

The 'Red Internacional de Metodologia de Investigacion de Sistemas de Produccion'  
(RIMISP)

Evaluation Report, January 11-27, 1994

H.J.W. Mutsaers

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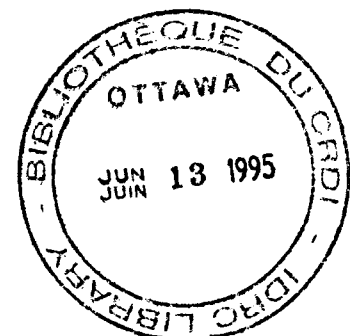
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## Introduction and background

The FSR methodology network (RIMISP) evolved in the second half of the 1980s from an informal group of researchers working in IDRC-supported projects. Leadership was provided by Germán Escobar, then project officer of IDRC's Latin American office in Colombia and Julio Berdegú of the 'Grupo de Investigaciones Agrícolas (GIA)' in Santiago, Chile, who has been the network's Coordinator from the start. At the beginning of Phase I of RIMISP as a formal, IDRC-funded network (1989-1992) IICA was chosen as the seat of the network, with the coordinator working 50% for IICA and 50% for RIMISP. The network's objective was to promote the development, exchange, publication and application of FSR methodology by member teams and its dissemination to other researchers and professionals.

Four research themes were chosen for the first project phase:

1. *farm classification,*
2. *dynamic analysis of farm data,*
3. *farmer decision making,*
4. *gender issues in FSR (added in the course of phase I).*

It was expected that new priority themes would emerge with time.

Information exchange took place through network meetings (once every 18 months) and publications on the four research themes. Technical support was provided to network members through visits by the network coordinator and through training workshops. The coordinator organized in-country training courses on request and coordinated exchange visits by individual researchers to sister projects.

An electronic mail network among member teams was only partially realized because a separate proposal submitted to IDRC was not approved. Instead of an electronic Newsletter, a printed one was produced.

The network meetings were pivotal in the development of methodologies. In each of the two meetings results were presented on one of the research themes, essential methodological elements were identified and the theme for the following period was introduced. The results of the first meeting (about 'farm classification', held in Colombia in 1989) were published as a book ("Tipificación de Sistemas de Producción Agrícola"). The material generated during the second meeting, on 'Dynamic Analysis' (Ecuador, 1991) was not formally published but work by one of the member teams (CE&DAP) was published in the series 'Materiales Docentes' ("Análisis Dinámico de Pequeñas Fincas en Cuatro Regiones del Perú: Aspectos Metodológicos"). According to the project proposal for phase II, RIMISP considered the development of these two topics ('farm classification and typification' and 'dynamic analysis') as completed during phase I.

Phase I was not formally evaluated. Internal evaluation by IDRC, however, resulted in a revision of the network structure and the establishment of a Steering Committee (SC). It was felt that the results of phase I justified a second phase of 3 years.

## Objectives of project phase II

The **overall objective** of phase II was "to increase the adoption rate of new technologies in small scale Latin American farming systems by improving the methodologies of the research and transfer processes". This was to be attained by:

1. *Assisting network members in developing innovative solutions to methodological problems faced by technology generating/transferring projects.*
2. *Exchanging methodological information among members and with other IDRC-supported networks.*

3. *Providing technical support and training to member institutions and others in Latin America.*
4. *Consolidating RIMISP through the establishment of an elected decision-making body and the expansion of its financial base.*

The final result of phase II was expected to be :

*"an international group of scientists with a stable and strong working relationship and with the ability to ( ) formulate, find financial support for and develop research in a coordinated and efficient manner".*

**Priority research themes** for this phase were defined at the plenary network meeting in 1991 as follows:

1. *Ecological sustainability of farming systems*
2. *Design of farming systems*
3. *Micro-macro relations in Farming Systems Research and Extension (FSR/E)*
4. *Technology transfer in FSR/E.*

In addition, the following "ongoing" themes were carried over from the preceding phase:

5. *Monitoring and evaluation of impact*
6. *Gender issues*
7. *Farmers' decision making process*

A Project Fund of CAD410,000.- was budgetted to fund research project on these topics, carried out by RIMISP member institutions. A peer review process was put in place to screen proposals submitted by members.

Two **network meetings** were planned, where (i) progress on the research projects would be reported, (ii) priorities and activities for the next 18 months discussed and (iii) training provided on one or more of the priority topics.

**Information exchange and technical support** would be provided through (i) visits by the coordinator or other SC members to the participating teams, (ii) horizontal support by visits of members to each other's projects, (iii) publication of the 3 monthly network Bulletin, (iv) publication of methodological texts as books and 'Materiales Docentes' and (v) the development of an E-Mail network, first among Steering Committee members and later among all members. Communication with other IDRC-supported networks, especially RISPAL would be strengthened.

**Training** on methodology would be provided (i) during the general network meetings and (ii) through in-country training courses, organized in collaboration with a local network member. Proposals would be developed to obtain funding for international training courses.

