter substantiellement leur contribution financière à PRODAR, si celui-ci doit tendre à devenir un centre efficace de soutien aux PIA et un mécanisme d'exécution. Actuellement, on tend à engager trop timidement les ressources dans le désir de répondre aux requêtes et aux besoins des 15 REDAR membres qui convergent dans PRODAR. Le financement devrait être orienté conformément à la stratégie et à la planification des politiques de PRODAR et s'avérer suffisant pour atteindre les buts et objectifs escomptés. En l'absence de fonds suffisants pour répondre aux exigences de ces objectifs, il faudrait établir des priorités dans le cadre des stratégies globales en vue d'un investissement dans les domaines les plus porteurs.

Les chiffres indiqués ci-dessous constituent une estimation annuelle de base étudiée à partir des niveaux actuels de soutien et peuvent servir de repère pour la prévision des ressources requises pour conserver un seuil d'activités minimal dans chacun des 15 REDAR existants :

	\$ US
Cofinancement de base lié au degré d'autofinancement d'un REDAR : 15 x 15 000 \$	225,000
Dotation en personnel, services et logistique de PRODAR	200,000
Cofinancement FIAR : ( 15 x 15 000 \$) plus 25 000 \$ pour des thèses	250,000
<b>Besoins annuels</b>	<b>675,000</b>

7. Les membres des REDAR doivent rechercher plus activement des sources de recettes sur place pour répondre à leurs propres besoins ( publication de bulletins et frais d'exploitation ). Un domaine à explorer est celui de la recherche d'une participation à de vastes projets de développement rural et de la promotion de composantes PIA dès le stade de la planification de programme. Tout soutien financier provenant de PRODAR devrait se rapporter au financement local et à des arrangements de cofinancement.
8. Tous les membres de PRODAR, et notamment les membres du conseil des partenaires, se doivent de participer au financement des initiatives de PRODAR et REDAR, notamment celles qui sont axées sur des activités et de mécanismes de soutien sur le terrain.

### **Planification, programmes et suivi**

9. Dans le domaine de la programmation, les plans stratégiques doivent être élaborés à la fois de l'initiative de PRODAR et des REDAR, en tant que guide servant à dresser un ordre de priorités et à répartir les ressources réduites. En disposant de plus de ressources, PRODAR serait en mesure d'aider à la planification et au suivi des initiatives visant à mettre les plans stratégiques à exécution.
10. Des plans annuels souples doivent être préparés dans le contexte d'un plan stratégique général plus vaste et servir de fondement au cofinancement, aux activités de suivi et à la coopération horizontale.



11. Au niveau du coordonnateur régional, l'accent doit être mis sur la stratégie régionale, le soutien aux REDAR et la planification et l'animation de manifestations de coopération horizontale.
12. Au palier hémisphérique, les initiatives devraient favoriser la coopération horizontale entre les régions et assurer tout autre soutien nécessaire et tout échange d'informations utiles à la poursuite appropriée des stratégies globales.
13. Afin d'améliorer la mise en œuvre de programmes, il serait opportun de réunir l'information permettant de tirer toutes les leçons de l'expérience et de fournir l'information essentielle servant à corriger les lacunes observées ; un suivi méthodique et une fonction d'évaluation devront être institués aux trois paliers. Des fonds suffisants devraient être consacrés à cette importante fonction.
14. PRODAR devrait continuer à se concentrer sur la création de PME-PMI, sans jamais perdre de vue l'objectif de lutte contre la pauvreté par l'aide à l'emploi, par l'expansion des marchés pour des biens et services produits sur place et par la formation, pour favoriser l'esprit d'entreprise et la compétence en gestion à l'échelle locale.

### **Recherche et développement**

15. Le fonds FIAR est un excellent mécanisme de promotion du développement des PIA et a déjà eu des effets positifs sur la vie de plusieurs collectivités pauvres en Équateur, au Pérou, en Colombie et au Guatemala. Toutefois, pour s'avérer efficace, il requiert un financement substantiellement plus élevé ( au moins 15 000 \$ US par année, pour chaque REDAR ).
16. Afin d'assurer la qualité et une application efficace du soutien à FIAR, l'affectation du financement devrait continuer à se faire sur une base concurrentielle et l'obtention du soutien au mérite selon des critères définis de qualité conceptuelle, méthodologique et organisationnelle. Des liens directs avec les actions visant au développement des PIA et à l'obtention des effets escomptés sont préconisés.
17. PRODAR devrait améliorer la publicité relative aux concours FIAR, aux processus de sélection et aux résultats de la recherche financée. Cette

information peut être diffusée et mise à jour par l'entremise de PRODARNET. Au besoin, GAAP (Grupo de Acompañamiento y Apoyo) devrait accorder son soutien en vue de meilleures propositions et d'un niveau de qualité et de concentration plus élevé. Le suivi et l'évaluation de la recherche-développement ainsi financée doivent être améliorés.

18. Le processus de filtrage FIAR pour la sélection des projets de recherche doit être jugé transparent et équitable. Les procédures actuelles sont objectives mais elles pourraient être améliorées par l'apport d'autres évaluateurs ainsi que par une explication plus claire du processus et des priorités poursuivies.
19. On devrait continuer à accorder le soutien aux thèses des étudiants mais les critères de sélection et les procédures doivent être améliorées pour assurer que le travail est directement lié aux activités de développement des membres des REDAR et que la supervision est appropriée dans tous les cas. Des échéances plus serrées et un guide des résultats attendus doivent être établis.
20. PRODAR devrait être encouragé à élaborer, à promouvoir et à rechercher les normes de qualité les plus élevées en accord avec les réalités des capacités humaines et institutionnelles aux divers paliers. Aux paliers hémisphérique et régional, des normes élevées devraient être fixées pour toutes les initiatives, les apports et le soutien qui concourent à hausser le niveau de compétence et d'excellence sur le terrain et au niveau opérationnel. Dans ce contexte, des institutions internationales telles que le CIAT, INCAP et CIP, en collaboration avec des instances nationales, ont un rôle important à jouer pour faciliter l'intégration, la fixation des priorités, la méthodologie et l'effort de synthèse. Elles peuvent également assurer la continuité d'activités et de stratégies bien focalisées ( but que toute institution nationale a du mal à réaliser ).
21. Les sujets de recherche devraient avoir une orientation pratique et être directement liés aux activités de définition des problèmes sur lesquelles ils peuvent influencer en produisant des retombées positives. L'utilisation des méthodes de recherche participative devrait être encouragée et l'accent mis sur la sensibilité aux questions concernant la condition féminine et aux résultats des études favorisant l'émancipation des rôles.

22. Dans le contexte des marchés et de la commercialisation, il convient d'accorder une attention plus soutenue à la définition et au contrôle de la qualité des produits et à la conformité avec les normes établies. Les études et les activités conduisant à l'expansion du marché devraient être encouragées. Des économies d'échelle en matière d'exploitation et de compétitivité sont d'autres éléments importants de l'évolution des marchés qui doivent être pris en compte. Ces aspects revêtent une grande importance pour les PIA dont l'existence même est en jeu si elles ne sont pas soutenues par des stratégies et des technologies favorables à la différenciation des produits, à l'amélioration de la qualité, à la flexibilité et au maillage afin de faire face à une concurrence aguerrie.
  
23. L'expérience de PRODAR sur le continent latino-américain est riche d'informations et de leçons apprises au sujet de la promotion et de l'aide aux PIA. Une plus grande attention devrait être portée à l'analyse, à la synthèse, à la systématisation et à la dissémination de l'information connexe à ces expériences. Le CIAT a manifesté son intérêt et est en bonne posture pour aider et conforter cette importante tâche de création et documentation de connaissances. Outre l'information, l'accent devrait être mis sur les processus de transfert de technologie, de vulgarisation, de formation et d'évaluation de la méthodologie.

## **Formation**

24. En ce qui concerne les programmes de formation, un soin spécial devrait être accordé à la sélection des candidats afin de s'assurer qu'ils sont en mesure de mettre à profit les nouvelles compétences et connaissances acquises grâce aux programmes élaborés et offerts dans le domaine des PIA. L'accent devrait être mis sur des programmes de formation de formateurs afin de multiplier les incidences possibles. Un suivi approprié devrait permettre d'assurer une application optimum des habiletés issues de la formation.
  
25. PRODAR a déjà élaboré et publié certains matériels didactiques de très grande valeur qui n'ont pas eu une large diffusion. La coordination de PRODAR devrait encourager la diffusion, l'application et l'adaptation de ces documents et cours de formation.
  
26. Les personnes de tous les niveaux devraient être initiées à l'utilisation efficace des systèmes d'information, y compris les nouveaux médias

électroniques tels que PRODARNET. Un accent particulier devrait être mis sur les REDAR et sur la formation sur le terrain en veillant à ce que les professionnels du développement, les associations locales, les coopératives, etc. aient un accès plus prompt et complet à une gamme étendue de sources d'information pertinentes.

## **Information**

27. En sa qualité de courtier et d'agent d'information, PRODAR devrait élaborer le meilleur système possible de recherche, de stockage, d'analyse et de diffusion, avec accès à tous les médias. Il devrait promouvoir activement l'utilisation de PRODARNET aussi promptement et largement que possible. L'établissement de REDARNET devrait être encouragé dans tous les cas où cela est possible afin de faciliter un plus grand échange d'information à l'intérieur des pays et entre ces derniers.
  
28. PRODAR et les REDAR devraient continuer à préparer et à diffuser des publications de qualité et des documents de formation sur support papier et sous forme électronique. Certaines améliorations doivent être apportées en ce qui a trait à la réception et à la mise en valeur des documents produits dans le prolongement des activités connexes à PRODAR. L'entretien d'un répertoire central de documentation est important et les capacités de stockage et de distribution électroniques doivent être développées.
  
29. Les informations sur les marchés afférentes aux cours, à la production, aux normes de qualité et aux ouvertures telles que FoodLinks devraient être facilement accessibles via les réseaux. Une connexion est préconisée avec le système d'information de l'IICA sur le marché des denrées agricoles qui pourra être bientôt consulté en direct. Des informations relatives aux diagnostics, aux études de compétitivité et à la définition de problèmes pourraient être également incluses.

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## RESUMEN EJECUTIVO Y RECOMENDACIONES

El Programa Cooperativo para el Desarrollo de la Agroindustria Rural en América Latina y el Caribe, conocido por la sigla PRODAR, se integró oficialmente en 1989 con objeto de vincular a una variedad de entidades dedicadas a promover el potencial de la agroindustria rural y a mejorar el bienestar socio-económico de los campesinos y sus comunidades. La iniciativa surgió como consecuencia de investigaciones rurales y actividades de desarrollo pertinentes a los aspectos individuales de la gestión rural, especialmente la modificación e introducción de tecnologías para la elaboración y manufactura de productos a partir de materias primas agrícolas. Paralelamente al desarrollo de esas iniciativas, los organismos oficiales de apoyo y los ministerios dirigían sus esfuerzos y recursos a la producción de materias primas agrícolas, sin prestar apenas atención a lo que sucedía a los productos después de la cosecha. Se asumía que los ministerios de industria y las empresas privadas eran bien capaces de encargarse de los pasos posteriores en la producción de alimentos y fibras, y en la cadena de producción. Desafortunadamente, los intereses de las agroindustrias rurales (AIR) de pequeña escala quedaban marginados fuera del centro de atención y esfuerzos de desarrollo de las principales instituciones. No obstante, en la mayoría de los países latino-americanos y del Caribe se llevaron a cabo una variedad de pequeños proyectos y experimentos que demostraron la posibilidad de crear una capacidad de generación de ingresos considerable con apoyo para las agroindustrias rurales.

Gradualmente surgió la idea de que era necesario un enfoque más integrado que incluyera no solamente los aspectos tecnológicos, sino también los cambios en la política del gobierno, la conciencia institucional, los programas de capacitación para personal técnico y los productores rurales, los planes de estudios universitarios y los programas de desarrollo rural. Como resultado de esa conciencia y liderazgo nuevos, los organismos de apoyo internacional CIRAD-SAR, CIID e IICA aunaron esfuerzos para promover y atraer más atención hacia los intereses e iniciativas tan comunes, aunque aislados, de las agroindustrias rurales en todo América Latina y el Caribe (LAyC). PRODAR fue concebido como un programa cooperativo para integrar los esfuerzos de entidades internacionales y nacionales, grupos financieros y de apoyo, ONGs y, en suma,

cualquier institución involucrada en el fomento de agroindustrias rurales. El objetivo ha sido asistir a los productores a resolver sus problemas y a mejorar sus agroindustrias rurales o formar otras nuevas.

La declaración de propósito creada para PRODAR reza así:

PRODAR promueve, apoya y ayuda a fortalecer la agroindustria rural en América Latina y el Caribe, así como los sistemas políticos e institucionales asociados, como medio de aumentar la participación de los pequeños campesinos en los mercados y mejorar las condiciones de vida en áreas rurales.

PRODAR se propone convertir a la agroindustria en un elemento fortalecedor de los esfuerzos de desarrollo rurales, dándole una oportunidad a los sectores desprivilegiados de la población, tales como los pobres, las mujeres, los jóvenes, los grupos étnicos, las personas desplazadas y los refugiados de aumentar sus ingresos y de formar parte de la cadena de producción.

Redes nacionales "REDAR" en diferentes etapas de desarrollo se encuentran presentemente en operación en 15 países. La estructura y funcionamiento de esas redes de países varía substancialmente dependiendo de las diferencias de contexto, liderazgo, historia del establecimiento y políticas de gobierno de cada país. Esas redes están vinculadas someramente en tres grupos regionales que centran su atención en América Central y el Caribe, el área andina y el Cono Sur. PRODAR tiene "tres niveles de coordinación", denominados "hemisférico", "regional" y "nacional". La coordinación hemisférica es responsable del análisis y evaluación de cuestiones de política general, la formulación de estrategias de programación y de la coordinación e implementación de actividades a nivel de hemisferio. La coordinación regional trata de problemas y actividades en un grupo de países vinculados por su proximidad física y por estructuras y problemas socio-económicos rurales similares. Las responsabilidades y actividades incluyen la formulación de la política estratégica y la articulación de la coordinación hemisférica y nacional. A nivel nacional, las actividades de desarrollo se llevan a cabo como parte del programa de cada miembro en el curso normal de sus labores por lograr sus objetivos de desarrollo.

No teniendo recursos ni una estructura definida, las iniciativas de PRODAR han dependido mucho de los medios de información y comunicación para facilitar la difusión del conocimiento y la creación de conciencia con respecto a las agroindustrias rurales. Boletines, talleres, reuniones internacionales, intercambios técnicos, cooperación horizontal, cursos de capacitación y publicaciones han sido los medios principales que hasta ahora han servido para apoyar las iniciativas locales. El reciente establecimiento de PRODARNET, sistema de

comunicación electrónico, representa una gran promesa para acelerar esta función y su influencia en todo el proceso.

PRODAR dio inicio al cofinanciamiento de la investigación en 1992. Si bien siempre hubo algunas actividades investigativas, se decidió introducir el fondo FIAR para dar más énfasis a ese aspecto del trabajo. La iniciativa surgió como resultado de la creciente realización de la importancia que tiene la investigación en definir problemas y para documentar la extensión y el papel que juegan las agroindustrias rurales en las economías locales. Los estudios de diagnósticos nacionales llevados a cabo por cada país fueron los elementos principales para alcanzar una inteligencia sobre la importancia y potencial de las agroindustrias rurales en los esfuerzos de cooperación. Se hizo aparente, a través de la investigación y los esfuerzos de cooperación horizontal, que entre las limitaciones importantes que se ciernen sobre el crecimiento agroindustrial de los campesinos están las prácticas de gestión deficientes, la falta de estrategias de comercialización, la escasez de financiamiento, la indiferencia con respecto a la calidad del producto y poca diferenciación de productos, entre otras. Se han visto impactos positivos en comunidades pobres de varios países como resultado de la investigación cofinanciada por el FIAR.

A través de sus coordinadores regionales, PRODAR ha proporcionado a casi todas las unidades de REDAR asistencia técnica en la formulación e implementación de proyectos, constituyendo un apoyo importante los programas de capacitación y los talleres. La red actúa como "foro" para enlazar las necesidades de enseñanza con la capacidad de sus miembros. Este ha sido un servicio de apoyo importante de PRODAR y, a pesar de la limitación de recursos disponibles, ha producido resultados útiles tanto en la expansión de las capacidades técnicas y de gestión como en despertar una mayor conciencia de la importancia y potencial de las agroindustrias rurales.

Las actividades de PRODAR han experimentado importantes cambios en años recientes en respuesta a modificaciones ocurridas en los entornos socio-económico y del mercado. Todas las agroindustrias rurales enfrentan una competencia mayor y tienen que ampliar sus mercados. Su fin no es auto-suficiencia, como se suponía hace algún tiempo. Las economías de escala en operaciones y servicios asociados se han convertido en cuestiones fundamentales de preocupación. En consecuencia, PRODAR ha pasado de un enfoque orientado hacia la tecnología, a cuestiones de mercado, organización y gestión. Este es un cambio crucial para las agroindustrias rurales porque, si no pueden adoptar estrategias tales como la diferenciación de productos, mejor calidad, flexibilidad y redes de colaboración para hacer frente a una mayor competencia, su misma existencia corre peligro.



A través de la organización de reuniones nacionales e internacionales, publicaciones, estudios de diagnóstico y la creación de las REDAR nacionales, PRODAR ha desempeñado un papel fundamental en la institucionalización de las agroindustrias rurales y el reconocimiento de su contribución social y económica. Muchos ministerios gubernamentales, generalmente los de agricultura, y organizaciones de desarrollo públicas son actualmente miembros de REDAR, conjuntamente con ONGs y universidades. Importantes organismos internacionales de préstamos para el desarrollo han solicitado la asistencia de PRODAR para identificar y definir proyectos y políticas destinados al componente de las agroindustrias rurales de los programas de desarrollo rural. Varios programas universitarios integran los componentes de las agroindustrias rurales o proporcionan títulos completos. Ahora que se ha logrado la institucionalización de las agroindustrias rurales se pueden crear programas de políticas, apoyo y promoción en muchos países. Sin embargo, esto es sólo el comienzo, necesitándose todavía considerable esfuerzo para aumentar el ímpetu y estabilidad del movimiento.

En el curso de la evaluación, visitamos once de los quince países miembros de PRODAR y se recopiló información detallada sobre las actividades y el impacto de cada REDAR y sus miembros. Se notaron variaciones significativas en el nivel de actividad, así como en la forma operacional y estructural. La Parte II del informe proporciona un resumen de las iniciativas de cada país bajo los temas antecedentes e historia; misión, objetivos y organización; actividades tales como la investigación (y desarrollo), síntesis de información y difusión, capacitación (y asistencia técnica) y cooperación horizontal y formación de la institución; cuestiones de fondos de apoyo; y observaciones sobre los logros y dificultades. La información sobre los resultados del fondo de investigación FIAR se presenta en 5 casos de estudio que aparecen en el Apéndice I.

En vez de convertirse en una institución con un programa estructurado, PRODAR prefirió seguir siendo una entidad flexible prestando liderazgo interactivo en un entorno político y económico cambiante. Sin embargo, ha llegado el momento de que PRODAR adopte una personalidad legal propia que le permita proveer, de una manera fácil e independiente, un espacio de colaboración multilateral; presentar sus propias perspectivas y facilitar el flujo de información e ideas por todo el hemisferio con ayuda de los medios electrónicos disponibles actualmente. La mayoría de los miembros acogen con beneplácito la idea de un "Consortio" compuesto de instituciones financieras y técnicas, en el que estén representadas las REDAR. Esto permitiría a todas las instituciones interesadas contribuir a las actividades de planificación y la formulación de políticas.

Ha habido un amplio debate en el seno de PRODAR acerca de las repercusiones de los programas de agroindustrias alimentarias sobre el nivel socio-económico de los habitantes rurales más pobres. La evidencia recogida en un número de países y en varios de los estudios de caso confirman que ha habido repercusiones, pero es necesario analizar más a fondo la cuestión desde el punto de vista técnico, logístico y socio-económico. No se ha prestado suficiente atención a las condiciones requeridas para que las pequeñas agroindustrias rurales y microempresas puedan competir y las formas básicas de apoyo que necesitan tales como crédito, capacitación, organización de grupos, cadenas de comercialización, etc. Es importante reconocer que esas necesidades varían de acuerdo a las situaciones y productos locales y que el proceso de acumulación que conduce a una mayor seguridad económica se apoya sobre una variedad de vínculos y apoyos. PRODAR hace una contribución útil y es necesario que continúe realizando estudios sistemáticos y comprensivos para documentar los procesos e interacciones involucradas.

En cuanto a las cuestiones del medio ambiente y las relacionadas con la igualdad de la mujer, PRODAR ha producido y publicado varios estudios del papel que desempeña la mujer en las empresas agrícolas rurales. Uno de los trabajos principales es un análisis de género de las operaciones de las agroindustrias rurales realizados en Colombia en 1995. Parece que las instituciones miembros de REDAR están prestando la debida atención a la preservación de recursos, pero estos esfuerzos no son el resultado directo del trabajo de PRODAR. PRODAR tiene la oportunidad de incorporar más explícitamente las cuestiones ambientales en las actividades de programa a través de la capacitación y la cooperación horizontal. Tanto el tema de la conciencia con respecto a la preservación del medio ambiente como el de la problemática acerca de la igualdad de la mujer surgieron espontáneamente en muchas conversaciones y en una variedad de contextos.

PRODAR y sus REDAR miembros pueden proporcionar una base estable y los canales adecuados para la planificación y asignación de recursos a la creación de agroindustrias rurales. Las acciones se deben llevar a cabo por las entidades que trabajen más de cerca con la población, familias, comunidades y asociaciones para mejorar sus propias situaciones a través de la creación de agroindustrias rurales. A nivel hemisférico y regional, PRODAR proporciona el contexto y forma la matriz, el “espacio” dentro del cual puede tomar lugar en sentido global el diálogo, promoción e intercambio de ideas con los partidarios internacionales y todos los otros miembros. A nivel del país o REDAR, se pueden proveer muchos de los mismos servicios y actividades dentro de un contexto nacional en apoyo de las instituciones miembros con trabajos en terreno o en

colaboración con un nivel más alto y otros países. A nivel de terreno, las REDAR y miembros locales interaccionan directamente con los participantes para definir los problemas, determinando soluciones y facilitando la colaboración para alcanzar resultados más eficaces y eficientes mediante la concentración y combinación de los recursos disponibles. En todos los niveles, las redes de intercambio pueden desempeñar una función idónea para combinar los intereses de sus miembros en la búsqueda de recursos. Una posibilidad interesante es identificar los componentes de las agroindustrias rurales en los grandes proyectos de desarrollo rural y facilitar, administrar, apoyar y promover activamente esas actividades.

PRODAR no ha tenido un presupuesto suficientemente amplio para crear y dirigir un programa estructurado, controlado desde un punto central. Muchos recursos que apoyan las actividades de PRODAR Y REDAR han sido aportados por las instituciones miembros dentro del contexto de las actividades desarrolladas. Dado el número considerable de actividades llevadas a cabo en esos países, está claro que los efectos “multiplicadores” de los escasos recursos locales e internacionales invertidos, han sido substanciales.

Sin embargo, si PRODAR, como red de redes, ha de continuar evolucionando, estabilizándose y cumpliendo con su misión, tendrá que enfatizar prioridades bien definidas en los planes de trabajo y relaciones estructurales y hacerse más buscar apoyo en forma creativa e ingeniosa. En general, parece que hay más oportunidades de financiamiento y colaboración públicos y privados de lo que creen la mayoría de los miembros. La búsqueda de asociados y la manera de obtener fondos de nuevas fuentes, requerirá imaginación, iniciativa y la disposición de colaborar. Se ha creado una base sólida y la próxima fase de desarrollo de PRODAR debe concentrarse en la consolidación de esfuerzos y relaciones colaborativas con el fin de optimizar el uso de los escasos recursos provistos por todos los miembros.

## **Recomendaciones**

El equipo de evaluación presenta las siguientes recomendaciones a la consideración de los donantes, partidarios, miembros y participantes de PRODAR:

### **Funciones y relaciones**

1. Es necesario definir más claramente la estructura y organización de PRODAR para que proporcione un mecanismo flexible que permita articular y facilitar eficientemente los intereses, contribuciones y participación de todos los miembros y partidarios. Esa estructura deberá incluir tres niveles:

- Las REDAR nacionales y subnacionales;
  - Comités regionales que representen a REDAR en América Central, los Andes, el Cono Sur y, si hay recursos disponibles, un cuarto comité en el Caribe; y,
  - El nivel de coordinación hemisférica amplia con sede en IICA.
2. Para cumplir con su mandato y dirigir su desarrollo estratégico, PRODAR necesita alcanzar su propia personería legal, con una Junta de Asociados que represente ampliamente a los organismos que lo apoyen y a los miembros de REDAR. Se sugiere una forma de consorcio con participación igual de sus miembros en la definición de políticas e iniciativas. La composición de la Junta deberá incluir
- Un representante de cada una de las organizaciones donantes internacionales activas;
  - Un representante nombrado por IICA
  - Un representante de cada una de las tres (o cuatro) regiones seleccionadas por los miembros de los comités regionales; y,
  - El Director Ejecutivo de PRODAR.

Los comités regionales deben estar compuestos de un representante de cada miembro REDAR y un representante de una institución internacional principal tal como CIAT, INCAP o CIP. Los coordinadores regionales apoyarían y participarían en estos comités y proporcionarían servicios de secretaría.

