

**Evaluation of the  
Rural Agroindustry  
Development Programme  
(PRODAR)**

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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 and the Executive Summary of the survey report is included here in Appendix X.

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 also with many years experience in rural development programmes. 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 in the 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 but a list of the persons we met is included by country and region in Appendix VIII. 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, Francois 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 producer 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

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 social and economic wellbeing of rural people and their communities. This initiative evolved out of rural research and development activities 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. Alongside these initiatives, 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. 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.

Gradually the idea developed that a more integrated approach was needed which included not only the technological aspects, but also modifications to government policy, institutional awareness, training programmes for technical staff and rural producers, university curricula and rural development programmes. Out of this evolving awareness and leadership, international support agencies CIRAD-SAR, IDRC and IICA 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). PRODAR was conceived as a cooperative program to integrate the efforts of international and national entities, financial and other support groups, NGOs: any institution involved in the development of AIR. The objective has been to contribute to the resolution of producer problems and assist them in improving 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 "REDAR" networks in different stages of development are presently in operation in 15 countries. The structure and functioning of these country networks varies substantially as a result

of differences in context, leadership, history of establishment and government policies. They are loosely linked in three subregional groupings focused on Central America and the Caribbean, the Andean area and the Southern Cone. 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 programme strategies and coordination/implementation of hemisphere-wide activities. Regional coordination deals with problems and activities in a group of countries which are related by physical proximity and by similar rural socioeconomic structures and problems. Responsibilities and activities include strategic policy design and articulation of hemispheric and national coordination. At the national level, development activities are carried out as part of the programme of each member in the normal course of pursuing their development objectives .

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 recent establishment of PRODARNET, an electronic communication system, holds great promise for acceleration of this function and its influence.

Research co-funding was initiated by PRODAR in 1992. Although there had always been some research activities, the FIAR fund was introduced to give this aspect of the work more emphasis. 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. National diagnostic surveys carried out by each country were key elements in raising consciousness to the importance and potential of AIR in rural and national development. It became apparent, through research and horizontal cooperation efforts, that important constraints to peasant agroindustrial growth include weak management practices, lack of marketing strategies, restricted finances, indifferent product quality and little product differentiation, among others. Positive impacts have been seen in poor communities of several countries as a result of research co-funded by FIAR.

Through its regional coordinators, PRODAR has provided technical assistance in project formulation and implementation to almost all of the REDARs. Training programmes and workshops have been an important support. The Network acts as a "forum" for interconnecting teaching needs with capabilities among its 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.

PRODAR activities have undergone important changes in recent years as a response to modifications in the socioeconomic and market environments. All AIRs face a good deal more competition and a need to participate in wider markets. They are not just self-sufficiency oriented, as was so long assumed, and economies of scale in operations and associated services have become key issues of concern. Consequently, PRODAR has shifted from a technology oriented



approach to issues of markets, organization and management. This is a crucial move for AIRs because, if they can't 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 organization of national and international meetings, publications, country diagnostic studies and the creation of national REDARs, PRODAR has played a major role in the institutionalization of AIR and recognition of the social and economic contribution it can make. Many government Ministries, generally of agriculture, and public development organizations are now REDAR members along with NGOs and Universities. Large international development lending agencies have requested PRODAR assistance to identify and define projects and policies for the AIR component of rural development programmes. A number of university programmes integrate AIR components or provide whole degree options. The institutionalization of AIR is now an accomplished fact upon which policies, support and promotion programmes 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.

In the course of the evaluation, eleven of the fifteen 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 form were noted. Section II of the report provides a summary of initiatives in each country under the themes of: background and history; mission and objectives; activities such as research, information synthesis and dissemination, training, and horizontal cooperation and institution building; funding support issues; and, observations on achievements and difficulties. Information on results from the FIAR research fund is presented in the 5 case studies found in Appendix I.

Rather than be a structured programme entity, PRODAR 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 it can more easily and independently provide a space for multilateral collaboration, present perspectives of its own and facilitate the rapid sharing of information and ideas throughout the hemisphere via electronic media now becoming available. Most 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.

There has been a long discussion within PRODAR about the impact of AIR programmes on the socioeconomic position of the very poorest of rural inhabitants. Evidence from a number of countries and several of the case studies show that impact has occurred 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 the basic forms of support 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 and needs to continue systematic, in depth studies to document the processes and interactions involved.

In terms of environmental and gender issues, PRODAR has produced and published several studies on the roles of women in rural agroenterprises. The major work is a gender analysis of AIR processes done in Colombia in 1995. Natural resources preservation awareness and consciousness raising efforts about this problem by REDAR member institutions were encountered but not directly 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. Both environment and gender issue awareness 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. 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. 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. At the country or REDAR level, many of the same services and activities can be provided within a national context in support of member institutions with actions in the field or in collaboration with the higher level and other countries. At the field level, local REDARS and 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. Networks at all levels can perform a convening role to combine interests of members in the search for resources. 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.

PRODAR has not had a large budget under its control with which to create and direct a centrally orchestrated and managed programme. Many resources supporting PRODAR and REDAR activities have come from member institutions in the context of related activities. Given the considerable number of activities performed in these countries, it is clear the "multiplier" effects of scarce local and international resources invested have been 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 work plans 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 are realizing. 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 in order 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 include three levels:

- a) national and sub-national REDARs;
- b) regional committees representing REDARs in Central America, the Andes, the Southern Cone and, if resources are available, a fourth in the Caribbean; and,
- c) 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 in its own right with a Board of Partners which broadly represents supporting agencies and REDAR members. A form of "consortium" is suggested with equal participation of its membership in defining policies and initiatives. Composition of the Board should include:

- a) one representative from each of the active international donor organizations;
- b) one representative appointed by IICA;
- c) one representative from each of the three (or four) regions selected by members of the regional committees; and,
- d) 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 CIAT, INCAP or CIP. The regional coordinators would 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 sub-committee. The regional coordinators should be selected by the Executive Director in consultation with this sub-committee. Location of the Executive Director's office should continue to be 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 would also serve as Secretariat for the Board. The present staffing and organization should remain until these recommended changes can be put in place 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 there is a tendency to spread resources too thinly 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 not meet the requirements of these objectives, priorities must be set within overall strategies to invest in those areas where they will be most productive.

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

a) basic co-funding linked to REDAR self-financing, (15 x 15,000)	USD 225,000;
b) PRODAR personnel, services and logistics	200,000;
c) FIAR co-funding (15 x 15,000 plus 25,000 for these)	250,000;
Annual requirement	USD 675,000;

7. REDAR members need to more actively pursue local income sources for such things as bulletins and cost of REDAR operations. One area to be explored is that of looking for participation in large rural development projects and the promotion of AIR components at the programme planning stage. Any financial support from PRODAR should be contingent on local fund raising and a cofunding arrangement.

8. All members of PRODAR, and especially members of the Board of Partners, need to participate in fund raising for PRODAR and REDAR initiatives, particularly those focused on field level activities and supporting mechanisms.

## PLANNING , PROGRAMMING AND MONITORING

9. In the programming area, strategic plans should be developed by both PRODAR and the REDARs as a guide for prioritizing activities and application of scarce resources. With greater resources, PRODAR would be able to assist with planning and monitoring initiatives for operationalizing 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 coordinator 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 assure that overall strategies are adequately pursued.
13. To improve programme implementation, capture information on lessons learned and provide basic information for correcting weaknesses a systematic monitoring and evaluation function at each of the three programme levels needs to be introduced. Adequate funds should be provided to carry out this important function.
14. PRODAR focus should continue to be on small to medium size enterprise creation and improvement with the objective of poverty alleviation impact through provision of opportunities for employment, expanded markets for local goods and services and the raising of local entrepreneurial and management capabilities;

#### RESEARCH AND DEVELOPMENT

15. The FIAR fund is an excellent mechanism for promoting AIR development and has produced positive impact in several poor communities of Ecuador, Peru, Colombia and Guatemala. 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 assure 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 impact should be required.
17. PRODAR should improve publicity on the FIAR competitions, selections and results of research funded. This information can be disseminated and updated through PRODARNET. Where necessary, support for better proposal preparation to upgrade quality and applied focus should be available through GAAP. Monitoring and evaluation of the research and development work supported by the fund needs to be improved.
18. The FIAR screening process for research project selection needs to be clear and seen as fair. The current procedures are objective but could be improved with a wider range of reviewers and clearer explanation of the process and subject priorities.

19. Support should be continued for student theses but selection criteria and procedures need to be improved to assure that the work relates directly to development activities of REDAR members and that adequate supervision of the work is provided. Tighter deadlines and a guide for expected outputs should be established.

20. PRODAR should be encouraged to develop, promote and maintain the highest quality standards possible in consonance 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 given to raise 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 anchor 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 emphasis given to awareness of gender issues and application of gender study results.

22. In the context of markets and commercialization, greater attention should be lent to definition and control of product quality and to 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. This is a crucial area for AIRs because, if they aren't assisted with strategies and technologies for product differentiation, improved quality, flexibility and networking to cope with increased competition, their very existence will be in question.

23. PRODAR related AIR experiences in Latin America are rich in information and lessons regarding the promotion/facilitation of AIR development. Greater attention should be paid to analyze, synthesize, systematize and disseminate the information from these experiences. CIAT is interested and in a good position to assist with and add value in this important knowledge creation and documentation task. In addition to information, emphasis should be placed on processes of technology transfer, extension, training and methodology evaluation.

## TRAINING

24. In training programmes, special attention should be given to the selection of trainees to ensure they are in positions to use the new skills and knowledge they acquire in the development and delivery of AIR programmes. Emphasis should be placed on training programmes for trainers in order to multiply the potential impact. Adequate follow-up should be provided to assure optimum application of training skills.

25. Some very good training materials have been developed and published by PRODAR which have not been widely distributed. PRODAR Coordination should augment the dissemination, application and adaptation of these training materials and courses.

26. Training should be provided to people at all levels in the effective use of information systems including the new electronic media such as PRODARNET. Emphasis should be especially strong in REDARs and at the field level so development agents, local associations, cooperatives, etc. have timely and more complete access to a wide range of relevant information sources.

## 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. It should actively promote the use of PRODARNET as quickly and widely as possible. The establishment of REDARNETS 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 quality publications and training materials both in hard copy and electronic formats. Some improvement needs to be made in the capture and dissemination of materials produced as a result of PRODAR related activities. The maintenance of a central repository of documentation is important and electronic storage and distribution capabilities should be developed.

29. Market information such as prices, product volumes, quality standards and opportunities such as FOODLINKS should be made 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.

## **SECTION I: BACKGROUND, CONTEXT AND ISSUES**

### **A 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 social and economic wellbeing of rural people and their communities. This initiative evolved out of rural research and development activities, conducted throughout the 1980's, 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 programme 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 programmes for technical staff and rural producers, university curricula and rural development programmes.