**Consolidation** of the network as an autonomous and sustainable entity would be sought by (i) obtaining legal status, (ii) contracting the network's host institution (IICA, Santiago de Chile) as a permanent seat to provide administrative support and (iii) expanding the financial basis of the network.

### **Structure of RIMISP**

RIMISP is incorporated in Chile as a 'Sociedad de Responsabilidad Limitada'. The network secretariat consists of the (non-salaried) network Coordinator Mr. Julio Berdegúe, his assistant, Mr. Eduardo Ramírez and a part time secretary. The salaries for the assistant and the part time secretary are paid from network funds. The secretariat is located at the Santiago office of IICA, which provides office space and administrative and logistical support.

The network has 32 member institutes. Among these, 29 are national government and non-government institutes and Universities in Argentina (8), Chile (4), Brasil (3), Colombia (3),

Mexico (3), Peru (3), Ecuador (2), Costa Rica (1), Bolivia (1) and Venezuela (1). The other 3 are IICA in Costa Rica, INFORUM in the USA and ORSTOM in Bolivia.

The network Steering Committee has the following members:

- Julio Berdegué, Coordinator, formerly IICA, now INDAP, Chile
- José Arze, CATIE, Costa Rica
- Germán Escobar, IICA, Chile
- Miguel Holle, formerly PISA, now CIP, Peru
- Evaristo Miranda, EMBRAPA, Brasil
- Alejandro Rebolledo, IDRC, Uruguay, *ex-officio* member
- Benjamin Quijandria, CE&DAP, Peru
- Eduardo Ramírez, assistant to the coordinator; non-voting member, formerly GIA

The current institutes of the coordinator (Berdegué, INDAP) and one of the SC members (Holle, CIP) are candidate members of the network. SC members are elected for a 3-year term by the plenary network meeting. A member cannot serve for more than two consecutive terms. The incumbent coordinator will serve until the end of the current project period (April, 1995), after which the SC must elect a new coordinator.

In 1992 IICA's Programa de Generación y Transferencia de Tecnologías made a formal request to participate in the SC with an *ex-officio* member in view of its role as the host institution of RIMISP. The SC rejected this request but proposed that IICA apply for full membership of the network first and then put up a candidate for election on the SC at the next occasion. IICA was accepted as a full network member in March 1993.

Among the membership of RIMISP some institutes may be considered as key institutes because of their early association and their role in methodology research (GIA, Chile; CE&DAP, Peru; ECOFUERZA, Brazil; CEDRA, Chile; CATIE, Costa Rica). Most of them benefitted from direct IDRC support at some time. Others have been less active (or less successful in obtaining RIMISP funding) but participated in meetings and benefitted from RIMISP materials and sometimes training.

### **Overview of project phase II**

Phase II was approved by IDRC's Division of Agriculture, Food and Nutrition Sciences on 21 April, 1992. Major activities up to January 1994 by category were as follows:

#### ***Network and Steering Committee meetings:***

- Fifth International Meeting of RIMISP, Mexico
- 2 Steering Committee meetings
- Preparation of the sixth RIMISP meeting, to be held in Campinas, Brazil, April 1994

#### ***Research:***

- Evaluation of 11 research proposals, submitted to the Project Fund, approval and funding of 5
- Monitoring research projects of CE&DAP and ECOFUERZA
- Preparation of presentations for the FSR/E symposium, Montpellier, France.

#### ***Information exchange and technical support:***

- Participation in the annual symposium on FSR/E, Michigan State University, with a keynote address and a poster
- Assistance in the organisation of the 'Simposio Latinoamericano sobre Investigacion y Extension en Sistemas Agropecuarios' (IESA), Quito, Ecuador; participation with two keynote addresses and several papers
- Inter-institutional workshop IICA/GIA/CEDRA to prepare a project on 'Sustainability research in arid zones'

- Inter-institutional workshop GRADE/CEDRA to prepare a project on 'Impact of macro variables on some micro aspects of smallholder agriculture'.
- Publication of 6 issues of the Network Bulletin
- Publication of no. 2 and 3 in the series "Materiales Docentes"; on gender issues in FSR and on multi-criterion programming in technology design

#### ***Training:***

- Delivering a 5-day training course on 'diagnostics and design of alternative technologies', INTA, Santiago del Estero, Argentine
- Delivering a 5-day training workshop on 'Typology of production systems', Agric. Faculty Catamarca, Argentine
- 3-week international course on 'Typology, design and ex-ante analysis of production systems', with the Universidad de Chile
- Organization of traineeship for a staff of INIAP, Ecuador.