3. La Junta del Consorcio deberá reunirse anualmente para discutir y guiar la estrategia y política de PRODAR según los estatutos. La formulación de política es un esfuerzo continuado y entre una reunión y la otra se deberá establecer, y mantener a través de PRODARNET, una conferencia electrónica permanente entre los miembros de la Junta.
4. La Junta será responsable por seleccionar y fijar el mandato del director ejecutivo, posiblemente a través de un subcomité de personal. Los

coordinadores regionales deberán ser seleccionados por el director ejecutivo en consulta con este subcomité. La oficina del director ejecutivo continuará estando en la sede de IICA para independizarla claramente de las regiones y vincularla con el Centro de Información de modo que se encargue de la facilitación y difusión de la información a nivel hemisférico. La oficina del director ejecutivo servirá también como Secretaría para la junta. El personal y organización actuales deberán permanecer en su lugar hasta que se pongan en práctica estos cambios recomendados y esté disponible el financiamiento adecuado.

5. PRODAR deberá continuar su estrecha asociación con IICA para aprovechar su amplia infraestructura, capacidad conceptual y de comunicaciones. Sin embargo, PRODAR debe ser una entidad independiente de IICA que, sin embargo, seguirá siendo un miembro clave para la provisión de apoyo intelectual, operacional, político y financiero a nivel nacional, regional y hemisférico. En este contexto, las actividades de desarrollo rural de IICA y las actividades de apoyo a las agroindustrias rurales deberán considerarse como iniciativas separadas que pueden llevarse a cabo parcial o totalmente a través del mecanismo de PRODAR, a su elección.

## **Finanzas**

6. Es necesario que los partidarios de todos los niveles aumenten substancialmente sus contribuciones financieras a PRODAR si ha de continuar evolucionando como un mecanismo eficaz de facilitación y propiciatorio de agroindustrias rurales. Actualmente la tendencia es distribuir los recursos en cantidades muy pequeñas para responder a las muchas solicitudes y necesidades de los 15 miembros nacionales de PRODAR. El financiamiento deberá orientarse por la estrategia de planificación y la política de PRODAR y será adecuado para alcanzar metas y objetivos acordados. Si no hay suficientes fondos para lograr estos objetivos y metas, será necesario fijar prioridades dentro de las estrategias generales para invertir en aquellas áreas que den más resultados.

A continuación se indican algunos estimados anuales básicos derivados de los niveles existentes de apoyo que pueden proporcionar una guía a los recursos requeridos para mantener un nivel mínimo de actividad en todas las quince REDAR existentes:

	US\$
Co-financiamiento básico vinculado al autofinanciamiento de REDAR: 15 × US\$15.000	225.000
Personal, servicios y logística de PRODAR	200.000
Co-financiamiento de FIAR: (15 × US\$15.000) más US\$25.000 para tesis	250.000
Necesidades anuales	675.000

7. Los miembros de REDAR necesitan hacer esfuerzos más denodados por obtener fuentes de ingresos locales para cubrir necesidades tales como boletines y las operaciones de REDAR. Un área que debería explorarse es la de tratar de participar en grandes proyectos de desarrollo rurales y en la promoción de componentes de agroindustrias rurales en la etapa de planificación de programas. Cualquier apoyo financiero de PRODAR debe estar supeditado a la recaudación de fondos locales y a un acuerdo de cofinanciamiento.
  
8. Todos los miembros de PRODAR, y especialmente los miembros de la Junta de Asociados, necesitan participar en la recaudación de fondos para las iniciativas de PRODAR y REDAR, particularmente aquellas que centran la atención en las actividades de terreno y en mecanismos de apoyo.

### **Planificación, programación y supervisión**

9. En el área de programación, los planes estratégicos deberán crearse tanto por PRODAR como por REDAR como una guía para priorizar y asignar los escasos recursos. Si contara con mayores recursos, PRODAR podría asistir en las actividades de planificación y supervisión para poner en operación los planes estratégicos.
  
10. Deben prepararse planes anuales flexibles dentro del contexto de planes estratégicos más generales y servir como fundamento para el cofinanciamiento, la supervisión y la cooperación horizontal.
  
11. A nivel de coordinación regional, la atención debe centrarse en la estrategia regional, apoyo a las REDAR, y planificación y facilitación de los eventos de cooperación horizontales.

12. A nivel hemisférico, las iniciativas deben facilitar la cooperación horizontal entre regiones y proporcionar cualquier otro apoyo necesario y recopilación de información para asegurar que las estrategias generales se implementan adecuadamente.
13. Para mejorar la implementación del programa, recopilar información sobre las lecciones aprendidas y proporcionar información básica para corregir puntos débiles, se deberá introducir un monitoreo sistemático y una función evaluativa en cada uno de los tres niveles de programa. Asimismo, se deberán proporcionar fondos adecuados para llevar a cabo esta importante función.
14. PRODAR debe continuar centrando su atención en la creación y mejoramiento de las pequeñas y medianas empresas con objeto de aliviar la pobreza a través de la provisión de oportunidades de empleo, ampliación de mercados para los bienes y servicios locales y elevar el nivel local de capacidad empresarial y de gestión.

### **Investigación y desarrollo**

15. El fondo FIAR es un excelente mecanismo para promover la creación de agroindustrias rurales y ha producido repercusiones positivas en varias comunidades pobres de Ecuador, Perú, Colombia y Guatemala. Sin embargo, para que sea eficaz, el fondo requiere un aumento substancial del financiamiento, al menos un promedio de US\$15.000 anuales por cada REDAR.
16. Para asegurar una alta calidad y una aplicación eficaz del apoyo de FIAR, la asignación de los fondos deberá continuarse sobre una base competitiva, concediéndose el apoyo por concurso de méritos según criterios definidos de calidad conceptual, metodológica y organizacional. Se requerirán vínculos directos con las actividades de desarrollo e impactos en las agroindustrias rurales.
17. PRODAR deberá mejorar la publicidad sobre los concursos de FIAR, así como sobre el proceso de selección de los candidatos y los resultados de las investigaciones financiadas. Esta información puede difundirse y actualizarse a través de PRODARNET. Cuando sea necesario, GAAP brindará apoyo en la mejorar la calidad de las ofertas y su enfoque al alcance

de trabajo. Es necesario mejorar el monitoreo y evaluación del trabajo de investigación y desarrollo financiado por el fondo.

18. Es necesario que el proceso de selección de proyectos de investigación de FIAR sea transparente y que aquellos que recurran a él lo vean justo. Los procedimientos actuales son objetivos, pero podrían mejorarse si se ampliara el número de revisores y se explicara más claramente el proceso y las prioridades en materia de temas.
19. Se debe continuar el apoyo a las tesis de estudiantes, pero es necesario mejorar los criterios y procedimientos de selección para asegurar que el trabajo se relacione directamente con las actividades de desarrollo de los miembros de REDAR y cuenta con la supervisión adecuada. Se deberán establecer plazos más estrictos y una guía de resultados esperados.
20. Se debe estimular a PRODAR a crear, promover y mantener las normas de calidad más elevadas posibles, en consonancia con las realidades de las capacidades humanas e institucionales en varios niveles. En los niveles hemisférico y regional, se deben fijar normas elevadas para todas las iniciativas y resultados, y se debe prestar apoyo para elevar los niveles de competencia y excelencia en el terreno y en el aspecto operacional. En este contexto, instituciones internacionales tales como CIAT, INCAP y CIP, que colaboran con entidades nacionales, pueden desempeñar una importante función integradora, de asignación de prioridades, metodológica y sintetizadora. Esas instituciones pueden también aportar continuidad en la estrategia y el objetivo perseguido, lo cual, muchas veces difícil para las instituciones nacionales.
21. Los tópicos de investigación deben tener una orientación práctica y surgir, o ser parte de, actividades de identificación de problemas cuando exista la posibilidad efectos derivados o multiplicadores. Debe estimularse el uso de métodos de investigación participatorios y se debe poner énfasis en crear conciencia sobre los problemas de la igualdad de la mujer y la aplicación de los resultados investigativos relacionados con ese tema.
22. En el contexto de los mercados y la comercialización, se debe prestar mayor atención a la definición y control de la calidad del producto y al establecimiento de normas. Deben estimularse los estudios y actividades que conducen al desarrollo del mercado. Las economías de escala en



operaciones y la competitividad son otros importantes tópicos relacionados con el mercado que requieren análisis. Ésta es un área crucial para las agroindustrias rurales porque, si no se las apoya con estrategias y tecnologías para la diferenciación de productos, mejoramiento de calidad, flexibilidad y redes de intercambio para hacer frente a una mayor competencia, su existencia misma corre peligro.

23. Las experiencias de PRODAR con respecto a las agroindustrias rurales en América Latina son una fuente abundante de información y lecciones concernientes a la promoción/facilitación de creación de agroindustrias rurales. Se debe prestar mayor atención al análisis, síntesis, sistematización y difusión de la información producto de esas experiencias. CIAT está interesada, y en muy buena posición, para ayudar, y añadir valor, a esta importante tarea de adquisición de conocimientos y creación de documentación. Además de información, se debe poner énfasis en los procesos de transferencia de tecnología, extensión, capacitación y evaluación de la metodología.

### **Capacitación**

24. En los programas de capacitación se debe prestar especial atención a la selección de los educandos para garantizar que adquirirán la habilidad de usar la nueva pericia y conocimientos obtenidas en la creación e implementación de programas agroindustrias rurales. Se debe poner énfasis en los programas de capacitación para los instructores mismos, a fin de multiplicar los efectos potenciales. Se debe proporcionar un seguimiento adecuado para asegurar la aplicación óptima de la pericia adquirida durante la capacitación.
25. PRODAR ha creado y publicado algunos materiales de capacitación muy buenos cuya distribución no ha sido tan amplia. La coordinación de PRODAR deberá aumentar la difusión, aplicación y adaptación de esos materiales y cursos de capacitación.
26. Se debe proporcionar capacitación a las personas en todos los niveles para que puedan usar eficazmente los sistemas de información, incluyendo los nuevos medios electrónicos tales como PRODARNET. Hay que poner un énfasis particular en las actividades de terreno de modo que los agentes de fomento, las asociaciones locales, cooperativas, etc., tengan un acceso

oportuno y completo a una amplia gama de fuentes de información pertinentes.

## **Información**

27. Como agente e intermediario de información, PRODAR debe desarrollar el mejor sistema posible de recuperación, almacenamiento, análisis y difusión de datos con acceso a todos los medios. Deberá promover activamente el uso de PRODARNET tan pronto y ampliamente como sea posible. Deberá instarse el establecimiento de REDARNETS cuando sea factible, con objeto de facilitar un mayor intercambio de información dentro de los países y entre los países.
  
28. PRODAR Y REDAR deberán continuar con la preparación y difusión de publicaciones de calidad y materiales de capacitación tanto en forma impresa como electrónica. Es necesario introducir algunas mejoras en la captura y difusión de los materiales producidos como resultado de actividades asociadas a PRODAR. Es importante contar con un depósito central de documentación que se actualice periódicamente, y se deberán crear un almacenamiento electrónico y con su debida capacidad de distribución.
  
29. Se deberán poner a disposición de todos, a través de todas las redes, informaciones sobre mercados tales como precios, volumen de productos, normas de calidad y oportunidades tales como FOODLINKS. Esto podría vincularse al sistema de información sobre el mercado de productos agrícolas que tiene en mente crear IICA y que pronto estará disponible en línea. También se podría incluir información sobre diagnóstico, estudios de competitividad e identificación de problemas.

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# PART I: BACKGROUND, CONTEXT, AND ISSUES

## Historical development

PRODAR, or Cooperative Programme for the Development of Rural Agroindustry in Latin America and the Caribbean, was officially formed in 1989 to link a variety of interests concerned with promoting the potential of rural agroindustry and improving the socioeconomic well-being of rural people and their communities. This initiative evolved out of rural research and development (R&D) activities, conducted throughout the 1980s, which dealt with individual aspects of rural enterprises, especially the modification and introduction of technologies for processing and manufacturing of products based on agricultural raw materials. Initially, very little of this work was linked or conceptualized in a “rural economic systems” context. Most researchers and development program managers preferred to stick with technical specialties and standard economic performance studies rather than look at markets, management and operational factors in a more “business oriented” and systems way.

Underlying this pattern, official support agencies and ministries focused their effort and resources on agricultural raw material production with almost no attention to what happened to the products after harvest. It was assumed that Ministries of Industry and private enterprise were well able to tend to subsequent steps in the food and fibre production and utilization chain. Unfortunately for small scale rural agroindustry (AIR) participants, their interests fell outside the focus and development thrust of the main line institutions with the greatest access to resources and with influence on markets.

Nevertheless, a variety of small projects and experiments were undertaken in most Latin American and Caribbean countries which demonstrated that considerable income generating capacity could be developed through AIR support. These were scattered, isolated, and for the most part, limited in their perspective and results. Gradually the awareness grew that a more integrated approach was needed that included not only the technological aspects, but also modifications to government policy, institutional awareness, training programs for technical staff and rural producers, university curricula and rural development programs.

Out of this evolving awareness and leadership, several international support agencies joined efforts to promote and bring more focus to the widespread, but isolated, AIR interests and initiatives throughout Latin America and the Caribbean

(LA&C). One of the early networking initiatives from which PRODAR evolved was RETADAR (appropriate-technology network for the development of rural agroindustry), supported by French Technical Cooperation (CTF) in association with the Centro de Investigaciones en Tecnología de Alimentos (CITA) in Costa Rica. Links were formed between CITA and French technical institutions and in 1983 they began publishing a bulletin, which is still distributed on a regular basis. Related to these initiatives, the International Development Research Centre of Canada (IDRC) funded postharvest research projects and along with the Organization of American States (OAS), the Centro Latinoamericano de Tecnología y Educación Rural (CELATER), the Interamerican Institute for Cooperation on Agriculture (IICA) and the International Center for Tropical Agriculture (CIAT) provided support and input to international seminars and training courses.

As time went on, additional efforts were included in the network activities involving training, research and documentation. A workshop course called ERTEC (Espacio Rural para Tecnólogos) was given seven times in various national and international formats and attempted to introduce a wider perspective of socioeconomic issues, peasant organization and business management. The research aspects delved into the conceptual framework for AIR, developed project methodologies and prepared case studies to synthesize information on and evaluate important AIR experiences in Latin America. This led to documentation on potential AIR impact and preparation of a specialized collection of booklets, "Los Cuadernos de la Agroindustria Rural" published by CELATER and IICA and funded by IDRC. A significant result of these activities was the creation of a new awareness of the importance of AIR in rural development and national economic development in the region. In addition, a technical and scientific community of interest was forming related to AIR promotion in national and international institutions.

The movement gained momentum. To promote and support AIR more directly with local and peasant groups, several national networks were formed. These REDARs (Redes Nacionales de Desarrollo de la Agroindustria Rural) were a response to the growing consensus of the socioeconomic importance of AIR and the need to institutionalize the promotion and support of this sector. Early REDARs were formed in Chile, Ecuador, Colombia and Dominican Republic. These experiences are covered in more detail in Part II of this report. With the establishment of REDARs, a group of national and international institutions involved in the AIR development process met in Cali, Colombia, in 1988, and decided to unite efforts in a cooperative program of support called PRODAR.

PRODAR was conceived as a cooperative program to integrate the efforts of international and national entities, financial and other support groups, REDARs, NGOs — any institution involved in the development of AIR. What is sought with

PRODAR is to help producers resolve problems in their efforts to improve their AIR enterprises or form new ones. It was conceived to provide better access to technical consulting services, commercial information, financial assistance and organizational direction. PRODAR is one of 11 hemispheric programs contemplated in the Joint Action Plan for Agricultural Reactivation in Latin America and the Caribbean (PLANALC) which was approved by the InterAmerican Agricultural Group at a meeting in San Jose, Costa Rica, in October 1989.

## **The context for PRODAR**

### **The political and economic context**

When PRODAR was created at the end of the last decade, it was within a context of political, economic, agrarian and conceptual characteristics that has changed rapidly over the intervening years. Democratic processes and governments have been established in most Latin American countries. Resolution of external debt crises and reforms aimed at reducing state intervention in economic activities and liberalization of markets produced a variety of results including rapid reduction of inflation rates. On the negative side, economic growth and employment objectives were, in general, poorly attained. The reduction of debt and fiscal spending has affected social and development programs but rural populations, because of sheer numbers in proportion to total population, continue to be an important factor in national socioeconomic situations. The concept of peasant economies as being purely subsistence and outside the market system has begun to change and the improvement of technology, management and marketing at all levels of enterprise has become important.

The preponderant economic model is now that of the internationalization of economies and the opening of markets. Competition is a watchword at all levels. Rural and agrarian policies reflect a stronger orientation toward maintaining the political system than toward the socioeconomic role of the rural populations. The dividing line between urban and rural is becoming blurred and a great deal more exchange is taking place between the two spheres.

The above comments cannot be completely generalized, however, as a new form of differentiation is becoming evident in rural areas. Rural development studies indicate a growing gap between rural inhabitants closer to urban areas and markets and those further away with less opportunities and therefore focused on survival strategies through subsistence production. In some areas, the theme of agrarian reform is coming back, promoted in part by the World Bank, with a renewed interest in confronting the difficult problem of rural poverty which is directly linked to urban poverty and social unrest.

Incredible demands are currently placed on existing production systems in rural areas. They must contribute to rural development, create opportunities for marginalized groups such as very poor youth and women, be profitable and competitive, respect natural resources and maintain the environment in which they develop their activities. Although this seems an impossible task, PRODAR must continue to adapt and modify its role and services in studied response to these demands that tend to pull it in many directions. This is the context and the challenge PRODAR is facing and within which all its members must operate.

### **The support-agency context**

Within the above political and economic context, the main donor and support agencies have each had objectives and foci that influenced the way PRODAR developed. A brief description of the three main support institutions follows.

#### **CIRAD-SAR**

CIRAD-SAR (Centre de Coopération Internationale en Recherche Agronomique pour le Développement – Département des Systèmes Agroalimentaires et Ruraux) joined PRODAR in association with CTF of the French Ministry of Foreign Affairs which had helped create RETADAR in 1983 and PRODAR in 1989. It looks for technology development cooperation partnerships which can benefit small enterprises and poor communities. In the terms of reference for its representative, CIRAD-SAR expressed intent to contribute to the institutional strengthening of PRODAR in order to assist exchange between the member organizations of the REDARs and to create and disseminate innovations for AIR development. Through the PRODAR network, CIRAD-SAR has sought scientific and technical partners in Latin America and a number of PRODAR members have benefited from joint efforts during the period of this support.

#### **IDRC**

IDRC's main interests have been to support R&D activities benefiting poor families and communities from a range of socioeconomic perspectives. From this perspective, it promoted and supported a review of AIR activity in Latin America to help establish the importance of this sector for poor rural inhabitants. IDRC had also supported work at many R&D institutions that later became REDAR members and active participants in PRODAR. Subsequently, support was provided through PRODAR to help create REDARs in Chile, Ecuador and the Dominican Republic and directly to Colombia. The funding assisted with their training, communication, information, diagnostic studies and coordination activities. With the creation of FIAR (Fondo de Investigación en Agroindustria Rural) in 1992, IDRC support was

extended to all network members. PRODAR provided a channel for reducing costs and decentralizing research financing and for institutional strengthening. More recently, the PRODAR hemispheric network was called upon by IDRC to help promote its FoodLinks project which focuses on connecting small developing country producers with Canadian food processing and marketing enterprises in an initiative to expand their markets and income.

## IICA

From basically providing logistical support at the beginning, IICA has gradually increased its support and participation on a country by country basis. In the second phase of the program, it subsidized IDRC support for the Southern Cone Regional Coordinator as well as providing seed money to initiate several REDARs. The location of PRODAR central coordination in IICA headquarters benefits from the good facilities for communication, administrative and banking logistics, and greater access to political spheres and high level national administrative offices.

For IICA, PRODAR represents a new form of cooperation with the countries of its jurisdiction. It involves different modes of partnership to collaborate with and involve local expertise in identifying and responding to the numerous needs in its member countries. IICA envisages greater participation in PRODAR, as a member, and has committed funds to support the PRODAR regional coordinators (half time) who will work closely with the new IICA regional representatives in promoting the AIR program.

## Mission and objectives

The mission statement developed for PRODAR reads as follows:

PRODAR promotes, supports and helps strengthen rural agroindustry in Latin America and the Caribbean, as well as the associated institutional and political systems, as a means of boosting small farmers' participation in markets and improving conditions in rural areas.

PRODAR aims for agroindustry to become an element that strengthens rural development efforts by enabling disadvantaged sectors of the population, such as the poor, women, young people, ethnic groups, displaced persons and refugees, to increase their incomes and become part of the production chain.

Within its overall mission, the main objectives of PRODAR as defined in the statutes document approved by the General Assembly meeting in November 1990 are the following:



## 6 RURAL AGROINDUSTRY IN LATIN AMERICA

- To strengthen and improve AIR for the purpose of augmenting its cohesion and market competitiveness;
- To promote the development of new AIRs as a means of generating greater rural employment and income and the improvement of living conditions for farmers and rural communities;
- To strengthen institutions related to and working in the development of AIR; and
- To contribute to the formulation of policies and norms which will facilitate AIR development.

### **Support-agency objectives for RODAR**

The donor and support agency objectives for PRODAR have been compiled from project and agreement documents of the main support institutions: CIRAD-SAR, IDRC and IICA. The objectives vary somewhat in statement and emphasis but are reasonably consistent with each other and with PRODAR's objectives. They include the following:

- To support the development of AIR in Latin America and the Caribbean;
- To identify constraints to AIR improvement and growth;
- To strengthen network capacity and to help establish REDARs;
- To provide supporting services for AIR development such as R&D, technical assistance, training, information collection and diffusion, and institution building activities;
- To identify and promote rural development projects which include AIR components and are especially designed to alleviate rural poverty; and
- To facilitate the identification of AIR products which can fill niches and compete in local, national and international markets.

These objectives are in line with the agencies' broader rural-development objectives. CIRAD-SAR looks for technology development cooperation that can

benefit small enterprises and poor communities. IICA suggests the need for strong institutional action that aims at “sustainable peasant agricultural competitiveness” and the creation of “agricultural value added” which can be captured by producer families. IDRC looks for application of R&D which benefits low income families and, more recently, the identification of products or materials which can be commercialized in Canadian markets through FoodLinks. For IFAD (International Fund for Agricultural Development) which is contemplating direct support and participation, rural development promotion strategies in Latin America, such as PRODAR, should create strategic alliances for financial and institutional support focused on improving the situation of the very poor in rural communities. All these programing approaches are compatible within the context of a consortium which provides the structure for their integration and collaboration.

### **Evolution of focus**

While PRODAR’s definition of objectives has not varied since 1989, strategic issues have undergone important changes as noted above under context. At the beginning of PRODAR activities, emphasis was given to agroindustry development for “grassroots” small scale activities. Since 1992 overall emphasis has shifted to connections with the market and with the need to improve agroindustry management. The initial strategy, more rooted in the peasant food-security perspective, gave way to a closer attention to market demands, marketing of excess production and to value-added activities in rural communities. Product diversification and economies of scale in operations have become, in this context, key issues to be addressed.

## **Working structure**

### **Organizational concept**

In order to interpret the results of PRODAR efforts over the 6+ years of its existence and evolution, it is important to consider what it set out to be and how it has defined itself and its task. First of all, it has had strong leadership and at the same time has resisted becoming “institutionalized” allowing it greater flexibility and freedom of action within its broadly defined mandate. It has become more of a “movement,” an “idea” in motion, an “evolving concept” than a strictly defined program in the traditional project oriented sense. As noted by one of the PRODAR coordinators, it is not an organic entity and is likely to be described differently depending on the perspective of the person providing the definition. However, implicit in all definitions is a sense of collaboration in the promotion of AIR as an important element of rural development.

### **The REDARs**

REDAR networks in different stages of development are presently in operation in 15 different countries. They are loosely linked in three regional groupings focused on Central America and the Caribbean, the Andean area and the Southern Cone. Activities are coordinated, at least conceptually if not always in operation, by a support group GAAP (Grupo de Acompañamiento y Apoyo de PRODAR) composed of the three regional coordinators one of whom is also the Executive Director of PRODAR. The structure and functioning of these country networks vary substantially from one country to the next as a result of differences in context, leadership, history of establishment and government policies. This will become more evident in Part II which describes the development and activities of 11 of the 15 REDARs.

### **Coordination levels**

PRODAR has three coordination levels, referred to as “hemispheric,” “regional” and “national.” Hemispheric coordination is responsible for analysis and evaluation of overall policy issues; design of program strategies; and coordination and implementation of hemisphere-wide activities, such as international meetings, preparation of “generic” training material and the like. At the hemispheric level, a small “coordination team” includes the Executive Director, a Technical Assistant who also organizes and runs the Information Centre and an Executive Secretary.

Regional coordination deals with problems and activities in a group of countries related by physical proximity and similar rural socioeconomic structures and problems. Responsibilities and activities include strategic policy design and articulation of hemispheric and national coordination. It also contributes to the implementation of regional activities, mainly horizontal cooperation among REDARs, and training. The regional level support teams include only the regional coordinator, often participating on a part-time basis with a part-time secretary.

At the national level, development activities are carried out as part of the program of each member in the normal course of pursuing their development objectives. Each REDAR has an appointed coordinator or an elected president chosen by REDAR members while in others the person is provided by a support agency such as IICA or an interested government agency. They are normally (but not exclusively) professionals of the agroindustrial, agricultural or social-sciences disciplines, with experience in agroindustrial development. REDAR members are public or private institutions (not individuals) and REDAR coordinators are associated with a REDAR member institution. REDAR members include NGOs, government organizations such as technology institutes and rural development agencies, universities, and producer associations.

### **PRODAR as an information system**

Lacking resources and a defined structure, the PRODAR initiatives have depended heavily on information and communication tools to facilitate the spread of AIR knowledge and awareness. Newsletters, bulletins, workshops, international assembly meetings, technical exchanges and horizontal cooperation, training courses and publications have been the major tools supporting local initiatives. The regional coordinators were able to pay occasional visits and provide technical and organizational support but, for the most part, these were limited by available resources and the main function of the GAAP has been to collect, synthesize and organize the dissemination of information, promote the importance of AIR and contribute to training courses. The recent establishment of PRODARNET, an electronic communication system, holds great promise for acceleration of this function and its influence. PRODAR participates with 12 other networks in a "Red de Redes" and contributed to the creation of a CD-ROM on AIR and rural development. In addition, it is a member of another confederation of networks, Dialogue for Human Progress, in which it shares documents, information and experiences.