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 called RETADAR, or 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. Linkages were formed between CITA and French technical institutions and in 1983 they began publishing a bulletin which has continued to be distributed on a regular basis. Related to these initiatives, the International Development Research Centre of Canada (IDRC) funded post production 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 social and economic 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 and, in order 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 economic and social importance of AIR and the need to institutionalize the promotion and support of this sector. Early REDARs were formed in Chile, Ecuador, Colombia and the Dominican Republic. These experiences are covered in more detail in section 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 programme of support called PRODAR.

PRODAR was conceived as a cooperative program to integrate the efforts of international and national entities, financial and other supporting groups, REDARs, NGOs: any institution involved in the development of AIR. What is sought with PRODAR is to contribute to the resolution of producer 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 programmes contemplated in the Joint Action Plan for Agricultural Reactivation in Latin America and the Caribbean (PLANALC) which was approved by the InterAmerican Agricultural Group in a meeting held in San Jose, Costa Rica in October, 1989.

## **B The Context for PRODAR**

### **1. The political and economic context**

When PRODAR was created at the end of the last decade, it was within a different context of political, economic, agrarian and conceptual characteristics which 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 a 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 programmes 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 social and economic roles 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.

## 2. The supporting agency context

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

### a) 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.

#### b) IDRC

The main interests of IDRC have been to support research and development activities benefiting poor families and communities from a range of social and economic perspectives. From this perspective, it promoted and supported a review of AIR activity in Latin America in order to help establish the importance of this sector for poor rural inhabitants. IDRC had also supported work at many research and development institutions which 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.

#### c) 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 programme, 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 programme.

### **C Mission and Objectives**

#### 1. PRODAR's mission

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.

## 2. PRODAR objectives

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:

- 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;
- To contribute to the formulation of policies and norms which will facilitate AIR development.

## 3. Support agency objectives

The donor and supporting agency objectives for PRODAR have been compiled from project and agreement documents of the main supporting 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 research and development, 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 broader rural development objectives of the international cooperating institutions. CIRAD-SAR looks for technology development cooperation which can benefit small enterprises and poor communities. IICA suggests the need for strong institutional

action which 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 research and development 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 of these programming approaches are compatible within the context of a consortium which provides the structure for their integration and collaboration.

#### 4. 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.

### **D Working Structure**

#### 1. Organizational concept

In order to interpret the results of PRODAR efforts over the six plus 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 programme 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.

#### 2. The REDARs

REDAR networks in different stages of development are presently in operation in 15 different countries. They are loosely linked in three subregional 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 subregional coordinators one of whom is also the Executive Director of PRODAR. The structure and functioning of these country networks varies 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 Section II which describes the development and activities of 11 of the existing 15 REDARs..

### 3. 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 programme strategies and coordination/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 which are related by physical proximity and by 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 programme 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 supporting agency such as IICA or 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.

### 4. 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 also participates with 12 other networks in a "Red de Redes" and contributed to the creation of a CD-ROM on AIR and rural development topics. In addition, it is a member of another confederation of networks, Dialogue for Human Progress (DPH), in which it shares documents, information and experiences.

#### 5. 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 co-funding 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 Section II and in Appendix I, Case Studies, 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.

#### 6. Training and technical assistance activities

PRODAR-GAAP has provided technical assistance in project formulation and implementation to almost all of the REDARs. Training programmes and workshops have also been an important support for national programmes. These are listed in Appendix IV, Training, and V, Consultancies. Other related activities are included in the list of PRODAR "Eventos" in Appendix VI.

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.

## **E Important Issues**

### **1. 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.

### **2. 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 relevance and the social and economic 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 programmes 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 programmes in many cases.

The large international development lending agencies have requested PRODAR assistance to identify and define projects and policies for development. Among them: 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 programme 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 six 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.

### 3. 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 programmes 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 programmes and CIRAD with the programmes called "functioning and emergence of small agri-food enterprises" are leaders. A number of university programmes now integrate an AIR component or constitute whole degree options such as:

- The AIR development specialization programme at postgraduate level in the Universidad del Valle in Cali, Colombia;

- The Masters programme 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 programmes 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.

## SECTION II: COUNTRY AND REGIONAL EXPERIENCES

### A The Andean Sub-region

The Andean sub-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 programmes reviewed. These visits are documented in summary form in the following sections.

#### 1. REDAR-Colombia

##### a) Background

The Colombian Agroindustry Network was formed in 1991 by some twenty institutions representing various sectors: government, NGO, university, international and others of mixed association. This informally organized consortium evolved from the ERTEC meetings noted in Section I during the years 1988 to 1990 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.

##### b) 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:

- 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;
- Contribution to the development of PRODAR through technical meetings and sharing of information and experiences.

##### c) Activities

###### i) 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 programme

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 programmes as a result. The project is described in more detail in Appendix 1. 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.

#### ii) 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, 7 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 programme 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 sub-products 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 programme developments have sprung.

#### iii) Training

A major development for the network has been the design and approval of a university post graduate level programme at the Universidad del Valle in Cali entitled "Specialization in AIR". This programme is given on weekends, is eighteen months in duration, and accepts only candidates with a number of years experience who are currently working in rural development. The first group of twenty participants is about to complete the programme and two who were consulted spoke highly of the practicality and usefulness of the programme for their work in rural areas. It is hoped this programme 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 Panela Research Centre, CIMPA, provided a number of short courses on panela production for producers and technicians from Colombia and other panela producing countries.

#### iv) 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.

#### d) 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 non-formal institution channels. Microenterprises will be important recipients of this credit in relation to government policy to support AIRs through programmes 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 programme, especially related to AIR, and they formed a consortium to present a joint proposal to design and administer a pilot implementation project in 5 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.

#### e) Results and 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 programme; 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 programmes that have resources in their own right to put into AIR related programmes.

## 2. REDAR-Ecuador

### a) 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 Producer's 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 PRONADER (Programa Nacional de Desarrollo rural). This initiative kept the effort alive and growing within the context of a national rural development programme.

### b) Objectives and organization

The stated objectives of the network include;

- 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.

### c) Activities

#### i) Research

The first AIR diagnostic study in the region was carried out in 3 provinces of Ecuador and, although it had limitations, the PRODAR Andean Region 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 eleven 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 1 for more detail).

#### ii) 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 (6 issues), documents from the two student theses, a report on the FIAR co-funded 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.

#### iii) Training

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

#### iv) 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.

#### d) Financing

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 benefitting close to 1600 peasants. In the various other PRODAR and REDAR activities direct costs related to network development, research, technical assistance, training and information dissemination include: \$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 is a substantial contribution in kind from government, international, local and regional organizations.

#### e) 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 programmes.

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 programme 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 least 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.



### 3. REDAR-Peru

#### a) 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.

#### b) 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, twenty organizations joined formally in creating REDAR-Peru including NGOs, universities, international organizations such as CIP, and government agencies. Leadership is provided by a 5 member Board of Directors elected by the members for a two 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 two 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.

#### c) Activities

##### i) 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 co-funded by FIAR were undertaken with positive results. (see Appendix 1). 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 co-funded 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 sub-projects four 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.

#### ii) 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 two 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.

### iii) 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).

### iv) 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 programme 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.

### d) 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 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.

#### e) Observations

Over the two 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 programmes. 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 sub-networks 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/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.

## 4. REDAR-Venezuela

### a) 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 five 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 percent; NGOS 28 percent; producer associations 22 percent; universities 11 percent; regional development corporations 9 percent; and, financial institutions 4 percent.

#### b) 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.

#### c) 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.

##### i) 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.

##### ii) 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.

##### iii) 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 programmes. 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.

iv) 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. It has also been collaborating closely with IFAD, FAO, Fundación CIARA and the Agricultural Credit Fund in the design and preparation of an IFAD project "Development of Poor Rural Communities" which is closely linked to the AIR and microenterprise theme. The REDAR-Venezuela Coordinator spent several months in Rome assisting in the preparation of 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 twenty five 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 programme 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.

#### d) 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.

#### e) 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 programmes, 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.

### **B 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.



## 1. REDAR-Panama

### a) Background

Work on the rural agro-industry 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 co-operatives.

REDAR-Panama's chief objectives include:

- the exchange of information about rural agro-industry;
- the initiation of agro-industry 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 agro-industries in their work. In January, 1995, a work plan for the next two years was prepared along with a set of internal regulations.

### b) 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 to 10 people.

### c) Activities

#### i) Research

Redar-Panama was formed out of the research project "Diagnostic of the rural agro-industry 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"
- 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 is comprised of 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.

#### ii) 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.

#### iii) 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.

#### iv) Horizontal co-operation and institution building

Several expert missions have been organized for REDAR-Panama by PRODAR: a CIMPA professional identified and followed work concerning panela; representatives of 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.

#### d) Observations

The Ministry of Agriculture plays a lead role in overseeing all the chapter secretariats and co-ordination 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 NGO's 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 non-technical 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 and production methods, and better 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, fundamental research; provision of services to the chapters; information and documentation services; organization of exchanges, 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.

## 2 REDAR-Nicaragua

### a) Background

REDAR-Nicaragua is a non-profit 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 February 6, 1995. This event solidified numerous and close ties between UNAN-Leon and PRODESSA with the REDADAR 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:

- 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;
- 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).

#### b) Organization

REDAR-Nicaragua was given official association status on September 20, 1994, and achieved judicial status as a non-profit 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 programme for the year.

#### c) Activities

##### i) 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 agro-industrial units in the dairy sector in Boaco, Chontales, Leon, Matagalpa, Rivas and Zelaya Departments (1996). The studies of panela plants and the panela market were funded as theses by the FIAR fund.

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.

##### ii) 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.

### iii) Training

REDAR Nicaragua has organized several national training sessions over the past two 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 ten and twenty participants took part in each training session.

The training workshops included preparation of the manuals distributed to each participant. 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.

### iv) 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.

### d) Funding

Financial support for the activities of the network came from a number of sources shown as follows in US dollars:

• Membership fees	8,000.
• French cooperant and technical assistance	75,000.
• Norway	9,000.
• SIMAS and PAMIC - panela studies and course	15,000.
• PRODAR/IDRC FIAR theses and diagnostic support	2,500.
• IAF - office equipment, computer and Fax	2,300.
 Total over three years	 111,800.

(These figures do not correspond with 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.)

### e) Observations

The initiative of PRODAR-IICA and the creation of REDAR-Nicaragua resulted in AIR being taken into account in research programmes and development activities. REDAR-Nicaragua is built on good complementarity between national institutions (PAMIC, UNAN, SIMAS) and with

those at the regional level (Fundación Leon 2000, PRODESSA, Fundación José Nieborowsky, and others). PAMIC assumes the leadership in business areas and UNAN in the technical field.

The approach used 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 in order 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.

### 3. REDAR-Costa Rica

#### a) 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 which 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.

#### b) Organization

REDAR-Costa Rica is managed by a directors committee according to an agreed on set of 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).

#### c) Activities

##### i) Research

REDAR-Costa Rica did a diagnostic study of the panela sector with the participation of a French student of l' ENSIA-SIARC. CNP (Consejo Nacional de la Productividad) has been working on the improvement of 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.

