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1 Program Overview

Project Title: Systemwide Program on Participatory Research and Gender Analysis for Technology Development and Institutional Innovation.

Objective: To assess and develop methodologies and organizational innovations for gender-sensitive participatory research (PR) and to operationalize their use in plant breeding, and crop and natural resource management (NRM).

Outputs:

1. Methods for participatory plant breeding (PPB) developed.
2. Methods for participatory research on natural resource management (NRM) developed.
3. Gender-sensitive methodologies suitable for pre-adaptive participatory research developed.
4. Evaluation and functioning of innovations for institutionalizing participatory approaches.
5. Innovative approaches to capacity building functioning.
6. New partnerships among the International Agricultural Research Centers (IARCs), National Agricultural Research Systems (NARS), Non-government Organizations (NGOs), and farmer groups developed.

Gains: Accelerated learning from existing experience and generation of new, widely applicable, methodologies for pre-adaptive participatory research and gender analysis. The CGIAR and NARS will access a worldwide exchange of expertise on PR and GA among a wide range of institutions. Considerable savings and increased impact from NARS generated by better designed technologies. Indigenous systems of crop development and NRM will be strengthened and integrated in a mutually reinforcing way with formal research. Poor rural women will be important participants in and beneficiaries of research. The development and adoption of diverse germplasm will be greatly accelerated in major food crops.

Duration: Five years.

Milestones:

- 1998** Guidelines for PPB circulated. At least 10 empirical studies and six NRM case studies funded. At least one global and one regional NRM workshop held to identify methodological innovations. The CGIAR's Gender Analysis Program (GAP) amalgamated into the Systemwide Program (SWP). Full-time gender specialist appointed. First seminar of the gender training initiative conducted.
- 1999** Ways in which participatory breeding programs work with farmers reviewed and documented. Workshops conducted at up to six sites to incorporate gender and gender-sensitive participatory methods into IARC research. New local networks formed. Training conducted. Guidelines for use of gender analysis (GA) and for involving different types of users included effectively in plant breeding (PB) and natural resource management (NRM) technology development.
- 2000** Evidence available that PB products are more user-differentiated. Synthesis of case studies on how to strengthen local seed systems. A comparison of costs and impacts in participatory NRM compiled and published as a working paper. Synthesis of case studies on effectiveness of GA in PB and NRM prepared.

- 2001** Results and guidelines published on the costs and impact of different PRGA methods and strategies in natural resource management and participatory plant breeding.
- 2002** Guidelines prepared on methods for scaling up NRM options and participatory NRM methods. Ten experiments conducted and evaluated on how resource user and research experimentation fit together. Opportunities for institutionalizing relevant participatory breeding methods identified by crop type, environment, and according to priority goals. Costs of alternative participatory methods for involving different users in plant breeding analyzed. Ways in which existing breeding programs organize and fund links with farmers revised. Promising links and innovations for operationalizing participatory breeding in the research process identified. Strategies for strengthening local seed systems identified. Methods to link participatory approaches in breeding with local seed systems and markets reviewed and developed. Constraints to including specific user groups in NRM research and decision making identified. New methods for participatory resource monitoring by stakeholders at field, farm, community, watershed, and other scales developed and assessed. Use of free versus controlled experimentation of NRM technologies evaluated. Improved methods for operationalizing PR and GA at a large scale for broad coverage in natural resource management. Different strategies for incorporating diverse stakeholder interests into collective action evaluated. Costs and impact of farmer-to-farmer and conventional scaling up of results of participatory NRM research compared. Methods from current practice included in inventory and assessed. Costs and impact of involving particular users—such as poor rural women or other marginal groups—in participatory NRM assessed. Contribution made to the establishment of guidelines for use of PR and GA methods in order to effectively include different types of users, particularly less visible stakeholders. Impact of using gender analysis in technology development assessed.
- 2003** Guidelines on the costs and impact of different approaches to involving and targeting differentiated users published. Guidelines for PR and GA methods and strategies in NRM published. Three case studies of organizational change for improving the effective participation of different stakeholders completed and synthesized. The costs and impact of including PB and NRM in GA assessed. Results and relevant PPB methods (organized by crop type, environment, and according to priority goals) disseminated. Partners of organizational innovations able to monitor and evaluate (including cost-benefit analysis of different links and forms) for participatory breeding. Incentives for enhancing seed and seed information flow, and roles of community-based organizations and of non-government organizations in this process, identified. Constraints and opportunities to include products of participatory breeding in the existing regulatory frameworks explored. New options for institutional innovation and strengthening of local organizational arrangement for PR and GA methods for NRM developed, implemented and evaluated. Decision makers given guidelines on promising organizational options for strengthening the use of PR and GA methods in NRM research. Trainers and researchers trained in PR and GA approaches to NRM research. Use of GA and gender-sensitive participatory methods assessed in terms of their effectiveness in targeting PB and NRM technologies to particular types of users, especially poor rural women and other marginal groups.