### **The research fund — FIAR**

Research support in a proactive way was initiated by PRODAR in 1992. Although it had always had some research activities, the initiative sprang from a growing awareness of the importance of research in problem definition and documentation of the extent and role of AIR in local economies. This process was consistent with IDRC's mandate and it provided seed money for the creation of the Rural Agroindustry Research Fund (FIAR). The Fund provides cofunding on a competitive basis and project selection is carried out through a well-designed and rigorous screening process by GAAP members and technically qualified donor representatives. This approach has been successful in leveraging additional funds many times over. Unfortunately, no figures are available which measure how great the impact has been but descriptions of some of the supported activities provided in Part II and in Appendix I note evidence of positive outcomes from PRODAR and REDAR initiatives.

FIAR can be viewed as a small conglomerate of three specific funds: a survey, a project and a thesis fund. There is wide agreement on the need to expand this research fund to increase PRODAR visibility and influence and to augment the knowledge about rural agroindustries and obstacles to their expansion. Cooperative research efforts among different national networks with similar problems could be an important addition to the present activities. Appendix II provides information on the amounts accorded to each country and focus. A number of these studies have been published and the PRODAR information centre

has prepared a document with abstracts and descriptions of all FIAR-funded activities.

### **Training and technical assistance activities**

PRODAR-GAAP has provided technical assistance in project formulation and implementation to almost all of the REDARs. Training programs and workshops have also been an important support for national programs. These programs and workshops are listed in Appendix III.

PRODAR Hemispheric Coordination designed and established a training program in business management and marketing of agroindustrial products addressed to field work supervisors and managers of cooperatives and farmer associations. In the Southern Cone, a course on commercialization was designed and delivered in various locations. At the post graduate level, courses were developed and introduced in Colombia and Costa Rica. PRODAR acts as a "forum" for interconnecting teaching needs and design of courses with capabilities among network members. This has been an important support service of PRODAR and, given the limited resources available, has produced useful results in both expanding technical and management capabilities as well as encouraging broader awareness of the importance and potential of AIR.

## **Important issues**

### **Competition, marketing, and scale of operations**

PRODAR activities have undergone important changes in recent years as a response to modifications in the socioeconomic environment noted above.

From a microeconomic viewpoint, these modifications strongly affected the rules of economic competition. For medium sized and large enterprises, competition was crudely intensified. Most enterprises were forced to compete not only with domestic but also, due to declining tariffs, with international suppliers. Small business in Latin America suffered the same general effects but, in addition, they faced a sudden reduction of public support through less expenditures in training and extension activities, less subsidized credit. In many cases, small business now had to compete with big enterprises in the same market segments.

At the same time, some opportunities arose as small businesses started to look for more distant markets. New issues came into the arena, such as how to improve efficiency and cost competitiveness, how to get access to differentiated markets and how to deal with new market demands such as quality standards. In PRODAR these changes were reflected in demands for training and technical

assistance in business management, market analysis, product positioning and differentiation strategies, among other key issues.

With greater competition, economy of scale problems arise in production, processing and marketing along with crucial questions about the competitive position of small enterprises. How can they meet and assure product quantity, delivery and quality standards in a cost effective way? What government policies would help them compete? Are joint ventures or marketing arrangements with private sector entities a viable option? How could producer or other local associations and cooperatives organize to negotiate feasible terms to allow more value-added to remain in poor communities? These are only some of the issues of which PRODAR leaders are aware and are beginning to address. Nevertheless, technical assistance and research on these new issues has been insufficient up to this point. Such topics will be of increasing importance for PRODAR to tackle if it is to continue to provide leadership. This is a crucial area for AIRs because, if they can't adopt strategies such as product differentiation, better quality, flexibility and networking to cope with the increased competition, their very existence will be in question.

### **Political and policy role of PRODAR**

Through its organization of national and international meetings, publications, country diagnostic studies and the creation of national REDARs, PRODAR has played a major role in the recognition of AIR's relevance and the socioeconomic contribution it can make in LA&C. It has shown that the AIRs are not just relics of the past but that they are able to develop and find their place in the modern economy. PRODAR adherents see AIR as a key component within and alongside of rural development programs aimed at creating opportunities for employment and income in the poorer sectors and regions of Latin American countries.

Many government Ministries, generally of agriculture, and public development organizations are now REDAR members. There are examples in all regions of this shift in recognition and participation of official organizations in REDARs and in PRODAR sponsored activities. Through the intermediary influence of PRODAR, REDARs and some of their members, AIRs have been integrated into development plans and programs in many cases.

The large international development lending agencies have requested PRODAR assistance to identify and define projects and policies for development. Among them are an IFAD-IDB project to support small producers in the provinces of Misiones, Corrientes and Formosa in Argentina; a World Bank "fight against poverty" project in Panama; and development projects in the setting of the peace process in Guatemala. In Colombia, the Ministry of Agriculture has called on

PRODAR and REDAR members to participate in the planning and execution of large rural development and Agrarian Reform program loans, from IFAD and the World Bank respectively, which have rural enterprise and AIR components. These are only a few of the initiatives which currently are influenced directly and indirectly by PRODAR related activities.

For close to 6 years, AIR has been one of the priority themes of the Junta Interamericana which brings together the Ministers of Agriculture of the Americas and forms the administrative council of IICA.

### **Institutionalization of AIR**

The institutional recognition of AIR is evidenced by the creation of 15 national REDARs in Central America and the Caribbean, Andean America and the Southern Cone. Numerous services in support of AIR have been put in place in ministries and public institutions as well as AIR oriented research programs in the international research centres CIAT, CIP and INCAP.

PRODAR is recognized by international research centres as a partner that can lead research activities focused on AIR. Among these, IDRC with the FIAR and FoodLinks programs and CIRAD with the programs called “functioning and emergence of small agri-food enterprises” are leaders. A number of university programs now integrate an AIR component or constitute whole degree options such as

- The AIR development specialization program at postgraduate level in the Universidad del Valle in Cali, Colombia;
- The Masters program in rural development of the National University of Heredia in Costa Rica; and
- The Masters degree in food and nutrition at the University of San Carlos and INCAP in Guatemala.

The institutionalization of AIR is now an accomplished fact upon which policies, support and promotion programs can be developed in many countries. However, this is just the beginning and considerable effort is still required to increase the momentum and stability of the movement.

## PART II: COUNTRY AND REGIONAL EXPERIENCES

### **The Andean Region**

The Andean Region is composed of five countries: Bolivia, Colombia, Ecuador, Peru and Venezuela. REDARs have been created and are operational in all countries but with significant variation in level of activity as well as operational and structural form. The coordinator for the region is based in Bogota, Colombia, contracted through IICA for about half his time on PRODAR initiatives. In the course of the evaluation, all countries except Bolivia were visited and programs reviewed. These visits are documented in summary form in the following sections.

#### **REDAR-Colombia**

##### Background

The Colombian Agroindustry Network was formed in 1991 by some 20 institutions representing various sectors: government, NGO, university, international and others of mixed association. This informally organized consortium evolved from the ERTEC meetings noted in Part I during the years 1988–90, in which CELATER, CTF, IICA and CIAT organized national encounters to discuss and define AIR needs and potential. CELATER was the recipient and executing agency for the enabling IDRC grant.

##### Mission and objectives

The institutional mission and general objectives of the REDAR-Colombia initiative were expressed as follows: to unite and complement efforts related to AIR; to improve the efficiency and augment the impact of AIR focused activities; to facilitate the exchange of information and experiences in order to rationalize and optimize the utilization of available resources; and, to support a permanent discussion forum generating a flow of ideas and opinion on AIR themes.

Specific, action oriented objectives included the following:

- Support of research promoting and developing the AIR theme;
- Synthesis and dissemination of information on AIR in Colombia;



- Integration of network activities in training for peasant organizations, rural entrepreneurs and AIR promoters; and
- Contribution to the development of PRODAR through technical meetings and sharing of information and experiences.

### Activities

RESEARCH — The main research activities involved diagnostic studies through which research priorities for the promotion of AIR were established for five selected areas of the country in terms of new and improved products and processes; opportunities for diversification and new markets; better quality control and packaging of products; guidelines and promotion of an AIR modernization program with appropriate mechanisms for implementation; and technical—organizational—economic profiles for assessing the viability of new AIRs.

A FIAR funded study was carried out by the Carvajal Foundation on enterprise management of the small panela and cassava starch plants in the Department of Cauca. This well done study identifies the research and training needs related to these enterprises and is directly benefiting 250 rural entrepreneurs and their families who are being included in training and business development programs as a result. The project is described in more detail in Appendix I. A student thesis was also supported to study the feasibility for establishing a collection and processing centre in the municipality of Cairo in the Cauca valley. The study results are being implemented for the benefit of some 150 small fruit producers in the area.

INFORMATION SYNTHESIS AND DISSEMINATION — A variety of documents have been published or are awaiting publication. Those published are listed in the Andes section of Appendix III. In addition, seven bulletins (250 copies per issue) were produced over a 2-year period. No monitoring has been done on the distribution and influence achieved but commentary from program and technical people familiar with the documents was uniformly positive. The Colombian diagnostic study was published by IDRC (300 copies) and set criteria for a number of other country studies. Other outputs of the diagnostic were a data base on the AIR sector and enterprises, a directory of training courses available and a directory of relevant machinery suppliers. These subproducts proved very useful but for financial reasons were issued in very limited numbers. The diagnostic studies and other publications have served as the basis from which current awareness and concrete program developments have sprung.

TRAINING — A major development for the network has been the design and approval of a university postgraduate-level program at the Universidad del Valle in Cali entitled “Specialization in AIR.” This program is given on weekends, is 18 months in duration, and accepts only candidates with a number of years of experience who are currently working in rural development. The first group of 20 participants is about to complete the program and two who were consulted spoke highly of the practicality and usefulness of the program for their work in rural areas. It is hoped this program will be the nucleus of an Andean region-wide training focus in addition to being presented in various locations around Colombia. The total cost of the first “promotion” has been approximately USD 50,000 provided by the Ministry of Agriculture and Rural Development, the Valle del Cauca Regional Government, IDRC, U. del Valle, French Technical Cooperation and Student fees.

The Panaela Research Centre, CIMPA, provided a number of short courses on panaela production for producers and technicians from Colombia and other panaela-producing countries.

HORIZONTAL COOPERATION AND INSTITUTION BUILDING — A national meeting convened by REDAR received widespread participation from government agencies, NGOs, Universities, and research institutions. Themes presented and debated include the conceptual framework for AIR and its socioeconomic importance; AIR limitations and opportunities; the government view of AIR; gender aspects of AIR; ecological aspects of AIR; research and training in AIR related topics; and the role of REDAR-Colombia. This meeting opened up significant dialogue and institutional thought on rural development and the place of AIR in a national development context. It also included a products fair to exhibit the many products of small enterprises and their characteristics. The REDAR President and representatives of a number of member institutions including CIAT, CIMPA, Carvajal Foundation, U. del Valle, FUNDECOOP (Foundation for Cooperative Education and Development) and the Ministry of Agriculture consistently pointed out the importance of the convening role which REDAR-Colombia has played and the awareness raising achieved at national and international levels.

Various technical visits were organized with other countries through REDAR contacts, especially to CIMPA, and CIMPA technicians went to Panama, Costa Rica and Ecuador with CTF support. CIAT provided support for cassava producers associations in Ecuador and Peru and participants in the U. del Valle AIR Specialization course visited cassava, rural cheese and PRONADER (Programa Nacional de Desarrollo Rural) projects in Ecuador.

### Funding

REDAR members, through its convening and facilitating functions, have assisted in designing and planning several major initiatives in Colombia. One is a USD 30 million project with financing from IFAD for a credit program through cooperatives and nonformal institution channels. Microenterprises will be important recipients of this credit in relation to government policy to support AIRs through programs of credit, training, technical assistance and enterprise management.

A second major government credit is being negotiated with the World Bank for some USD 300 million to support a new agrarian reform program. REDAR members were consulted on the design and content of this program, especially related to AIR, and they formed a consortium to present a joint proposal to design and administer a pilot implementation project in five municipalities. Several other proposals have been put forward to other agencies as well. Without REDAR and PRODAR support, this collaboration and AIR focus would not have materialized as there is no other institution or association with this focus or with the convening influence the network has achieved.

### Observations

REDAR-Colombia has combined both technical and political elements to raise awareness of, and influence, the economic and political framework surrounding AIR and affecting its development. CIAT has been an important REDAR partner in this context by providing research and technology support. The REDAR president feels that this "legitimization" of AIR has been the greatest accomplishment of the network to date.

A second accomplishment is the formation of an efficient and strong association with sufficient political credibility to influence decisions and with capacity to successfully develop and implement AIR projects. This has been accomplished with little more than USD 120,000 over a period of 6 years plus in kind support services such as offices and salaries of local participants. The key areas showing concrete results are the diagnostic studies; institutional directories; training courses; the U. del Valle specialization program; the advantage of a "space" where interaction, collaboration and consensus can take place; a base from which to project into the future; and an opening to other national and international entities.

A major weakness presently is the insecure funding situation and lack of longer term support as well as who takes the lead in new initiatives. Some members feel it is important for REDAR-Colombia to develop a major project together

as a focusing initiative and funding method. It was further suggested that the network needs to be formally constituted as a legal entity so it can receive resources in its own right and that it should be promoting itself more aggressively to attract new members and form new consortia to pursue greater interaction with other national networks through PRODAR. The potential is there to build on substantial accomplishments but, in the short term, things look tenuous for lack of general financial support. Still, they have shown a great deal can be accomplished with minimal funding and the tradition of voluntary commitment and entrepreneurial spirit is likely to continue as long as members are involved in related programs that have resources in their own right to put into AIR related programs.

## **REDAR-Ecuador**

### **Background**

REDAR-Ecuador was one of the early networks to be formed. It resulted from the ERTEC training courses for professionals organized by CELATER in 1989 with support from CTF, IDRC and FUNDAEC (Foundation for the Application and Teaching of Science) of Cali, Colombia. This event took place in a context of local interest and AIR activity at the Universidad Tecnica de Ambato (UTA). Several projects were ongoing or in preparation at the time related to improving small cheese plants, processing and marketing of Andean grains and work with panela. IICA and the Cane Producers' Association of Pastaza (ASOCAP) were also involved.

The network evolved slowly, with activities in training, preparation of a bibliographic bulletin and distribution of technical meeting reports. Some disagreement arose among members about the form and activities of the network, so activity slowed, but eventually one of the early participants who had left the university took up the leadership from his new association with IICA in PRO-NADER (Programa Nacional de Desarrollo rural). This initiative kept the effort alive and growing within the context of a national rural development program.

### **Objectives and organization**

The stated objectives of the network are the following;

- The creation and promotion of policies and strategies for the development of AIR and its integration into food and nutrition policy for the country;
- The promotion of cooperation among institutions working in AIR;

- Establishment of a data bank of AIR information;
- Exchange of information on technology and AIR opportunities; and
- Support for small and medium size AIRs

Originally, plans were laid to create REDAR-Ecuador as a legally constituted entity representing the 29 affiliated institutions and with the ability to undertake activities and develop projects in its own right. Although statutes were prepared and some ground work was laid, this did not materialize and the association remains today as a loosely related group of individual organizations with strong interests in the development and promotion of AIR. Among these, eight organizations can be considered active core members and participants. Another 30 institutions are associated with the network in a lesser way. Field initiatives are very closely integrated with PRONADER and IICA where the coordinator, around whom initiatives and activities revolve, is contracted as a technical consultant.

#### Activities

**RESEARCH** — The first AIR diagnostic study in the region was carried out in three provinces of Ecuador, and although it had limitations, the PRODAR Andean Regional Coordinator feels it has had the most impact of any of the diagnostic studies. It was because of this documentation, and awareness of the gaps and opportunities it uncovered, that AIR was included as one of the 11 lines of action included in the IDB financed PRONADER project with the Ministry of Social Wellbeing for which IICA provides technical and administrative services.

The Union of Associations of Producers and Processors of Yuca (UATAPPY), in Manabi province on the Pacific coast received FIAR support for research on cassava flour and starch. In addition, two student theses were supported by FIAR: a study on the improvement of storage conditions of fresh cassava which produced recommendations for better handling of fresh cassava; and a study on the fermentation of sweet cassava starch, in collaboration with UATAPPY, which led to new products and markets for the Union (see Appendix I for more detail).

**INFORMATION SYNTHESIS AND DISSEMINATION** — Nine entries are listed in the compendium of documents (Appendix III) produced by PRODAR/REDAR-related entities in Ecuador. These include two versions of the diagnostic studies mentioned above, a catalogue of agroindustry machinery and equipment, a

monograph on REDAR-Ecuador, 2 years of bulletins (six issues), documents from the two student theses, a report on the FIAR cofunded research on cassava flour and starch uses and a manual on quality control in the preparation of cassava derived products for small enterprises. It is not clear how widely these documents were distributed nor what impact has resulted.

**TRAINING** — Training activities were mostly carried out as part of the PRONADER program. No specific training courses were mentioned as a direct initiative of REDAR-Ecuador but 10 technical short courses took place at various times.

**HORIZONTAL COOPERATION AND INSTITUTION BUILDING** — A number of meetings were hosted in Ecuador by REDAR members, including a 1990 workshop in Ambato to review methodologies for PRODAR and draft its statutes; a 1991 meeting of the PRODAR Director's committee; a 1992 national meeting on AIR and presentation of the diagnostic studies; and in 1996, the Third PRODAR Andean Region meeting on Commercialization of AIR Products. Two national meetings on panela production and marketing were organized by ASOCAP with support from REDAR/PRODAR, the Netherlands Government and the Provincial Council of Pastaza. Exchange visits for individuals and groups to CIMPA in Colombia as well as CIMPA technicians to Ecuador were also organized. Students from Colombia visited cheese plants and UTA in Ambato, cassava processing activities of UATTAPY and PRONADER projects. CIAT played an important role in the development of the cassava processing industry in Manabí, in the formation of UATTAPY and in technical support related to the cassava research mentioned above. Much of this would not have materialized without the PRODAR/REDAR created "space" for interaction, exchange of information and joint planning.

#### Funding

The major source of funding has been the PRONADER project which since 1993 has implemented 146 AIR projects in postharvest and artisanal crafts with an investment of USD 643,000, benefiting close to 1600 peasants. In the various other PRODAR and REDAR activities direct support for network development, research, technical assistance, training and information dissemination includes \$5,000 from CIRAD-SAR; \$52,800 from IDRC; \$3,000 from IICA; and \$73,000 from other sources, for a total of \$133,800. Not included are substantial contributions in kind from government, international, local, and regional organizations.

### Observations

REDAR-Ecuador did not develop as a strong network in its own right even though it was one of the first to contemplate establishing a legal and independent status. Leadership has been provided by one dynamic and positive person which, on one hand has led to considerable field action results with producers and their associations but, on the other, concentrates leadership too strongly on one person and project. From a PRODAR perspective, considerable effort and support have been put into international missions and meetings in Ecuador, more than in any other member country, but this has not resulted in a strong network association. There have also been many scattered AIR initiatives on the part of NGOs which could be better pulled together by a more active REDAR Association. Nevertheless, significant results have been achieved and AIR has been established as an important rural development component in government programs.

The IICA Country Representative is very supportive of REDAR-Ecuador and PRODAR objectives and counts IICA as an important member of both associations. He views AIR as a key component in the rural development program and looks to increasing the membership and interactivity of REDAR as well as promoting political support from the government for AIR initiatives. The REDAR coordinator is suggesting that at last legal status for REDAR is necessary and these initiatives along with PRODAR support could quickly build on existing accomplishments to create a more effective and broader-based network.

### **REDAR-Peru**

#### Background

With the definite improvement in security conditions for work in poor rural areas of Peru, a national meeting on AIR was convened by IICA in 1993. The purpose was to exchange experiences in AIR promotion and to discuss problems confronted in this sector. Consensus was reached among representatives of the 35 participating organizations to form a working group as a mechanism for coordination; take steps toward creation of a national network; prepare a proposal for a national diagnostic of AIR; and compile an initial national AIR directory.

In August 1994, the Working Group convened a second national meeting on AIR at which REDAR-Peru was created with the participation of 36 organizations linked to AIR activities. There was strong NGO participation and leadership.

### Objectives and organization

The objectives of the network as defined in its statutes are as follows:

- To integrate efforts of private, international, national and public sector institutions in order to stimulate and promote sustainable AIR in Peru;
- To promote information as well as AIR field experience exchange in Peru;
- To influence AIR policies as an opinion group;
- To interact with similar networks, PRODAR and others in order to exchange information and experiences;
- To promote the synthesis and diffusion of information and experiences on AIR beginning with an initial national diagnostic of the sector; and
- To develop and strengthen the capacities and strengths of REDAR-Peru members.

Initially, 20 organizations joined formally in creating REDAR-Peru including NGOs, universities, international organizations such as CIP, and government agencies. Leadership is provided by a five-member Board of Directors elected by the members for a 2-year period. Plans are currently being made for the next National Assembly meeting in March 1997 and election of representatives for the next period. A 2-year plan of work prepared by the directors was approved by the membership and is being implemented. Activities included research, publications, an information system, promotion and training, and annual national assemblies according to the approved statutes of the network. A new network is being created in the Amazon region as part of a decentralization strategy to bring services and response as close as possible to local members' needs. It is anticipated that the new regional REDAR will associate formally with the national REDAR.

### Activities

**RESEARCH** — The first initiative of the network was a diagnostic study of AIR in Peru. It was found that, at the national level, over 12,000 AIR enterprises using artisanal and medium level technologies are registered with the Ministry of



Industry creating annual employment for about 88,650 persons. This does not include a much larger proportion of informal domestic and artisanal AIR enterprises which provide employment, income and family food security to rural residents. Most supply products to local markets, however, some examples were recorded of reaching regional, national and even international markets.

Two research and development initiatives cofunded by FIAR were undertaken with positive results (see Appendix I). The first deals with research and evaluation of improvement options for traditional water powered flour mills in Cajamarca. This project was led by the Intermediate Technology Development Group, Peru (ITDG-Peru) and showed that with minimal design changes to traditional mills it is possible to improve energy production, diversify utilization and expand clientele. It is estimated there are 1500 traditional mills in Cajamarca and San Marcos provinces and many more which could adopt the improvements in Bolivia, Colombia and other parts of Peru. PRODAR presents an excellent channel for spreading this technology improvement.

The second FIAR cofunded research and development activity was with Caritas-Peru which in 1993 had initiated a project in 45 dioceses with funds from Italian Food Aid. It consisted of 10 subprojects, 4 of which involved processing of cassava and/or plantain into flour with equipment and processes developed at CIAT in Colombia. FIAR funds were used to contract the services of a CIAT professional and purchase equipment fabricated in Colombia. Two hundred very poor and isolated families have benefited directly and additional families find new outlets for their cassava production and services through the established plants.

Two student theses related to activities of REDAR members were supported with FIAR funds as well. One was a socioeconomic study of chestnut harvest and postharvest activities dealing with legal, quality, working conditions and profitability issues. The other dealt with adaptation of technology for smoked cheese in Cajamarca, was supervised by ITDG, and resulted in reducing the processing time for matured cheeses. Introduction of the technology is now underway in the region.

INFORMATION SYNTHESIS AND DISSEMINATION — The network has been quite active in gathering and disseminating information related to AIR. The first and largest task was a diagnostic study with financing from IDRC through PRODAR, the Netherlands Development Cooperation Service (SNV), IICA and ITDG. The well-designed and researched document was published in 1996 and distributed to all members. It provides a good descriptive context into which can be linked additional, more detailed and focused studies for action purposes. Two editions of the

REDAR-Peru Directory of Members and six issues of an informative and professionally designed bulletin have been produced over the past 2 years. Various other reports and documents are included in the PRODAR list of documents from the Andean Region. Members of the Directors' Committee have been active in meeting the press and providing press releases to educate a wide audience on the role of AIR in Peru. A number of presentations to professional meetings have also been made and published, such as in the National Agricultural Conventions "Conveagro '95" and "Conveagro '96." REDAR-Peru is finding PRODARNET very useful and has also established a local AIR electronic network with most members already connected and a list of 90 institutions in total interested in participating.

TRAINING — Training courses have been organized and carried out by a number of REDAR members. These include the cassava processing and management training mentioned above in relation to FIAR-supported research; ITDG-led courses in food processing in association with two Peruvian training institutions and support from EEC (European Economic Community), ODA of the UK and a Spanish Foundation, CODESPA; and a workshop course for technicians on small scale fruit and vegetable processing in the Amazon organized by the Amazon Treaty Organization (TCA), the FAO (Food and Agriculture Organization) regional office and IIAP (Instituto de Investigaciones de la Amazonia Peruana).

HORIZONTAL COOPERATION AND INSTITUTION BUILDING — Many of the training courses mentioned above include multi-institutional and multinational participation and support. Distribution, sale and availability of PRODAR and other member publications, technical brochures and information bulletins is a useful service of the network. Translation and sale of a UNIFEM technical manual series, Food Cycle Technology Source Books, promotion of the IDRC initiated FoodLinks program and participation in or promotion of other national and international workshops and training are further productive support activities which take advantage of the REDAR connections. An ITDG technician visited Colombia and cheese-making plants in Ecuador through PRODAR contacts and the Caritas project in the Amazon was linked to CIAT expertise by the network.