##### ii) Information synthesis and dissemination

REDAR-Costa Rica does not publish an information bulletin nor have any of the studies done been published under its name. The diagnostic survey was published by CIRAD-SAR.

### iii) 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 Dec., 1992 and Aug., 1994, six training sessions were given as follows: 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.

### iv) 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.

### d) 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/year and CNP USD 5,000 in 1996. CICAR currently has available USD 143,000 from Dutch cooperation to develop a training programme over 15 months.

### e) Observations

REDAR-Costa Rica appears to be divided in its vision of the direction that AIR should take. The NGO members of CICAR consider AIR development as a necessary part of rural development collaboration in order to combat poverty. The public institutions are more oriented toward development of agroindustry (panela for example) based on profitable individual enterprises without reference to their integration or contribution in local economic development. The 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 sufficiently uniting common project. However, the proximity of the PRODAR Secretariat in IICA does make up for some of these deficiencies, for example documentation.

## 4. REDAR-Guatemala

### a) 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 non-profit association was obtained in Aug., 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 agro-industry 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;
- 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.

#### b) Organization

Since its creation, REDAR-Guatemala has functioned under the statutes which were adopted by the general assembly on December 4, 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 to 2000. It hopes to promote branch networks in every region of Guatemala.

#### c) Activities

##### i) 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 (1991-1994).

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 1); and, a masters level 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 percent 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.



### ii) 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 5 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.

### iii) Training

REDAR-Guatemala has organized a number of training workshops at national and Central American regional levels. These include: 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 thirty 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.

### iv) 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.

### d) 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.

**Table 1. Funding of REDAR-Guatemala (USD)**

Source	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

#### e) 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 projects and policies related to AIR and are proposing projects to financial backers within the framework of the peace process in Guatemala. REDAR-Guatemala estimates that 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.

### C Southern Cone

The Southern Cone sub-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 VII and the examples provided in the descriptions below.

#### 1. REDAR-Chile

##### a) 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 thirty 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.

#### b) Activities

##### i) Research and development.

R and D activities have been supported by FIAR through PRODAR Hemispheric Coordination. Projects supported include:

- 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 preparation of 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 programme for information collection and analysis of market opportunities, costs and competitiveness of AIR. This programme, 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 co-financed 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, GIA and MUCECH. A second proposal involved the marketing of peasant agroindustrial products to developed countries. This latter research project is related to IDRC "Foodlinks".

ii) Information synthesis and dissemination.

The following publications were prepared and distributed:

- "Agroindustry Reports": these are the AIR diagnostic studies produced as non-periodical 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 ten-page publication which covers agroindustrial 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.

iii) 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.

iv) 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.

c) 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.

d) Observations, results and impact

Positive results included: rapid growth in membership from 1989-94, 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.

e) 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 programmes 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.

## 2. REDAR-Argentina

### a) Background and organization

REDAR-Argentina was founded in May, 1991, by a number of NGOs, a university faculty and a government agency which include: INCUPO (Instituto de Cultura Popular), INDES (Instituto de Desarrollo Social), FUNDAPAZ (Fundacion 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 9 founding institutions and, unlike its Chilean and Uruguayan counterparts, does not have legal statutes.

### b) Activities

#### i) 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 agroindustrial 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.

ii) Information synthesis and dissemination.

The diagnostic survey of Argentine rural agroindustry was published in 1994. An additional survey document on agroindustrial 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.

iii) Training and technical assistance.

During the period 1994-96, REDAR-Argentina organized about twelve workshops in eight provinces dealing with marketing of agroindustrial products and agroindustry management. The average number of participants in each workshop was fifteen composed mainly of 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 co-funded 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.

iv) 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.

c) 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.

d) Observations, results and impact.

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. In spite of 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.

e) Rural development projects associated with REDAR institutions

i) Cassava starch production in Formosa.

This project is located in North-East 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 tons 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 co-financed credit project, which has relevant actions in Formosa. REDAR should serve to bridge these institutional networking difficulties.

#### ii) 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 producer's are able to create acceptable differentiated products, if appropriately assisted.

### 3. REDAR-Uruguay.

#### a) 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 thirteen participating institutions. There were sixteen 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.

#### b) Activities.

##### i) 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 República), with financing from FIAR.

##### ii) 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 mostly distributed 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.

##### iii) Training and technical assistance.

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

##### iv) 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 of 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.

c) Funding.

REDAR-Uruguay received a contribution of 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 sources of support included : 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 three 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.

d) Observations, results and impact.

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.

### **SECTION III: OBSERVATIONS AND CONCLUSIONS**

PRODAR has evolved quickly over the past six 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 sections 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.

#### **A PRODAR Activity Impact and Outcomes**

##### **1. 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 programmes. 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.

##### **2. 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.

### 3. 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 programme 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 programme components in which it provides leadership. At the moment, PRODAR still lacks a complete information system with top quality connections and a fully organized data-base 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.

### 4. 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 multi-country 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 programme and adding value through their strong technical and conceptual capabilities, infrastructure and dissemination possibilities.

##### 5. 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 IV. 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 programme.

#### 6. 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 programmes, is through creating awareness of its importance in rural development projects. This has been done successfully by many of the REDARs as described in section 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 programmes.

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 shell-fish 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 the IDRC FOODLINKS 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.

#### 7. 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 programmes 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 programmes with direct field actions, many very poor families and communities are being influenced indirectly by PRODAR initiatives.

#### 8. 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 programmes. 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.

#### 9. 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 over-cultivation 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.

## **B Resources invested in PRODAR**

PRODAR has not had a large budget under its control which could be used to create and direct a centrally orchestrated and managed programme. 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 3 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 in round figures of 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 member REDAR 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 programme 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.

## **C PRODAR Structure, Institutional Relationships and Activities**

### **1. Institutional framework and staffing**

The fact that PRODAR has evolved out of a variety of earlier programmes and initiatives designed to meet several objectives means that it has been pieced together around actions underway 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 programme 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 programme. It would be of benefit to both IICA and PRODAR to maintain and promote separate images of collaboration and programme 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;
- 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 sub-committee 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 sub-committee.

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. Regional PRODAR 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.

## 2. 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 programme 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 programme. 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.

## 3. 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.

## 4. Research support

The FIAR-FUND should be preserved and substantially enlarged. Co-funding 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.

#### **D Donor Expectations**

A compilation of donor objectives and expectations as extracted from various project documents is presented in Section 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.

#### **E Lessons Learned and Future Roles**

##### **1. 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 under-rated 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 with 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 programme 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..

## 2. 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:

### i) 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 macro-research, integrate and synthesize micro findings and experiences and provide consulting services;

### ii) 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;

### iii) 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.

### 3. 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 fifteen current REDARs. Basic co-funding 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 programme 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 co-funding 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.



**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 that 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 eighty percent of sour starch production in Colombia is concentrated in North Cauca and that 90 percent of the 60,000 t/yr 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 programmes. 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 programmes 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 programme of student support to assist with its extension activities and this group formed part of the inter-institutional 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 inter-institutional 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 programme. 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 5 permanent jobs per plant (about 827) of which 57 percent are contracted and 43 percent is family labour. Twelve percent of the work force are women and less than 1 percent 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 byproducts 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 percent of the plants had received some administrative training and 77 percent 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 tons of panela were produced in Colombia in 30,000 plants generating 120,000 permanent jobs. Of the 60 plants surveyed, 89 percent 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. Less than 10 percent of operators rent processing facilities or have other arrangements with plant owners. Some 84 percent of the plants employ from 1 to 5 workers, 14 percent hire 6 to 10 and the rest as many as 15. Up to 5 women were found working in 78 percent of the plants. Over eighty percent 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 percent of the owners earned half or more of their total income from

processing panela while 65 percent gained less than half from that pursuit. Administratively, 94 percent of the plants had minimal or no administrative and management structure or distribution of tasks among workers and only 5 percent 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 percent 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 non-existent 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.

### **Sources**

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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 as its purpose:

- 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 womens' 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 womens' 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 t/yr. The development of new products in the meat industry is also resulting in market development with a potential of 750 t/yr 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 impact so far has 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 multi-faceted 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.

Ruales, Jenny and Susan V. Poats. Utilización de Harinas y Almidones de yuca en la Elaboración de Carnes Frías. Proyecto para el Fortalecimiento de la Agroindustria Rural de Transformación de la Yuca en la Provincia de Manabí, Ecuador. Informe Final del Proyecto, Diciembre, 1995.

### 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:

- 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;
- 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 percent 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 percent of the cheese and cream is sold, 63 percent 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 percent are simple open air sheds. Almost all have electricity but only 65% are connected to a potable water supply system while the other 35 percent 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 percent have mixers and 60 percent 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 percent 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  $10^6/g$  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  $10^3/g/l$ . 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. Also, 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.

#### Sources

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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 co-funded 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. More specifically:

- 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 programme 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;
- 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 to 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 kg/hr, the modified mill puts out about 30 kg/hr, 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 5 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**

ITDG-Peru. Informe Final de Actividades, Proyecto Manejo de los Sistemas Hidráulicos Tradicionales en las Zonas Rurales de Los Andes: El Desarrollo y Difusión de Molinos Mejorados. Cajamarca: IICA-PRODAR-Programa de Desarrollo Agroindustrial Rural, July, 1996.

## 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 programmes 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 programmes 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 extensions 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 therefor 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 with which participants learn about and are able to take on responsibilities.

### **Sources**

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Interview with CIAT technician Lisimaco Alonso at CIAT.