2004 At least three CGIAR centers with partners incorporate PPB into core (mainstream) PB programs. At least two CGIAR centers incorporate participatory methodologies resulting from the program's work into their NRM research. Methods for assessing indirect stakeholder roles and needs revised. Case study findings on how to resolve conflicts among diverse users and stakeholders in germplasm resources synthesized. Guidelines formulated for decision makers on promising organizational forms. Communication tools for improving farmer-scientist interaction reviewed. Guidelines for improved PR and GA approaches and organizational arrangements for NRM research published. New methods for including different types of users in NRM research and decision-making developed. Costs and impacts of including different types of users in local decision-making or in implementing institutions for PB and NRM assessed. Contribution made to publishing of guidelines and case studies on the effective inclusion of gender analysis in PB and NRM technology development.

Users: Poor rural women farmers, poor farmers in general, CGIAR centers, NARIs, NGOs, and rural grassroot organizations.

Collaborators : IARCs, NARS, NGOs, grass-roots organizations, universities.

CGIAR system linkages: Enhancement and breeding (25%), crop and livestock production systems (25%), protecting the environment (30%), and organization and management (20%)

CIAT project linkages: SB-1, IP-2, IP-3, PE-2, SN-3, BP-1

Log Frame Work Plan: Table 1 shows the Program's Log Frame Work Plan for the period 2001-2003.

Table 1 PRGA Program Log Frame Work Plan

Narrative Summary	Measurable Indicators	Means of Verification	Important assumptions
<p>Goal: Improve the competencies of the CG System and collaborating institutions to develop technology that alleviates poverty, improves food security, and protects the environment with equity</p>	<ul style="list-style-type: none"> Increased capacity to use PR-GA in at least 50% of the IARCs at the end of 5 years Impact of PR-GA on technology development processes and research organization documented in at least 10 case studies as result of appropriate use of PR-GA, from which improved benefits for rural poor and women can be projected 	<ul style="list-style-type: none"> Published results of Program's impact studies Program monitoring and assessment of capacity building in the IARCs External review reports Reports of collaborating institutions 	<ul style="list-style-type: none"> CGIAR centers and partner institutions willing to commit staff and budget to using PR-GA, to contribute to capacity building, and to collaborate in impact assessment
<p>Project purpose: Assess and develop methodologies and organizational innovations for gender-sensitive PR and operationalize their use in plant breeding (PB), and crop and natural resource management (NRM)</p>	<ul style="list-style-type: none"> Use of PR-GA integrated into CG system and partner institutions' core research Effective methods disseminated and developed for PR-GA in technology development and institutional innovation; methods recognized and understood by relevant senior management and staff; and being applied appropriately by at least 50% of IARCs supported by Program research and capacity building at the end of 5 years Collaborating IARC, NARS, and other projects with gender-sensitive stakeholder or farmer participation incorporated in the organization and management of the research process The Program's planning and evaluation organs, stakeholder based and include active farmer representation 	<ul style="list-style-type: none"> Program publications; IARC annual reviews, reports and publications Program monitoring and assessment of use of these approaches by IARCs and their partners Results of small-grant programs External review reports Reports of collaborating institutions 	<ul style="list-style-type: none"> Donor commitment to the Program constant over the 5-year period IARCs collaborating with the Program able to include results in their Center's reports and annual reviews Stakeholders willing to contribute actively to Program planning and evaluation Collaborating institutions able to include results

Continued.

Table 1 - Continued.