The Dean of the Faculty of Social Sciences, Catholic University, Lima, commented on the destruction of rural institutions during the long period of insecurity from which Peru is emerging and stressed the importance of REDAR as an empirical and political linking mechanism for reestablishing institutions. It creates "spaces" for interaction among organizations such as NGOs which only

through joint efforts can make a significant difference. He stressed the potential of the new tools available through electronic networking. REDAR is convening all relevant sectors, drawing attention to the importance of AIR for the poorest people, influencing policies and creating institutions.

#### Funding

REDAR-Peru has made significant progress with a minimum of direct financial support. A great deal has been accomplished on a volunteer basis by member representatives who dedicate time and resources from their own institutions to REDAR collaborative efforts. The network charges an annual membership fee of USD 20 and an initial inscription fee of USD 25 which, along with the sale of books and documents, nets about USD 1,000 per year. Funds received from donors shown in Appendix II total USD 77,500 for several years of active development and some significant results including two research projects.

Aside from the membership fees, funds have not yet been sought from Peruvian institutions. This could be a source of some support especially to augment the FIAR fund locally. Stable leadership and basic funding would allow REDAR to take advantage of its linkages, bid on projects and design larger AIR projects of its own. The President of REDAR-Peru noted that it is important to maintain clear objectives and avoid letting funding by itself sway the focus too far away from the identified core interests of creating opportunities for family AIR enterprises in poor communities and regions.

#### Observations

Over the 2 years of its existence, REDAR-Peru has developed in an organized and active manner and there appears to be excellent potential for it to continue developing and growing. A key issue will be the amount of financial support it can attract. Representatives of various partner institutions see REDAR as a key integrating player in the small agroindustry component of rural development programs. Though one of the founding members represented on the Directors' Committee has recently withdrawn from the network, this was not related to the idea of the network per se as much as a reduction in the institution's budget and a decision to focus on core activities not directly related to AIR. There appears to be a consensus that PRODAR/REDAR represent an efficient way to link with the multitude of institutions involved in some way with AIR and rural development. The move to decentralize and create independent subnetworks would seem to be a positive move responding to local needs and perspectives.

An interesting and useful result of REDAR-Peru activities was indicated by the Director of ITDG-Peru. With the established list of REDAR members and

contacts, ITDG has been able to direct its own publications and publicity in a much more targeted and efficient manner and thus saves money on distribution and printing costs while feeling more confident it is reaching its intended target audience. PRODAR/REDAR is a very efficient way to distribute information and publications and for linkages with other institutions and countries for technical exchanges. However, a strong stable institution is required to lead.

IICA is a strong supporter of the network both from its recently created Regional Coordination Office and the Country Representative. Together they seek to facilitate initiatives in research, scholarships, identification of institutions to participate and the financing of some specific work. As an institution, IICA doesn't wish to be represented on the Directors' Committee and sees it as a private sector initiative linking AIR interests and issues related to alleviating poverty and improving conditions in rural communities. When called on for assistance, they are ready to help in any way they can especially through influence with the government and providing information services.

## **REDAR-Venezuela**

### **Background**

Venezuela is one of the latest countries to form a REDAR and has been the fastest growing of all the PRODAR related networks. It has been strongly supported by official government agencies as well as by IICA. This differs from most of the networks which sprang from local, NGO and university initiatives then promoted the importance of AIR to government and policy agencies. In mid-1994, IICA carried out a diagnostic study of AIR in Venezuela documenting the principal rural agroindustries in terms of their economic and social impact. This study made clear the need and opportunities of strengthening AIR institutions which had always been marginalized and received little support or stimulus.

As a result of this first step, a Network Promotion Committee was formed by a variety of organizations, including leaders in economic and agricultural policy such as State Governates, financial institutions, regional corporations, NGOs, universities and research institutes; and by rural agroindustry producer associations, cooperatives and international technical cooperation institutions. This committee began disseminating information and promoting AIR at a national level and organized the First National Conference on Rural Agroindustry in Venezuela, held in May 1995, as a major showcase for AIR and its potential. It included a products fair with 140 exhibitors from 18 states, the first technical conference with presentations on a wide range of AIR-related topics, a commercial encounter and a plenary Assembly. In the latter, REDAR-Venezuela was officially created for a 5-year period by the representatives of 48 signatory entities representing the

agricultural and rural sectors. Currently, REDAR-Venezuela has 58 legal members distributed as follows: government entities, 26%; NGOS, 28%; producer associations, 22%; universities, 11%; regional development corporations, 9%; and financial institutions, 4%.

#### Objectives and organization

The main priorities of REDAR-Venezuela were agreed to be training and technology transfer; financing policies; alternatives for marketing and commercialization; and technology research needs. The network was conceived as a broad mechanism for participation and linkages permitting the incorporation of any type of institution related to AIR actions or having a strong interest in pursuing its objectives. To achieve these objectives, the Directors' Committee established to represent the new REDAR prepared an action plan to be carried out by its members in a fairly aggressive manner. The committee meets on a regular basis.

From the beginning it was agreed that action decisions should take place as close as possible to the area where participants live and work. As ecological and production environments vary, so the problems and opportunities of small enterprises and AIRs are different in each region. Consequently, local REDARs were legally constituted in several states, among them REDAR-Llanera in Apure and Guárico, REDAR-Lara, REDAR-Monagas, REDAR-Sucre and REDAR-Falcón in the states of those names. As of November 1996, another eight networks were in process of formation. Many of these local networks had strong producer, municipal and cooperative support in combination with that from state governments and other agencies. In some areas, municipal mayors have become involved with their local REDAR in a "space" where representatives of many development, social service and technical agencies can come together and coordinate their inputs and various services to more effectively address local needs and perspectives.

The role of IICA has been important in the rapid rise and evolution of REDAR-Venezuela, not only for its early initiative, but also for the financial support it provided. Within the context of its rural development project, IICA hired a full-time promoter/coordinator who, with the REDAR president, has taken a strong leadership role in this dynamic movement. Soon after the creation of the network, a general agreement (ACT) was signed between the Ministry of Development, the Ministry of Agriculture and Livestock, REDAR-Venezuela and IICA to promote rural development and specifically, AIR. The agreement specifies collaboration in studies and research, consultancies of national and international specialists, technical and financial cooperation, training and technology transfer, administrative support and widespread diffusion of information to communicate achievements in AIR development nationally.

### Activities

The activities described below are in no way a comprehensive coverage of the actions taking place throughout Venezuela. Those mentioned are an indication of the approaches and responses within several REDAR groups visited.

**RESEARCH** — As with the other country REDAR groups, the Venezuela initiative began with a diagnostic study of the AIR situation in various parts of the country. This comprehensive study was sponsored and published by IICA. Two student theses were completed, supported by FIAR, dealing with Technology for Artisanal Production of Honey Liquor and an Evaluation of Quality Control Systems in dairy AIRs. A third study is currently under way.

**INFORMATION SYNTHESIS AND DISSEMINATION** — Various documents related to REDAR initiatives have been distributed in addition to the 50 copies of the original diagnostic study. An Information manual on financing options for AIRs was initiated but could not be published and is being presented as a series of articles. The Proceedings of the First National Conference on AIR and an initial REDAR-Venezuela directory have been published and distributed. A commercial directory of AIR in Venezuela is being edited as well. Three issues of the information bulletin "AIR ES" have been distributed and the entire run of 5000 copies of the first number were completely taken up in a short period of time. This is a fairly comprehensive document full of technical information, announcements of training and meetings, case studies etc. which is proving very popular. In Apure and Guárico a census of artisanal enterprises is well advanced. Initiatives are also being taken to establish an AIR electronic communication and information system linked to PRODARNET. REDAR leaders take full advantage of the local and national press and radio media to disseminate information about AIR, the REDARs and related AIR activities.

**TRAINING** — Various training courses were linked to REDAR activities. A very useful workshop on organization of rural micro enterprises was put together by the Coordinator and presented to groups in various parts of the country. The course was designed to train professionals in the promotion of agroenterprises but it is also being adapted to use with community groups and their leaders. The organizers use local trainers from institutions with a focus on local problems in defining small enterprise work programs. A Participatory Planning by Objectives (PPO) approach is promoted which assures ample participation of people with direct interests in the operational outcomes of the planned activities.

Other courses given include processing of fish from inland waters (smoking and salting) which was given in two different states in the Llanos. A small workshop was organized on the possibilities for international financing by REDAR and the National Planning and Development Department, CORDIPLAN. Three professionals from REDAR attended courses in Colombia, Spain and Israel and representatives of REDAR-Venezuela participated in the First World Conference on Environmental Education held in Caracas where a paper was given on "REDAR as a Non-Formal Education Experience for the Sustainable Development of AIR." REDAR representatives made presentations emphasizing the social and economic importance of AIR to future professionals in the First National Meeting of Food Science and Processing students.

HORIZONTAL COOPERATION AND INSTITUTION BUILDING — REDAR-Venezuela was very active in organizing and participating in events promoting collaboration and creation of new associations. In addition to a national AIR conference in 1995, 10 local and regional meetings were held between 1994 and 1996 to promote the creation of regional networks and producer associations. A number of these events included fairs showcasing AIR products and commodities. IICA has been participating in and promoting a strategy of greater self-sufficiency in Venezuela and small agricultural production as part of an overall economic development process. In close collaboration with IFAD, FAO, Fundación CIARA and the Agricultural Credit Fund, IICA helped design and prepare "Development of Poor Rural Communities," an IFAD project closely linked to the AIR and microenterprise theme. The REDAR-Venezuela Coordinator spent several months in Rome helping to prepare the project related to REDAR. Input was also made in the design and presentation of a course on the organization of micro enterprises by women.

A Colombian technician from CENICAFE visited Venezuela and presented a seminar to 25 small coffee producers to familiarize them with a method of processing coffee which uses much less water and causes less environmental pollution. In a meeting with REDAR-Lara participants, the PRODAR coordinator offered to organize a visit of local sisal producers to establish linkages with the Colombian Association of Sisal Producers and continue contact with CENICAFE. Assistance in project design, preparation and writing was also offered.

REDAR-Lara has been successful in getting AIR integrated into political statements and dialogue and, through further diagnostic studies, will prepare an AIR master plan including the themes of equity, sustainability, gender and environment and their interactions. The Lara State Secretary of Agriculture provides active leadership to the growing network and plans to use a state-wide goat vaccination program to gather data and information of the producers' situation and

needs as the first step in the AIR diagnostic study. The trust based on long time agricultural services contact and associating the two activities assures cooperation in providing accurate information and reducing costs.

REDAR-Falcon also receives strong leadership from its State Secretary of Agriculture and support from the Governor who are organizing courses and promoting AIR development in the agri-food chain at the municipal level through local mayors. During the evaluation visit, a seminar/workshop course on AIR in rural development was organized by the IICA coordinator. REDAR-Falcon has 18 members to date while REDAR-Venezuela and its member networks and associations have a working relationship with 108 institutions.

### Funding

The main funding for REDAR-Venezuela has come from IICA which has provided approximately USD 30,000 including the services of the Network Coordinator. Considerable local support has also been provided from the various participating institutions estimated to be about USD 25,000. PRODAR has provided USD 6,000, including USD 3,000 from the FIAR fund for three student theses. Even though the network does not fund projects, the information, training, organization and encouragement of self-initiative it provides results in greater efficiency and benefit from the resources each member brings. The support elements are available but scattered throughout a variety of institutions which, in the "space" created by the REDARs, are brought together in a synergistic and productive way. As well, greater resources can be accessed from agencies such as IFAD and the various development banks.

### Observations

The network in Venezuela is probably the fastest growing and developing of all the PRODAR members and is doing this on a very small amount of money. A very interesting aspect is the way they are finding ways to link existing programs, which have resources for specific components or activities, in local development situations. The involvement of State Government officials and of municipal representatives in the process provides an interesting combination of all sectors, both public and private, and potential for more effective use of rural development resources. Many of the communities covered by the regional REDARs are very poor and, especially in the semi-arid areas, have a very slim resource base on which to draw. Nevertheless, very positive ideas and initiatives to organize and pursue new ventures and opportunities were observed. A modest amount of investment in this area would appear to have potential for substantial multiplier effects and benefit some of the poorest people in the country. PRODAR as such has had



less influence here although IICA, as a member of the PRODAR support group, is playing a decisive role in the development of AIR networks in Venezuela.

### **The Central America and Caribbean Region**

The Central America and Caribbean Region is composed of six participating countries: Costa Rica, the Dominican Republic, El Salvador, Guatemala, Nicaragua and Panama. The Regional Coordinator is also the PRODAR Executive Director who is based at IICA headquarters in San Jose, Costa Rica and is paid by CIRAD-SAR. Four of the countries were visited by the mission.

#### **REDAR-Panama**

##### **Background**

Work on the rural agroindustry of Panama started in January 1991 after the launch of an ambitious diagnostic study covering the entire country. The study concluded with a seminar, "Diagnosis of the Rural Agroindustry of Panama" (Panama, May 1993), at which an ad hoc committee was named and charged with the creation of a national agroindustry network. The resulting national REDAR has no formal jurisdiction of its own but its mandate is to reorganize and integrate activities of eight public or semi-public institutions in the fields of administration (Ministries), education (Universities), banking and cooperatives.

REDAR-Panama's chief objectives are the following:

- The exchange of information about rural agroindustry;
- The initiation of agroindustry projects in the rural sector; and
- The formulation of regulations and policies which favour the development of rural agroindustry.

In order to realize these objectives, the following regional organizations, or chapters, have been formed:

- Redar-Chiriqui (June 1994)
- Redar-Veraguas (March 1995)
- Redar-Coclé (June 1996)
- Redar-Herrera (September 1995)

To procure outside funds, each chapter is to create an autonomous association, and they are currently involved in drafting their statutes. The Veraguas and Coclé chapters have taken steps to associate small local agroindustries in their work. In January 1995, a work plan for the next 2 years was prepared along with a set of internal regulations.

#### Organization

REDAR-Panama is a de facto association without well-defined statutes. It is controlled by a Directors' Committee headed by a president and an executive secretary. The Ministry for Agricultural Development (MIDA) provides a permanent secretariat for the national network as well as for the chapters each of which is operated by a Board of 5–10 people.

#### Activities

RESEARCH — REDAR-Panama was formed out of the research project “Diagnostic of the rural agroindustry of Panama” (1993) which was composed of several more specific studies and 10 provincial reports.

FIAR financed several Masters theses on the panela sector of the Chiriqui Region:

- “Technical and Economic Characterization of Panela Production in Panama”;
- “Study of the Commercialization and Consumption of Panela in Panama”; and
- In addition, REDAR-Panama supported the thesis “Study of Cane Varieties for the Production of Panela.”

The Technical University of Panama (UTP) designed a model panela plant furnace with improved energy efficiency on behalf of REDAR-Panama.

Redar-Chiriqui is putting into motion a research and development project with panela producers in the communities of Tinajas and Potrerillos. It comprises several efforts, including evaluation of sugar cane varieties and agronomic studies; improvement of the hygiene in panela plants; diversification of products; organization and training in enterprise management; and commercialization of products. The work is being performed by a group of professionals in different disciplines from several institutions. This multidisciplinary approach, with local

producers and off-station research, is something new and derived directly from the AIR movement supported by PRODAR.

**TRAINING** — Training activities have been organized by both the National Network and the regional chapters. Between 1992 and 1996, 12 training activities were carried out on a variety of topics relating to enterprise management, product improvement and conservation, techniques and technologies, use of metal silos, and diagnosing problems of small enterprises. The number of participants varied between 30 and 40 in each session.

**INFORMATION SYNTHESIS AND DISSEMINATION** — REDAR-Panama has established an AIR documentation fund which is managed by UTP. Documents prepared have been published in limited quantities due to lack of funds. Information is circulated internally, principally through reports and meetings, and one issue of a bulletin appeared in January 1994.

**HORIZONTAL COOPERATION AND INSTITUTION BUILDING** — Several expert missions have been organized for REDAR-Panama by PRODAR: a CIMPA professional identified and followed work concerning panela; representatives from the Ecuador Ministry of Agriculture and from CITA in Costa Rica followed the dairy sector. Also, REDAR-Chiriqui and REDAR-Costa Rica have signed an accord to work in the border zone between the two countries.

#### Observations

The Ministry of Agriculture plays a lead role in overseeing all the chapter secretariats and coordination at a national level. REDAR-Panama, in the chapters as well as on a national scale, deals only with public and semi-public organizations, not with NGOs who work on the same AIR theme. The chapters of Veraguas and Coclé on the other hand, have recently invited individual entrepreneurs to participate in their projects. It is still too early to tell whether or not this has been effective and what role is played by the chapters in the relationships between entrepreneurs and public institutions. Participation of the entrepreneurs association will be studied as they have a number of interests in nontechnical domains that they must satisfy which REDAR has to take into account but fall outside their interest.

Redar-Chiriqui is involved in a research and development operation with the panela associations of Tinajas and Potrerillos whose objectives, in addition to improving sugar cane varieties, production methods, processes, and product

quality, are concerned with training in enterprise management, creation of a supply centre, and commercialization of products.

Relations between the national REDAR and the regional REDARs are tenuous as each of the chapters has a tendency toward autonomy. REDAR-Panama needs to reevaluate the definition of a common vision of AIR and the respective roles of the national and regional REDARs. At the national level one might suggest more "formalization" of activities, such as a strategic plan defining research objectives for the coming years; an annual work plan and communication of each member's plan; and order in regular meetings, with an agenda and recorded minutes.

The National Committee should propose to its members a national agenda, including financing for AIRs, sanitary regulations, and fundamental research; provision of services to the chapters; information and documentation services; organization of exchanges and the training of trainers; and interaction with other REDARs in other countries. For better coordination, the presidents and secretaries of each chapter should attend meetings of the National Committee.

## **REDAR-Nicaragua**

### **Background**

REDAR-Nicaragua is a nonprofit civil association which unites 12 public and private associations on the national and regional level in support of AIR in Nicaragua. The network was formally created following the March 1994 second national seminar on AIR jointly organized in Leon by the Autonomous University of Nicaragua (UNAN Leon) and the NGO PRODESSA. It was given its judicial status on 6 February 1995. This event solidified numerous and close ties between UNAN-Leon and PRODESSA with the RETADAR network, PRODAR and CTF surrounding this theme. In 1993, a rural agroindustry group was already formed at UNAN, consisting of alumni and professors, which played a major role in the creation of REDAR-Nicaragua.

REDAR-Nicaragua's principal objectives are the following:

- To carry out research concerning rural agroindustry;
- To train professionals, technicians and farmers;
- To promote the exchange of information on national and international levels;

- To negotiate the financing for AIR creation and development projects; and
- To facilitate coordination efforts between the institutions involved.

In the future, REDAR hopes to integrate new partner institutions. Finances come from member contributions, the sale of services (training, technical assistance and research) and contributions from international cooperation. It expects to have its own offices, secretariat and communication equipment (telephone, fax, computer).

### Organization

REDAR-Nicaragua achieved official association status on 20 September 1994 and judicial status as a nonprofit civil association in February 1995; internal regulations were approved by May 1995. Management is delegated to a Coordination Commission elected by the general assembly and project commissions may be constituted for specific tasks. Every year, the Coordination Committee presents a work plan to the General Assembly as well as a report on the previous year's work. Each institution informs the others about its own program for the year.

### Activities

**RESEARCH** — Since it was formed, REDAR Nicaragua has undertaken a national diagnostic study of AIR based on available bibliographic and statistical sources. This information was quite poor, so the association has begun sectorial diagnostic surveys at a small regional scale, including a technical-economic study of panela plants in Leon and Chinandega departments (1995); a study of the panela market in Leon and Chinandega (1996); and a diagnosis of small agroindustrial units in the dairy sector in Boaco, Chontales, Leon, Matagalpa, Rivas and Zelaya departments (1996). FIAR funded the panela plant and market studies as theses. Other studies in progress are optimisation of small-scale extraction of sesame oil; and optimisation of cashew nut processing. Member institutions also carry out diagnostics and studies of their own and distribute reports to REDAR adherents.

**INFORMATION SYNTHESIS AND DISSEMINATION** — REDAR Nicaragua publishes, in limited numbers, reports on research projects carried out with its assistance. It also publishes its work plans and an annual report but does not put out an information bulletin. The NGO SIMAS (Mesoamerican Information Service for Sustainable Agriculture), a member of REDAR, is in the process of creating a documentation centre on AIR to include basic information on the projects, organizations and

experts involved with AIR. The global objective is to create a body of information on this theme. SIMAS publishes a monthly information letter, "el guis," which addresses issues concerning AIR and REDAR.

**TRAINING** — REDAR-Nicaragua has organized several national training sessions over the past 2 years. Topics included transformation of food products; enterprise management and integration; production of artisanal milk products; milk pasteurization; and utilization of pre-cleaners in the production of panela. Between 10 and 20 participants took part in each training session. Manuals were prepared and distributed to the participants. A key role was played by the UNAN School of Food Technology in organizing these training sessions. Other workshops were given by member institutions, notably on running small businesses and credit.

**HORIZONTAL COOPERATION** — The example of other Central American REDARs and the actions of the PRODAR program were influential in the creation of REDAR-Nicaragua. Representatives of several of its members participated in PRODAR organized courses on enterprise management in Guatemala and Costa Rica. The Association received support from CNP (National Production Council) technicians of Costa Rica, themselves trained by the CIMPA (Colombia) team, in the use of pre-cleaners in panela plants. The training workshop on pre-cleaners benefited from the support of REDAR-Guatemala.

### Funding

Financial support for the activities of the network came from a number of sources, as shown in the table below:

	USD
Membership fees	8,000.00
French cooperant and technical assistance	75,000.00
Norway	9,000.00
SIMAS and PAMIC — panela studies and course	15,000.00
PRODAR/IDRC FIAR thesis and diagnostic support	2,500.00
IAF — office equipment, computer, and fax	2,300.00
<b>Total over 3 years</b>	<b>111,800.00</b>

Note: These figures do not correspond to those shown in Appendix II. Most of the funding did not come through PRODAR, and this indicates the difficulty of estimating accurately how much money actually was spent on AIR activities that were influenced in some way by PRODAR and REDAR initiatives. USD, United States dollars.

### Observations

The initiative of PRODAR-IIICA and the creation of REDAR-Nicaragua resulted in AIR being taken into account in research programs and development activities. REDAR-Nicaragua is built on good complementarity between national institutions (PAMIC, UNAN, SIMAS) and regional ones (Fundación Leon 2000, PRODESSA, Fundación José Nieborowsky, and others). PAMIC assumes the leadership in business areas and UNAN in the technical field.

The approach has been to work closely with producers in enterprise and rural development. Aspects of management, credit and commercialization are well developed but technical expertise needs to be strengthened to deal with growing demands. REDAR, while maintaining its close ties with the sectors already identified (panela and dairy), could extend its activities to other sectors where successful experiences already exist in Nicaragua such as food-grain storage at family and collective levels (PRODESSA), fruit processing, etc. Particular attention was given to interventions with producer associations which could provide a better diffusion of innovations.

## **REDAR-Costa Rica**

### Background

REDAR-Costa Rica was formed in 1993 and continued work started within CITA on AIR pilot project models and in the RETADAR network. It is made up of 24 institutions in the public, private, NGO and university sectors. The association defines itself as an instrument for dialogue that facilitates the coordination of activities of its members and favours common projects. It is a de facto association with no legal status of its own and is part of the national consultative commission for the redeployment of agricultural production which unites relevant public and professional organizations.

### Organization

REDAR-Costa Rica is managed by a directors committee according to agreed-on internal regulations. It is composed of four specialized commissions focused on information and documentation; training; transfer of technology; and commercialization. The training commission is very active and forms an autonomous group as the Interinstitutional Commission for Rural Agroindustry Training (CICAR).

### Activities

RESEARCH — REDAR-Costa Rica and a French student of I'ENSIA-SIARC did a diagnostic study of the panela sector. CNP (Consejo Nacional de la Productividad)

has been working on improving panela processing plants in addition to doing a census of the AIRs in Costa Rica the results of which are not yet fully published. In 1996, CICAR began a research study on the participatory diagnostic of AIR, taking advantage of a French student posting from ENSIA. Other studies have been done on the organization of AIRs and on the modernization of the panela sector at the national level.

INFORMATION SYNTHESIS AND DISSEMINATION — REDAR-Costa Rica does not publish an information bulletin or have any of the studies done been published under its name. The diagnostic survey was published by CIRAD-SAR.

TRAINING — Local specialists collaborated actively with PRODAR-IICA on the organization of training workshops for trainers in enterprise management and in courses for producers. Between December 1992 and August 1994, six training sessions were given: the first module on AIR management; the first encounter for AIR groups; the second module on AIR management; fundamentals of AIR; training design and delivery; and pineapple agroindustry. The CICAR group evolved out of the 1994 training session and since then has provided training in several regions of the country. CICAR received financial assistance from Holland for a project on management training for AIR.

HORIZONTAL COOPERATION AND INSTITUTION BUILDING — A number of ties have been developed with other REDARs. CNP profited from training delivered by CIMPA of Colombia on the improvement of panela plants. The CICAR group participated actively in regional training organized by PRODAR-IICA in the area of AIR management. REDAR-Costa Rica signed an accord with the REDAR-Panama, Chiriqui Chapter, for coordinated development action in the border zone between the two countries. CNP has provided support missions for the diffusion of panela plant pre-cleaners in Nicaragua.

#### Funding

In addition to French technical cooperation and IDRC support for the organization of training, REDAR-Costa Rica has benefited from contributions of local institutions: IICA donated about USD 3,000 per year, and CNP donated USD 5,000 in 1996. CICAR currently has USD 143,000 from Dutch cooperation to develop a training program over 15 months.



### Observations

REDAR-Costa Rica appears to have two visions of the direction that AIR should take. NGO members of CICAR consider AIR development a necessary part of rural development collaboration to combat poverty. The public institutions are oriented more toward development of agroindustry (panela for example) based on profitable individual enterprises without reference to their integration or contribution in local economic development. Lack of agreement between these two visions impairs the dynamism of the national REDAR which does not have the necessary information tools and concertation strength to unite its members nor does it have a uniting common project. However, the proximity of the PRODAR Secretariat in IICA does make up for some of these deficiencies, for example documentation.