#### ***Consolidation of the network; alternative funding:***

- Development of a proposal on the introduction of gender issues in development projects, for funding by UNIFEM (funding not obtained)
- Development of a joint research proposal between CONDESAN (Consortio para el Desarrollo Sostenido de la Ecoregion Andina) and 6 institutions associated with RIMISP on 'Research on sustainability of production systems in the Andean zone of Latin America', submitted to the EEC (now EU)
- Development of a proposal for regional training support, submitted to the International Fund for Agricultural Development (IFAD).
- Discussions with the International Center for Development-oriented Research in Agriculture (ICRA), Wageningen on the joint development of a postgraduate course on FSR in Latin America

### **Project activities and output**

#### ***Network and Steering Committee meetings***

One plenary network meeting was held as scheduled, at CIMMYT, Mexico in July 1992. The theme of the meeting was 'The design phase in Farming Systems Research', one of the priority research themes of the network. Sixteen presentations were delivered by network members and invited experts. Conclusions were drawn from each day's session by a panel and final conclusions were presented at the final day by Germán Escobar. The Proceedings of the meeting are yet to be published in book form as one of the major RIMISP methodological documents.

During the network meeting the participating institutes were invited to get together and develop proposals for inter-institutional planning meetings to be held in the future with financial support from RIMISP. Nine preliminary 'meeting profiles' were submitted to the SC, of which two were eventually approved (see section on 'Interinstitutional Collaboration').

The second network meeting will be held in Campinas, Brazil, April 1994. The theme of this meeting will be 'Sustainability of agricultural production systems'.

The SC met twice, once at the occasion of the network meeting in Mexico, once at the IESA symposium, March 1993 in Ecuador.

#### ***Research projects***

RIMISP disposes of a Project Fund of CAD410,000.- to finance methodology research projects submitted by member institutes. Proposals were first screened by the coordinator for

conformity with the network's priority research themes (see 'Objectives'), followed by an evaluation by three SC members. Eight research projects were submitted in 1992, of which 5 were approved, mostly after some modification, with a total budget of CAD286,000.-, viz.

1. *'Development of a prototype Expert System as a method for the generation and transfer of agricultural technology'*, by CATIE, Costa Rica; CAD15,000.-. A prototype expert system will be developed for all components of FSR (diagnosis, design, testing and transfer) which allows incorporating expert knowledge at different levels of generalization.
2. *'Geographical Information Systems as a tool in the definition of sustainable production systems'*, by ECOFUERZA with EMBRAPA and the Univ. of Campinas, Brazil; CAD65,000.-. The project proposed (i) mapping of land suitability and current land use in a micro-region near Campinas, based on GIS and satellite imagery, (ii) estimating the environmental effects of different land use types, based on field observations and literature data, and (iii) combining the two into maps of environmental impact of land use options on a micro-regional scale.
3. *'Preliminary study to identify methodologies for the analysis of factors which influence the sustainability of production systems in the Sierra Sur of Peru'*, by CE&DAP, Lima, Peru; CAD66,000.-. The objective was to test statistical tools to explore the influence of socioeconomic and management factors on farm productivity and degradation rates in terms of erosion and loss of organic matter. Existing farm data were combined with additional survey data.
4. *'Methodologies for characterization, design and evaluation of environmental impact of smallholders' production systems'*, by GIA, Santiago, Chile; CAD80,000.-. The goal was to (i) calculate indices for each crop (combination) which reflect the environmental effect of management practices and combine these into a whole farm index for a particular combination of crops and management practices, and (ii) develop less costly and laborious surveys as an alternative to intensive multiple visit 'dynamic analysis' surveys.
5. *'Evaluation of technologies on the basis of criteria for adoption and micro-level impact'*, by CEDRA in collaboration with INIA, Santiago, Chile; CAD 60,000.-. Existing technologies, developed by INIA, will be evaluated *ex-ante* for their chances of adoption in a particular area, based on a mathematical multiple-goal model, with variables and parameters measured for that area.

The first proposal deals with the FSR process as a whole and the possible use of 'Expert Systems' as a research tool. Proposals 2, 3 and 4 essentially deal with characterization, with 'sustainability' or environmental impact of existing land use practices as a new characterization parameter. Proposal 5 deals with adoption issues. Results of these research projects will be presented at the VI<sup>th</sup> RIMISP meeting in Campinas, Brazil in April 1994 and published in the series 'Materiales Docentes' (see 'Scientific materials')

Three proposals were rejected, viz.

1. *'Methodologies for research on production systems and rural micro-regions'*, by GIA and CEDRA, Santiago, Chile.
2. *'Complementary phase in the dynamic analysis of typified farms in Bolivar province'*, by FUNDAGRO, Quito, Ecuador
3. *'A methodological attempt at incorporating social differentiation processes in the classification of production systems'*, by INTA, Santiago del Estrella, Argentina

The first proposal was reworked and approved as proposal nr. 4 above. The other two addressed issues which were considered as completed during phase I.

Three proposals are currently being evaluated:

1. *'Simulation models to estimate sustainability of production systems'*; by CORPOICA, Colombia. Development of a dynamic model is proposed to simulate energy flows in current systems and changes generated by the introduction of alternative technologies.
2. *'Application of macro-micro relations in the analysis of production systems'*; by CORPOICA, Colombia. Investigation on the role of macro-economic factors in determining production choices at the farm level, using a multiple goal planning approach, in three contrasting agricultural zones.
3. *'Methodological study on the analysis of the impact of macro-economic variables on smallholders and their resources'*; by GIA, Santiago, Chile. An econometric study is proposed to examine (i) the effect of macro-economic parameters on farmers' resource management practices, and (ii) the relation between macro-economic scenarios and changes in regional markets for agricultural products.