Overall Output I: Methods and organization for PPB developed			
Narrative Summary	Measurable Indicators	Means of Verification	Important Assumptions
<i>Specific Outputs:</i> 1. Effective participatory methods in PB assessed and developed with focus on farmer- and formal-led breeding, including both plant (segregating lines) and variety selection (fixed lines)	1.1 Methodology guidelines published for the range approaches 1.2 Methods in use in at least four cases involving NARS and NGOs (at least one case) for each type of breeding 1.3 Publications on results and impact of methods disseminated 1.4 Workshops to exchange results conducted in conjunction with Program's biannual international seminars 1.5 Tools developed and training materials available	1.1 Program publications, journal articles, books, program home page 1.2 Process monitoring of PPB studies 1.3 Impact assessment studies 1.4 Annual reports, workshop proceedings, program home page	1. Method development and assessment can be advanced quickly in some "model" crops to permit analysis of effectiveness in farmer- and formal-led breeding, including plant and variety selection
2. Beneficiary groups more accurately targeted and involved in PB through methods developed for involving direct and indirect stakeholders	2.1 Guidelines published on costs-benefits of different approaches for involving and targeting differentiated users 2.2 Findings synthesized on how to involve hidden and indirect stakeholders and how to resolve conflicts among diverse groups 2.3 Evidence available that PB products are more user differentiated 2.4 Evidence available that indirect stakeholders such as extension personnel have been involved	2.1 Program publications, PhD dissertations 2.2 Process monitoring of PPB studies 2.3 Impact assessment studies	2. CGIAR, NARS, their partners, and farmer-researchers willing to collaborate in studies using stakeholder and beneficiary differentiation
3. Effective organizational forms identified for putting PB into operation and developing in research process	3.1 Ways reviewed and documented of how existing breeding programs organize and fund links with farmers 3.2 Reports available on organizational options for PPB along with cost-benefit analyses 3.3 Guidelines for decision makers on promising organizational forms 3.4 Capacity building provided through training and consultancies	3.1 Program publications 3.2 Annual reports, reports on training courses, workshops, consultancies 3.3 Interviews with farmers, researchers, and research managers participating in Program workshops, training, and collaborative projects	3. CGIAR, NARS including NGOs, other local organizations, and farmer-researchers willing to collaborate in studies of organization

Table 1 - Continued

Overall Output 1: Methods and organization for PPB developed (continued)			
Narrative Summary	Measurable Indicators	Means of Verification	Important assumptions
4. User access to PB products assured through identification of effective organizational forms and links to supporting seed services	4.1 Case studies synthesized on how to strengthen local seed system 4.2 Analysis published on role of the formal seed system in PB approaches 4.3 At least two channels identified that move PB product rapidly to different users	4.1 Program publications, journal articles, books 4.2 Interviews with farmers participating in Program- sponsored research on PPB	4. PPB experience advanced enough in the 5-year planning period for seed multiplication and distribution issues to be studied
5. User access to PPB products strengthened through identification of appropriate benefit - sharing mechanisms and clarification of expectations in relation to intellectual property rights (IPR).	5.1 Current IPR practices reviewed and links established within PPB projects and more broadly 5.2 Potential options for better IPR practice analyzed, including ethical and legal concerns 5.3 Better IPR practice integrated in at least two PRGA funded projects by 2006	5.1 Annual reports, small grant proposals, and 6-monthly reports, publications, process M&E	5.1 Stakeholders in process accept ethical issues as legitimate 5.2 Institutional report for better practice recommendations 5.3 Legal frameworks are compatible with changes in practice being proposed
Overall Output II: Methods and organization for participatory NRM research developed			
<i>Specific Outputs:</i> 1. State of the art in applying PRGA approaches in NRM research, synthesized	1.1 Review papers, methods, and approaches for participatory NRM available and continuously updated as a WWW toolbox and CD-ROM 1.2 Up to four regional workshops held on cases of scientists' participation in farmer-led research 1997-2001 1.3 One global workshop held for CG NRM scientists using participatory approaches to NRM	1.1 Journal and PRGA home page publication on typology of NRM participatory approaches 1.2 Annual report on regional workshops 1.3 Proceedings of global workshop 1.4 Web bibliography, tool box site, and CD-ROM 1.5 Book on state of the art in PNRM 1.6 Inventory of PNRM approaches, tools, methods available electronically and via traditional media	1.1 State-of-the-art assessment of farmer-led NRM research is possible through secondary sources 1.2 Tools exist, people have used them, and are willing to recommend them

Table 1 - Continued.

Overall Output II: Methods and organization for participatory NRM research developed (continued)			
Narrative Summary	Measurable Indicators	Means of Verification	Important Assumptions
<i>Specific Outputs</i> 2. Improved crop management and NRM strategies developed and disseminated, incorporating better use of existing and new PRGA methods	2.1 Workshops conducted with at least six collaborative research projects to incorporate GSA and gender-sensitive PR methods into ongoing activities in conjunction with Program's biannual international seminars (1998, 2000) 2.2 Review paper and references accessible on approaches for scaling up of participatory NRM (2000) 2.3 Up to six small grants on formal-led NRM partnerships; up to six small grants on integrating farmer- and formal-led NRM experimentation 2.4 Up to three community-based and three researcher-based resource monitoring tools tested, compared, and results ready for dissemination (2000)	2.1 Program annual reports, workshop reports 2.2 Guidelines published for PRGA methods and organizational strategies 2.3 Working paper on Web site 2.4 Results disseminated via NRM working group and listserver network 2.5 Proceedings and reports available on Web site 2.6 Survey of tools, methods, approaches developed by PNRM working group members 2.7 Workshop on inventory and exchange of PNRM approaches, tools, methods and good practice 2.8 Bulaweyo workshop on integrating participatory and modeling approaches and to improving soil fertility 2.9 Study tour and learning workshop on Farmer Participatory Research and IPM 2.10 PNRM session in INRM workshop	2.1 At least six projects with 5-6 years' experience exist and are willing to conduct action-research 2.2 Projects doing studies of impact or willing to do so 2.3 Projects selected that have accomplished some measurable impact

Continued.