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## **APPENDIX II**

### **FUNDING**

1. PRODAR Support from Donors 1991 - 1996
2. Activities Financed by FIAR

**RESOURCES PROVIDED BY PRODAR SUPPORTERS 1991 TO 1996**  
(USD 000)

	CTF <sup>1</sup>	CIRAD <sup>4</sup>	IDRC <sup>5</sup>	IICA	Other <sup>6</sup>	Total
<b>PRODAR Coordination</b>						
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>2</sup>	30.0	16.0	16.8	111.9	15.0	189.7
<b>Subtotal Coordination</b>	<b>305.0</b>	<b>416.0</b>	<b>79.8</b>	<b>119.9</b>	<b>15.0</b>	<b>935.7</b>
<b>CENTRAL REGION<sup>3</sup></b>						
	20.0		6.8	20.0	30.0	76.8
Guatemala			15.0		25.0	40.0
El salvador			4.0			4.0
Nicaragua			2.5		25.0	27.5
Costa Rica <sup>7</sup>		10.0	2.0	13.0	5.0	30.0
Panamá			2.0	13.0	25.0	40.0
Dominican Republic			45.3	13.0		58.3
<b>Subtotal Central Area</b>	<b>20.0</b>	<b>10.0</b>	<b>77.6</b>	<b>59.0</b>	<b>110.0</b>	<b>276.6</b>
<b>ANDES REGION</b>						
			13.4			13.4
Andean 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>7</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
<b>Subtotal Andes Area</b>	<b>30.0</b>	<b>5.0</b>	<b>214.1</b>	<b>134.0</b>	<b>247.5</b>	<b>630.6</b>
<b>SOUTHERN REGION</b>						
			10.5			10.5
Area Coordinator			152.7	67.2		219.9
Logistical Support	18.0		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
<b>Subtotal Southern Region</b>	<b>18.0</b>		<b>259.3</b>	<b>88.2</b>	<b>75.0</b>	<b>440.5</b>
<b>GRAND TOTALS</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>

See next page for explanatory notes

## NOTES

- 1) In Central America, CTF also financed an expert based at INCAP, Guatemala for three years.
- 2) Includes secretarial support, communications, equipment, office supplies, travel and meetings.
- 3) CTF support was the Training in Business Management project Support of IDRC, IICA, and others for organization of regional events
- 4) 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 Brasil), over a period of 3 years and cost USD 150,000.
- 5) The FOODLINKS project is not included. The 1996 expenditures of the Agroindustry Networks II project is included in 1995 calculations.
- 6) 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: support from the Ecuador-Canada Fund, CIAT and National Development Corporation.  
 Peru: support from the Netherlands, ITDG-Peru, IDEAS, CANDELA, FDN and CARITAS.  
 Bolivia: support from UNUR, CEDAPI and UTAP/CIED.  
 Colombia: 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.
7. Funding for French student research scholarships.



AGROINDUSTRY NETWORKS II  
ACTIVIDADES FINANCIADAS CON EL FONDO FIAR

AREA CENTRAL	PROYECTOS	TESIS	DIAGNOSTICOS	TOTAL
Guatemala	14000.00	1000.00		15000.00
El Salvador			4000.00	4000.00
Honduras				0.00
Nicaragua		2000.00	500.00	2500.00
Costa Rica		2000.00		2000.00
Panamá		2000.00		2000.00
Rep. Dominicana		2000.00		2000.00
<b>SUBTOTAL AREA CENTRA</b>	<b>14000.00</b>	<b>9000.00</b>	<b>4500.00</b>	<b>27500.00</b>
<b>AREA ANDINA</b>				
Colombia	14000.00	800.00		14800.00
Venezuela		2000.00	6000.00	8000.00
Ecuador	16060.00	2000.00		18060.00
Perú	28000.00	2000.00	4500.00	34500.00
Bolivia			3600.00	3600.00
<b>SUBTOTAL AREA ANDINA</b>	<b>58060.00</b>	<b>6800.00</b>	<b>14100.00</b>	<b>78960.00</b>
<b>AREA SUR</b>				
Chile		1000.00	1000.00	2000.00
Argentina				0.00
Paraguay			3000.00	3000.00
Uruguay			5000.00	5000.00
<b>SUBTOTAL AREA SUR</b>	<b>0.00</b>	<b>1000.00</b>	<b>9000.00</b>	<b>10000.00</b>
<b>TOTAL</b>	<b>86060.00</b>	<b>24800.00</b>	<b>23100.00</b>	<b>133960.00</b>

**APPENDIX III**

**PUBLICATIONS**

**LISTA DE DOCUMENTOS PRODUCIDOS POR EL PRODAR DURANTE EL PERIODO 1991-1996**

**A. AREA ANDINA**

1. GAVIRIA, G; QUEVEDO, L. 1994. Implantación de un Centro de Acopio y Transformación de frutas en el municipio "El Cairo" - Valle del Cauca. Fundación Universitaria Agraria de Colombia, Santafé de Bogotá. 423 p.
2. ESCOBAR, R. 1994. Diagnóstico de los molinos tradicionales. ITDG, Cajamarca. 43 p.
3. VALVERDE, P. 1995. Análisis socio-económico y ecológico de la cosecha y poscosecha de castaña (*Berholletia excelsa* H.B.K.) en Pariamanu - Madre de Dios. Universidad Nacional Agraria La Molina. Lima. 126 p.
4. GOTTRET, M; et al. 1995. La Industria del almidón en el departamento del Cauca, Colombia. CETEC, CIAT, CIRAD, Corpotunía, Fundación Carvajal, Universidad del Valle, Cali, 14 p.
5. CALLE, E. 1995. Evaluación del poder de expansión durante la fermentación del almidón dulce de dos variedades de yuca (*Manihot esculenta*) en el cantón 24 de mayo. Anteproyecto de tesis. Universidad Laica Eloy Alfaro, Manta. 48 p.
6. RUALES, J; POATS,S. 1995. Utilización de harinas y almidones de yuca en la elaboración de carnes frías. Informe final de proyecto. Escuela Politécnica Nacional. Facultad Latinoamericana de Ciencias Sociales. Manabí (Ecuador). 84 p.
7. CRIOLLO, L; et al. 1996. Conservación de yuca (*Manihot esculenta* Crantz) fresca. Informe final de proyecto. Facultad de Ciencia e Ingeniería de Alimentos. Universidad Técnica de Ambato. 98 p.
8. ESCOBAR, R. 1996. Manejo productivo de los sistemas hidráulicos tradicionales en las zonas rurales de los Andes: El desarrollo y difusión de molinos mejorados. II informe de actividades. ITDG, Cajamarca. 52 p.
9. BENAVIDES, M. et al. 1996. La pequeña agroindustria en el Perú. Situación actual y perspectivas. REDAR Perú, ITDG. Lima, 87 p.

10. ALONSO, L. 1996. Evaluación de tres plantas productoras de harina de yuca y plátano. II informe. CARITAS, CIAT, Santiago de Cali, 65 p.
11. ESCOBAR, R. 1996. Mejora de eficiencia y versatilidad de los pequeños sistemas hidráulicos tradicionales. Una experiencia de ITDG - Perú. Lima. 7 p.
12. Informe de avance del proyecto de tesis " Elaboración de quesos ahumados en Bambamarca (Cajamarca) 5 p.
13. MEJIA, H. 1996. Investigación cualitativa del mercado de cereales y leguminosas de grano para el consumo humano y sus derivados, orientada a la agregación de valor en las ciudades de La Paz y El Alto. UTAB-CIEP, La Paz (Bolivia). 38 p.
14. REDAR ECUADOR. 1992. Catálogo de fabricantes de maunaria y equipos agroindustriales
15. REDAR ECUADOR. 1992. Diagnóstico de la agroindustria rural en el ecuador. INSOTEC, 63 p.
16. OJEDA, P. et al. 1994. Sondeo de la agroindustria rural en Santa Cruz, Bolivia. REDAR Cruz, Universidad NUR, CEDETI. Santa Cruz, 37 p.
17. VAN KESTEREN, A. 1994. Ventajas y limitaciones de la agroindustria rural en Venezuela, IICA, PRODAR. 126 p.
18. GOMEZ, R. 1993. Organización y funcionamiento de la REDAR Ecuador. REDAR, Universidad Técnica de Ambato. Monografía, Ambato. 114 p.
19. Arvelo, M; Délia, T. 1995. Memoria del encuentro nacional de agroindustria rural. REDAR Venezuela, PRODAR, IICA. Caracas, 208 p.
20. Boletín de REDAR Colombia. No. 1,2,3 (1992), 4,5 ,6 (1993)
21. Boletín REDAR Ecuador. No. 1 (1991). 2 (1992).
22. Boletín REDAR Perú . No. 1,2,3, (1994), 4,5 (1995), 6 (1996)
23. Boletín AIR ES -REDAR Venezuela-. No. 1 (1995), 2 (1996)

24. REDAR Perú. 1996. Directorio de Agroindustria Rural. Lima. 8 p.
25. REDAR-Ecuador/INSOTEC. "Diagnostico de la agroindustria rural en el Ecuador". Quito. Mayo 1992. 192 p.
26. REDAR-Cruz. "Sondeo de la agroindustria rural en Santa Cruz -Bolivia". Santa Cruz. Julio 1994. 43 p.
27. RIVEROS, H; EDWARDSON, W. 1993. La agroindustria rural colombiana: Una aproximación a su realidad". CIID. Ottawa. 51 p.
28. RIVEROS, H. 1992. La agroindustria rural colombiana: Realidad y perspectivas". REDAR-Colombia/CANDICON. Santafe de Bogota. 65 p.
29. ROMERO, A. 1993. Capacitacion en agroindustria rural en Colombia" REDAR-Colombia. Santafe de Bogota. 64 p.
30. BEDOYA, J.P; OCHOA, L. 1996 .Gestion empresarial: Situacion de las rallanderías y trapiches paneleros del norte del Cauca. Fundacion Carvajal. Cali . 26 p.
31. RUIZ, V; RUALES, J. 1995. Instructivo de control de calidad para la elaboración de productos derivados de yuca" UATAPPY, EPN. Ecuador. 27 p.
32. ZULEYMAN, Z; RESTREPO, J. 1994. Estudio de mercado de aceites esenciales de citronela y limoncillo para Colombia" FIDAR/REDAR-Colombia. Cali .67 p.
33. CORREA, D; HERNANDEZ, B. 1996. Evaluacion del sistema de control de calidad de la agroindustria láctea en el Estado Yaracuy". UCV. Facultad de Agronomia. Caracas. 115 p.
34. REDAR-FALCON. 1996 .Primer encuentro Falconiano de agroindustrias rurales. Memorias. Coro.

**B. AREA CENTRAL**

1. Quintero, R. de; Quintero, L. 1995. Caracterización del proceso de producción de panela en Panamá. Informe de tesis. Universidad Tecnológica de Panamá. 58 p.
2. ALMENGOR, D. 1995. Mejoramiento tecnológico de la producción de panela en pequeños trapiches del departamento de Huehuetenango. Tesis Magister en Nutrición y Alimentación. INCAP, USAC, Guatemala. 149 p.
3. HERNANDEZ, L. 1996. Diagnóstico técnico de la producción de atado de dulce en los departamentos León y Chinandega (Nicaragua). Escuela de Tecnología de Alimentos, Universidad Nacional Autónoma de Nicaragua, León. 73 p.
4. REDAR GUATEMALA. 1996. Adaptación y transferencia tecnológica para el mejoramiento de la producción de queso artesanal en la costa sur de Guatemala. I informe proyecto , 42 p.
5. FRIAS, J. 1996. Análisis microbiológico y uso de frutas en la elaboración de helados de la ciudad de Santo Domingo. Informe avance tesis. Universidad Autónoma de Santo Domingo (Rep. Dominicana). 65 p.
6. ENCARNACION, M. 1995. Perspectivas para la implementación de pequeñas agroindustrias rurales en el proyecto de desarrollo comunitario de los Dajaos. Informe final tesis. Universidad Autónoma de Santo Domingo. 59 p.
7. REDAR GUATEMALA. Plan Estratégico 1995-2000. INCAP, OPS, CTF. 28 p.
8. REDARDOM. 1992. Aprovechamiento de los sub-productos del cacao. IICA, SEA, CONACADO, Santo Domingo, 18 p.
9. REDARDOM. 1992. Directorio de instituciones relacionadas con la agroindustria rural en Rep. Dominicana. CIID, IICA, Santo Domingo
10. REDARDOM . 1991. Diagnóstico del sector agroindustrial de la Rep. Dominicana. Fase I, 59 p.
11. REDARDOM. 1993. Diagnóstico del sector agroindustrial de la Rep. Dominicana (Línea Noroeste). Fase II. Santo Domingo, 53 p.