### REDAR-Guatemala

#### Background

REDAR-Guatemala was formed by participating institutions in the first seminar on rural agroindustry in Guatemala organized by the Nutrition Institute of Central America and Panama (INCAP) with collaboration from the Ministry of Agriculture's PROFRUTA project in March 1992. Official legal status as a nonprofit association was obtained in August 1994. The network unites 32 public, private, regional, national and international institutions of which half are very active. Its goal is to coordinate efforts in Guatemala's rural agroindustry sector.

Three principal objectives have been defined:

- To improve the coordination and communication mechanisms among the institutions involved for AIR development;
- To improve the capacities of its member institutions; and
- To promote the processing of agricultural, forestry and livestock products especially in rural areas.

REDAR-Guatemala's goal is to be a nationally and internationally known institution for the coordination of AIR promotion, technical assistance and training initiatives. It aims to be financially autonomous and have a headquarters and the personnel necessary to provide the services and carry out the tasks of its mandate..

#### Organization

Since its creation, REDAR-Guatemala has functioned under the statutes which were adopted by the general assembly on 4 December 1992. The association is

governed by a Board of Directors and an Executive Secretary. Committees are charged with the promotion of each of the main activities relating to research, information, training and technical assistance. The association establishes a yearly work plan and has elaborated a strategic plan for the period 1995–2000. It hopes to promote branch networks in every region of Guatemala.

### Activities

**RESEARCH** — Research work started with diagnostic surveys of AIR in 1992, of small coffee processing plants in 1994 and the dairy sector in 1995. The research and development project, “Development of a female managed agro-industry in the Totonicapan region of Guatemala” has resulted in the installation of a small fruit dehydration plant, Transfrutas. That research, initiated by INCAP, has given rise to the collaboration of many REDAR organizations (1991–94).

In the FIAR financing picture, two studies have been realized: a research project on the adaptation and transfer of technology for improved quality of artisanal cheese-making in Guatemala (see Appendix I); and a masters thesis in health and nutrition under the guidance of INCAP and the University of San Carlos, entitled “The Technical Improvement of Panela Production in Small Trapiches of Huehuetenango.” The techniques proposed in this work reduce impurities in the finished product by 65% and permit use of panela as a food fortified with iron as is done with refined sugar. Two different ways are being studied for the production of granulated panela.

**INFORMATION SYNTHESIS AND DISSEMINATION** — In addition to the publication of all the research work and training documents, REDAR also edits a half-yearly information bulletin, of which five issues have been published. It is structured in five parts: research and development; points of interest for agroindustry; a technical note; events; and information on the REDAR member institutions. REDAR also published special documents, such as the record of the first national AIR meeting; the strategic plan for 1995–2000; and the REDAR-Guatemala internal regulations. REDAR studies have given rise to presentations and publications in international seminars and an AIR documentation base available at INCAP.

**TRAINING** — At national and Central American regional levels, REDAR-Guatemala has organized a number of training workshops: formulation and evaluation of AIR projects; formulation and administration of AIR projects; AIR administrative and financial management; AIR technology management; REDAR-Guatemala national encounter; training of women entrepreneurs for the food industry; improvement of panela plants; and technical and sanitary aspects of artisanal cheese production.

Each workshop entertained approximately 30 trainees, although the latter had only 13 and the national encounter had 50. These training courses gave rise to pedagogical documents published under the REDAR-Guatemala logo.

**HORIZONTAL COOPERATION AND INSTITUTION BUILDING** — REDAR-Guatemala is very active in the horizontal cooperation domain, especially in the area of training courses on the regional level. It has also participated in exchanges with REDAR-Nicaragua on the technical improvement of panela plants. REDAR-Guatemala is very much in favour of creating a regional Central American network for the development of AIR.

### Funding

Financial support for REDAR-Guatemala comes from a variety of national and international sources and totals USD 285,850 over 6 years as shown in Table 1. Again, there are substantial discrepancies between these figures and those in Appendix II provided by PRODAR which would indicate that considerably more resources are going into AIR-related activities at a local level than are recorded or reported on a regional or hemispheric scale.

### Observations

REDAR-Guatemala is one of the best structured and most active networks in Central America. INCAP plays a leading role through its active participation in management (secretariat) and financing of the network. The REDAR has clear status and an ambitious strategy. It wants to play an integral role in all AIR-related projects and policies and is proposing projects to financial backers within the framework of the peace process in Guatemala. REDAR-Guatemala estimates its annual operating requirements can be covered by a minimum of USD 25,000.

Other than technical assistance, REDAR has broadened its efforts into enterprise management and commercialization. These areas need to be developed in more depth as well as that of financing of AIRs. The association would do well to integrate or collaborate with institutions specialized in these themes. Other production sectors can be included as well, according to entrepreneur and client demand of the member institutions, such as cereals, coffee and meat products. Collaboration with producer associations could allow for work both on their explicit demands in a true partnership as well as on facilitation of the diffusion of innovations.

**Table 1.** Funding of REDAR-Guatemala.

Source	Funding (USD)					
	1991	1992	1993	1994	1995	1996
France	35,000	35,000	36,000	42,000	19,800	—
Belgium	—	—	—	30,000	4,000	—
PRODAR-IDRC	—	—	—	1,500	2,000	14,000
INCAP/Swiss	6,000	11,000	11,000	—	—	—
INCAP/ONUDI	—	—	—	—	—	8,500
INCAP	5,000	5,000	5,000	5,000	5,000	5,000
COINDI	—	—	—	—	—	50
<b>Total</b>	<b>46,000</b>	<b>51,000</b>	<b>52,000</b>	<b>78,500</b>	<b>30,800</b>	<b>27,550</b>
France	Technical assistance and operations					
Belgium	Training and workshop					
PRODAR-IDRC	FIAR theses + research project + workshop					
INCAP/Swiss	Totonicapan project					
INCAP/ONUDI	Executive Secretariat					
INCAP	Human resources					
COINDI	Bulletin					

Note: USD, United States dollars.

## The Southern Cone Region

The Southern Cone Region has four member REDARs: Argentina, Chile, Uruguay and Paraguay. In the course of the evaluation, all countries but Paraguay were visited. The emphasis found here, more than in the other two regions, was on commercialization and markets as evidenced by the series of training courses outlined in Appendix III and the examples provided in the descriptions below.

### REDAR-Chile

#### Background and organization

REDAR-Chile was founded in 1990 and is governed by an Executive Council which includes one representative from each of the following institutions: IICA; the University of Chile; GIA (The Agrarian Research Group); INPROA (the Agrarian Promotion Institute); and MUCECH (The Unified Movement of Chilean Peasants and Ethnic). GIA and INPROA are well known Chilean NGOs while MUCECH is the country's strongest national peasant federation. REDAR-Chile became a legalized association only in 1996 and has 30 members at present. NGOs, peasant associations, cooperatives and academic institutions form a dominant part of the membership.

The ruling institutions of REDAR play complementary roles within the national network. Initially, the salary of the regional PRODAR coordinator based in Chile was paid by IDRC while office facilities and materials were provided by IICA. Subsequently, as costs rose, this salary was subsidized by IICA locally and presently, only a half salary is paid by IICA along with network services. The REDAR coordinator is supported from local resources. The Ministry of Agriculture, through the National Institute of Agriculture and Livestock Development (INDAP), provides funding for training and technical assistance. Technical assistance to MUCECH financed by INDAP is often implemented by the REDAR NGOs. In addition, the Ministry of Planning and Development has instituted a fund called FOSIS (Social Investment Solidarity Fund) to subsidize the rural poor, including low income peasants. This fund is also used for technical assistance to peasants through NGOs.

#### Activities

RESEARCH — R&D activities have been supported by FIAR through PRODAR Hemispheric Coordination. Projects supported include the following:

- Surveys of AIR in Chile. The AIR diagnostics were prepared mostly by GIA to document the scope of rural agroindustry in various regions of Chile. REDAR-Chile also developed, through GIA, a methodology for preparing regional agroindustry surveys. This was condensed in an interesting and useful document (“Guía para la Aplicación de un Catastro de Agroindustria Rural,” Santiago de Chile, 1993) which was used in some of the other country diagnostic studies.
- Development of an agroindustrial data base. In 1994, REDAR-CHILE developed a software program for information collection and analysis of market opportunities, costs and competitiveness of AIR. This program, called INFO-RED, was designed for the storage and retrieval of information on agroindustrial markets, public and private institutions for rural agroindustry development and bibliographic information on agroindustrial projects.
- Graduate student theses and research projects. REDAR-Chile cofinanced six undergraduate and graduate theses utilizing FIAR funds of some USD 500 per student. In addition, REDAR-Chile members prepared two research projects during 1994–96, which were submitted to PRODAR for financing. One of them referred to industrialization of goat-meat in

the 4th Chilean Region. This proposal had support in money and in kind from INDAP, Universidad de Chile, INPROA, MUCECH and GIA. A second proposal involved the marketing of peasants' agro-industrial products to developed countries. This latter research project is related to IDRC's FoodLinks.

INFORMATION SYNTHESIS AND DISSEMINATION — The following publications were prepared and distributed:

- “Agroindustry Reports”: these are the AIR diagnostic studies produced as nonperiodical publications. Five publications will be available by January 1997;
- REDAR “Bulletin”: published about twice a year since 1989 with an interruption in 1996. It is a 10-page publication which covers agro-industrial processing, trade opportunities; interviews with rural leaders and additional relevant information;
- “InfoREDAR”: a monthly bulletin which delivers market information including lists of international traders, rural legislation, commercial and financing opportunities;
- “Commercial Opportunities”: a short bulletin published weekly;
- Booklets on agroindustrial processing: these describe agroindustrial transformation processes for several products; and
- Training materials on management of small agroindustries, formulation of agroindustrial projects and tax policy for small agroindustries.

TRAINING AND TECHNICAL ASSISTANCE — REDAR-Chile has organized at least 24 national workshops and seminars since 1993 with an average of 24 participants per course. Most of these events related to management of small rural agroindustries and agroindustrial development. Five workshops covered technical aspects of processing for specific agroindustries such as cheese, dried fruit, dried fish and others. REDAR-Chile has also prepared two training proposals for peasant associations: one of them is a proposal to the Integrated Peasant Organizations of Bolivia Committee for training in data collection and processing, management and

marketing techniques and industrialization of agricultural products. It should be noted this is an “export” activity of REDAR-Chile.

HORIZONTAL COOPERATION AND INSTITUTION BUILDING — REDAR-Chile organized a number of national meetings during the 1993–96 period and also participated in international meetings. National meeting objectives have been the exchange of information and useful knowledge between REDAR associates; the provision of a forum for redesigning REDAR’s strategies; and the creation of an institutional “space” for upgrading REDAR’s image within the rural community.

#### Funding

It was impossible to get systematic accounting balances for REDAR-Chile activities. The following estimates were obtained from various information sources: PRODAR coordination contributed USD 6,000 in 1994 for preparation of the surveys on peasant agroindustrial development; USD 3,000 was provided from FIAR in 1994–95 for financing student theses; and some USD 2,300 was made available for REDAR-Chile member travel costs. In 1996 there were no PRODAR contributions, but USD 16,000 was supplied by FOS, a Belgian private development agency, and was used for updating of the data base and improvement of software quality in the information system.

#### Observations

Positive results included rapid growth in membership from 1989 to 1994, probably stimulated by the complementary roles that REDAR-Chile members played in support of peasant community development activities such as strengthened relationships between rural development institutions and peasant organizations; systematic annual activity plans; methodologies for agroindustry analysis; an array of five different types of publications designed to satisfy different needs, disseminate ideas and provide technical and economic information; and quality training exercises and materials.

Negative results need to be taken into account for PRODAR’s reformulation. Insufficient funding in 1995–96 discouraged REDAR-Chile members and the intensity of activities decreased notably. Inadequate funding for key activities like the agroindustry surveys resulted in less than optimal quality of output. REDAR-Chile activities have been centrally organized to satisfy institutional demands and less oriented than desirable to the direct demands of peasant associations. This situation is undergoing favourable changes in 1995–96. In spite of positive merits, research quality needs to be improved and surveys could tackle management and marketing issues in a more comprehensive way. Thesis proposals

should, in general, be more appropriately linked to concrete difficulties recognized by producers and linked to focused development project activities.

#### Rural-development projects associated with REDAR institutions

REDAR-Chile did not provide direct in-the-field training or technical assistance to project supervisors or peasants. INPROA and GIA were, on the contrary, providing support to field projects in many rural areas of Chile two of which are San Pedro and Codigua.

The San Pedro project is located some 130 km southwest of Santiago. The project's principal products are dryland wheat and irrigated strawberries. It benefits 80 peasant families all of whom grow wheat while some produce strawberries. INPROA developed two different activities: operation of a small wheat-mill; and technical assistance to strawberry growers. The mill is coordinated by a mill manager hired by INPROA and supervised by a Council of representatives from the local peasants' association. The objectives of the project are to secure food supply for peasants and to generate commercial surpluses. The mill was experiencing severe losses, due to below capacity-operation and to difficulties in management of operations. The production of fresh strawberries for the Santiago market and for local processing industries, on the other hand, gives excellent economic results. Quite likely the food security segment will be discontinued. The main lesson of this experience seems to be the ability of small producers to relate to emerging markets and to benefit from this relationship.

The milk collection centre project in Codigua, located 80 km southwest of Santiago, has three major social components: urban improvement; community development; and land use management. It also has a production component which includes financial and technical assistance. Financial assistance is supplied by FOSIS (Social Investment Fund of the Ministry of Planning and Development) for the purpose of building a milk cooling and processing facility. Total investment amounts to USD 22,000 plus some work provided by the producers. The storage facility serves about 60 producers each with an average herd of 12 milking cows and milk production of some 120 litres per day. Some of the peasants fall in the extreme poverty category and project impact has been important. Better milk quality, due to improved storage and processing facilities, has led to higher milk prices for producers.

The main lessons are identical to that of San Pedro. Very poor producers can adapt to emerging markets and benefit from agroindustry enterprises provided they are given access to appropriate support facilities and organization. Strategic alliances between programs with different (but not opposite) perspectives, like FOSIS and PRODAR, can be built when field-project objectives coincide. The



Integration of peasants into intermediate product markets has been widely treated in the economic literature and the social effects evaluated as positive or negative depending on case-specificities and on theoretical perspective. The outcome has been positive in both Chilean examples.

## **REDAR-Argentina**

### **Background and organization**

REDAR-Argentina was founded in May 1991 by a number of NGOs, a university faculty and a government agency. These included INCUPO (Instituto de Cultura Popular), INDES (Instituto de Desarrollo Social), FUNDAPAZ (Fundación para el Desarrollo en Justicia y Paz), CEIL (Centro de Estudios e Investigaciones Laborales), INTA (Instituto Nacional de Tecnología Agropecuaria), IICA, SAGyP (Secretaría de Agricultura Ganadería y Pesca), FA-UBA (Facultad de Agronomía de la Universidad de Buenos Aires), and Fundación ESQUEL. INCUPO, FUNDAPAZ, INDES, and ESQUEL are NGOs. Most of the NGOs coordinate projects involving small producers in the provinces of Corrientes, Formosa, Santiago del Estero and Chaco (cotton and goat-cheese production).

INTA (National Institute of Agricultural and Livestock Technology) participates in REDAR-Argentina through a specialized Minifundio Unit whose Executive Director is the national REDAR coordinator. The Unit supervises 45 rural development and technical assistance projects for small producers. REDAR-Argentina is managed by a Coordinating Committee formed by representatives of only five member institutions. The Network today is still composed of the initial nine founding institutions and, unlike its Chilean and Uruguayan counterparts, does not have legal statutes.

### **Activities**

**RESEARCH** — A survey of Argentine rural agroindustry was carried out by representatives of CEIL, ESQUEL and the school of agronomy and published in a 96-page document which provides accurate information about small plant locations, raw materials, production quantities and values, market channels, and agro-industrial technology. CEIL is coordinating a research project whose main objective is to analyze the evolution of rural employment in Argentina with emphasis on agroindustrial employment creation in the period from 1990 to 1996. A draft of the study was not available for the evaluator's perusal. CEIL is also undertaking a second research activity on methodologies for evaluation of rural development projects with agroindustrial components but again, results were not available. PRODAR did not provide funding for these or any other research studies in Argentina, including student theses.

INFORMATION SYNTHESIS AND DISSEMINATION — The diagnostic survey of Argentine rural agroindustry was published in 1994. An additional survey document on agro-industrial marketing, the First Meeting on Commercialization of Rural Agroindustries of Small Producers, Buenos Aires, 1992, reports the proceedings of a meeting which took place in Mendoza in 1991. The document describes and evaluates marketing experiences in 11 AIR projects. The REDAR-Argentina Bulletin is quite similar in size, quality and subject matter to the Chilean Bulletin and is distributed on a quarterly basis to a mailing list of 700 subscribers. It reaches a number of producer associations including some located in quite distant places. Distribution is largely financed by INTA and printing by contributions of REDAR members. A series of booklets on agroindustrial processing are being prepared and two of these “cuadernillos” have been published to date addressing goat meat production and fruit preserves.

TRAINING AND TECHNICAL ASSISTANCE — During the period 1994–96, REDAR-Argentina organized about 12 workshops in eight provinces dealing with marketing of agroindustrial products and agroindustry management. The average number of participants in each workshop was 15, mainly field project supervisors and representatives of peasant associations. Since more provincial requests have been received, additional workshops will be organized for 1997. The PRODAR Regional Coordinator provided technical assistance to field project supervisors of several rural development projects including one cofunded by IFAD. These workers were trained in business management and marketing of agroindustrial products. He provided additional technical assistance for formulation of commercial components in rural development projects. This effort led to the creation, in 1995, of a specific agroindustrial and marketing component in an IFAD-financed rural development project. He also helped Argentine professionals of SAPyA (formerly SAGyP) in the preparation of a manual for formulation of agroindustrial and marketing components in rural development projects during 1996.

HORIZONTAL COOPERATION AND INSTITUTION BUILDING — REDAR-Argentina organized a national meeting on marketing of agroindustrial products in Mendoza, November 1991, in which representatives of Chilean peasant associations also participated and presented some successful Chilean experiences. The proceedings of this workshop have been published as noted above. Another workshop on the development of peasant agroindustry in Argentina involving 29 participants from several provinces took place in Buenos Aires in May 1993.

### Funding

It was not possible to access systematic accounts of network funding and expenditures, however, according to the REDAR-Argentina Coordinator, the only financial support received from PRODAR was an amount of USD 4,000 in 1991. These funds were used for publishing activities and for a workshop in Buenos Aires. Member institutions have financed REDAR-Argentina with their own resources, largely through a membership fee.

### Observations

REDAR-Argentina clearly benefited with the constant support of REDAR-Chile. The very positive connections between the two REDARs are a good example of efficient networking and horizontal cooperation.

Positive results exceed the negative and include the following: REDAR-Argentina served as an effective means of raising awareness and strengthening sensitivity towards peasant agroindustry; insufficient funding in 1995–96 did not discourage REDAR members as alternative sources of funds were sought and the intensity of activities did not decrease; useful information was compiled in the national agroindustrial survey; the Bulletin and the Booklets published were useful in disseminating simple technical and economic information; publications were never interrupted by shortage of funds, as in Chile, since they were financed by REDAR members; and high impact was achieved by the training and technical assistance activities aided by the important inputs of the PRODAR Regional Coordinator. Lessons learned in Formosa and Mendoza indicate that small producers can handle new industrial technologies and cooperative management when appropriately assisted.

Negative results must also be considered. Unlike REDAR-Chile, very few efforts to prepare systematic annual activity plans and to develop methodologies for agroindustry analysis have been made. Also, there has been no development of training materials for Argentina conditions. This is a serious shortcoming which must be corrected. Like REDAR-Chile, activities are centrally oriented to satisfy institutional demands and less concerned with satisfying direct demands of peasant associations. Despite good merits, research quality needs be improved so surveys tackle management and marketing issues in a more comprehensive way. REDAR-Argentina is informal and does not have a legal framework of statutes.

### Rural-development projects associated with REDAR institutions

CASSAVA-STARCH PRODUCTION IN FORMOSA — This project is located in northeast Argentina and has three major components: institution-building, training, and technical assistance. The Minifundio unit of INTA is the supervising institution.

Peasant families created an agroindustrial cooperative whose main objective is to produce cassava starch from surplus cassava production. Through technical assistance, they were helped to build a cassava processing plant which produces 2 tonnes of starch per day during the harvest season. They were also trained in financial and technical management of this plant. The main difficulty is excess plant-capacity. Peasant families are currently unable to grow enough cassava for three different outlets: home consumption, the fresh root market and the processing plant. They have not been able to mechanize cassava planting and harvesting to increase production and fresh product market prices are higher than the processing plant can pay and therefore more rewarding. In search of a solution, the cooperative is currently trying to adjust costs in plant operations and expand raw material supplies.

The main lessons to be learned are that scale issues can quickly become a problem and cost competitiveness undermined; these problems are heavily related to credit financing, a truly scarce resource; and small producers can cope with technological difficulties. It might also be observed that, in spite of financial capital needs, project supervisors apparently were unaware of or made no attempt to contact PRODERNEA, IFAD's cofinanced credit project, which has relevant actions in Formosa. REDAR should serve to bridge these institutional networking difficulties.

FRUIT PRESERVES IN MENDOZA — The "Dulceras de Mendoza" project was started in 1991 under the supervision of the Minifundio unit of INTA with financial support from the Ministry of Social Affairs. The School of Agronomy of the University of Cuyo has provided training without economic compensation. Four groups of "dulceras," integrated in one single cooperative, are producing top quality fruit preserves of different kinds, jams, jellies, preserves in syrup, and dried fruit specialties. Products are sold to delicatessen stores, local minimarkets and wholesalers in Mendoza and Buenos Aires. Production is growing at the steady pace of 5% per year and in 1996 reached about 20,000 half-kilogram jars. These groups of women have difficulties in increasing their investment and operating capital is sometimes in short supply. Market response is occasionally uneven and the "dulceras" cannot export their products because of lack of scale. There is an interesting market to be tapped in Brasil but they have difficulties in expanding supply to satisfy local markets. The "dulceras" will have to expand their scale of operations to achieve some cost reduction while continuing the interesting differentiation process they have initiated. Lessons learned include the importance of scale problems once more distant markets are to be supplied, and small producers are able to create acceptable differentiated products, if appropriately assisted.

## REDAR-Uruguay

### Background and organization

Small-scale agroindustry in Uruguay includes mainly dairy products, fruit preserves and bee-keeping. It has little relation to international markets, with the possible exception of artisanal cheese production, part of which is sold to Argentine tourists. REDAR-Uruguay was formed in May 1994 by 13 participating institutions. There were 16 members by 1996. It is governed by a five-member steering committee and an executive secretary provided by IICA. The objectives of REDAR-Uruguay are similar to those of REDAR-Chile but the accent is placed in integration of activities of different national institutions.

REDAR-Uruguay operates under a formal legal statute which defines the network's objectives and areas of activity as research and development; technical assistance; training; information; policy analysis; promotion; and institution building. It has several types of associates: full or active members (*socios activos*), supporting members ("adherentes") and donors (*patrocinadores*). Full members include JUNAGRA (Junta Nacional de la Granja; a unit of the Ministry of Cattle Raising, Agriculture and Fisheries); LATU (Laboratorio tecnologico de Uruguay, a public technological agency); the School of Agronomy of the Universidad de la Republica; the Uruguayan Cooperative Centre; FUNDASOL (Uruguayan Foundation for Development Solidarity, NGO), the Nacional Institute of Colonization, the National Direction of Handicrafts, The Latin American Centre for Human Economy (NGO); the Junior Forum (NGO), the Union of Development Projects (a public institution); the Federated Agrarian Cooperatives; and the executive secretary of the network, IICA, which provides administration services and hosts the REDAR-Uruguay meetings.

IFAD is supporting a rural development project in Uruguay, called PRONAPA. Some PRONAPA activities are closely related to rural agroindustry, such as the production of frozen vegetables in associative enterprises in Bella Unión (Northeast Uruguay). The project is not linked institutionally with REDAR and reasons for this were not disclosed.

### Activities

RESEARCH AND DEVELOPMENT — A survey of Uruguayan peasant agroindustry was completed in December 1995. This work was thinly funded by PRODAR and the results were weak. A doctoral dissertation was completed in 1996 ("Analysis of Techniques for Preservation of Apples and Potatoes," Universidad de la Republica), with financing from FIAR.

INFORMATION SYNTHESIS AND DISSEMINATION — REDAR-Uruguay distributes a bulletin about twice per year with the following contents: editorial note; AIR promotion article; successful experiences, normally told by peasants; news about international and national meetings, seminars, workshops and additional events; technological processes; additional international experiences. The Bulletin is distributed mostly among public institutions and NGOs and reaches a limited number of peasant associations. This publication was financed by IICA and JUNAGRA but publication was interrupted in 1996 due to lack of funds.

TRAINING AND TECHNICAL ASSISTANCE. — REDAR-Uruguay organized one seminar on management and marketing in 1994 with assistance from the PRODAR Regional Coordinator.

HORIZONTAL COOPERATION AND INSTITUTION BUILDING — Regular monthly meetings of REDAR members took place, often providing a good forum for discussions of relevant matters and exchange of experiences. In addition, REDAR-Uruguay organized two internal workshops for sharing information, and representatives participated in the Eighth Latin American Seminar on Food Technology (Montevideo, 1994); the International Workshop on Exchange of Experiences in Peasant Agribusiness Management (Santiago, 1995); and three REDAR National Coordinator Meetings held in Buenos Aires, Bogota and Cali.