Table 1 - Continued.

Overall Output II: Methods and organization for participatory NRM research developed			
Narrative Summary	Measurable Indicators	Means of Verification	Important Assumptions
<i>Specific Outputs:</i> 3. Organizational capacity to use PRGA methods in NRM research improved with focus on farmers, local institutions, scientists, extension personnel, and R&D institutions	3.1 New options for organizational innovation for participatory approaches to NRM and PPB research identified from at least three case studies 3.2 Up to three case studies of collective-resource monitoring completed 3.3 Farmer representation in NRM research decision making in small-grant projects increased 3.4 Up to four regional trainer groups in PRGA actively supply training to small-grant recipients and their partners (starting 1999)	3.1 Comparative analysis and case studies of organizational options published on PRGA home page 3.2 NRM small-grant annual reports, PhD dissertations 3.3 Farmer-representatives on collaborating projects' stakeholder committees and on PRGA planning committee 3.4 Directory of trainers for training in gender and user and impact analysis in NRM on PRGA home page	3.1 Cooperating projects are willing to test a range of methods and indicators 3.2 Cooperating projects comply with small-grant conditions to set up stakeholder committees 3.3 Training in PRGA and impact analysis is of interest to cooperating institutions
4. Effective methods developed for involving gender-differentiated and other direct and indirect stakeholders in NRM	4.1 Comparison of impacts - costs of technology design and adoption of different levels of participation compiled and published as working paper with inclusion of different types of users across types of NRM and scales of management 4.2 Guides for involving different stakeholder groups in participatory NRM made accessible	4.1 Working paper, PhD dissertations on costs and benefits on PRGA home page 4.2 Published resources on methods for stakeholder participation on PRGA home page and toolbox	4. Reliable data obtainable on a meaningful scale for estimating costs and projecting impacts; this compilation of resource materials seen as needed by PRGA networks

Continued.

Table 1 - Continued.

Overall Output III: Use of participatory approaches and gender analysis mainstreamed			
Narrative summary	Measurable Indicators	Means of Verification	Critical Assumptions
<i>Specific Outputs:</i> 1. Effective methods and capacity for using gender and/or stakeholder analysis, developed	1.1 Guideline available from GWG on special methods for effective stakeholder and user participation in PB and NRM technology development oriented toward including the illiterate, poor, women, and other types of disadvantaged people 1.2 Approaches to using gender and stakeholder analysis, information on their likely outcomes and costs integrated into PBG & NRMG PR guidelines and published 1.3 Gender and stakeholder analysis integrated into Program workshops and training 1.4 Gender and stakeholder analysis being applied appropriately to target technology designed for specific kinds of users—in particular poor rural women—by at least 50% of the IARCs and/or their partners collaborating in the PRGA small-grant programs 1.5 Program organization uses appropriate procedures for representing gender-differentiated stakeholders at project Steering Committee and Program Planning Group levels	1.1 GWG guidelines, PRGA home page 1.2 PBG and NRMG guidelines published, annual reports, PRGA home page 1.3 Annual reports on training events 1.4 Small-grant annual reports; site visits to collaborating IARCs; interviews with small-grant recipients 1.5 Reports of small-grant steering committee and Program Planning Group participation	1.1 Projects interested in implementing innovations as regards gender and user analysis and involvement in research steering committees 1.2 Projects willing to monitor costs and share historical data on costs
2. Effects of using gender and/or stakeholder analysis in technology development assessed	2.1 Results of research disseminated on effects of differentiating users by gender and other characteristics, on adoption of PPB and NRM technologies by different groups, and IARCs and/or partners using results 2.2 Results disseminated of research on effects of differentiating users by gender and other characteristics on design of PB or NRM technologies, and IARCs and partners using results	2. Working papers; PhD dissertations; PRGA home page; small-grant annual reports; site visits	2. PB and NRM guidelines published