12. REDAR Panamá. 1993. Diagnóstico de la agroindustria rural en Panamá. Informe final. MIDA, BDA, BNP, IICA. CTF, IMA. Panamá. 110 p. y anexos
13. REDARDOM. 1992. Implementación de proyectos agroindustriales. Memoria del curso. Santo Domingo. sp
14. FRENOT, V. 1993. Diagnóstico socio-económico y técnico de la agroindustria de la panela en Costa Rica. ENSIA, PRODAR. Montpellier. 56 p. y anexos.
15. REDARDOM. 1992. Proyecto de producción y comercialización de casabe para el desarrollo de las mujeres de la zona de la Aviación. Dajabón, Santo Domingo, 27 p.
16. REDARDOM. 1992. Proyecto de conservación y comercialización de yuca. Santo Domingo. 14 p.
17. REDARDOM. 1992. Proyecto desarrollo de la apicultura en la provincia de Dajabón, Santo Domingo, 8 p.
18. REDARDOM. 1992. Proyecto agroindustria procesadora de orégano. Santo Domingo. 6p.
19. Boletín REDARDOM. No. 1,2 (1991), 3,4,5 (1993), 6 (1993), 7 (1994), 8 (1995), 9 (1996)
20. Boletín REDAR Guatemala No. 1,2 (1994), 3,4 (1995), 5 (1996)
21. Boletín REDAR Panamá No. 1 (1995)
22. TARTANAC, F et. al. 1996. Desarrollo de una agroindustria rural femenina en la región de Totonicapán, Guatemala: El caso de Transfrutas. REDAR Guatemala, INCAP. 71 p.
23. DINA-MIDA. 1996. Recetario para frutas de temporada. (Ficha técnica). MIDA, IICA, REDAR, CIID. Panamá.
24. DINA-MIDA. 1996. Recetario para frutas de temporada - mango). (Ficha técnica). MIDA, IICA, REDAR, CIID. Panamá
25. DINA-MIDA. 1996. Pulpa de nance pasteurizada. (Ficha técnica). MIDA, IICA, REDAR, CIID. Panamá
26. DINA-MIDA. 1996. Transformación agroindustrial de la piña. (Ficha técnica). MIDA, IICA, REDAR, CIID. Panamá.

27. DINA-MIDA. 1996. Transformación y conservación de productos hortofrutícolas (Ficha técnica). MIDA, IICA, REDAR, CIID. Panamá
28. DINA-MIDA. 1996. Bondades y características de las verduras. (Ficha técnica). MIDA, IICA, REDAR, CIID. Panamá
29. DINA-MIDA. 1996. Mango deshidratado. (Ficha técnica). MIDA, IICA, REDAR, CIID. Panamá.
30. DINA-MIDA. 1996. Pasta de achiote condimentada (Ficha técnica). MIDA, IICA, REDAR, CIID. Panamá
31. DINA-MIDA. 1996. Recetario para productos cárnicos. (Ficha técnica). MIDA, IICA, REDAR, CIID. Panamá
32. DINA-MIDA. 1996. Recetario para el ahumado de productos cárnicos. (Ficha técnica). MIDA, IICA, REDAR, CIID. Panamá
33. ARIAS, R. 1994. Clarificación de jugos en la elaboración de panela. Ficha técnica No. 1. REDAR Guatemala
34. TARTANAC, F. 1994. Deshidratación de manzanas con un secador de aire forzado. Ficha técnica No. 2. REDAR Guatemala.
35. ARRIOLA, I. 1995. La producción de sal común en Guatemala. Ficha técnica No. 3. REDAR Guatemala.
36. ARIAS, R. 1995. El proceso de elaboración de la panela. Ficha técnica No. 4. REDAR Guatemala
37. ARIAS, R. 1996. Procesamiento de la semilla de marañón. Ficha técnica No. 5. REDAR Guatemala.

### **C. AREA SUR**

1. REDAR CHILE. 1992. catastro de AIR en Chile. Comunas de Carahue, Nueva imperial y Puerto Saavedra. REDAR Chile, GIA, INPROA. 110 p.
2. REDAR CHILE. 1992. Agroindustria Rural de la VII y VIII Región de Chile. REDAR Chile, INPROA, GIA.sp.



3. REDAR Chile. 1991. Deshidratación de frutas y hortalizas. serie deshidratados. Cuadernos de Agroindustria Rural. santiago, 36 p.
4. REDAR Chile. 1991. Procesamiento de quesos. serie Productos lácteos. Cuadernos de Agroindustria Rural. 31 p.
5. REDAR Chile. 1991. II curso de agroindustria para campesinos. Memoria: Jalea real y producción de reinas. Aceite esencial de eucaliptus, deshidratado de frutas y hortalizas. Santiago, sp.
6. REDAR Chile. 1992. Programa de perfeccionamiento para técnicos en desarrollo rural. Módulo: Gestión de microempresa rural. Módulo III. Agroindustria para campesinos. Santiago, sp.
7. REDAR Chile. 1992. Seminario de agroindustria rural de la VII y VIII región. Memorias. Talca (Chile). sp.
8. REDAR Chile. 1994. II Encuentro nacional de agroindustria rural "Agroindustria y desafíos de la competitividad", Santiago. 38 p.
9. Boletín de REDAR Chile. No 5,6,7,8 (1991), 10,11 (1992), 12 (1993), 13 (1994).
10. INFO-REDAR (Chile). Boletín del sistema informativo de REDAR Chile, No. 1 (1991), 2,3,4,5,6,7 (1992).
11. Boletín REDAR Uruguay. No. 1,2,3 (1992), 4 (1993), 5,6 (1994), 7,8 (1995)
12. Boletín de REDAR Argentina. No. 1,2 (1992), 3 ,4(1993), 5,6 (1994), 9 (1995)
13. BUSTAMANTE, W. 1991. Guía para la elaboración de diagnósticos nacionales de la agroindustria rural. 21 p. (mimeo).
14. JIMENEZ, D; TESORIERO,G. 1994. Primer Encuentro de Comercialización de las agroindustrias rurales de pueños productores. REDAR Argentina. Buenos Aires. 104 p.

#### **D. SEDE CENTRAL**

1. PRODAR. 1993. Serie de manuales de capacitación en agroindustria Rural. 1. El marco conceptual de la AIR. 2. Preparación de proyectos de desarrollo agroindustrial rural. 3. Administración de la empresa de AIR CIDIA, PRODAR, San José.

2. BOUCHER, F; RIVEROS, H. 1995. La agroindustria rural de América Latina y El Caribe. Tomo I. Serie de estudios de la agroindustria rural. PRODAR, 159 p.
3. GAMBOA, C.I. 1995. La mujer y la agroindustria rural en América latina. Análisis de los aspectos de género en procesos de AIR. Serie de Estudios de Agroindustria Rural. No. 2. PRODAR, IICA, San José. 102 p.
4. BOUCHER, F. 1992. La situación de la agroindustria rural en América Latina y El Caribe y sus perspectivas. *In* Jornadas Agropecuarias y días de campo. Vol. 2. Banco Nacional de Panamá. Pp. 192-202.
5. BOUCHER, F. 1992. Ensayo sobre agroindustria. Elementos de definición y clasificación. PRODAR/IICA. Documento de trabajo. 25 p.
6. BOUCHER, F. 1992. Los desafíos de la AIR en América latina y El Caribe. *In* El niño en el trópico. No. 199-200. Centro Internacional de la Infancia. París. Pp. 8-22
7. GAMBOA, C.I. 1995. La experiencia de la organización y operación de redes en el programa de desarrollo de la AIR de América Latina y El Caribe. PRODAR. Serie de Estudios de la AIR No. 3. IICA. San José. 28 p.
8. PRODAR. Hoja Informativa PRODAR. Nos. 5,6 (1991), 7,8,9 (1992), 10,11 (1993)
9. BOUCHER, F; Muchnick, J. 1995. Agroindustria Rural, Recursos Técnicos y Alimentación. CIRAD, CIID, IICA. San José. 504 p.
10. BOUCHER, F; RIVEROS, H; CASTAÑEDA, M. 1995. Metodologías para la promoción y evaluación de proyectos y productos de agroindustria rurales. PRODAR, CTF, CIRAD, CIID, IICA. San José, 344 p.
11. PRODAR. 1995. Serie de manuales de capacitación en agroindustria Rural. 4. Principios de contabilidad, 5. Análisis de costos, 6. Análisis financiero, 7. Comercialización de productos agroindustriales, 8. Administración de personal. PRODAR, IICA, San José.
12. El Forjador Agroindustrial. Boletín de las Redes de AIR del Area Central. No. 1,2,3 (1993) 4,5,6 (1994), 7,8,9,10 (1995). PRODAR. San José.
13. AGRIRURAL. Boletín del Centro de Información y Documentación del PRODAR. No. 1,2 (1992), 3, 4,5(1993), 6, 7, 8(1994), 9, 10 (1995), 11 (1996)
14. Agroindustria Rural: Pilar del Desarrollo. Vídeo (8 min.).PRODAR, IICA. 1994

15. RED de REDES. 1995. Bases de datos latinoamericanas de apoyo al desarrollo. CD-ROM. PRODAR: Bibliografía sobre agroindustria rural y otras . 2da edición. BIREME, ALIDE. Lima.
16. BLANCO, M. 1995. Proyecto de capacitación "Fomento de la AIR en los países de América Central y Rep. Dominicana. Fase I. Informe de resultados. PRODAR, 16 p.
17. BLANCO, M. 1995. Gestión de la calidad en las Redes de Agroindustria Rural del Area Central. Informe de resultados y resumen de ponencias (6-9 de agosto de 1995). PRODAR, San José, 21 p.
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. Informe de resultados (3-6 junio 1996). PRODAR, San José, 16 p.

**APPENDIX IV**

**TRAINING**

**ACTIVIDADES DE CAPACITACION COORDINADAS  
POR EL PRODAR Y LAS REDES DE AIR**

Promoción de la Agroindustria Rural

Fecha: diciembre 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

No. de Participantes: 30

Organizador: REDAR Guatemala

Gestión Administrativa de la AIR

Fecha: diciembre 1993

Lugar: San José- Costa Rica

Participantes: 19

Organizador: PRODAR

Formulación y administración de proyectos AIR

Fecha: Julio de 1993

Lugar: Quetzaltenango - Guatemala

No. de Participantes: 29

Organizador: CENDEC - INCAP - Cooperación Francesa - PRODAR

Gestión administrativa y financiera de la Empresa de AIR

Fecha: Junio de 1994

Lugar Antigua - Guatemala

No. de Participantes: 32

Organizador: INCAP - PRODAR - Cooperación Francesa - Cooperación Belga

Gestión tecnológica de la AIR

Fecha: Noviembre de 1994

Lugar: Quetzaltenango

No. de 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 - Rep. Dominicana

No. de participantes: 30

Organizador: REDARDOM

Curso sobre organización campesina

Fecha: Febrero de 1993

Lugar: Mao - Rep. Dominicana

No. de Participantes: 32

Organizador: REDARDOM

Aspectos básicos de la AIR

Fecha: febrero 1993.