The titles and the contents of the approved and submitted research projects show clearly that the network has chosen to stimulate work on rather sophisticated quantitative research tools, viz.

- expert systems
- GIS
- dynamic farm analysis
- multiple goal planning models
- dynamic simulation

Farmers play a passive role as providers of information needed for the scientists' analyses, rather than as partners in the research process. This trend is also apparent in the recent proposal submitted jointly with CONDESAN to the European Union (EU), entitled: *'Ex-ante evaluation of the sustainability of production systems in the hillside agriculture of the Andes'*. Six RIMISP member teams participate in this proposal, which intends to evaluate various modelling approaches, including linear programming, multivariate analysis, multiple goal planning, response surfaces, retrospective analysis, ethnographic decision trees, dynamic econometric models and distributed risk models.

### ***Scientific materials generated***

RIMISP has produced several scientific publications which resulted from activities in the first project phase and several more are expected to be published before the end of project phase II.

#### ***'Materiales Docentes.'***

These are methodological documents resulting from RIMISP research projects. Three have been published so far:

1. *Análisis dinámico de pequeñas fincas en cuatro regiones del Perú: aspectos metodológicos.* January 1990 (phase I), contributed by CE&DAP, Peru
2. *El contenido de género en la investigación en sistemas de producción.* August 1992, publication commissioned by RIMISP
3. *Programación multicriterio: un instrumento para el diseño de sistemas de producción.* January 1993, contributed by the Facultad de Ciencias Veterinarias y Pecuarias, Universidad de Santiago, Chile.

Six more issues are planned in this series, viz. (i) an introductory paper on the four priority research themes, written by members of the RIMISP Steering Committee and (ii) 5 methodological publications resulting from the RIMISP sponsored research projects.

### *Books*

Once the work on a research theme is considered complete, the results are reviewed and commented upon in a general network meeting followed by publication in book form. One book has so far been published in this series:

*"Tipificación de sistemas de producción agrícola"*; Edited by Germán Escobar and Julio Berdegué, September 1990 (phase I)

It contains papers on classification and typology of farms presented at the network meeting in Colombia in 1989 as well as a synthesis of the methodological results.

Three more books are to be published in this series, on (i) 'the design phase in FSR' (discussed at the 1992 meeting in Mexico), (ii) 'technology adoption' (based on a seminar held in Colombia, organized by CILDESERC with IDRC funding), and (iii) 'sustainability of production systems' (based on the upcoming RIMISP meeting in Campinas, Brazil). Editorial work on the first two is almost ready.

If the network secretariat manages to complete these publications, RIMISP's contribution to FSR methodology will be well documented.

### *Newsletter*

Ten issues of a quarterly newsletter were published since January 1991. The newsletter features (i) information on RIMISP activities and those of related organizations in Latin America and elsewhere, (ii) articles of a conceptual nature around FSR-related issues. The flow of information through the newsletter is rather unidirectional: practically all the communications originated from the secretariat, from members of the SC or other research leaders. With one or two exceptions, the newsletter has not functioned as a medium for 'rank and file' members to report on their work or to express their opinions. Nevertheless, all respondents to a questionnaire survey by the secretariat expressed satisfaction with the newsletter.

### *Communications*

Electronic mail was envisaged as an important communication mechanism of the network, both among members and between them and the international research community. The electronic network has been established only very partially and interest in developing it further appears to be low. Fax is the most common means of communication. Several members, however, are linked up to one electronic mail system or another, but communication between the different systems seems to be a problem. The secretariat lacks in-house capability to fix these problems.

### *Interinstitutional collaboration*

Promotion of horizontal linkages and collaboration among member institutes was envisaged through (i) attachment of workers from one institute to another and (ii) development of joint research projects. Only one case of personnel exchange was reported for phase II. Development of joint research proposals between RIMISP members was initiated during the network meeting in Mexico, where 9 preliminary proposals were drafted. Follow-up activities took place on two of these, which led to further planning meetings. One of them involved 3 institutes (GIA, IICA, and CEDRA), and dealt with 'sustainability research in arid zones', the other was between GRADE (Peru) and GIA (Chile), about 'impact of macro variables on micro aspects of smallholder agriculture'. The RIMISP secretariat would assist in identifying funding sources for these projects once the final proposal would be ready, but no further actions seem to have taken place.

Some collaboration took place between RIMISP and other international organizations, viz. PROCODER, one of the networks coordinated by IICA (participation of the coordinator in their SC meeting), INFORUM (participation in meetings, electronic conference), AFSR/E (2 SC members are on the organizing committee of the next international seminar in Montpellier, France). Collaboration with the RINAP and RISPAL networks was mainly through overlapping memberships between them and RIMISP.