2 Milestones

2.1 Research Milestones

1997-1999

- State of the Art analysis for PPB completed and 4 commissioned papers distributed (formal- led PPB, farmer-led PPB, PPB and Biotechnology, Gender and Users in PPB)
- Over 60 cases of PPB in progress identified from an exhaustive, worldwide search and described in the PPB inventory, made available on the PRGA WebPages.
- 22 PPB cases received as chapters for a book length report to be published in late 2000
- Intellectual Property Rights Implications of PPB - assessment by legal, ethical, social and technical experts to identify and recommend best practices, initiated in interaction with the PPB Working Group list-serve
- State of the Art analysis for participatory research and gender-stakeholder analysis in NRM (PR-NRM): inventory (designed as a searchable database on PRGA WebPages) of community-based NRM projects initiated with over 400 projects queried for information on types of PR methods, use of gender and stakeholder analysis, technology and impacts.
- Examples of innovative research in PR-NRM by CGIAR scientists identified and cases written up and exchanged in NRM Scientists' Meeting (September, 1999)
- NRM and PPB Impact and Cost Studies: cases selected and data collection designed ready for collaborative field research to start in mid-2000
- Types of Participation questionnaire for Impact Studies completed and pre-tested with small grant recipients
- *The Impact of Participation* book chapters received, edited and in press.
- *Impact Assessment Guide* prepared as a working paper for testing by small grants
- ILRI *Women and Livestock* paper received, edited and in press.
- Toolbox with recommended tools on PRGA WebPages, some downloadable, as well as references to sources for tools – as a searchable database
- *Quality of Participation* booklet prepared as a working paper provides several ways to assess how participation is being implemented in a R&D process
- Participatory Monitoring and Evaluation research initiated (2 sites) by regional fellows in Latin America and Africa
- Women and Technology Initiative information search completed and sources available on PRGA webpage
- Women and Technology Initiative consultant began work on strategy paper to identify priority areas for future action in the CG
- Regional input obtained from LAC PPB symposium participants to *Participatory Plant Breeding Guidelines*

2000

- Methodology for empirical PPB impact studies designed and number of cases selected. Fieldwork to collect empirical data begun in February 2001.
- Empirical results on the study on typology of PR & GA in NRM and PPB analyzed. First draft of journal article with empirical PPB results completed. NRM data to become available in March 2001.
- Methodology for the NRM impact study designed and fieldwork for three case studies completed.

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- First phase of the Eastern Himalayan Project on Gender and Agrobiodiversity was completed and IDRC is planning a follow up phase that will involve capacity building on gender sensitive participatory approaches for research in crop and natural resources management for scientists and development specialists in the region. Continued support in terms of training and mentoring is anticipated for the proposed three year project.
 - Farmer-led and formal-led PPB inventories expanded through case identification from Latin America and the Caribbean; and South and Southeast Asia. Updated questionnaires circulated.
 - Literature search and compilation of bibliography on Farmer Breeding completed.
 - More refined gender/user variables added to PPB inventory.
 - Key gender/user impacts differentiated in PPB inventory.
 - Interviews for second state of art on gender/user issues in PPB completed.
 - Formal-led state of the art overview paper completed.
 - Completed inventory and comparison of different divisions of labor among farmers and breeders in the breeding process.
 - Small grants extensions were made to the value of US\$ 126,753 for PPB.
 - Small grants extensions were made to the value of US\$ 323,500 for NRM.
 - Funding of ICRISAT Small Grants of Characterizing Local Seed Systems.
 - Initiation of PH.D Work, Frew, on PPB and local seed system.
 - Seed system study: Emergency seed aid and Kenya case study: lessons learned and implications for action.
 - Continuation of small grants FIDAR/CIAT: Participatory development of low-cost simplified tissue culture propagation for cassava.
 - Identification of key variables to 'type' PPB cases (two rounds as of 4.5/2000)
 - Elaboration of 7 'classic' PPB cases, indicating range of variation in collaborative forms(June 2000)
 - Background paper in preparation describing opportunities/deficits of the existing legal regimes in the field of intellectual proverty access and related legislation. Civil law options, such as direct contracts, are also being explored.

2.2 Capacity Building Milestones

Small grants

1997-1999

- Small Grant Program total value of US \$3,048,243. For 23 small grants made to the value of US \$1,201,657 and co-financed to a value of US \$1,846,586.
- Small Grants Program includes CGIAR Centers, NARS institutions – including China, Indonesia, Solomon Islands, Yemen, Ethiopia, Uganda, Kenya, Zimbabwe, Peru, Honduras, El Salvador, Brazil, Ecuador (7 Formal-led NRM, 10 PPB, 2 Women and Technology and 4 Support to Farmer-Led NRM)
- Most 1998 NRM Formal-led research small grants were visited by PRGA and participated in Learning Workshops
- First year research reports received from the 16 Small Grants awarded in 1998
- NRM Farmer-led research small grants to CIAD, China; CGIAR Systemwide Program on Integrated pest management