#### Funding

REDAR-Uruguay received USD 12,500 from PRODAR for the following activities: USD 5,000 for the diagnostic study, Agroindustrial Survey of Uruguay; USD 5,100 for networking activities and publication of initial numbers of the REDAR-Uruguay Bulletin; USD 1,400 to cover the expenses of the REDAR-Uruguay Coordinator in two seminars; and USD 1,000 from FIAR in support of a doctoral dissertation in 1994. Other support came from JUNAGRA which supplied USD 1,700 in 1995 and USD 2,000 in 1996 for publication and distribution of REDAR bulletins; and IICA which financed the salaries of the executive secretary, internal and international travel, publications and assistance at meetings totalling USD 22,000 from 1994 to 1996. Over a 3-year period then, REDAR-Uruguay received a total of USD 50,700 for its activities and participation in PRODAR facilitated meetings. This does not include in-kind contributions of its members.

### Observations

Positive results were a rapid growth in membership and the contribution of the Network to strengthened relationships between rural development institutions in Uruguay. In addition, publication of the REDAR-Uruguay bulletin raised awareness of the importance of rural agroindustrial development and related issues.

Some difficulties and weaknesses were noted with research output and training efforts. Financing of the survey on agroindustrial activities in Uruguay was very thin and the resulting document is only descriptive thus has only limited usefulness for ascertaining weaknesses and difficulties in AIR development. Quality of the network bulletin also is only moderate and publication has been interrupted in 1996 due to lack of funds. REDAR-Uruguay made little effort to develop training materials and organize training activities for the benefit of field supervisors and peasant associations. It was not possible to find, in network members, a real interest in developing training and technical assistance activities which could really reach peasant communities.

In short, there has been little expression of REDAR work in Uruguay in spite of the country's excellent human resource endowment. REDAR-Uruguay activities were very little oriented to satisfying peasant demands related to AIR. It lacks one of the important characteristics seen in Chile, a close connection and communication between peasant associations and public institutions created to support their interests. It would be useful for PRODAR and IICA to urge REDAR-Uruguay to update their objectives and expand activities with a greater field problem orientation.

## **PART III: OBSERVATIONS AND CONCLUSIONS**

PRODAR has evolved quickly over the past 6 years but it has resisted becoming institutionalized preferring to remain flexible and provide interactive leadership in a rapidly changing political and economic environment. It is a “movement” building awareness at official and local levels of needs, opportunities and potentials in the largely unrecognized small rural agroindustry and microenterprise sector. While there are still many gaps and weaknesses, what has been accomplished is a significant leap forward in drawing attention and resources to an important, and many times leading, component of rural development initiatives.

Evaluation of this hemispheric wide process does not lend itself easily to standard assessment procedures and precise measurement of discrete outputs. It is possible, however, to identify and describe impact in progress and outcomes in a fairly specific and concrete manner. Much of this description has been set out in the first two parts of this report and what follows is an attempt by the evaluators to draw attention to what they consider the key outcomes and elements requiring attention and provide suggestions which hopefully will generate further thought, discussion and, above all, action.

### **PRODAR activity impact and outcomes**

#### **Identification of constraints to rural agroindustrial growth**

It became apparent, through research and horizontal cooperation efforts, that important constraints to peasant agroindustrial growth include weak management practices, lack of marketing strategies, financial constraints, indifferent product quality and little product differentiation, among others. Nearly all of the national AIR surveys, in spite of some deficiencies in coverage and analysis, gave an adequate perspective of major constraints to AIR development. In most cases, the outcome of the surveys was a significant new awareness of the sector and the inclusion of AIR oriented project components in some government programs. These diagnostic studies were the initial important step in most member countries which drew the attention of policy makers and development planners to the potential of the AIR sector which heretofore was completely ignored.



### **Improved network capacity**

Strong evidence of PRODAR achievement is in the growth of the network to encompass 15 national REDARs during the 1991–96 period. There has also been a clear improvement in network technical and policy influence which allowed the transfer of useful written and oral knowledge among national networks, the organization of training workshops and influence on policies related to AIR. This has been clearly demonstrated by the technical assistance and training activities in Argentina, conducted by PRODAR's Regional Coordinator for the Southern Cone, the role CIMPA of Colombia has played in disseminating improved panela production technologies through PRODAR connections and the dissemination of cassava processing and utilization technologies by CIAT to mention several examples. Most REDARs benefited from this sharing and several contributed in a significant way. Overall, the results have been uneven but quite acceptable.

### **Information availability and sharing**

Information on rural agroindustry is now much more widely and specifically available than before the creation of PRODAR. Whatever information existed earlier was not accessible, broadly shared, discussed, or jointly evaluated in any coordinated intercountry manner. PRODAR has facilitated this exchange and the creation of a network of information collections which are available for research and planning activities. Just the national diagnostic surveys, weak as some of them are, have added immensely to the information available. Add to this the training materials, papers prepared by the PRODAR coordinators and documentation from the many meetings and substantial improvement and progress can be noted.

REDAR information bulletins have proved to be popular and are clearly recognized and sought after by target groups. These vary in quality, content and periodicity, but in general, present useful information in clear formats. PRODAR's bulletin and publications are less known at the field level in peasant communities or even by field supervisors because of distribution difficulties and costs. They also tend to be targeted more to a second level audience of program planners, technical personnel and managers and at this level, they are recognized as useful. Most national and international meetings promoted information sharing and usually, resulted in publications for the record and wider distribution. These results were possible because PRODAR considered information collection and diffusion a key activity.

There is plenty of room for improvement, however, and if PRODAR is going to continue, information sharing must be one of the key program components in which it provides leadership. At the moment, PRODAR still lacks a complete information system with top quality connections and a fully organized

database and reporting system. During the last year, there have been lapses in reporting of activities and content from some areas which meant all the information was not available at headquarters to fully respond to some of the evaluators' queries. Nevertheless, an adequate start has been made and an electronic information system has recently been introduced which has the potential to grow quickly. With a more secure funding base, the information system should become a core function of the network and allow PRODAR to report more fully and immediately on its support and facilitation activities to all members and respond more effectively to their requests.

### **Research and the FIAR fund**

Research was an important aspect of the evolutionary set of activities which led up to the creation of PRODAR. It was only introduced as an integral PRODAR sponsored activity, however, in the second funding phase with the creation of FIAR. It is important to note that as a result of the earlier efforts, AIR has been recognized as a productive object for research and the creation of REDARs has allowed for and encouraged multicountry participatory and multidisciplinary research work. The Fund initially focused on support for descriptive country diagnostic surveys and, in the case of the competitive fund and student theses, specific community technology adaptation studies. On the whole, the research studies supported were appropriate and, while the full impact is still to be felt, they helped initiate development outcomes with long term social and economic implications. Student thesis results were a bit more scattered in useful effects but where the work was linked to operational development activities, productive results were realized.

The selection process for competitive research proposals is well-designed but implementation could be improved to assure focus on the potentially most productive projects and wider dissemination of the results. There was a strong feeling among some REDAR leaders that these funds should be distributed on a country basis and the funding decisions made at that level. In order for this to be effective and efficient, the fund would have to be much larger to justify expansion of the quality screening and support system now in place. Thesis support selection at the country level needs more specific guidelines integrating these activities much more closely with development action and stronger supervision. The evaluators feel that management of the FIAR fund should remain at the hemispheric level with emphasis placed on quality of proposals and focus on identified regional and country needs expressed through their representatives. Attempts to distribute limited funds solely on a membership basis is likely to result in less effective overall impact

from the fund and while equity in allocation of grants is an important issue, it should not take precedent over content and quality.

Topics for research should be broadened to deal with organizational and social issues and emphasis on agroindustrial costs and competitiveness. In this context, economies of scale problems, an important issue in AIR development, require attention. Future research possibilities within the PRODAR institutional framework are very promising but in order to make this a significant network activity, the FIAR fund, which has made a promising start, needs to be augmented substantially. The growing participation of CIAT, INCAP and possibly CIP as REDAR and PRODAR members has great potential for anchoring a wider research program and adding value through their strong technical and conceptual capabilities, infrastructure and dissemination possibilities.

### **Training and technical assistance activities**

Training activities in all regions were highly rated by national leaders and participants. The main concern was that the capacity to train more people is limited by available finances. In the Andes and Central regions, study visits to neighbouring countries were an effective means of horizontal cooperation. In some cases, consulting visits by specialists and PRODAR regional coordinators proved useful and were well appreciated. Much of the training was oriented to training trainers rather than to producer groups directly. There is a feeling among REDAR members that training in marketing and market strategies could be intensified. Follow up after courses were given has been weak so there is no solid information on the impact and spread of the information disseminated in the courses and technical assistance efforts. Major courses given are listed in Appendix III. Some excellent training materials and manuals were prepared and published. Overall, the impression was that these activities have been effective, have made an impact but lack resources from both local and donor sources for a really dynamic program.

### **AIR components and marketable products in rural development**

In many cases, the most effective way of promoting AIR, given its context and lack of resources for major programs, is through creating awareness of its importance in rural development projects. This has been done successfully by many of the REDARs, as described in Part II. In a few countries such as Colombia and Venezuela, REDARs are playing an important role in designing and operationalizing the AIR component in major rural development programs.

In Chile, there was a contribution to identify "new" agroindustrial development projects through research (processing of goat-milk cheese) and to identify new products (research projects on shellfish and horticultural preserves). In

Argentina, there was an effort to identify new products through differentiation strategies in the “dulceras” project. There are quite interesting additional examples in the other regions as well, such as the cassava starch and flour initiatives in Ecuador, Peru and Colombia and the development of cactus-based products, aloe and sisal in dry regions of Venezuela. A good deal of interest in IDRC’s Food-Links project was evident for creation of opportunities to commercialize and export both new and traditional products. However, some of the expectations raised in this context need to be tempered somewhat as many of the products require refining in content and presentation to make them appealing in other markets. In a number of cases, producers emphasized organically produced raw materials and mentioned the possibility for international registration through PRODAR initiative. PRODAR contribution to product identification is quite adequate but more effort needs to go into market and product research for local and regional markets as well as the international ones most often mentioned.

### **Improvement of the socioeconomic situation of the rural poorest**

Field experience shows that the very poor can benefit through local transformation of their production and improvements in their situation can be attained. Many of the confectionary producers in Mendoza, Argentina, had below-subsistence incomes and yet they adequately contributed to cooperative work. The same outcome is obtained in artisanal cheese production in Chile and Ecuador, panela in Colombia, Panama and Guatemala and cassava in Ecuador, Colombia and Peru. Additional examples are seen in all REDARs where relevant support programs exist and poor families and producer associations participate.

The arguments and evidence here is not completely straight forward, however. Within PRODAR there is some discussion of the long term feasibility of microenterprise production being able to compete with medium and large scale processors in terms of stable supply, quality of products and the logistical problems of assembling sufficient product volumes to interest larger, more sophisticated and demanding markets. This is an issue which needs more study from technical, logistical and socioeconomic perspectives. Not enough attention has been paid to the conditions within which small AIRs and microenterprises can compete and what basic forms of support are needed such as credit, training, group organization, marketing chains etc. It is important to recognize that these needs vary according to local situations and products and the accumulation process leading towards greater economic security is built on a variety of linkages and supports. PRODAR is making a useful contribution in this sphere of interest and needs to continue with more systematic, in depth, studies to document the processes and interactions involved.

It is worth noting that a great deal of rural agroindustrial activity involves the participation of rural women and children in activities such as sheep-wool processing, preparation of horticultural and shell-fish preserves, preparation of milk products like cheese and many other traditional and newly introduced products. Rural agroindustries serve to integrate underprivileged rural women into growing markets and provide opportunities for increased family income.

While PRODAR is not involved directly at the field operational level, through REDAR members such as NGOs and government programs with direct field actions, many very poor families and communities are being influenced indirectly by PRODAR initiatives.

### **Gender issues**

PRODAR has produced and published several studies on the roles of women in rural agroenterprises but the impact or use of these studies was not clearly evident. The major work is a gender analysis of AIR processes done in Colombia in 1995, and the other two were carried out in Guatemala and Dominican Republic. These are listed in the record of PRODAR publications in Appendix III. Like environment, gender issue awareness came up spontaneously in many discussions and in a variety of contexts. This is evidence of a growing consciousness that gender equality is important for development and recognition of the effects of differentiated roles is creeping into male dominated programs. There is still some way to go, however, before the full meaning of gender equality is understood and internalized and much more work is needed in terms of gender role analysis in the context of AIR and rural development projects. Many REDAR and other leaders still feel that the simple fact that AIR enterprise workers are often women makes it a female domain. They assume women will benefit automatically, without considering other factors such as total workload related to household and family responsibilities, child care and less opportunity for education and training for enterprise management. This is an area to be analyzed in association with the poverty issues and AIR interrelationships mentioned above.

### **Preservation of natural resources**

Peasant agroindustries observed during field work were not, in general, severely damaging environmental resources but the threat was there. In several cases, land resources were in the process of deterioration due to overcultivation of cassava or sugarcane and the growers were very conscious of the depletion problem. Similar awareness of environmental impacts and long term conservation needs were observed in a number of countries and environmental concerns of producers were widely encountered.

In general, natural resources preservation awareness was a consequence of sustained consciousness raising about this problem by field workers. REDAR member institutions were instrumental in the process but not explicitly as a result of PRODAR. An opportunity exists for PRODAR to introduce environmental issues more explicitly into the program's activities through training and horizontal cooperation.

### **Resources invested in PRODAR**

PRODAR has not had a large budget under its control that could be used to create and direct a centrally orchestrated and managed program. It has grown on the basis of facilitating collaboration and exchange between hundreds of development entities and by promoting AIR awareness at all levels in both national and international policy making and investment decision-making. Direct investment in PRODAR, including the salaries of the regional coordinators, has been provided essentially from three sources — IDRC of Canada, CIRAD-SAR and CTF of France, and IICA — to the tune of approximately USD 1,250,000 over 6 years. An additional amount of about USD 950,000 was invested by various agencies supporting the work of the REDARs, for a total of USD 2.2 million in funds that can be directly accounted for. On a pro rata basis, this comes to USD 208,000 per year, or just under USD 14,000 per REDAR member per year. Appendix II provides more detailed estimates on the distribution and sources of funding. Given the considerable number of activities performed in these countries, it is clear the “multiplier” effects of scarce international resources invested have been substantial. It should be noted, however, that many of the figures used are not always consistent because of activity overlap and lack of an overall accounting and recording system.

PRODAR's private and social costs are difficult to estimate as, due to its nature, it is not subject to comprehensive international or project auditing. Many resources supporting PRODAR and REDAR activities have been provided by member institutions in the context of related activities and were not budgeted specifically for PRODAR. It is clear however, that the systematic facilitation of available network capacity maintained monetary costs at a very low level, sometimes at the risk of downgrading quality. The transaction costs involved for the results achieved appear to be quite modest.

It is also not possible to quantify social benefits but estimates of contributions to stated goals can be made as discussed throughout this report. Overall program performance is definitely positive and one can say that social benefits have been larger than social costs. The evaluators believe, however, that in order to improve social performance some changes in program strategy and

organization would be desirable. One of these changes involves greater synergistic collaboration of donors and other supporters of the AIR movement in activity planning and funding.

## **PRODAR structure, institutional relationships, and activities**

### **Institutional framework and staffing**

The fact that PRODAR has evolved out of a variety of earlier programs and initiatives designed to meet several objectives means that it has been pieced together around actions under way rather than designed as a discrete project with a well-defined management system. Differences in expectations from supporting agencies and REDAR members has made it difficult to achieve a fully integrated program planned and executed in a conventional manner. Lack of legal status, responding to donors and an ambiguous, dependent relationship with IICA, has created some difficulties for PRODAR. It has had no effective governing body and coordination between supporters has been somewhat lacking. On the other hand, PRODAR has benefitted from its individual relationships with each donor on specific activities and with IICA in terms of cost effectiveness because of IICA's extensive infrastructure, seed funding and political influence.

It is time, now, for PRODAR to solidify its structure and relationship with its members in a more formal, legal manner. Members are amenable to the idea of a "Consortium" composed of financing and technical assistance institutions and representation of the REDARs. This would allow all interested institutions to contribute to planning and policy-design activities. The Consortium would create an active space for ongoing dialogue and collaboration in the funding and support of agreed on priority activities and facilitate additional resource-searching activities. The PRODAR regional offices need to be strengthened and take a leading role in conceptual and operational terms collaborating with their regional members. A PRODAR Consortium Board of Partners should meet at least once per year for evaluation of previous work, analysis of program perspectives, review strategies and for policy design. Representatives would also be expected to maintain permanent contact through electronic mail and conferencing so monitoring, evaluation and policy formulation could be accomplished on an ongoing basis.

The evaluators suggest that PRODAR should continue to operate in close association with IICA. Any alternative option would be much more costly, probably more piecemeal, and lack access to the kind of hemispheric infrastructure and services IICA provides. Nevertheless, PRODAR needs to raise its image as an entity independent of IICA. In some REDARs, where IICA was the main promoter of the network, PRODAR was unknown or only vaguely perceived by members who considered it an IICA program. It would be of benefit to both IICA

and PRODAR to maintain and promote separate images of collaboration and program initiatives. Within the context of a formal legalized framework, PRODAR should have an active Board of Partners consisting of the following:

- One representative from each of the active international donor participants;
- One representative appointed by IICA;
- One representative from each region selected by members of regional committees;
- The PRODAR Executive Director; and
- Others as may be determined by the Board to fairly represent all interests.

Regional committees should be composed of one appointed representative from each member REDAR and a representative from a major international technical institution such as CIAT, CIP or INCAP. The regional coordinators would support and participate in these committees and provide secretariat services.

The Board of partners should be responsible for setting the terms of reference for and selecting the PRODAR Executive Director. For this purpose a subcommittee could be formed to screen candidates and make final recommendations to the Board. The regional coordinators would be selected by the Executive Director in consultation with this personnel subcommittee.

With respect to location of the Executive Director's office, it is suggested that this should remain at IICA headquarters to clearly separate it from the regions and link it with the Information Centre in a hemispheric facilitating and information brokering role. This office would also serve as the secretariat for the Board. The present staffing and organization should remain until these recommended changes can be organized and adequate funding is available to make them feasible.

These ideas are in close agreement with perspectives evolving within IICA as it moves into the final stages of a major restructuring and decentralization. Today's resource shortage leads to the need for strategic alliances to execute large scale projects in a decentralized manner. A majority of IICA officials consulted accept the need of alliances and the beneficial flexibility of operating PRODAR as a separate entity, dependent on and important to IICA, but not an organic part of the organization. IICA's partners could, in turn take strategic advantage of IICA



facilities and services in all Latin American countries. IICA's technical units could collaborate more fully in relevant aspects of PRODAR activities through its Centre for Agribusiness Development, its information technology and communications facilities and staff and through its Sustainable Rural Development Programme. For example, the Agribusiness Centre has elaborated training materials related to product quality, product packaging and agribusiness management which could be useful for PRODAR member activities and PRODARNET has been established within the rapidly evolving IICA electronic network.

IICA has agreed to cover the salaries of three PRODAR regional coordinators to be associated with IICA regional offices which have recently been created. PRODAR's regional coordinators can thus receive collaboration from IICA's regional directors in matters of policy design and fund raising. It is important to emphasize, however, that PRODAR needs to maintain an independent status alongside IICA which is one of a number of partners, albeit a very important and indispensable one. In this context, not all IICA agribusiness activities would necessarily be associated with PRODAR and not all AIR activities facilitated by PRODAR need be linked to IICA. Collaboration would be based on strategic purpose of collaborating entities and operational benefit for target groups.

### **Planning and follow-up**

The PRODAR system needs systematic planning procedures against which ongoing monitoring and evaluation can take place. Several REDARs regularly prepare annual or biannual plans of activities but the majority could benefit from more systematic program and activity planning. The Regional and Hemispheric Coordination units would receive these plans, make suggestions and use them for formulation of regional and hemispheric activities, such as horizontal cooperation events. Annual plans should be flexible and consistent with the overall nature of the program. It would be convenient to evaluate the use of "computerized" follow-up of activities now that PRODARNET has been established. Such systems will be extremely useful for documenting and upgrading the quality of "learning by experience" process as well as facilitating resource allocation. This would help build up the information base available to all collaborators and complement annual evaluation meetings at country, region and hemispheric levels.

### **Information and knowledge dissemination systems**

PRODAR's Hemispheric Coordination office needs to upgrade the quality of its information collection, storage and dissemination system. More consistent capture of information on activities and outputs from regional and national members would benefit all participants. The recently established PRODARNET is an

important step to allow efficient message transfers between PRODAR members and there have already been examples of successful information exchanges in response to technical queries from PRODAR members where useful knowledge was shared. At least one REDAR, that of Peru, has established its own electronic communication system linked to PRODARNET and several others are being planned. Some communication difficulties still exist but these are rapidly being solved as IICA upgrades its electronic communication system to state of the art level. This should eventually allow for teleconferences at reasonable cost greatly augmenting the possibilities for interaction and reducing the need for expensive travel and conferences. Face to face meetings are still important, however, and will be needed to create the human interaction energy on which effective electronic communication is based. Considerable training and familiarization with the system as well as facilitative monitoring will also need to be organized to make the system effective.

The Information Unit of IICA, located in San José, is completing a complex information system with latest generation equipment and an electronic-storage library. The system will have full access to INTERNET and to world wide teleconference systems as well as an internal network linking all IICA offices. It is strongly suggested that PRODAR seek immediate support from this Unit. This policy would enhance information gathering and distribution capability.

### **Research support**

The FIAR fund should be preserved and substantially enlarged. Cofunding of individual projects should be more generous and research resources more in line with research scope and objectives. It is impossible to prepare a good agroindustry "national" survey with USD 6,000. If resources are scarce, more limited research activities should be implemented. Better publicity on the research fund competitions and fuller reporting of selection criteria, winner selections and research output would be helpful. For example, PRODAR might organize a workshop or an electronic conference on specific topics and approaches funded through FIAR to exchange information and experiences. This might also be done with respect to student theses in order to encourage initiative and quality. These experiences could be used to synthesize and disseminate results, effective methodologies and technology transfer. Merit criteria for funding of research should be maintained and a participatory approach to identification of research objectives promoted in order to achieve focused, operational results.

Research objectives could be broadened to pay attention to business management, cost and economies of scale analysis, efficiency and competitiveness, marketing and product development strategies, and product and service quality.

Investigation of income distribution effects of AIR programs would also serve a useful planning and evaluation purpose. Surveys of national agroindustries need to be upgraded. With the existing diagnostic studies as a base, it is possible to identify relevant AIR problem areas and then work specifically on assessing those problems.

### **Donor expectations**

A compilation of donor objectives and expectations as extracted from various project documents is presented in Part I. Of these expectations, all have been fulfilled to a greater or lesser extent. Comments are made throughout this report on the strengths, weaknesses and opportunities associated with each objective in the various countries. Given the level of resources available to PRODAR, and its extensive reach throughout the whole hemisphere, PRODAR has fulfilled its mandate in a realistic way. Management and strategy have also been effective and this has led to substantial documentation of experiences and creation of a viable and active set of national and regional AIR networks.

### **Lessons learned and future roles**

#### **Structure and relationships**

PRODAR has shown that an articulating and facilitating role can be effective in linking a wide range of individual efforts and raising awareness of the importance of an ignored and underrated sector. Without the convening initiatives of PRODAR, many important national and regional projects, meetings and information exchanges would not have taken place. The creation of a space for interaction to draw attention to opportunities for joint action is indispensable in the current situation of limited development resources. It is also evident that a stable institutional base and relatively secure funding is fundamental for effectively playing this role. The PRODAR team has demonstrated what can be accomplished on a hemispheric basis with limited resources but a strongly held and articulated vision.

PRODAR must continue to evolve into a true "consortium of interests" among supporting institutions, operational and policy entities and field level associations of AIR participants. The experience so far has shown that, as a facilitating structure, it has the potential to bring together at all levels the many interests of the financial and technical support offerings of industrialized countries; the enabling, stability lending, infrastructural and information services of international organizations such as IICA, CIAT, CIP, INCAP and others; the operational program delivery resources and interests of governments and NGOs; and large numbers of producer communities and associations with the potential to benefit

from the productive growth of rural agroenterprise. To achieve this Herculean task, more consistent and focused consultation between donors and PRODAR members is essential along with an improved structure to make it happen as suggested above.

### Services and actions

Actions should be carried out by the entities closest to the people, families, communities and associations working to improve their own situations through AIR development. The other actors with which PRODAR seeks to associate are supporting service providers in a variety of specific functions and inputs. Most of these services have been referred to at different points throughout this report.

PRODAR and its member REDARs can provide a stable base and channels for AIR development planning and resources. This is important at three levels:

- *The hemispheric and regional level* — At the hemispheric and regional level PRODAR gives context and forms the matrix, the “space,” within which dialogue, promotion and idea exchange with international supporters and all other members can take place in a global sense. This level can support an information and communication support service, identify and undertake macroresearch, integrate and synthesize micro findings and experiences and provide consulting services;
- *The country REDAR level* — At the country or REDAR level, many of the same services and activities as above can be provided in support of member institutions with actions in the field or in collaboration with the hemispheric level and other countries. Information supply through bulletins, publications and promotion at a policy level are key services along with facilitation of interaction between members to promote effective actions; and
- *The field level* — At the field level, local REDARs and their members interact directly with participants in defining problems, determining solutions and facilitating collaboration to achieve more efficient and effective results by focusing and combining available resources. The PRODAR and REDAR infrastructure exists to support action at this level in all its complexity and recombinations.

Networks at all levels can perform a convening role to combine interests of members in the search for resources, to form alliances, to provide a place for

and facilitate negotiations, and to influence policies. An interesting possibility is the active identification and promotion of AIR components in large rural development projects and offers to facilitate, manage, support and promote these activities. A number of REDARs are looking for major projects to use as a focusing mechanism and to provide more secure funding within a 3- to 5-year horizon. This approach could be one means of achieving the goals of stated missions and objectives and without requiring the creation of large new institutional bureaucracies.