Collaboration with International Research Centers in the region has been marginal, but the research proposal developed with CONDESAN (see 'Research projects') will reinforce collaboration with CIP.

### ***Training***

RIMISP's current capability in training covers the following topics:

- General introduction in FSR concepts
- Characterization and typology of farming systems
- Design of technological alternatives
- Gender analysis in FSR

The course material draws on methodologies developed by RIMISP members and on the wider FSR literature. Several in-country training courses have been delivered with the recipient organization bearing most or all of the costs. The courses are delivered by the coordinator and/or his assistant, in most cases assisted by a member of the network, who is a specialist in the subject matter of the course. No honoraria have been paid to the instructors. Availability of training capability in FSR within Latin America is important and provides a cost-effective alternative to courses delivered by international consultants. It is unlikely however, that participation by unsalaried trainers is sustainable.

### **FSR methodology**

#### ***Technical contents***

The major objective of RIMISP is development of FSR methodology. What have been the network's accomplishments in this area?

There has been a proliferation of FSR methodologies worldwide and it may be useful to position the 'RIMISP approach' in the methodological spectrum.

- a. All existing methodologies agree that the FSR approach involves (i) characterization and diagnosis of the target systems, (ii) choice or design of technological innovations, (iii) on-farm testing and validation and (iv) extension. RIMISP subscribes to this overall scheme.
- b. Within this general framework, two major 'schools' can be distinguished: (i) an informal school, which relies on quick diagnosis through sondeos or rapid rural appraisals and a stepwise introduction of technological components in existing production systems; and (ii) a more formal school which advocates the use of quantitative tools in diagnosis and design. The first group developed from the work by Hildebrand in Latin America and Collinson in Africa. The second school originated at CATIE from the work of Hart, Escobar and others. The RIMISP approach falls squarely in the latter school.

#### ***Characterization***

During phase I RIMISP concentrated on characterization of production systems. Methodology was contributed mainly by GIA and CE&DAP. It consists of five steps:

1. delineation of 'micro-regions' or zonation, mainly based on environmental parameters
2. collection of general information on the major production systems and choice of important variables for further characterization through a rapid rural appraisal

3. a formal survey to collect information on the chosen variables in a large farm sample
4. identification of farm types through multivariate analysis (factor, cluster and discriminant analysis)
5. dynamic analysis of a sample of farms from each major farm type through multiple visit surveys

The analyses should account for gender differences in productive activities, decision making, etcetera. The major outcome of the characterization phase would be:

- a grouping of farms into farm types based on differences in socioeconomic and physical conditions
- a seasonal cash flow and labour use profile differentiated by gender for each farm type

These characteristics are needed to design technology for specific farm types and to assess its compatibility with the farms' labour and cash flow profile. In theory the whole process can be completed in one year by an experienced research team, but there is a danger that too much time is spent on data collection and analysis before moving to technology testing. Furthermore, the intensive multiple visit surveys are very expensive. GIA is currently experimenting with a less intensive method to reduce cost.

The methodology is fairly well documented in a book and two issues of the 'Materiales Docentes' but unexperienced teams will need extensive training for its application.

Worldwide, FSR has come under severe criticism because of its excessive emphasis on surveying and diagnosis and its lack of impact in the form of adopted technologies. At the same time, the international (donor) community has started to emphasize environmental and sustainability issues. Many research groups, including the International Centers, have responded with theories and research on sustainability.

RIMISP, at the start of phase II, concluded that no more work was needed on characterization of farming systems and started work on technology design, adoption and sustainability issues, consistent with international trends.

#### *Design and adoption of technology*

The 'informal school' of FSR workers use informal methods to link characterization to technology design and they regard direct farmer participation as essential. RIMISP has chosen a more formal approach emphasizing the use of quantitative methods in the *ex-ante* analysis of technological options. The key tools under study are multiple goal or multiobjective planning and econometric models. The data requirement of these techniques is high, but proper planning will allow collection of the necessary data during the preceding characterization stage. No.3 in the series 'Materiales Docentes' deals with multiobjective programming in the design of technology. A book will be published on technology design, based on the 1992 network meeting. The papers presented there show that the book will also stress quantitative methods.

Little work has been done under RIMISP sponsorship on technology adoption and transfer. Only one of the projects funded from the project fund (CEDRA/INIA, Chile) deals with 'adoptability', again using multiobjective programming tools.

#### *Sustainability*

Sustainability and environmental impact of farming are complex issues. There is currently an international trend to embark on long term studies with renewed data collection on existing systems and new analytical and predictive tools. In other words, much of the current work on sustainability deals with system characterization on an increased time scale. RIMISP has joined this effort and is sponsoring the development of methods for measuring environmental impact and sustainability. Several projects will be reported at the upcoming VI<sup>th</sup> network meeting (see 'Research projects').