- Small grants awarded to research for women's agro-enterprise development in collaboration with CIAT/IDRC Agro-enterprise Program.
2000
- Small grants intervention plans refined and implemented, and baseline studies completed.
- Small grants established stakeholder committees which are now operational in the project sites, with increasing representation of farmers and women.
- Gender and stakeholder analysis is being incorporated in the small grants research projects. Most small grants report active involvement and participation of women farmers in their project activities. For example, women represent 67% of farmer research group members in AHI-Uganda, while women constitute 45% of adaptive research farmers trained on *striga* control (CIMMYT). In Ethiopia, women are also represented in the site stakeholder committee (ILRI). More proactive efforts are undertaken to increase the participation of women farmers and other categories of poor farmers.
- All small grants report changes in the types and degree of participation of stakeholders, who have been evolving towards a more collaborative mode.
- Small grants' dissemination activities organized through field days, training, demonstrations and meetings with diverse stakeholders and farmers communities.
- Small grants' capacity building activities continued to focus on training workshops in participatory methods, gender and stakeholder analysis, participatory monitoring and evaluation, as well as on technical matters. These involved multi-institutional collaboration and partnership between international research centers, Systemwide program (PRGA, SWNM), small grant teams, national scientists, NGOs, and farmers.
- Small grants refined their impact assessment plans, identified impact indicators, and developed strategies and systems for monitoring and evaluation.
- Funds received from the ODA New Zealand for the implementation of the small farm machinery project in Nepal (Terai) and Pakistan (CIMMYT small grant). Planning meeting conducted between CIMMYT, Massey University (New Zealand) and NARC (Nepal) to outline major methodological themes for implementation of the three-year project. The project is in the initial phase of forming community user groups in newly selected areas and will commence in January 2002.
- Extensive support (in terms of planning, site selection and input into training and selection of national staff) given to the CIFOR small grants project on Co-Adaptive management of forests in two sites in Indonesia and Nepal.
- Second year of monitoring and mentoring PRGA-funded PPB small grants (11 grants) completed.
- Second year of monitoring and mentoring DFID-funded PPB small grants (5 grants Ethiopia and Tanzania) completed.
- DFID-funded PRGA grants reporting on "social methodological research" (comparing efficacy of different diagnostic methods).
- Ongoing monitoring of PRGA-funded and DFID funded small grants in terms of preference, evaluation and testing methods—as they relate to diverse users. Each grant has been designed with strong beneficiary focus. Rigorous stakeholder diagnosis, involvement and joint evaluations assessed and promoted through six-monthly reviews.
- Seed seminar: Strengthening Seed Systems in East and Central Africa in periods of stress (Kampala, June 2000) Inter-institutional collaborative group form to determine 'stress and health' indicators of seed systems and to link such indicators with targeted action.

Includes IARCS (CIAT, ICRISAT) NGOs (CRs, Norwegian aid, and Donors/Implementors (EU, USAID))

Regional Fellows***1997-1999***

- 5 Regional Fellows conducting research and capacity building with CGIAR Centers and/or NARS (2 in Africa, 1 in Asia and 2 in Latin America).

Learning Workshops***1997-1999***

- Andean Region Learning Workshop on Gender and Stakeholder Analysis, Lima, Peru, May 1999 (CIP / Proinpa / Care / PRGA)
- South Asia Learning Workshop on Gender and Stakeholder Analysis, Kathmandu, Nepal September, 1999 (CIMMYT Nepal / NARC / PRGA)
- South-east Asia Learning Workshop on Gender and Stakeholder Analysis, Vietnam - March 2000 (CIP/Upward, CIAT Asia)
- Trainers Workshop on Gender and Stakeholder Analysis, Lima, Peru - February 2000 (UNALM (UNIR) / CIAT Hillsides / PRGA)
- African Hillsides Trainers' Learning Workshop on Gender and Stakeholder Analysis, Kampala, Uganda, March 2000 (PRGA / AHI / SWNM / CIAT Hillsides)
- WARDA Participatory Plant Breeding and Gender Analysis workshop – PRGA contributed trainers to work with 17 NARS from West Africa, Ivory Coast, April, 1999

2000

- Two mini-workshops given to 70 participants on impact assessment in participatory research and gender analysis, at the Third International Seminar in Nairobi, Kenya, November 1999.
- Stakeholder workshop conducted in Nepal between farmer groups, private sector representatives involved in the supply of small hand tractors, national research scientists, CIMMYT/Nepal and PRGA.
- One-week PR & GA workshop for national scientists from the Lao/IRRI project in Laos, co-conducted by PRGA.
- GSA workshop conducted by PRGA in March 2000 in Vietnam for national partners from Indonesia, Thailand, Laos and Vietnam. This will be followed up by mentoring visits to individual sites
- *Training Workshop*, Awassa, Ethiopia, March 2000.