### Financing

If the PRODAR network of networks is to continue to evolve, stabilize, and address its stated mission, it will have to become more creative in its search for support. Dependence on two or three traditional donors will lead to greater instability and leave the movement vulnerable to changes in policies and interests of the supporting agencies. This is not to indicate that such support and participation is not important and desirable, only to say that diversification of support would be advisable. Various sources of financing are possible and several of these are already being utilized by some REDARs. One is charging a fee for services or products such as publications. Several REDARs collect inscription and annual membership fees. Looking for a role in rural development and credit schemes as mentioned above is another possibility.

The following are suggested basic annual funding requirements derived from estimates of existing support levels. These can provide a guide to the resources needed to maintain a reasonable level of activity in all 15 current REDARs. Basic cofunding linked to REDAR self-financing efforts should be in the range of USD 15,000 per network per annum, for a total of USD 225,000. This amount should not be expected to cover all REDAR costs and would not necessarily be distributed equally amongst all REDARs. It would take into consideration local funding, country needs, potential and quality of annual program plans on which funding would be based. Decisions on level of funding would be taken by the Board based on a budget prepared by the GAAP synthesizing proposals from country REDARs. The GAAP and PRODAR personnel along with their services and logistical needs would require in the range of USD 200,000 per annum.

FIAR fund requirements would be on the order of USD 15,000 per REDAR as a minimum along with an additional USD 25,000 for student theses for a total of USD 250,000. These funds would be for cofunding and be allocated on the basis of quality and merit of proposals related to selected annual research priority topics. Grants might be in the range of USD 10,000 to 50,000. Overall, this comes to a total estimated requirement of USD 675,000 per year. If further

REDARs are added, as suggested for the Caribbean area, additional funding would be required.

Overall, there appear to be more opportunities for national and local public and private funding than most members are realizing. Finding and tapping into these funds will require imagination, initiative and a willingness to collaborate with a variety of institutions with parallel development objectives to which a successful AIR component could add value. Discussions at IICA indicated an interest on their part to participate in this kind of approach drawing on their political and international network and fund raising experience. An active and functional Board of Partners of the PRODAR Consortium would also bring greater credibility and attention with the major international financing institutions.

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## APPENDIX I: CASE STUDIES

### **Case study 1: Business management — situation of cassava starch and panela plants in North Cauca**

Two types of rural agroindustries are typically found in the Department of North Cauca, Colombia: small sugar-crushing plants, which produce panela, and cassava-processing plants, which produce both sour and sweet starch. Panela plants are generally too small, dispersed and seasonal in operation to estimate the number of families dependent on them as a major source of income. However, most of the starch plants are small family enterprises which provide direct employment to approximately 300 families. It is estimated that 80% of sour starch production in Colombia is concentrated in North Cauca and that 90% of the 60,000 tonnes/year of cassava roots produced in the region are processed into starch. Although many institutions, public and private, have worked on various fronts with these small agroenterprises, their impact was unknown as was the degree to which new technology had been adopted. Also, a comprehensive understanding of the principal problems of these agroindustries was not available to formulate effective support programs. It was important too, to determine panela and starch plant operators' perceptions of their problems and priorities.

Taking into consideration the above, the Carvajal Foundation, experienced in programs focused on self support and management, initiated contacts with the Tunia Development Corporation (CORPOTUNIA) to plan a study focused on gathering and analyzing the needed information. CORPOTUNIA, as part of its strategy, has a program of student support to assist with its extension activities and this group formed part of the interinstitutional team. Other institutions with a particular interest in the information gathering exercise and who participated in various ways were CIAT, CIRAD-SAR and the Corporation for Interdisciplinary Studies and Technical Assistance (CETEC). Carvajal Foundation and CORPOTUNIA provided USD 19,340 for the study while the balance of USD 14,000 came from the PRODAR research fund, FIAR, provided by IDRC. The work began in February 1995 and was completed a year later, in February 1996.

The objectives of the study included better knowledge of the management and administration of panela and cassava starch enterprises as a basis on which



to formulate strategies for strengthening their administrative structures and business consolidation. To achieve this purpose, various aspects of enterprise management were addressed, such as personnel management, accounting practices and inventory control, costs of production and sales, product marketing and prices, quality control, and legal aspects and administrative structure. The final objective was to generate and disseminate administrative and enterprise management tools adapted to the needs of rural agroindustry.

The researchers began by conducting a thorough review of secondary information about the starch plants followed by each participating institution compiling a matrix of information they possessed not already captured. Based on this information, a field instrument was designed, pilot tested and administered to 210 starch plant operators. This work was divided between oral questioning and direct measurements of the plant facilities and conditions. Observations were also made on the state of each plant, its equipment and capacity. Each week the completed questionnaires were checked to encounter any inconsistencies and field staff were given opportunity to discuss any problems or observations which might require adjusting the process. When the field work was completed, the data was coded and organized then analyzed by a selected interinstitutional team of analysts.

Collection of information on the panela plants followed a similar procedure but covered a much larger area of the Cauca Department. The questionnaire was redesigned to apply to the specific parameters of the panela plants. Information was gathered in the months of October to December by a group of six interviewers from CORPOTUNIA following routes established by that institution's regular extension program. In contrast to the starch plant study, a census of all plants was not attempted and only 60 plants were visited, 89% of which were in operation.

Of the 210 starch plants inventoried, 146 were in operation, 3 were under construction, 30 were temporarily idle, and 28 were abandoned. These enterprises were distributed in 85 neighbourhoods of 12 municipalities. Most were family operations, and two were owned by organizations. Eighteen percent were members of cooperatives related to production and marketing of cassava and starch. It was found that the starch industry in Cauca generates an average of five permanent jobs per plant (about 827), of which 57% are contracted and 43% are family labour. Twelve percent of the work force are women, and less than 1% are children. In addition, a series of indirect employment opportunities is generated cultivating cassava and transporting raw material and final product. Lack of working capital, shortage of raw material, great variation in price and marketing of products and by-products were the main reasons indicated for a 68% underutilization of installed capacity. Other problems included scarcity of water, lack of drying

floors and frequent cuts in electric energy supply. About 22% of the plants had received some administrative training and 77% of these kept a register of their purchases and sales. The plants with higher technology levels usually kept records while the oldest and most experienced operators were least likely to do so.

Turning to the results of the panela plant survey it is estimated that, in 1990, about 900,000 tonnes of panela was produced in Colombia in 30,000 plants generating 120,000 permanent jobs. Of the 60 plants surveyed, 89% were in operation and the rest either lacked cane to process or were abandoned. Seventeen percent of the plants belong to producer associations and the rest to individuals or family groups. Fewer than 10% of operators rent processing facilities or have other arrangements with plant owners. Some 84% of the plants employ 1–5 workers, 14% hire 6–10, and the rest hire as many as 15. Up to five women were found working in 78% of the plants. More than 80% of the plants reported having their own transport ranging from mules to trucks. Ninety-five percent of the plant owners had other income generating activities, half of them as manual labour. Less than half had completed primary education. About 35% of the owners earned half or more of their total income from processing panela, while 65% gained less than half from that pursuit. Administratively, 94% of the plants had minimal or no administrative and management structure or distribution of tasks among workers and only 5% kept inventories. Most did not know what their costs of production and returns were.

On other issues, most plants use firewood to fuel their furnaces and very few use bagasse. Half the operators feel fuel is abundant, a quarter feel it is scarce and the others, scarcely enough. No mention was made of environmental impact on surrounding hillsides. Credit was used by 70% of the operators for planting cane, improving plantations and modifying or renewing equipment and plant. Problems expressed by the respondents in order of importance were lack of technical and management advice and assistance; lack of working capital; lack of training; scarcity of manual labour; and poor markets for their products. Other problems noted were poor administration of their plants, little weight control on final product, poor soils for growing cane and lack of cane to purchase.

In general, comparing panela and starch plants, the panela plants are family enterprises with little working capital and poor or nonexistent administration. Most are ignorant of costs of production, don't keep records and have no idea of their costs and returns. The starch producers, on the other hand, are generally better endowed in these enterprise areas. Women's labour, and in some cases that of children, is an important factor in both types of enterprise but especially in panela where returns are lower. Panela plants work sporadically throughout the year, depending on the supply of cane. More diversity is to be found in the starch plants

with respect to types of equipment and technology, administrative structure, working capital available and types of records kept. In both cases, positive correlations were observed, as would be expected, between levels of plant administrative management and level of education and level of technology used. Those who belonged to grouping organizations exhibited better management practices and both technical and management training appeared as an important tool in improving these small enterprises. This was recognized by the operators who felt the offerings from which they could benefit were scarce. These administrative factors left them at a disadvantage in negotiating with intermediaries who set prices at will. On the other side, labour provided outside family sources in both types of plants is informal and completely outside minimum legal contracting conditions.

The output of the study was a report details of which are summarized above. It also produced a booklet written for the plant owners which outlines the strengths and weaknesses of their enterprises and provides ideas on how to improve these. A proposal was prepared for improving the administrative management of small enterprises in North Cauca and a number of relevant agencies in the area have taken up the task. Direct benefit of the project is being realized by some 250 enterprise owners and their families who are being included in training and enterprise development projects. The Carvajal Foundation always works in alliance with others and thus links well with REDAR in joint research and development activities. All participants found the interactions and integration of efforts and management productive and the collaborative approach toward the subjects of the study involved them in providing a wider range of ideas. PRODAR and REDAR-Colombia helped bring this initiative to fruition and added another important dimension to the effort by creating a place for a number of agencies to pool their knowledge and resources and focus on devising a more directed and efficient set of support activities. The methodology and approach used is considered applicable in a wider range of rural agroindustry enterprises.

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## **Case study 2: Utilization of cassava flours and starches in the elaboration of processed meats**

Many rural enterprises fail, not for lack of appropriate technology, but rather for lack of adequate systems to control the quality of products they put on the market. The “Quality Project” carried out in the Portoviejo area of Manabí Province of Ecuador was designed to address these problems. It was presented to FIAR for funding by REDAR-Ecuador on behalf of an interdisciplinary multi-institutional team, including FUNDAGRO (an Ecuadorian NGO), the National Polytechnical School of Quito, INIAP and UATAPPY, a union of cassava producer and processor associations around Portoviejo. The total budget of the project was USD 41,360, of which USD 16,060 was provided through PRODAR. The remainder was covered by CIRAD-SAR (USD 10,000), the Canada–Ecuador Development Fund (USD 12,000) and CIAT (USD 3,300). The project commenced in June 1995 and was completed a year later.

The project had the following objectives:

- To formulate new processed meat products of better quality and lower cost using cassava flours and starches; and
- To implement technologies and methods for improving the quality of starches and flours produced by a peasant association of producers and processors.

Obtaining these objectives implied a participatory integrated approach to developing the new products. It was expected that success in the project would allow entry into new markets for products derived from cassava, better quality control, greater income for small producers and processors and a more stable future for UATAPPY and its members. It was also anticipated that the collaborating institutions would be strengthened, especially the INIAP-Portoviejo quality control laboratory. Although not all of these expectations were realized, sufficient progress was made to rate the project a success in terms of opening new markets for processed meat products as well as for starch and flour from the cassava producers and processors.

Manabí Province is the main cassava producing area in Ecuador where, in addition to being seasonal, production often exceeds market demand. Most of this production comes from small producers with few other alternatives for income or productive activity. A number of support institutions decided to confront this set of problems about 1985, when CIAT began an integrated project in the province collaborating with the Ministry of Agriculture and Livestock (MAG) and the

National Institute of Agricultural Research (INIAP). Producers and technicians were trained in the processing of cassava chips and, to facilitate processing enterprise development, a number of producer–processor associations were formed including both men and women. Shortly after, a second level association was created to group these first level associations for the purposes of marketing, credit, technical assistance, processor training and participation in planning and operating the integrated project. From 1988 to 1994 funding for research, extension, education and coordination of the project was received from FUNDAGRO. With this support, UATAPPY managed to diversify both products and markets for the cassava producers. Two associations were formed by women to produce starch for industrial applications such as adhesives. Cassava chips and flour were sold to animal feed manufacturers and to shrimp producers.

By 1990, UATAPPY was collaborating directly with CIAT and INIAP in applied research on the testing of equipment and technologies for improved cassava starch production. A pilot plant was established in one of the women's associations which was then able to begin producing better quality starch and this resulted in new clients for UATAPPY. Market studies helped identify potential areas of research and one of these was the interest of meat processors in producing lower cost, better quality processed meats. They expressed interest in the use of cassava starch as binders and water holding ingredients in their formulations but had little knowledge of how this could be accomplished. The "Quality Project" proposed working together in an integrated fashion to solve these problems and develop the new products envisioned.

The project linked also to another initiative led by CIAT and CIRAD-SAR funded by the European Community. This project brought together a group of highly qualified Latin American researchers and their laboratories in a common effort to characterize and optimize potential products and uses of cassava flour and starch. The connection with UATAPPY provided a real life field laboratory in which to test new technologies and products developed in the laboratory.

As a result of these efforts and collaboration, better quality starch is being produced by several women's associations, and a practical manual, in booklet form, has been produced for the guidance of the processors. Product quality improvement has resulted in new markets for cassava starch in the food industry with a demand of 250 tonnes/year. The development of new products in the meat industry is also resulting in market development with a potential of 750 tonnes/year of food quality starch. Another major accomplishment has been the training and sensitization of processors to the importance of quality in their products. The main impacts so far have been improved marketing conditions and greater income for a producers' association, benefiting 320 participating low-income rural

families. Indirect benefits have been realized by neighbouring producers taking advantage of the new developments but there is no concrete estimate of this spillover effect.

Almost all the participating institutions in this project are members of REDAR-Ecuador and/or PRODAR. The modest additional investment made by FIAR facilitated bringing to fruition this multifaceted research project and bringing together the many elements of knowledge and experience required to solve the technical and organizational problems involved. It is likely that these results will have application in other cassava producing areas within PRODAR purview.

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### **Case study 3: Improvement of the sanitary quality of artisanal cheese in Guatemala**

Milk production in Guatemala reached 333 million litres in 1988: 35% was processed by large commercial enterprises and the remaining 65% was marketed as crude milk or milk products produced by small artisanal enterprises. A REDAR-Guatemala study of the dairy industry in 1993 produced evidence of the poor sanitary precautions taken in the fabrication and handling of fresh cheeses made from unpasteurized milk. It has actually been proposed to make obligatory the pasteurization of milk for all manufactured milk products. These laws would have drastic consequences for small artisanal producers. REDAR-Guatemala applied for and received financing from FIAR for a research project called "Adaptation and transfer of technology for the improvement of the sanitary quality of artisanal cheese in Guatemala."

The objectives of the project, carried out in 1996, were the following:

- To diagnose the situation of artisanal cheese plants and the production of fresh cheeses;
- To carry out technical experiments under producer conditions;
- To form a producers' group; and

- To evaluate the impact of interventions on product quality and the technical and economic feasibility of introducing the proposed improvements.

The diagnostic study involved a survey in eight municipalities in the southern region of Guatemala, in Escuintla and Santa Rosa departments. The survey involved 26 full-time cheese producers located in the main municipal towns who processed more than 100 litres per day. These respondents each produced between 200 to 3,000 litres of milk a day for a total of 20,155 litres and from which 2,012 kilograms of fresh cheese and 1,747 litres of cream were produced. However, milk production and its collection is seasonal in quantity and quality. These are family or industrial enterprises of which half belong to the informal sector and 80% are engaged in other activities. The most important cheese-makers are engaged only in this activity and process over 400 litres of milk a day. The availability and price of milk varies greatly from season to season and the cheese producers have identified this as their greatest problem.

The principle market for milk products is in the city of Guatemala where more than 50% of the cheese and cream is sold, 63% of it via intermediaries. The gap in price is very great between selling cheese directly to the final consumer (9.73 Q/lb) and through an intermediary (5.68 Q/lb). The price of cream is more stable at 16–17 Q/lb.

Cheese production occurs mostly in the homes of the producers which, for the most part, are made of plaster walls and concrete floors but 32% are simple open-air sheds. Almost all have electricity but only 65% are connected to a potable water supply system while the other 35% depend on wells. The equipment used is simple: plastic and fibreglass containers, knives, machetes and plastic or wooden moulds. Eighty-five percent have a manual or electric cream separator, 60% have mixers and 60% have refrigerators or cold rooms for the preservation of the finished products. Products are mainly cream and fresh cheese, and the whey produced is used to feed animals. No producers pasteurize their milk. Quality control is mainly organoleptic. The yield also indicates whether or not the milk has been adulterated and 77% of the producers possess a densimeter.

A microbiological analysis was performed on a sample of 20 cheeses from surveyed producers. The results showed significant presence of bacteria (faecal coliforms and *E. coli*) which indicates faecal contamination and represents a risk for intestinal infections for consumers. Traces of *Staphylococcus aureus* were observed at levels of more than 10 million/gram and certain strains can be toxic at high levels causing serious food poisoning. *Salmonella* was not identified in any of the cheeses sampled.

A risk analysis was conducted in three plants according to the HACCP method to determine the source of bacterial contamination. The overwhelming results were that the principal source of contamination came from the milk itself. The experiment consisted of producing cheese in the selected plants but applying recommended hygiene practices in milking, cleanliness of equipment, workers and plant and in practising pasteurization. Hygiene in milking allowed for the reduction of the *Staphylococcus aureus* contamination to 1,000 grams/litre. Pasteurization and milk handling hygiene allowed for the production of safe cheeses free from sanitary risk.

The publication of the results has given rise to a training workshop on the technological and sanitary aspects of artisanal fresh cheese production. In addition to the introduction of pasteurization and hygiene methods in production, the training course also focuses on quality control of primary ingredients (acidity, added water) and improvement of the yield. The valorization of acidic milk by making a Mexican type cheese, and of whey, in a drinkable form (called champagne!), greatly interested the participants.

Fifteen participants followed this training workshop but little information is available on how far it has changed their practices. Nevertheless, promoters noted that the commercialization of pasteurized cheese tends to be difficult because of little awareness by consumers and opposition by intermediaries who are not ready to pay more for quality. More work is needed on marketing and organization of marketing channels.

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### **Case study 4: The productive management of traditional water-powered systems in rural areas of the Andes — the development and diffusion of improved mills**

Throughout the Andes one can find many small, water-powered stone grinding mills which service the grain milling needs of local communities. In the provinces of Cajamarca and San Marcos in Northern Peru, where this project took place, it is estimated there are at least 1500 of these mills. Many more are to be found in the rest of the country as well as in Bolivia, Colombia and Ecuador which could benefit from the modifications resulting from the work described here.



The project was proposed to FIAR by ITDG-Peru, an appropriate-technology NGO, and work commenced in February 1995. Total cost of the project reached USD 60,000 of which USD 14,000 was cofunded by FIAR. A family owned traditional mill was selected for study and experimental improvements in a small community called Luchipucro located about 20 kilometers from Cajamarca, the Provincial Capital. Products of the area are wheat and barley, Andean roots and tubers, legumes such as beans and peas and animals. The 70 families in the community are dispersed throughout the area and agriculture is the principal source of their income.

The general objective of the project is to improve access to the benefits of reliable and productive energy sources for Andean rural populations. Specific objectives are the following:

- To monitor a pilot mill to assess its technical functioning and evaluate the type and extent of benefits arising from technical modifications;
- To modify components of the hydraulic system, lowering costs without diminishing efficiency, and test the installation of additional services such as a forge, woodworking shop, etc.;
- To design and develop a dissemination program for technology transfer to local workshops capable of installing and servicing improved mills in a second stage of the project;
- To train identified mill owners in the management, maintenance and administration of mill services as a microenterprise;
- To establish a credit system as part of the dissemination initiatives of a second phase and as a model for wider diffusion of the technology later; and
- To systematize and disseminate information on the experience nationally and internationally.

For this initial experiment, only one mill was selected owned and operated by a single family. Modifications were made to three parts of the mill system: the water capture and control system; the drive mechanism; and the actual milling components. In the first, PVC tubing was installed leading the water to the drive wheel and improvements were made in the water take-off and collection point. In

the second, a more efficient but still simple wheel was installed along with a much simplified drive shaft and bearing system requiring less maintenance and simpler to dismantle. Finally, improved stones were installed along with a regulated feeding mechanism, improved flour collection and spacing control between the mill stones for better control of product characteristics and quality. A battery charging system was installed as a complementary service for those clients with car batteries used to power lights and radios. Total cost of the modifications was USD 4,150 but ITDG estimates other installations can be done for USD 2,000 or less. A model made entirely of wood and which can be built and repaired locally in more remote areas is being designed.

The result of these changes was an improvement in efficiency of 2.0–2.5 times over the original mill with requirement for less than half the water flow. Energy output of the system was increased by 4, and the improved stone design is more efficient and provides a better quality flour. Where the original mill could grind about 12 kilograms/hour, the modified mill puts out about 30 kilograms/hour, a feature the mill clients appreciate since they don't have to wait as long for service even at the busiest times. Clients also benefit from the fact that the mill is in the locality where they live thus reducing their travel time and costs over having their milling done in more urbanized areas of the region. In addition, the amount charged is half or less that of urban mills and the battery charging service offered also saves time and money. They appreciate the more personal service and trust provided by a local family. Before the changes, about 130 families from five communities used the mill. Now, people have come from 18 surrounding communities with a potential of 945 client families of which 371 have used the service. Additional spin-offs expected are services provided by local workshops in the fabrication and repair of mill equipment and the required dressing of the mill stones to maintain efficiency.

The biggest challenge is developing and promoting an effective transfer process including training in the areas of maintenance, equipment construction, repair services and enterprise management. The work completed in this project constituted research and evaluation of the existing and improved systems, an important step in designing a system which responds to the needs and possibilities of Andean inhabitants under various conditions. The information which has been systematically gathered and compiled provides the basis for the next step of promoting the modifications widely through the region. REDAR and PRODAR provide good channels for extending the results throughout the Andes.

**Source**

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**Case study 5: Evaluation and adaptation of technology  
and administrative packages for the production of cassava  
and plantain flours in the Peruvian Amazon**

This project was presented to FIAR by REDAR-Peru on behalf of CARITAS-Peru with the support of the Amazon Research Institute (IIAP) and the technical assistance of CIAT. Total funding for the project was USD 280,000 of which FIAR provided USD 14,000 dedicated principally to the support and process of adapting Colombian cassava processing technology developed at CIAT to Amazon conditions. This was CIAT's responsibility in the project and one of its technicians visited the remote project sites on two occasions. Four plants were established at dispersed locations in the Amazon region inhabited by people of distinct non-Andean cultures who had little understanding and experience with the practices and culture of a commercial exchange society.

CARITAS, for its part, works with local agencies, organizations and governments to improve existing conditions through self-managed productive programs in sustainable use of local resources and in environmental protection. As a basis, CARITAS seeks to initiate an accumulation process so families and groups can be self-financing and they support them with programs in education and health as well as other kinds of technical assistance.

CARITAS began this work in 1993 with support from Italian Food Aid funds in 45 Catholic dioceses of Peru. Nine agroindustrial projects were developed focused on the processing of grains, potatoes, cassava and plantain. For four of these, pilot plant equipment was acquired from Colombia to produce cassava and plantain flour and installed with the assistance of the Colombian technician from CIAT. The project was much more development oriented than research, however, the difficult conditions under which the initiative was undertaken provide a number of interesting lessons on the introduction and support of new technology into small rural communities with little prior experience to draw on. Problems were encountered with the equipment, with organization, within the sponsoring institution and in administration. All of these have been gradually overcome with time, patience and a good deal of effort. The fact that two of these plants were in very

inaccessible locations requiring several days of river travel to reach accentuated the problems.

The pilot plants were intended to test whether the CIAT technology is functional in a rainforest environment and in the local culture. Technical problems were experienced but these were solved gradually and 5 t/m of cassava flour were able to be produced. With the construction of an additional drier, production could be increased to 12 t/m. PRODAR funds were used to organize courses in administration of the plants and business management. These were given to 45 participants at two levels: CARITAS extension workers and some peasant leaders; and workers in the plants and community members. Practical training was provided as well in the plants on all aspects of the operations including quality control, sanitation and personal cleanliness. It was necessary to emphasize that the plants were owned by the community and therefore belonged to all the participants, not to CARITAS or the local Diocese as was often assumed when problems arose. It took time as well to teach the basic concepts of market operations and financial analysis. Gradually these efforts helped consolidate a greater sense of community and participation and the community began to understand the importance of self-organization. Most of the plant workers were youth with little experience in any of the required disciplines being the product of the Shining Path period in Peru's recent history.

Markets for the cassava products were another major hurdle. There was little experience with cassava flour consumption in the area and many people did not consider spending cash on food products with which they were not familiar. This was partially solved by a contract with PRONAA, National Food Assistance Programme, to supply product for their distribution. Although this requires more working capital than anticipated since they only get paid a month after delivery of the product, it does help establish a market and introduce it to consumers. Efforts are being made to establish markets independent of this sole initial purchaser to provide more long term security. They are still working on local markets and haven't looked at wider markets at a national level. This still needs to be studied once experience is expanded within the communities and the supporting agencies. Pricing has also been a problem since raw material prices were set arbitrarily at a level well above that which the plants could pay and still make a profit on the processed flour. This too has been addressed.

Overall, this has been an extremely ambitious project tackling a multitude of difficulties experienced by rural enterprises all at once. The input of the CIAT technician has been crucial both at the installation and initiation stages as well as at a later stage to deal with improving the process and plant organization, reduce costs and provide marketing suggestions. It was noted that the PRODAR support

had contributed conceptually to the project in a very substantial way. The initiative continues to struggle but progress is being made and some successes and impact can be noted. Operational plants and local associations have been created in four locations with more than 200 members who are benefiting from new sources of income and experience in operation and management of small agroindustries. Another 150 or so families who cultivate cassava and plantains have found a potential outlet for their excess production. As a final comment, the CIAT technician suggested that this type of project needs to be started at a semi-commercial scale with a well planned learning phase and flexibility to adjust to the pace at which participants learn about and are able to take on responsibilities.