### ***Relevance for and use of 'RIMISP methodology' by field teams***

The analytical tools developed under RIMISP sponsorship are highly quantitative and their usefulness is greater as the target farming systems are more diversified and more subject to market forces. As a result, they are being applied successfully in the Central Valley in Chile. In more subsistence-oriented agriculture such as the Andean hillside agriculture, however, differences among farms are usually much smaller and farming is less affected by market forces. It is doubtful that sophisticated quantitative analyses are the best approach under such conditions. Less formal approaches with a high degree of farmer participation would be preferable.

Nevertheless, the analytical tools developed by RIMISP partners are a valuable contribution, provided their potential users are able to use them and, equally important, if they can decide when they are appropriate and when they are not. The methodologies are being applied in projects where one of the active RIMISP members participates, but much less by the more passive members. An occasional training course is not sufficient for them and more on-the-job guidance would be required for wider dissemination of the methodology. More user-oriented documentation in the form of 'how-to' manuals would also be of much help.

### ***Need for further work on FSR methodology***

Farming conditions in Latin America vary so much that the international research community has decided to adopt an ecoregional approach, which intends to focus research on the problems of specific 'ecoregions'. Networks are also increasingly organized along ecoregional lines, e.g. CONDESAN. The crucial questions for future research by RIMISP are (i) whether there remain major problems in FSR methodology which cut across ecoregions and (ii) for which of these problems RIMISP has a comparative advantage.

RIMISP has opted for a major role in research on sustainability issues. It is understandable that a group of high caliber scientists want to work on issues in the forefront of agricultural research, but a FSR network is not the most appropriate medium to coordinate work in this area. Scientists with an ambition to contribute to sustainability research should seek association with other groups specializing in this area.

Continuation of a regional FSR network is justified by the need for wider dissemination of FSR approaches and their adaptation to specific conditions and less by the need for the development of new methodology. Many institutes, especially large government-sponsored station-based institutes, have hardly started to apply FSR approaches in their work on technology creation. Reaching out to this 'silent majority' and helping them to increase the relevance of their work for smallholder agriculture through FSR should be the future priority for RIMISP.

### ***Participation in the network***

RIMISP has functioned as a group of elite institutes with highly qualified researchers, contributing to the advancement of FSR methodology at an international level. Several of the key institutes are 'NGOs', which in effect are independent research and development bureaus, largely funded through internationally sponsored projects. Their staff are highly motivated individuals and they have greatly contributed to RIMISP's vigour. The network represents a Latin American capability in FSR which should reduce the dependence on foreign expertise. This capability has been exploited through training courses and to a lesser extent through personnel exchange. At the national level, some RIMISP member institutes have carried out joint research projects, in other instances they have helped other institutes with the application of FSR methodology.

Because of the emphasis on quality methodological research RIMISP may be seen as a scientific vanguard group. The FSR approach, however, cannot attain major impact in the region unless it permeates the wider agricultural research community. This is certainly not the case now and a major future objective should be the dissemination of FSR concepts and methodology in national research systems. The large, government-sponsored 'technology creating' institutes are barely reached, especially the technical disciplines (breeders, soil scientists, agronomists), although they remain the sources of improved technology.

### ***Institutionalization and sustainability of RIMISP***

There are three issues in respect of institutionalization and sustainability of the network: (i) the host institute, (ii) the continuity of the secretariat and coordinatorship and (iii) future funding sources.

#### ***The network's host institution***

IICA, Santiago was chosen as the network's host institution at the start of phase I because of its international status and its objective of developing strong linkages in the region. These arguments remain valid, but the relationships have soured. The facilities provided by IICA are considered far below expectations and what is seen as undue interference with network matters by IICA is resented. One source of conflict is differences in interpretation of RIMISP's status within IICA. According to IICA the network secretariat is subject to all the rules and regulations operating in IICA as regards financial and personnel management and technical content. RIMISP feels that it should have an autonomous status, with IICA only providing logistical services and financial auditing. It appears, however, that the conflicts have also a lot to do with personalities. The coordinator has proposed to move the secretariat to CEDRA, a small independent socioeconomic research group and member of RIMISP. This would not be a wise move at this stage of the network. It would be better to clearly spell out the differences as soon as possible and negotiate a new arrangement with IICA which is satisfactory to both partners.

#### ***Continuity of secretariat and coordinatorship***

The network coordinator is employed fulltime by INDAP which limits his ability to spend time on network activities. His assistant is a young capable person who can assume many of the coordination task, but he lacks the international stature to fully represent the network. The arrangement used in phase I with the coordinator employed parttime by the network is to be preferred.

The coordinator's mandate extends to the end of phase II when a new coordinator must be elected. If this person is not a Chilean then the secretariat has to be moved to another country. This is another argument to maintain IICA, with offices in all LA countries, as the secretariat's host institution. The network's SC does not appear to have discussed the implications of such a development.

#### ***Funding sources***

RIMISP has made several efforts to secure new funding sources, none of them very successful as yet:

1. A proposal was submitted to IDRC in 1992 for RIMISP to provide FSR assistance to other IDRC projects. An annual budget of US\$275,000.- was proposed. A large part of the funds was to be used by projects for methodology development under RIMISP guidance. The proposal was rejected by IDRC. It is understandable that IDRC did not want to indirectly increase the funding of RIMISP's methodology research through this project. On the other hand, tapping regional FSR expertise, created with IDRC funding, for use in other projects

would have been an attractive option. It is surprising that IDRC never used the services of RIMISP in this way.