International Meetings***1997-1999***

- ICARDA / PRGA Farmer Participatory Research Workshop, Syria, May 1999
- *Latin America Participatory Plant Breeding Symposium*, Ecuador, August 1999.
- *Latin America Farmer Breeders Workshop*, Ecuador, August 1999.
- NRM Scientists' Meeting, Chatham, UK, September 1999.
- *Latin America Ecoregional Workshop on Approaches to Participatory Research*, Cali, Colombia, February 2000.

- *Latin America Ecoregional Farmer Researchers Workshop*, Cali, Colombia, February, 2000
- *Inter-Center Meeting*, Philippines, May 1999
- **2000**
- *Regional Symposium on PPB: South and Southeast Asia*, Nepal, May 2000.
- *Third International Seminar “Uniting Science and Participation in Research”*, Nairobi, Kenya, November 2000.
- *PPB and NRM Small Grants Workshop*, Nairobi, Kenya, November 2000.

Information Dissemination***1997-1999***

- *PRGA info* list-serve active
- *Plant Breeding Working Group* listserve active
- Latin America PPB Symposium Proceedings finalized
- Spanish-speaking PPB list-serve established
- PRGA Website: new design
- PRGA Website Toolbox including formats for searchable databases, new links and updated content added in 1999
- *Participatory Plant Breeding Guidelines* translated to Spanish; disseminated to participants in the LAC PPB Symposium and Spanish PPB list-serve; available on the web page as working paper
- *Crossing Perspectives* – An introduction to and overview of PPB for donor and development agencies in a promotional booklet. Published and distributed.
- *Inventory of Gender Studies in the CGIAR International Agricultural Research Centers 1996-8*, by Hilary Feldstein received and made available on the PRGA web-page
- *Participatory Plant Breeding*: presentation from 7 programs, CGIAR International Centers Week, Washington DC., USA, October, 1999
- *Participatory Research for NRM in the CGIAR. Examples of Work in Progress*. Summaries of cases prepared for the NRM Scientists Meeting, with an introduction for a promotional booklet. In preparation.

2000

- *Guide to Impact Assessment in Natural Resource Management and Plant Breeding* presented and distributed at the Third International Seminar in Nairobi (November 2000).
- *Assessing the Impact of Participatory Research and Gender Analysis*, book Web published.
- *Types of Participatory Research Based on Locus of Decision-Making*, working document published and widely circulated. Several partners using this booklet.
- *Fitomejoramiento Participativo en America Latina y el Caribe*. Proceedings of an International Symposium held in August 1999 in Quito, Ecuador, published and distributed in CD and posted on PRGA web site.

2.3 Mainstreaming PRGA within CG***1997-1999***

- PPB Working Group includes CG plant breeders actively participating in exchange of information and in visits with each other for technical support and training e.g. ICRISAT to WARDA; ICARDA to PROINPA, Bolivia.

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- US National Science Foundation grant for research on institutionalization of PPB in the CGIAR awarded in 1999 to University of Arizona with PRGA as collaborator.
 - Inter-Center Meeting in IRRI, Philippines identified steps to strengthen collaboration among CG Centers in Asia , May 1999.
 - Participation of PRGA in advisory committees of 3 global projects of IPGRI and CIFOR
 - PRGA invited to cosponsor and provide capacity-building to a major CG regional biotechnology network (Cassava Biotechnology Network) which plans to involve farmers in research priority setting
 - Working relationships established with Systemwide programs, enabling the PRGA to impact critical groups of scientific expertise in the CG: 2 SWP IPM projects launched and co-financed; SWNM training supported and analysis of gender-related opportunity and need; AHI and Central American Hillside exchange supported to include gender and stakeholder analysis; LAC Ecoregional Program networking with farmer-led research.
 - CGIAT Technical Advisory Committee (TAC) included PPB on its list of new methods for review in the CG-wide review of plant breeding
 - CIP CCER on Participatory Research received funds from the PRGA.
 - The Ford Foundation joined the Donor Group

2000

- Searchable inventory of projects using different participatory and gender analysis approaches available on the PRGA web site (<http://www.prgraprogam.org/prga/>). Data collection begun in March 2000 and completed in March 2001.
- PPB guidelines (version 3) completed in April 2000.
- Awareness of potential of PPB at highest levels of CG management heightened. PPB recommended by TAC as “organic part” of breeding in the IARCs (TAC Plant Breeding Review Recommendation, October 2000).
- Scientific article award given by CGIAR to ICARDA’s PPB team.
- PBG listserve discussion over 6 months in English and in Spanish.