Lugar: Arroyo Toro de Bonaó - Rep. Dominicana

Organizador: CONACADO - REDARDOM

Administración de Empresas Agroindustriales

Fecha.: mayo 1993

Lugar: Yamasá - Rep. Dominicana

Organizador: CONACADO - REDARDOM

Elaboración de mermelada de mango

Fecha: Abril de 1993

Lugar: Elías Piña - Rep. Dominicana

No. de Participantes: 24

Organizador: REDARDOM

Primer encuentro de grupos con proyectos de AIR

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

Curso sobre agroindustrialización de la piña  
Fecha: agosto 1994  
Lugar: San Carlos- Costa Rica  
Participantes: 15  
Organizador: CENECOOP, CENAP, CECADE, PRODAR

Gestión de la Empresa Agroindustrial  
Fecha: Octubre 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 - Rep. Dominicana  
No. de Participantes: 25  
Organizador: REDARDOM-CAL

**APPENDIX V**

**CONSULTANCIES**



**LISTA DE CONSULTORIAS REALIZADAS. PERIODO 1992 - 1996**

1. 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 periodo.  
Consultor: CELATER (Colombia)  
Fecha: 1992
  
2. Elaboración términos de referencia para II fase proyecto PRODAR (Fase 1993/1995)  
Objetivo: Preparar documentos de trabajo para reunión del PRODAR y patrocinadores.  
Consultor: Hernando Riveros, CANDICON (Colombia)  
Fecha: mayo 1992
  
3. Elaboración documento - proyecto II fase proyecto PRODAR para presentación al CIID.  
Consultor: Hernando Riveros
  
4. Sistematización proceso de evolución de las redes nacionales de Chile, Ecuador y Rep. Dominicana.  
Consultor: CELATER (Colombia)  
Fecha: noviembre 1992
  
5. 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 1993.  
Monto: US\$ 6000  
Financiamiento: CIID
  
6. Políticas y Agroindustria Rural  
Consultor: Ivan Nazif (Chile)  
Fecha: junio 1994  
Monto: US\$ 5000  
Financiamiento: CIID
  
7. 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

**8. Formas de organización campesina**

**Consultor: GIA (Chile)**

**Fecha: julio 1994**

**Monto: US\$ 3800**

**Financiamiento: CIID**

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

**Consultor: REDAR Chile**

**Fecha: diciembre 1994**

**Monto: US\$ 2000**

**Financiamiento: CIID**

**APPENDIX VI**

**PRODAR EVENTS**

**EVENTOS PRODAR 1990-1995**

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 al 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 al 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, 1991

Lugar: Cali, Colombia

Objetivo: Intercambio de experiencias y promoción de Redes de AIR

Participantes: 25, Nivel hemisférico.

Seminario AIR en Guatemala

Fecha: 2 al 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

Participantes:

Encuentro Nacional de AIR en Ecuador

Fecha: Agosto, 1992

Lugar: Riobamba, Ecuador

Participantes: 46 nacionales y PRODAR

Objetivo: Presentación del Diagnóstico de la AIR

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 al 29 de octubre 1993

Lugar: Cali, Colombia

Objetivo: Intercambio experiencias. Asamblea PRODAR

Participantes: 33 nivel hemisférico

Participación en Seminario Ciencia y Tecnología de Alimentos

Fecha: 16 al 21 de octubre de 1994

Lugar: Montevideo, Uruguay

Objetivo: Promover actividades PRODAR

Participantes: Redes del Cono Sur

Reunión Redes de América Central

Fecha: Abril 1994

Lugar: San José

Objetivo: Intercambio experiencias

Participantes: 40 Area Central y Andina

Reunión Redes Area Central

Fecha: Noviembre 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 al 21 de mayo de 1995**Lugar:** Caracas**Objetivo:** Intercambio de experiencias. Realizar Asamblea REDAR**Participantes:** 60 (ONG, AIR, OG, Académico)**Primer Encuentro Nacional de AIR en Guatemala****Fecha:** 28 agosto al 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**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

**APPENDIX VII**

**COMMERCIALIZATION COURSES COORDINATED BY PRODAR  
SOUTHERN CONE REGION**

**RURAL AGROINDUSTRY PROJECT COMMERCIALIZATION COURSES  
COORDINATED BY PRODAR IN THE SOUTHERN CONE  
1994 - 1995**

**NUMBER OF TRAINEES BY COUNTRY AND LOCATION**

<b>Country</b>	<b>Technicians</b>	<b>Farmers</b>	<b>Total</b>	<b>Dates</b>
<b>Argentina</b>				
Misiones	30	5	35	25-28 October, 1994
Bariloche	80	15	95	4-5 November, 1994
Resistencia	35	6	41	26 June-1 July, 1994
La Rioja	36	7	43	31 July-4 August, 1994
<b>Total</b>	<b>181</b>	<b>33</b>	<b>214</b>	
<b>Chile</b>				
Concepción	17	5	22	27-29 July, 1994
Concepción	19	4	23	17-18 November, 1994
Chillán	11	19	30	19-21 July, 1995
Chillán	12	15	27	28-30 August, 1995
Cañete	30	--	30	23-24 November, 1995
Concepción	25	15	40	4 -6 December, 1995
<b>Total</b>	<b>114</b>	<b>58</b>	<b>172</b>	
<b>Paraguay</b>				
Asunción	38	5	43	11-20 September, 1994
<b>Peru</b>				
Juliaca	39	7	46	15-20 August, 1994
<b>TOTAL</b>	<b>294</b>	<b>54</b>	<b>358</b>	



**APPENDIX VIII**

**PEOPLE MET**

## PEOPLE MET AND CONSULTED

### IICA Headquarters and PRODAR

- Rodolfo Martinez Ferrate: Director of Area IV, Sustainable Rural Development
- Gerardo Escudero: Director of External Relations, Communications and Marketing
- Rodolfo Quiros Guardia: Director, Center for Integration and Agribusiness Development
- Finn H. Damtoft: Director, Information, Documentaton and Informatics
  
- Francois Boucher: Executive Director, PRODAR
- Marvin Blanco: Documentation Center, PRODAR

### Andean Region

#### Colombia

- Hernando Riveros: PRODAR Regional Coordinator, Bogota
- Manuel Enrique Rojas: Ministry of Agriculture, Management Unit for Agrarian Reform, -
- Carlos Alfonso Rico R.: Deputy Director, Technical Assistance, FUNDECOOP, Bogota
- Gonzalo A. Rodriguez: Panela Research and Improvement Centre (CIMPA-CORPOICA)
- Enrique Castellanos: Coordinator, REDAR-Colombia & Director of the Specialization Programme in Management of Rural Agroindustries, Universidad del Valle, Cali
- Ana Zully Perlas: Student in AIR Specialization Programme, U. del Valle, Cali
- Juan Pablo Bedoya: Carvajal Foundation, Cali
- Roberto Hernández: Rural Agroindustry Research and Development Foundation (FIDAR)
- Magnolia Hurtado: Technical Coordinator, Inter-Institutional Consortium for Sustainable Hillside Agriculture (CIPASLA) Pilot Area, Pescador, Cauca

#### CIAT

- Lisimaco Alonso: Cassava Programme, consultant to CARITAS Programme in Peru
- Jaqueline Ashby: Director of Research, Natural Resources
- Jorge Alonso Beltran: Associate Researcher, Hillside Programme, CIPASLA Pilot Area
- Rupert Best: Leader Cassava Prog. & Manager Rural Agroenterprise Development Project
- Carlos Ootertag: Economist, Cassava Utilization Programme

#### Ecuador

- Mario Paz: Coordinator of REDAR-Ecuador & Manager of IICA/PRONADER Project
- Mario Infante: Representative in Ecuador, IICA, Quito
- Ciro A. Villamizar: Rural Development Specialist, IICA, Quito

#### Pastaza Province

- Roberto de la Torre: Prefect, Pastaza Province, Puyo
- Jose Ansapanta: Representative, Balsa Handicrafts Association, Puyo

- Alberto Tuqueres: Representative, Pisciculture Association, Puyo
- Carlos Aguilar: Technical Representative, Pastaza Provincial Council, Puyo
- Pasto Valverde: Marketing Representative, Cane Producers Association (ASOCAP)
- Nelson Valverde: Representative, ASOCAP, Puyo
- Luz M. Haro: President, Women's Association of Fatima

#### Manabí Province

- Celso Alabba: Administrator, Union of Associations of Agricultural Workers, Producers and Processors of Cassava (UATAPPY), Portoviejo
- Luciano Ponce: Manager, Savings and Credit Cooperative "Cabo de Hacha" and Leader, Cabo de Hacha Coffee Producers Association, Jipijapa and Cabo de Hacha
- Washington Narvaez: PRONADER Representative, Cabo de Hacha
- Melchora Figueroa V.: President, Women's Association of Cabo de Hacha

#### Peru

- Alfonso Carrasco: Director, ITDG-Peru, Lima
- Daniel Rodriguez: President REDAR-Peru & Manager, Food Processing Programme, ITDG
- Martin Ramirez: Representative in Peru, IICA, Lima
- Manuel Otero: Director, Andean Regional Center, IICA, Lima
- Marisela Benavides: Consultant, Industry Ministry and Author of the Peru AIR Diagnostic,
- Gastón Vizcarra: Vice President, REDAR-Peru & Director, Candela Peru, Lima
- Felipe Rodriguez: Treasurer, REDAR-Peru & Representative, Fundación para el Desarrollo Nacional (FDN), Lima
- Sonia Salas: Andean Food Postproduction Projects, Centro Internacional de la Papa (CIP), member of REDAR-Peru Council, Lima
- Maria Cristina Zuloeta: CARITAS-Peru, Lima
- Orlando Plaza: Dean, Faculty of Social Sciences, Catholic University, Lima
- Roberto Montero: Regional Manager, ITDG Peru, Cajamarca
- Rafael Escobar: Energy Programme, ITDG Peru, Cajamarca
- Alfredo Stecher: President, Centro IDEAS, Lima

#### Venezuela

- Miguel Angel Arvelo: REDAR-Venezuela Coordinator, IICA, Caracas
- Hector Morales Jara: Representative in Venezuela, IICA, Caracas
- Rafael I. Quevedo Camacho: Rural Development Specialist, IICA, Caracas
- Evaristo Madriz R.: President of REDAR-Venezuela & of Corpollanos, Calabozo, Guárico