2. A proposal was submitted to UNIFEM in 1993 for the introduction of gender approaches in rural development projects, with a budget of US\$640,000.- over 3 years. GIA was to be the major contractor. UNIFEM did contribute US\$ 11,000.- earlier on for research on gender issues, but this larger project was not approved, allegedly due to lack of funds.
3. IFAD is contributing US\$6,300.- to a course on FSR approaches for development workers to be held in Tucuman, Argentine in May 1994. A proposal for a larger project on training in FSR for southern Latin America is being developed for IFAD funding. Such a project would greatly assist in the dissemination of FSR concepts and methodologies and strengthen RIMISP regional role. Further development of the available training materials would be needed to effectively perform this task.
4. Discussions have started with the International Center for Development-Oriented Research in Agriculture (ICRA), Wageningen/Montpellier to develop a regional FSR course in Latin America. ICRA's director will participate in the Brazil meeting. The discussions are to result in a proposal to the EU. This initiative is considered as a possible alternative to the one submitted to IFAD.
5. A joint proposal with CONDESAN and 3 European institutions was submitted to the European Union for research on methodology for sustainability studies to be carried out by several RIMISP members with a budget of around US\$500,000.-. No decision has been reached but the EU has allocated ECU18,000.- to pay for participation by some European partners and some RIMISP members to the imminent network meeting in Brazil.

These proposals show that RIMISP is making a serious effort to diversify its funding sources. In particular projects like those under 1-4 would mean a major strengthening of RIMISP's role in FSR training region-wide.

It is surprising that only minor efforts have been made to link up with IICA's training and networking activities. This may also be a reflection of the poor relationships with IICA which should be mended in the future.

Once IDRC withdraws, a source of core funding will also be needed to maintain basic operations of the secretariat. No effort has yet been made to find this money. Presumably, core expenses could be covered from overhead charged to future project budgets. Change of the network's juridical status to that of a private non-profit organization would allow it to operate in that way. The secretariat has filed a request with the Chilean authorities to that effect.

## **Summary and conclusions**

### ***General***

1. RIMISP is well known in the region. It has contributed significantly to the dissemination of FSR concepts in Latin America and increased the sense of scientific competence among its members. FSR concepts have been introduced in some University curricula by academic members of RIMISP. Internationally RIMISP is accepted as the (unofficial) L.A. representative in FSR forums.
2. RIMISP is carried by a group of active key members, who have contributed to and benefitted most from the network. Some of the other members have been mainly recipients of technical support through training and participation in network meetings. The network has, however, not reached a large segment of the conventional agricultural research community involved in technology creation (breeders, soil scientists, agronomists).

3. It is unfortunate that the network was not formally evaluated at the end of phase I. Several of the points of criticism in the present evaluation would certainly have come up. Some of the comments on the RISPAL project made in its 1988 evaluation would have equally applied to RIMISP I and II. Experiences from one IDRC-funded network were insufficiently used in another with similar objectives.

***Research, documentation, training***

1. Development of FSR methodologies was the primary objective of the network. RIMISP has opted for a highly formal, quantitative approach, based on questionnaire surveys and mathematical analytical tools and has made scientifically sound contributions in that area. The approach is probably appropriate for diversified, market-oriented agricultural systems, but for subsistence types of agriculture more informal methods, with a high degree of farmer participation are probably more suitable. No work was done in this area.

2. Little work has been done on design, evaluation and transfer of technology, except for some rather abstract studies on *ex-ante* analysis. The scope for precise methodologies of general applicability in this area is probably limited.

3. Currently RIMISP emphasizes research methods for sustainability studies. This, however, does not exploit the comparative advantage of a FSR network. At this stage it is more important to consolidate the results of earlier work rather than embarking on new methodology projects. Dissemination of FSR methods and their application by the wider development-oriented research community is urgent.

4. The research methodologies developed with RIMISP support have been partially published. Several more publications are in the pipeline and it is essential that these publications are completed. This will require a major effort of all involved.

5. Use of RIMISP-generated research tools is limited outside the key group of network members. Apart from the relative sophistication of the methods, it will also be difficult for inexperienced users to make a judgement which tools are suitable for their conditions. On-the-job training of field workers is needed in addition to training courses.

6. RIMISP's ambition to become a major source of training capability in FSR in Latin America is highly commended. The network does have the necessary capability but there is need for improvement and expansion of training materials.

7. In future, it is unlikely that network members will continue to be available as trainers without due remuneration.

***Institutionalization of the network***

1. The network is making serious efforts to diversify its funding, so far with little success. Especially the proposals for regional training projects in FSR are a move in the right direction.

2. The arrangement of phase I when the coordinator was employed parttime by the network is to be preferred over the current purely honorary coordinatorship.