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## APPENDIX II: FUNDING

**Table II-1. Resources provided by PRODAR supporters, 1991–96.**

	Funding (1,000 USD)					Total
	CTF <sup>a</sup>	CIRAD <sup>b</sup>	IDRC <sup>c</sup>	IICA	Other <sup>d</sup>	
PRODAR Coordination						
Executive Director	200.0	400.0				600.0
Technical assistant	55.0		9.2			64.2
Activities/publications	20.0		20.3			40.3
Consultancies			33.5	8.0		41.5
Logistical support <sup>e</sup>	30.0	16.0	16.8	111.9	15.0	189.7
Subtotal	305.0	416.0	79.8	119.9	15.0	935.7
Central Region <sup>f</sup>						
Guatemala			15.0		25.0	40.0
El Salvador			4.0			4.0
Nicaragua			2.5		25.0	27.5
Costa Rica <sup>g</sup>		10.0	2.0	13.0	5.0	30.0
Panama			2.0	13.0	25.0	40.0
Dominican Republic			45.3	13.0		58.3
Subtotal	20.0	10.0	77.6	59.0	110.0	276.6
Andean Region						
Coordinator				94.0		94.0
Logistical support	30.0		18.9			48.9
Colombia			82.9	4.0	95.5	182.4
Venezuela			8.0	30.0	25.0	63.0
Ecuador <sup>h</sup>		5.0	52.8	3.0	73.0	133.8
Peru			34.5	3.0	40.0	77.5
Bolivia			3.6		14.0	17.6
Subtotal	30.0	5.0	214.1	134.0	247.5	630.6
Southern Region						
Coordinator			10.5			10.5
Logistical support	18.0		152.7	67.2		219.9
Chile			86.1	21.0		125.1
Chile			2.0		25.0	27.0
Argentina					25.0	25.0
Uruguay			5.0		25.0	30.0
Paraguay			3.0			3.0
Subtotal	18.0		259.3	88.2	75.0	440.5
<b>Total</b>	<b>373.0</b>	<b>431.0</b>	<b>630.8</b>	<b>401.1</b>	<b>447.5</b>	<b>2,283.4</b>

*Continued*

Note: USD, United States dollars.

<sup>a</sup> In Central America, CTF also financed an expert based at INCAP, Guatemala, for 3 years.

<sup>b</sup> CIRAD also financed the Programmed Research Action theme (ATP) to define AIR functioning. The research was carried out in Africa and Latin America (Honduras, Colombia, and Brazil) over a period of 3 years and cost USD 150,000.

<sup>c</sup> The FoodLinks project is not included. The 1996 expenditures of the Agroindustry Networks II project is included in 1995 calculations.

<sup>d</sup> For the Central Region, support was from Belgian Cooperation to the Business Management Training project. IFAD and CIAT supported the hemispheric meeting in Colombia in April 1996. *Ecuador* received support from the Ecuador-Canada Fund, CIAT, and National Development Corporation. *Peru* received support from the Netherlands, ITDG-Peru, IDEAS, CANDELA, FDN, and CARITAS. *Bolivia* received support from UNUR, CEDAPI, and UTAP/CIED. *Colombia* received support from CELATER, FUNDECOOP, CORFAS, CENCOA, CIMPA, SEPAS, CORPOTUNIA, Fundación Carvajal, and Fundación Desarrollo del Valle. The rest of the support is an estimate of contributions from other national REDAR counterparts.

<sup>e</sup> Includes secretarial support, communications, equipment, office supplies, travel, and meetings.

<sup>f</sup> CTF support was the Training in Business Management project. Support of IDRC, IICA, and others for organization of regional events.

<sup>g</sup> Funding for French student research scholarships.

**Table II-2. Activities financed by FIAR.**

	Funding (USD)			
	Projects	Theses	Diagnostic studies	Total
<b>Central Region</b>				
Guatemala	14,000	1,000		15,000
El Salvador			4,000	4,000
Honduras				0
Nicaragua		2,000	500	2,500
Costa Rica		2,000		2,000
Panama		2,000		2,000
Dominican Republic		2,000		2,000
Subtotal	14,000	9,000	4,500	27,500
<b>Andean Region</b>				
Colombia	14,000	800		14,800
Venezuela		2,000	6,000	8,000
Ecuador	16,060	2,000		18,060
Peru	28,000	2,000	4,500	34,500
Bolivia			3,600	3,600
Subtotal	58,060	6,800	14,100	78,960
<b>Southern Region</b>				
Chile		1,000	1,000	2,000
Argentina				0
Paraguay			3,000	3,000
Uruguay			5,000	5,000
Subtotal	0	1,000	9,000	10,000
<b>Total</b>	<b>86,060</b>	<b>24,800</b>	<b>23,100</b>	<b>133,960</b>



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## APPENDIX III: PRODAR ACTIVITIES

### Publications, 1991–96

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## 92 RURAL AGROINDUSTRY IN LATIN AMERICA

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18. BLANCO, M. 1996. Taller centroamericano de entrenamiento en el manejo de la Base Documentaria de la Red Diálogos y Documentos para el Progreso Humano. PRODAR, San José, Costa Rica. Informe de resultados. 3-6 junio. 16 p.



### **Consultancias, 1992-96**

#### **Apoyo técnico a REDAR-Ecuador en su fase de despegue**

**Objetivo:** Asesorar la preparación de los términos de referencia del diagnóstico de AIR; documentar el proceso de desarrollo de la red durante el período

**Consultor:** CELATER (Colombia)

**Fecha:** 1992

#### **Elaboración términos de referencia para II fase proyecto PRODAR (fase 1993-95)**

**Objetivo:** Preparar documentos de trabajo para reunión del PRODAR y patrocinadores

**Consultor:** Hernando Riveros, CANDICON (Colombia)

**Fecha:** Mayo de 1992

#### **Elaboración documento - proyecto II fase proyecto PRODAR para presentación al CIID**

**Consultor:** Hernando Riveros

#### **Sistematización proceso de evolución de las redes nacionales de Chile, Ecuador y República Dominicana**

**Consultor:** CELATER (Colombia)

**Fecha:** Noviembre de 1992

#### **Sistematización metodologías para promoción y apoyo a a AIR**

**Objetivo:** Publicar un documento con las metodologías desarrolladas y/o probadas por el PRODAR para la promoción de proyectos y productos de la AIR

**Consultor:** Misael Castañeda (Colombia)

**Fecha:** Octubre de 1993

**Monto:** US\$ 6000

**Financiamiento:** CIID

#### **Políticas y agroindustria rural**

**Consultor:** Ivan Nazif (Chile)

**Fecha:** Junio de 1994

**Monto:** US\$ 5000

**Financiamiento:** CIID

**La mujer y la agroindustria rural en América Latina y El Caribe**

Consultor: Carmen Inés Gamboa (CELATER)

Fecha: 1993

Monto: US\$ 8000

Financiamiento: IICA — Programa III

**Formas de organización campesina**

Consultor: GIA (Chile)

Fecha: Julio de 1994

Monto: US\$ 3800

Financiamiento: CIID

**Estudio de casos de comercialización de productos de AIR en Chile**

Consultor: REDAR-Chile

Fecha: Diciembre de 1994

Monto: US\$ 2000

Financiamiento: CIID

**Events, 1990–95**

**Participación en Seminario Ciencia y Tecnología de Alimentos**

Fecha: Abril de 1990

Lugar: San José, Costa Rica

Objetivo: Promoción AIR y PRODAR

Participantes: Nivel hemisférico

**Jornada PRODAR 90**

Fecha: 1990

Lugar: Ambato, Ecuador

Objetivo: Revisar metodologías de diagnósticos y redactar estatutos  
PRODAR

Participantes: 25, nivel hemisférico

### **Reunión Comité Directivo PRODAR**

- Fecha: 28–30 de mayo de 1991  
Lugar: Quito, Ecuador  
Objetivo: Dar seguimiento a decisiones tomadas en la Jornada PRODAR 90 de Ambato; informar sobre los avances del Proyecto “Redes Nacionales” y otros asuntos  
Participantes: 10 miembros del PRODAR

### **Seminario sobre Desarrollo de la Agroindustria en Nicaragua**

- Fecha: 12–16 de agosto de 1991  
Lugar: León, Nicaragua  
Objetivo: Promoción de la AIR  
Participantes: 30, sector académico, gubernamental y ONG

### **Jornada PRODAR 91**

- Fecha: Diciembre de 1991  
Lugar: Cali, Colombia  
Objetivo: Intercambio de experiencias y promoción de Redes de AIR  
Participantes: 25, nivel hemisférico

### **Seminario AIR en Guatemala**

- Fecha: 2–4 de marzo de 1992  
Lugar: Guatemala  
Objetivo: Promoción AIR; formación del grupo promotor de la REDAR-Guatemala  
Participantes: 52 locales y PRODAR

### **Ier Encuentro Nacional de AIR en Colombia**

- Fecha: 1992  
Lugar: Santafé de Bogotá  
Objetivo: Promover la formación de la REDAR

### **Encuentro Nacional de AIR en Ecuador**

- Fecha: Agosto de 1992  
Lugar: Riobamba, Ecuador  
Objetivo: Presentación del diagnóstico de la AIR  
Participantes: 46 nacionales y PRODAR

**Encuentro Nacional de AIR en Perú**

Fecha: Octubre de 1993  
 Lugar: Lima, Perú  
 Objetivo: Impulsar la creación de REDAR-Perú  
 Participantes: Nacionales y PRODAR

**Jornada PRODAR 93**

Fecha: 25–29 de octubre de 1993  
 Lugar: Cali, Colombia  
 Objetivo: Intercambio experiencias; asamblea PRODAR  
 Participantes: 33, nivel hemisférico

**Participación en Seminario Ciencia y Tecnología de Alimentos**

Fecha: 16–21 de octubre de 1994  
 Lugar: Montevideo, Uruguay  
 Objetivo: Promover actividades PRODAR  
 Participantes: Redes del Cono Sur

**Reunión Redes de América Central**

Fecha: Abril de 1994  
 Lugar: San José, Coasta Rica  
 Objetivo: Intercambio experiencias  
 Participantes: 40, Area Central y Andina

**Reunión Redes Area Central**

Fecha: Noviembre de 1994  
 Lugar: Quetzaltenango, Guatemala  
 Objetivo: Presentación informes de cada Red  
 Participantes: 12, Area Central

**II Encuentro de la AIR en Perú**

Fecha: Agosto de 1994  
 Lugar: Lima, Perú  
 Objetivo: Conformación del Comité Directivo de REDAR-Perú  
 Participantes: 36 entidades nacionales de AIR

### **II Seminario Nacional de AIR en Nicaragua**

Fecha: 24 de marzo de 1994  
Lugar: León, Nicaragua  
Objetivo: Conformar la REDAR-Nicaragua  
Participantes: 20 instituciones nacionales y PRODAR

### **I Encuentro Nacional de la AIR en Venezuela**

Fecha: 19–21 de mayo de 1995  
Lugar: Caracas, Venezuela  
Objetivo: Intercambio de experiencias; realizar asamblea REDAR  
Participantes: 60, ONG, AIR, OG, académico

### **Primer Encuentro Nacional de AIR en Guatemala**

Fecha: 28 agosto – 1 setiembre de 1995  
Lugar: Ciudad de Guatemala  
Objetivo: Promoción AIR y REDAR  
Participantes: 15 instituciones

### **Gestión de la Calidad en las Redes de AIR del Area Central**

Fecha: Agosto de 1995  
Lugar: San José, Costa Rica  
Objetivo: Capacitación en gestión de la calidad de redes y reunión de redes  
Participantes: 20, Area Central

### **Taller PRODAR de Análisis sobre Logros y Proyecciones y Participación en el IV Congreso Nacional de Ciencia y Tecnología de Alimentos**

Fecha: 23 al 25 de abril de 1996  
Lugar: Bogotá, Colombia  
Objetivos: Realizar un análisis de los principales logros y perspectivas del PRODAR; de sus limitantes y potencialidades; plantear, discutir y definir las bases de funcionamiento del nuevo proyecto PRODAR-CIID-FIDA  
Participantes: 25, nivel hemisférico

## Training

### Promoción de la agroindustria rural

Fecha: Diciembre de 1992  
 Lugar: San Isidro, Costa Rica  
 Participantes: 18  
 Organizador: PRODAR

### Taller sobre formulación y evaluación de proyectos AIR

Fecha: Noviembre de 1992  
 Lugar: Quetzaltenango, Guatemala  
 Participantes: 30  
 Organizador: REDAR-Guatemala

### Gestión administrativa de la AIR

Fecha: Diciembre de 1993  
 Lugar: San José, Costa Rica  
 Participantes: 19  
 Organizador: PRODAR

### Formulación y administración de proyectos AIR

Fecha: Julio de 1993  
 Lugar: Quetzaltenango, Guatemala  
 Participantes: 29  
 Organizador: CENDEC, INCAP, Cooperación Francesa, PRODAR

### Gestión administrativa y financiera de la Empresa de AIR

Fecha: Junio de 1994  
 Lugar: Antigua, Guatemala  
 Participantes: 32  
 Organizador: INCAP, PRODAR, Cooperación Francesa, Cooperación Belga

### Gestión tecnológica de la AIR

Fecha: Noviembre de 1994  
 Lugar: Quetzaltenango, Guatemala  
 Participantes: 30  
 Organizador: REDAR, INCAP, PRODAR, Cooperación Francesa, Cooperación Belga

### **Curso sobre elaboración de quesos frescos**

Fecha: Enero de 1993  
Lugar: San Juan de la Maguana, República Dominicana  
Participantes: 30  
Organizador: REDARDOM

### **Curso sobre organización campesina**

Fecha: Febrero de 1993  
Lugar: Mao, República Dominicana  
Participantes: 32  
Organizador: REDARDOM

### **Aspectos básicos de la AIR**

Fecha: Febrero de 1993  
Lugar: Arroyo Toro de Bonaó, República Dominicana  
Organizador: CONACADO, REDARDOM

### **Administración de empresas agroindustriales**

Fecha: Mayo de 1993  
Lugar: Yamasá, República Dominicana  
Organizador: CONACADO, REDARDOM

### **Elaboración de mermelada de mango**

Fecha: Abril de 1993  
Lugar: Elías Piña, República Dominicana  
Participantes: 24  
Organizador: REDARDOM

### **Primer encuentro de grupos con proyectos de AIR**

Fecha: Octubre de 1993  
Lugar: Santa Clara, Costa Rica  
Participantes: 25  
Organizador: CENAP, PRODAR

**Curso de elaboración y administración de proyectos de agroindustria rural para cooperativas**

Fecha: Setiembre y Diciembre de 1993  
 Lugar: El Progreso, Honduras  
 Organizador: CEPROD

**Fundamentos de la AIR**

Fecha: Mayo de 1994  
 Lugar: Monterrey (San Carlos), Costa Rica  
 Participantes: 20  
 Organizador: INA, CENAP

**Curso sobre agroindustrialización de la piña**

Fecha: Agosto de 1994  
 Lugar: San Carlos, Costa Rica  
 Participantes: 15  
 Organizador: CENECOOP, CENAP, CECADE, PRODAR

**Gestión de la empresa agroindustrial**

Fecha: Octubre de 1994  
 Lugar: Chiriquí, Panamá  
 Participantes: 25  
 Organizador: REDAR-Panamá, CRUCHI, CTF

**Producción de mermelada de guayaba y guineo**

Fecha: Setiembre–Diciembre de 1994  
 Lugar: La Vega, República Dominicana  
 Participantes: 25  
 Organizador: REDARDOM-CAL



**Table III-1.** Commercialization courses in the Southern Cone Region, 1994–95.

	Number of trainees			Dates
	Technicians	Farmers	Total	
<b>Argentina</b>				
Misiones	30	5	35	25–28 Oct 1994
Bariloche	80	15	95	4–5 Nov 1994
Resistencia	35	6	41	26 Jun–1 Jul 1994
La Rioja	36	7	43	31 Jul–4 Aug 1994
Total	181	33	214	
<b>Chile</b>				
Concepción	17	5	22	27–29 Jul 1994
Concepción	19	4	23	17–18 Nov 1994
Chillán	11	19	30	19–21 Jul 1995
Chillán	12	15	27	28–30 Aug 1995
Cañete	30	—	30	23–24 Nov 1995
Concepción	25	15	40	4–6 Dec 1995
Total	114	58	172	
<b>Paraguay</b>				
Asunción	38	5	43	11–20 Sep 1994
<b>Peru</b>				
Juliaca	39	7	46	15–20 Aug 1994

## APPENDIX IV: PRODAR AND REDAR SURVEY

The Programa Cooperativo para al Desarrollo de la Agroindustria Rural (PRODAR, program for development of rural agroindustry) initiative was formed to bring together a variety of interests and actions related to promotion of rural agroindustry (AIR) in Latin America and the Caribbean. It evolved out of a variety of earlier research and development activities in rural areas dealing with individual aspects of rural enterprises focused on improving the social and economic well-being of rural people and their communities. Since little of this work was linked in a “systems” sense, representatives of the International Development Research Centre of Canada (IDRC), Centre for International Cooperation in Agricultural Research for Development – Department of Agri-food Systems (CIRAD-SAR) of France, French Technical Cooperation (CTF) and the Inter-american Institute of Cooperation on Agriculture (IICA) joined forces in 1989 to create PRODAR and greater linkages in the promotion of AIR in the context of overall rural development.

The stated mission of PRODAR is to “promote, support and strengthen AIR in Latin America and the Caribbean, as well as the associated institutional and political systems, as a means of boosting small farmers’ participation in markets and improving conditions in rural areas.” It defines its work in the following way: “PRODAR operates through national rural agroindustry networks known as REDARs, which are made up of governmental and nongovernmental development agencies, research institutes, universities and farmer organizations associated with this type of effort.” REDAR networks in different stages of development are presently in operation in 15 different countries. They are loosely linked in three regional groupings focused on Central America and the Caribbean, the Andean area, and the Southern Cone.

PRODAR is currently in transition to a new phase of its evolution and AIR is now more widely recognized in official circles as an important focus for rural development. Nevertheless, this comes at a time when all programs are beset by uncertainties and pressures to produce visible results as well as to find ways of generating financial returns from their own activities and institutions. Partly as a response to these pressures, partly as a means of drawing member network inputs toward future focused planning and partly as a means of addressing accountability

questions, a workshop was organized to review the accomplishments, perspectives and projections for the future of PRODAR and REDAR activities. IDRC took advantage of this meeting to initiate an evaluation process beginning with interviews and a questionnaire for the REDAR leader participants carried out by an independent consultant. This action was followed by the mailing of a modified version of the questionnaire to all the REDARS for their individual members to complete.

The present report summarizes and analyzes the results of these interviews and questionnaires. It is essentially composed of two reports, one dealing with the workshop interviews completed in May 1996 and the second with the responses to the questionnaires sent to REDAR members completed in October 1996.

The major concerns reflected by the PRODAR and REDAR leaders focused on financing, policy and promotion of awareness of AIR potential. This focus did not reflect a lack of concern for ultimate operational results but rather the fact that the member organizations which carry out on the ground activities benefit from the promotion, information gathering, dissemination, research, training and communication services the PRODAR movement provides. Strong support for these activities and resources were expressed by all respondents. Although substantial local results were described in general terms, and a long list of successful experiences as potential case study subjects was compiled, the most important result has been the establishment of AIR as a legitimate and effective rural development focus. All this has been accomplished in spite of frustration related to limitations of uncertain funding, part-time positions and the need to depend on voluntary leadership in the development of many of the REDARs.

Enthusiastic support, despite the limitations, for a "movement" they all believe in and are happy to be associated with was evident. Results were described at the structural level; the conceptual level; the methodological level; the information level; the training level; the research level through the research fund (FIAR); and the technical assistance level. From the perspective of the three PRODAR coordinators, their greatest sense of success was in the identification, definition and development of AIR as a major theme in rural development and in what amounts to a whole new sector not attended to before in any integrated way. As one REDAR leader noted, "PRODAR called world attention to the possibilities of AIR." The most important activity described by all members was that of the country "diagnostic" survey which in every case served to focus subsequent program planning and implementation by REDAR members.

Differences were noted in the way programs developed and successes were achieved in the three regions. These relate to a variety of factors including local needs and context, interests of supporting donors and development institution

members and especially on local leadership. Various development patterns in member countries are detailed in the text of the report as are strategies and services provided at different levels. Responses to the specific questions on the effectiveness of various services and activities in the questionnaire, while generally positive, were less so than responses given in the personal interviews.

The roles of international support agencies were particularly noted in the successes of PRODAR and the joining of forces between IDRC, CIRAD-SAR, FTC and IICA in a kind of consortium received praise. IICA played a key role by providing an infrastructural base and contacts at official levels. There was unanimous agreement, however, that none of the supporting institutions on their own could have been successful at the scale and level of influence achieved. The tacit collaboration massaged into place by individual representatives of each organization forms an interesting example of what might be achieved if there was more willing integration and joint support from technical assistance and donor agencies.

The issue of gender-related initiatives was probed but only one country, Guatemala, indicated a specific program objective focused on gender and womens' interests. The general response was that since the majority of AIR economic activities involve women, they are automatically the target for improvements.

The role and position of PRODAR is changing. While a few of the REDARs still view it as a senior level program director, a source of funding and a purveyor of technical assistance, many now view it, as do the coordinators, as an equal partner with an international facilitation, motivation and promotion agenda. Its relationship to the REDARs is thus equivalent to that of the member organizations to their REDARs. The big impact is likely to come as a result of this concerted effort to promote the AIR sector from all angles, not just on the ground production and processing, and when national programs and international agencies provide funding for credit and technical support programs in the larger market context.

Ottawa, October 1996

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## APPENDIX V: ACRONYMS AND ABBREVIATIONS

AIR	Agroindustria rural (rural agroindustry)
ASOCAP	Asociación de Cañicultores de Pastaza
CEIL	Centro de Estudios e Investigaciones Laborales
CELATER	Centro Latinoamericano de Tecnología y Educación Rural
CETEC	Corporación para Estudios Interdisciplinarios y Asesoría Técnica
CIAT	International Centre for Tropical Agriculture
CICAR	Comisión Interinstitucional de Capacitación en Agroindustria Rural
CIMPA	Centro de Investigación y Mejoramiento de la Panela
CIP	Centro Internacional de la Papa
CIRAD-SAR	Centre de coopération internationale en recherche agronomique pour le développement – Département des systèmes agroalimentaires et ruraux
CITA	Centro de Investigaciones en Tecnología de Alimentos
CORDIPLAN	National Planning and Development [Venezuela]
CORPOTUNIA	La Corporación para el Desarrollo de Tunia
CTF	Cooperación Técnica Francesa
EEC	European Economic Community
ERTEC	Espacio Rural para Tecnólogos
ESQUEL	Fundación ESQUEL [ONG]
FA-UBA	Facultad de Agronomía de la Universidad de Buenos Aires
FAO	Food and Agriculture Organization
FIAR	Fondo de Investigación en Agroindustria Rural
FoodLinks	IDRC program linking producers to international markets
FOSIS	Fondo de Inversión Social, Ministerio de Planificación y Desarrollo
FUNDAEC	Fundación para la Aplicación y Enseñanza de las Ciencias
FUNDAPAZ	Fundación para el Desarrollo en Justicia y Paz
FUNDASOL	Fundación Uruguaya de Desarrollo Solidario [ONG]
FUNDECOOP	Fundación para la Educación y el Desarrollo Cooperativo
GAAP	Grupo de Acompañamiento y Apoyo de PRODAR
GIA	Grupo de Investigaciones Agrícolas
IDB	Interamerican Development Bank
IDEAS	Centro Ideas — investigación, documentación, educación, asesoría, servicios
IDRC	International Development Research Centre
IFAD	International Fund for Agricultural Development
IIAP	Instituto de Investigaciones de la Amazonía Peruana
IICA	Instituto Interamericano de Cooperación para la Agricultura

INCAP	Instituto de Nutrición de America Central y Panama
INCUPO	Instituto de Cultura Popular
INDAP	Instituto Nacional de Desarrollo Agropecuario
INDES	Instituto de Desarrollo Social
INLAP	Instituto Nacional de Investigación Agropecuario
INPROA	Instituto de Promoción Agraria
INTA	Instituto Nacional de Tecnología Agropecuario
ITDG	International Technology Development Group [Peru]
JUNAGRA	Junta Nacional de la Granja [Uruguay]
LA&C	Latin American and the Caribbean
LATU	Laboratorio de Tecnología de Uruguay
MAG	Ministerio de Agricultura y Ganaderia [Ecuador]
MER	Microempresa Rural
MUCECH	Movimiento Unitario de Campesinos y Etnias de Chile
PAMIC	Programa Nacional de Apoyo a la Micro Empresa
PLANALC	Joint Action Plan for Agriculture in Latin America and the Caribbean
PPO	Participatory planning by objectives
PRODAR	Programa Cooperativo para al Desarrollo de la Agroindustria Rural (program for development of rural agroindustry)
PRODARNET	PRODAR Internet service
PRODESSA	Nicaraguan NGO
PRONADER	Programa Nacional de Desarrollo Rural [Ecuador]
REDAR	Red Nacional de Desarrollo de la Agroindustria Rural
RETADAR	Red de Tecnología Apropriada al Desarrollo Agroindustrial Rural
SAGyP	Secretaría de Agricultura Ganaderia y Pesca
SIMAS	Servicio de Información Mesoamericana Sobre Agricultura Sostenible
SNV	Netherlands Development Cooperation Service
TCA	Tratado de Cooperación Amazonica
UATAPPY	Union de Asociaciones de Trabajadores Agricolas, Productores y Procesadores de Yuca
UNAN	Universidad Nacional Autonoma de Nicaragua
UTA	Universidad Técnica de Ambato

### **About the Institution**

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