#### REDAR-Lara

- A. Lucero Alvarado: Director, Agricultural Development, Lara Governate, Barquisimeto
- Isis Yesenia Diaz: Executive Secretary, REDAR-Lara, (FUNDACITE C.O.), Barquisimeto
- Jose R. Gutierrez: Director Tecnico, BROTE, Fortunato Orellana, Lara
- Luis Sánchez Font: Chief Project Researcher, Foundation CIEPE, Barquisimeto

- Antonio F. Ibarra: Director of Systems, BROTE, Fortunato Orellana, Lara
- Cecilia Sánchez: Researcher, FONIAP-Lara, Barquisimeto
- Henry Alirion Peralta: Jefe Programa Agrícola, Directorate of Agricultural Development, Lara
- Eduardo Anzolo: Coordinator, West Central Region Development Foundation, Barquisimeto
- Carlos Hernandez: Dry Zone Project, FONIAIP-Lara, Barquisimeto

#### **REDAR-Falcón**

- Bernardino Lopez Delmoral: President of REDAR-Falcón and of FUNDAPROCO-Falcón Producer's and Consumer's Association of Falcón, Coro
- Ana Sánchez de Morales: Vice President REDAR-F., (INCE-Falcón - National Institute of Business Cooperation), Coro
- Liliana Hernández: Agricultural Coordinator, Sucre Municipality
- Carlos Curiel: Treasurer REDAR-F., (FONDAPEMI- Fund for Medium & Small Industry)
- Luis Jajure: Agricultural Coordinator, Union Municipality
- Luisa Salas: Executive Coordinator, REDAR-F., Secretariat of Agricultural Development
- Jose Curiel: President, Promotion Committee, & Secretary of Agricultural Development

#### **Southern Cone**

##### **Argentina**

- Mercedes Basco: IICA-Argentina, Buenos aires
- Alejandro Catalano: REDAR Coordinator, INTA Minifundio Unit, Buenos Aires
- Clara Contardi: INTA-Mendoza, Mendoza
- Esteban De Nevares: FUNDAPAZ-Argentina, Buenos Aires
- Pilar Foti: PRODERNEA- SAPyA, Buenos Aires
- Dora Jiménez: CEIL-Argentina, Buenos Aires
- Horacio Salomon: INTA-Formosa, Aer Formosa
- Gonzalo Estefanel: IICA-Argentina, Buenos Aires
- Gustavo Tesoriero: INTA Minifundio Unit, Buenos Aires
- Ofelia Zeff: INDES, Argentina.

##### **Chile**

- Waldo Bustamante: PRODAR Regional Coordinator, IICA-Chile, Santiago
- Juan Carlos Campos: INPROA, Santiago
- Rolando Chateaneuf: Agronomy Faculty, University of Chile, Santiago
- Oscar Troncoso: REDAR-Chile Coordinator, GIA, Santiago

##### **Uruguay**

- Virginia Bado: IICA-Uruguay and JUNAGRA-Uruguay, Montevideo
- Santiago Cayota: National Farm Organization, Canelones
- Gonzalo Freiria: PRONAPA, Montevideo

- Hugo Licandro: Centrales Comerciales of Uruguay
- Guillermo Perez Puig: PRONAPA, Montevideo
- Guillermo Toro: IICA-Uruguay, Montevideo

## **Central America and the Caribbean**

### **Costa Rica**

#### **CICAR**

- Kenibeth Winter: ASIADÉ
- Miguel Viquez: CECADÉ
- Jorge Ortiz: UNACOOOP
- German Masis Morales: IDEAS
  
- Luis F. Arias: Director, CITA, San José
- Wilfredo Flores: CITA, Vice President REDAR Costa Rica

### **Guatemala**

- Mr Fabio Bermudez: IICA Representative in Guatemala
- Armando Reyes Pacheco: Director, IICA Central American Region
- Mr Rafaël Flores: Science and Technical Coordinator, INCAP

#### **REDAR-Guatemala**

- Miguel Angel Racarcoj: Executive Secretary
- Florence Tartanac: INCAP
- Jose Odilio Blanco Barahona: CENDEC
- Victor Hugo Mendez: FAUSAC
- Leonardo de León: Tecfood (ex-president)
- René F. Arias: CUNSUR
- Angel Arango: Profruta
- Marcelino Tomas Virus: PRODAC
- Yves Maidat: Cultural and Scientific Counsellor, French Embassy

### **Nicaragua**

#### **UNAN, School of Food Technology**

- M. Sc. Juana Mercedes Machado: Director
- Irma Contreras de Cuacha
- Olivia Gutiérrez: Vice Dean
- Marc Bony: French Volunteer Coopérant.
- Angela Diaz & Manuel Ruiz: PRODESSA
- Maria Eugenia Siqueira & Fatima Macias G.: Fundación Leon 2000

**PAMIC - National Microenterprise Support Programme**

- Luis Carvajal: Director of Enterprise Support.
- Carolina Vargas: Agroindustry Programme

- Hector Blanco: Fundacion José Newroski

- Francisco Rodriguez: SIMAS

- Mr. Pigeon: Cultural and Scientific Counsellor, French Embassy

**Panama**

**REDAR-Panama**

- Heriberto E. Rodriguez: IPACOOOP
- Agustin Moscoso G.: MIDA, Agroindustry
- Martina Firilla: MIDA
- Wedley W. Tejedor E.: CEPIA UTP
- Victor V. Guillen P.: CEPIA UTP
- Mirna de Cordoba: MIDA DINA
- Monsieur Chibbaro Arnaldo: IICA Representative in Panama

**REDAR-Chiriqui**

- Laure Chia: MIDA
- Dr Bolivar Pitti: Universidad Autonoma, Food Technology, UNACHI
- Anne Cecilia T. De Pitti: MIDA
- Rubiela de Quintero: UTP Chiriqui

**REDAR-Coclé**

- Bonita de León: MIDA Agroindustry
- José A. Arariz: Tortillera “La Mexicana”

**REDAR-Veraguas**

- Expedito Cortés: MIDA Agro industria
- Rodolfo Alba Cruz: MICI Veraguas
- Didier A. Batista: Secretario ejecutivo
- Avelino Dominguez: Universidad Technologica
- Lourdes Urieta: MIDA Agroindustry
- Alexis Vargas: MISA

In addition to the individuals named above, the Evaluators encountered a considerable number of other people associated with Rural Associations of various kinds involved in AIR. Along with these groups, we met, or were present in meetings with, many additional representatives of private and public entities developing or supporting AIR projects and programmes.

**APPENDIX IX**

**ITINERARIES**

**ITINERARY**

E. Weber

- Nov. 4, 1966      Ottawa to Quito, Ecuador.
- Nov. 5              Meeting with IICA representative for Ecuador.
- Nov. 6              Non PRODAR meetings
- Nov. 7              Puyo, Pastaza - meetings with Panela Producer's Association representatives, Pastaza province prefect and with women's group representatives.
- Nov. 8              Manabí province - meetings with representatives of Union of Cassava Producers Associations, Cabo de Hacha Coffee Producers Cooperative.
- Nov. 9              Quito to Lima, Peru - review of documents.
- Nov. 10             Review of documents and rest.
- Nov. 11             ITDG (Intermediate Technology Development Group, Peru), meetings with the Director and the REDAR-Peru president. Meeting at IICA with country representative and regional coordinator. Interview with representative of the Ministry of Industry. REDAR-Peru Director's Committee meeting.
- Nov. 12             CARITAS representatives report on FIAR support for cassava processing project in the Amazon region. Catholic University, meeting with Dean of Social Sciences. ITDG technicians report on FIAR support for water powered mill improvement. Meeting with Director of Centro Ideas, an early REDAR member.
- Nov. 13             AM - Final discussions with REDAR-Peru president. PM - to Bogota, Colombia.
- Nov. 14             Multiple agency planning meeting for pilot initiative planning for operationalization of World Bank land reform loan which includes aspects of AIR. Interview with coordinator of the planning group for the initiative who was also Director of the Dirección Empresarial, Min. of Agriculture. Discussions with the PRODAR Andean region coordinator and review of documents. Evening, to Caracas, Venezuela.



- Nov. 15 To Sn. Fernando de Apure, Apure State in the llanos area of Venezuela.  
Visit to private small scale buffalo milk processing plant.  
REDAR organization meeting with Asoc. of Productores de Apure.  
To Calabosa, Guari State, visit "casabe" plant and headquarters of CORPOLlanos, president is also president of REDAR-Venezuela.
- Nov. 16 To Barquisimeto, Lara State, by road.  
Meeting with member representatives of REDAR-Lara.
- Nov. 17 To Aguada Grande and meeting with community representatives.  
PM to Coro, Falcon State by air, and visit to La Cruz de Taratara community. Meeting with Mayor and municipal officials.
- Nov. 18 Meeting in Falcon State Agriculture Secretary offices with the directors committee of REDAR-Falcon.  
Press conference.  
PM - to Caracas by air.
- Nov. 19 Meeting with IICA country representative and head of rural development.  
Discussion with REDAR-Venezuela Coordinator contracted by IICA.  
National REDAR Director's Committee meeting.
- Nov. 20 To Bogota.  
Discussions with PRODAR Regional Coordinator.  
Meeting at FUNDECOOP.  
Meeting with CORPOICA/CIMPA (panela technology) rerepresentative.
- Nov. 21 To Cali.  
Meeting with REDAR-Colombia president at Univ. del Valle and presentation of AIR post graduate course, meet students.  
Interview at Fundacion Carvajal, a FIAR project recipient.  
Field visit to CIPASLA microwatershed pilot project area at Pescador, Cauca, community milk processing plant, essential oil extraction plant and sustainable natural resource management experiments.
- Nov. 22 CIAT - meeting with Drs. Jaqueline Ashby and Rupert Best re CIAT role in PRODAR and REDAR-Colombia as part of their reorganized programme structure  
Discussion with CIAT technician who advised CARITAS cassava processing project in Peru (FIAR project).  
Discussion re CIPASLA project and REDAR-Colombia.  
To Bogota and final discussions with PRODAR regional coordinator.
- Nov. 23 To Sn. Jose, Costa Rica.  
Meetings with PRODAR Executive Director and the other evaluators.

- Nov. 24            Evaluator's meeting to plan report and exchange observations from the three different PRODAR regiona visited.
- Nov. 25            Meeting with IICA officials, Dir. of Public Relations, Head of Rural Development programme in which PRODAR is located, five IICA Regional Coordinators, Roberto Quiros, and head of Communications section of IICA.  
Discussions with evaluators and PRODAR Executive Director.
- Nov. 26            Formulation of recommendations and outline of report.
- Nov 27            Report preparation.  
Lunch meeting with Regional Coordinators, Dir. of Public Relations and Head of Rural Development.
- Nov. 28            Debriefing with Dir. of Public Relations, IICA, and final discussions with PRODAR Executive Director.  
Report preparation.
- Nov. 29            Sn Jose, Costa Rica to Ottawa.