3. Core money must be found for running the network's secretariat in the future, either through a new network grant or by charging overhead on RIMISP-coordinated projects. The coordinator's idea to reform RIMISP into a non-profit private organization points to a preference for the latter solution but the SC should become involved in a discussion on these matters.

4. The arguments for choosing IICA as the network's host institute remain valid. Moving the secretariat to another location now would not serve the network's interests. If the next coordinator is a citizen of another country the secretariat may move to the IICA offices in that country. This issue has not yet been addressed by the network SC.

**Recommendations**

1. The current project phase should be extended until the end of 1995 to compensate for the time lost last year due to administrative problems. This will allow the network to properly complete its activities, implement the necessary reorientation and solicit funding for the future.
2. No new methodology research projects should be approved under the 'Project Fund' for the remainder of the project. The remaining funds under this budget line should be used to fund the activities suggested below.
3. Every possible effort should be made to complete the many publications which are in the pipeline.
4. For the future RIMISP should consider to deemphasize its role in methodology development and strengthen its role in applying FSR methodology in development and development-oriented research projects, with emphasis on design, evaluation and adoption of technologies.
5. Consolidation of available methodological elements is needed if they are to become of operational use outside the network's inner circle. It is recommended that a document be developed containing guidelines for the use of different research methods and the conditions under which they may be applied. Both formal and informal, farmer-participatory methods should be considered even if RIMISP did not work on the latter. Some existing field projects can be used as 'cases', not to test methodology but rather to explore what type of methodology would be most appropriate for them. Some of the more development-oriented members of RIMISP should participate in this effort. CIAT may be approached to contribute more informal farmer-participatory methodology. This document would be extremely useful in the future as the basis for RIMISP's training and methodological assistance.
6. More attention is needed for operational aspects of FSR, in particular the roles to be played by extension, research, farmers and higher education and their integration at the field level. Some of the experiences of FUNDAGRO in Ecuador and GIA/INDAP in Chile should be used to develop operational models for development-oriented FSR. Collaboration could be sought with ISNAR as a source of information on institutionalizing FSR in large research organizations.
7. The search for new funding should be extended, with emphasis on the network's potential role in providing methodological support and training to research and development institutions. Bilateral donors may also be approached with offers to provide consultancy services in FSR for specific projects as an alternative for foreign consultancies. Reasonable fees should be agreed upon for trainers and advisors.
8. Continuation of the network as a private non-profit organization should be further explored, taking into account the future need to pay for a parttime coordinator, administrative costs and travel.
9. A discussion should be initiated with IICA as soon as possible to develop a more satisfactory arrangement with clearly spelled out expectations by both parties. A new agreement with IICA should also spell out the modalities of the secretariat's possible move to another country in case the next coordinator is not a citizen of Chile.

### Glossary of acronyms

<b>AFSR/E</b>	Association of Farming Systems Research and Extension
<b>CEDRA</b>	Centro de Estudios para America Latina sobre Desarrollo Rural, Pobreza y Alimentacion (Chile)
<b>CE&amp;DAP</b>	Centro de Estudios y Desarrollo Agropecuarios del Peru
<b>CIAT</b>	Centro Internacional de Agricultura Tropical (Colombia)
<b>CIP</b>	Centro Internacional de la Papa (Peru)
<b>CONDESAN</b>	Consortio para el Manejo Sostenible de la Ecoregion Andina
<b>EMBRAPA</b>	Empresa Brasileira de Produccion Agraria
<b>FUNDAGRO</b>	Fundacion para el Desarrollo Agropecuario (Ecuador)
<b>GIA</b>	Grupo de Investigaciones Agrarias (Chile)
<b>GRADE</b>	Grupo de Analisis para el Desarrollo
<b>IESA</b>	Investigacion y Extension en Sistemas Agropecuarios
<b>IICA</b>	Instituto Interamericano de Cooperacion para la Agricultura
<b>INDAP</b>	Instituto de Desarrollo Agropecuario (Chile)
<b>INFORUM</b>	International Forum for the Development of Sustainable Land Use Systems
<b>INIA</b>	Instituto Nacional de Investigaciones Agropecuarias (Chile)
<b>INTA</b>	Instituto Nacional de Tecnologia Agropecuaria (Argentina)
<b>ISNAR</b>	International Service for National Agricultural Research (Netherlands)
<b>ORSTOM</b>	Organisation de Recherche Scientifique et Technique d'Outre Mer (Bolivia/France)
<b>PISA</b>	Proyecto de Investigaciones en Sistemas Andinos (Peru)
<b>PROCODER</b>	Programa Cooperativa de Desarrollo Rural para los Paises del Area Sur
<b>RIMISP</b>	Red Internacional de Metodologia de Investigacion en Sistemas de Produccion
<b>RISPAL</b>	Red de Investigacion en Sistemas de Produccion Animal en Latina America.
<b>SC</b>	Steering Committee
<b>UNIFEM</b>	United Nations International Fund for Women

Rutten, February 12, 1994