**CALENDRIER DE MISSION**

Bernard Bridier

- Lundi 04/11**
- Départ Paris
  - Arrivée à San José ; accueil par François Boucher
- Mardi 05/11**
- Voyage San José - Chiriqui (Panama)
- Mercredi 06/11**
- Réunion avec l'Association de Trapicheros de Tinajoas. Visite des trapiches et parcelles d'expérimentation de canne à sucre
  - Réunion à David avec les membres de REDAR - Chiriqui
  - Voyage de David à Santiago
- Jeudi 07/11**
- Réunion avec les membres de REDAR-Veraguas
  - Visite de petites entreprises : lait concentré aromatisé, tortillas
  - Voyage de David à Coclé
  - Réunion avec les membres de REDAR - Coclé
  - Visite de petites entreprises : tortillas, sauces et jus de fruits
  - Voyage de Coclé à Panama
- Vendredi 08/11**
- Réunion avec Alicia Pitti - Projet RUTA
  - Réunion avec REDAR-Panama à l'IICA
  - Visite à Monsieur l'Ambassadeur de France
- Samedi 09/11**
- Voyage de Panama à San Isidro Del Général
- Dimanche 10/11**
- Retour à San José (Costa Rica)
- Lundi 11/11**
- Réunion avec Marvin Blanco - Bureau de PRODAR à l'IICA
  - Réunion avec Xinia Lopez Villalobos, Chargé des relations extérieures et Francisco Barea, Chef de la Division d'évaluation des projets.
  - Réunion avec le CICAR - Comisión interinstitucional de capacitación en agro industria rural
- Mardi 12/11**
- Départ pour Managua - Nicaragua
  - Réunion avec le PAMIC - Programa nacional de apoyo a la micro empresa
- Mercredi 13/11**
- Voyage à León
  - Réunion avec Fundación León 2000
  - Visite de tanneries
  - Réunion avec la UNAN-Escuela de ciencias de tecnología de alimentos

- Jeudi 14/11
- Voyage à El Sauce
  - Visite de l'Antenne de la fundacion Léon 2000
  - Visite d'une fromagerie et d'un trapiche
  - Voyage à Matagalpa
  - Réunion avec PRODESSA
  - Visite de l'atelier de fabrication de sauce tomate de Samulali
- Vendredi 15/11
- Voyage à Managua
  - Réunion avec le REDAR
  - Réunion avec Mr Pigeon, Conseiller Culturel, scientifique et technique
  - Réunion à la Représentation de l'IICA
  - Visite de la foire des produits agricoles
- Samedi 16/11
- Visite de deux trapiches à Rivas, avec le PAMIC
  - Retour sur San José
- Lundi 18/11
- Entretien avec Mr Luis F. Arias, Directeur du CITA et avec Mr Wilfredo Flores, Vice-Président de REDAR Costa Rica
  - Travaux au bureau de PRODAR à l'IICA
  - Entrevue avec Mr Rodolfo Martinez, Chef du Programme de Développement Rural
- Mardi 19/11
- Travaux à l'IICA
  - Entretien avec Mr German Masis Risales de IDEAS
- Mercredi 20/11
- Départ pour Guatémala
  - Réunion avec Mr Rafaël Flores, Coordinateur des sciences et technologies INCAP
  - Réunion avec Mr Fabio Bermudez, Représentant de l'IICA au Guatemala
  - Réunion avec la Junta executiva de la REDAR, Guatemala
- Jeudi 21/11
- Présentation des résultats des projets "Panela, Quesos et Transfrutas"
  - Visite du Centre de desarrollo agro industrial à Amatitlan
  - Visite d'une fromagerie artisanale à Escuintla
  - Réunion au centre Universitaire du Sur Occidente
  - Trajet jusqu'à Quetzaltenango
- Vendredi 22/11
- Visite des projets transfrutas et fabrication de savon avec le CDRO
  - Visite de l'atelier de transformation de fruits de l'association de producteurs "La Guadalupeana"
  - Visite du centre de formation de CENDEC
  - Retour à Guatemala

- Samedi 23/11**
- Visite à Antigua et réunion avec Fl. Tartanac et M.A. Racancoj
  - Retour à San José (Costa Rica)
- Dimanche 24/11**
- Réunion de travail avec les autres évaluateurs de la mission MM Ed. Weber et Raul Fiorentino
- Lundi 25/11**
- Réunion de travail entre évaluateurs
  - Réunion avec Mr Gerardo Escudero, Directeur des Relations Extérieures et Mr Rodolfo Martinez, Chef du Programme de Développement Rural durable
  - Réunion de Travail
- Mardi 26/11**
- Réunion de travail entre évaluateurs
  - Réunion avec MM Gerardo Escudero, Rodolfo Martinez, Mme Xinia Lopez, MM Manuel Otero, J. Laboucheix et F. Boucher
  - Entretien avec M. Rodolfo Quiros Guardia, Directeur du CIDA

**INTINERARY**

R. Fiorentino

- Nov. 11, 1996 Interviews in Buenos Aires with Gonzalo Stefanell, Waldo Bustamante, Pilar Foti
- Nov. 12 Interviews in Montevideo with Guillermo Toro, Virginia Bado, Santiago Cayota, Hugo Licandro, Gonzalo Freiria, Guillermo Pérez Puig
- Nov. 13-14 Interviews in Formosa with Alejandro Catalano and Horacio Salomón  
Visit to cassava starch project
- Nov. 15 Interviews in Buenos Aires with Alejandro Catalano, Gustavo Tesoriero, Ofelia Zeff, Esteban de Nevaes and Dora Jiménez
- Nov. 17-18 Interview in Mendoza with Clara Contardi.  
Visit to fruit preserves project
- Nov. 19-21 Interviews in Santiago with Oscar Troncoso, Rolando Chateaneuf, Juan Carlos Campos and phone call to Omar Jofré.  
Visit to San Pedro and Codigua project areas
- Nov. 22 - 29 San José, Costa Rica - Interviews with Waldo Bustamante, Edward Weber, Bernard Bridier, Francois Boucher, Marvin Blanco, Gerardo Escudero, Rodolfo Martinez Ferrate, Rodolfo Quirós, Finn Damtoft, other IICA officers
- Nov. 30 - Dec. 9 Preparation of report in Buenos Aires

**APPENDIX X**

**PRODAR AND REDAR SURVEY REPORT**

**EXECUTIVE SUMMARY**

## **PRODAR AND REDAR SURVEY REPORT**

### **Executive Summary**

The Programme for the Development of Rural Agroindustry in Latin America (PRODAR) 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 wellbeing 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 InterAmerican 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 non-governmental 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 subregional 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 programmes 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 programme planning and implementation by REDAR members.

Differences were noted in the way programmes 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 programme 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 programme 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 programmes and international agencies provide funding for credit and technical support programmes in the larger market context.

Ottawa, October, 1996

**APPENDIX XI**

**GLOSSARY**

**GLOSSARY**

<b>AIR</b>	<b>Agroindustria Rural - Rural Agroindustry</b>
<b>ASOCAP</b>	<b>Asociación de Cañicultores de Pastaza</b>
<b>CEIL</b>	<b>Centro de Estudios e Investigaciones Laborales</b>
<b>CELATER</b>	<b>Centro Latinoamericano de Tecnología y Educación Rural</b>
<b>CETEC</b>	<b>Corporación para Estudios Interdisciplinarios y Asesoría Técnica</b>
<b>CIAT</b>	<b>International Centre for Tropical Agriculture</b>
<b>CICAR</b>	<b>Comisión Interinstitucional de Capacitación en Agroindustria Rural</b>
<b>CIMPA</b>	<b>Centro de Investigación y Mejoramiento de la Panela</b>
<b>CIP</b>	<b>Centro Internacional de la Papa</b>
<b>CIRAD-SAR</b>	<b>Centre de Coopération Internationale en Recherche Agronomique pour le Développement - Département des Systèmes Agroalimentaires et Ruraux</b>
<b>CITA</b>	<b>Centro de Investigaciones en Tecnología de Alimentos</b>
<b>CORDIPLAN</b>	<b>National Planning and Development department, Venezuela</b>
<b>CORPOTUNIA</b>	<b>La Corporación para el Desarrollo de Tunia</b>
<b>CTF</b>	<b>Cooperación Técnica Francesa</b>
<b>EEC</b>	<b>European Economic Community</b>
<b>ERTEC</b>	<b>Espacio Rural para Tecnólogos</b>
<b>ESQUEL</b>	<b>Fundación ESQUEL, ONG</b>
<b>FA-UBA</b>	<b>Facultad de Agronomía de la Universidad de Buenos Aires</b>
<b>FAO</b>	<b>Food and Agriculture Organization</b>
<b>FIAR</b>	<b>Fondo de Investigación en Agroindustria Rural</b>
<b>FOODLINKS</b>	<b>IDRC programme linking producers to international markets</b>
<b>FOSIS</b>	<b>Fondo de Inversión Social, Ministerio de Planificación y Desarrollo</b>
<b>FUNDAEC</b>	<b>Fundación para la Aplicación y Enseñanza de las Ciencias</b>
<b>FUNDAPAZ</b>	<b>Fundación para el Desarrollo en Justicia y Paz</b>
<b>FUNDASOL</b>	<b>Fundación Uruguaya de Desarrollo Solidario, ONG</b>
<b>FUNDECOOP</b>	<b>Fundación para la Educación y el Desarrollo Cooperativo</b>
<b>GAAP</b>	<b>Grupo de Acompañamiento y Apoyo de PRODAR</b>
<b>GIA</b>	<b>Grupo de Investigaciones Agrarias</b>
<b>IDB</b>	<b>Interamerican Development Bank</b>
<b>IDEAS</b>	<b>Centro Ideas - investigación, documentación, educación, asesoría, servicios</b>
<b>IDRC</b>	<b>International Development Research Centre</b>
<b>IFAD</b>	<b>International Fund for Agricultural Development</b>
<b>IIAP</b>	<b>Instituto de Investigaciones de la Amazonía Peruana</b>
<b>IICA</b>	<b>Instituto Interamericano de Cooperación para la Agricultura</b>
<b>INCAP</b>	<b>Instituto de Nutrición de América Central Y Panamá</b>
<b>INCUPO</b>	<b>Instituto de Cultura Popular</b>
<b>INDAP</b>	<b>Instituto Nacional de Desarrollo Agropecuario</b>
<b>INDES</b>	<b>Instituto de Desarrollo Social</b>
<b>INIAP</b>	<b>Instituto Nacional de Investigación Agropecuario</b>

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 Ganadería (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 & the Caribbean
PPO	Participatory Planning by Objectives
PRODAR	Programa Cooperativo de Desarrollo Agroindustrial Rural
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 Ganadería y Pesca
SIMAS	Servicio de Información Mesoamericana Sobre Agricultura Sostenible
SNV	The 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