Project Work Breakdown Structure

Project work breakdown structure is shown in Figure 1.

Five Year Work Plan

Table 2 shows the Five Year Work Plan, shading in those activities completed to date.

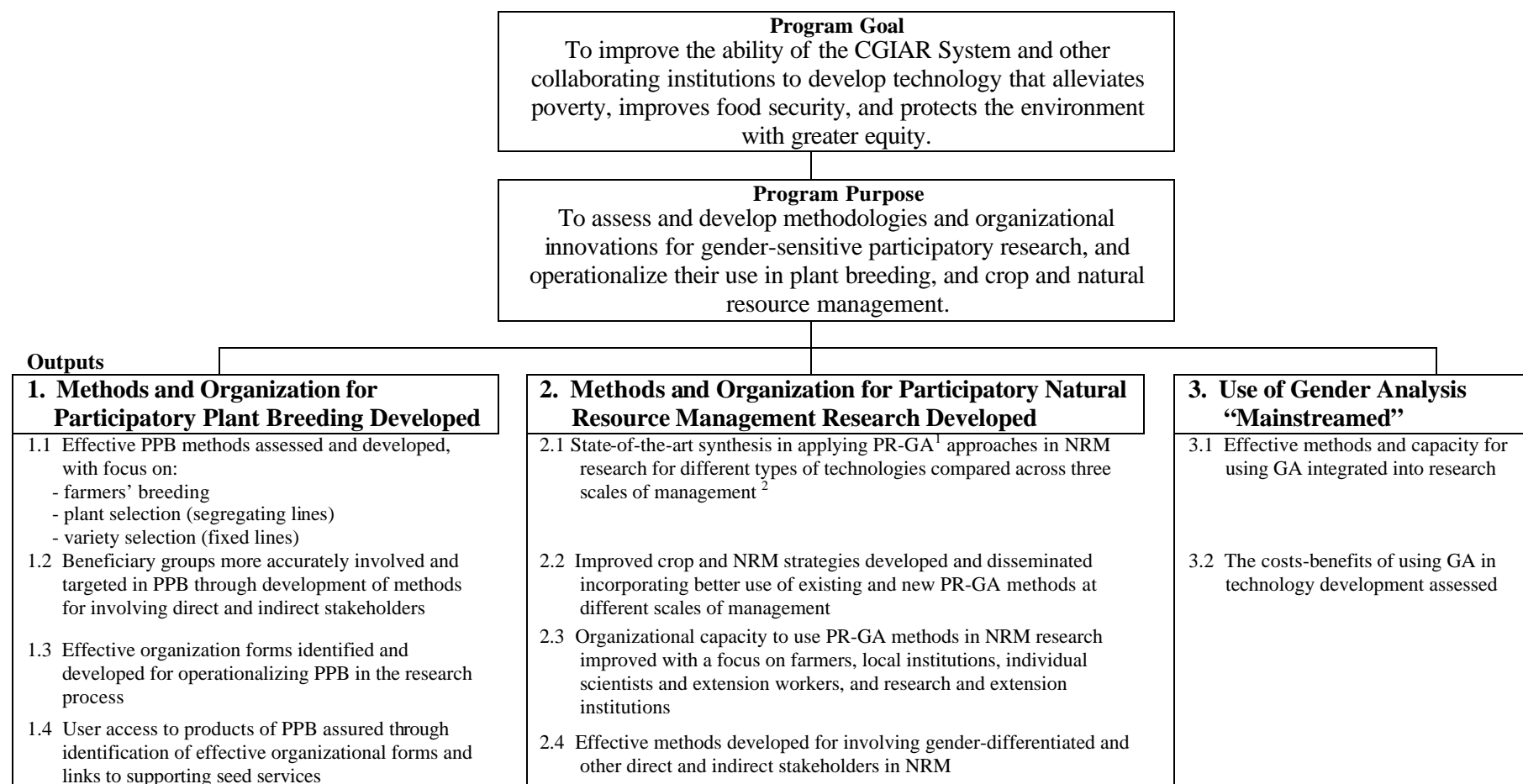


Figure 1. PRGA Program Work Breakdown Structure.

¹ PR/GA refers to the use of gender analysis to identify types of users by gender, wealth and other variables, and participatory methods inclusive of different types of users.

² The three scales of NRM are (a) field and farm level, (b) community, and (c) beyond community, e.g., watershed management.

Table 2 Five-Year Work Plan

**CGIAR Systemwide Program on Participatory Research and Gender Analysis for Technology Development and Institutional Innovation
Work Breakdown Structure for Participatory Plant Breeding Working Group**

Outputs Effective participatory methods in plant breeding assessed and developed, with focus on: <ul style="list-style-type: none"> - farmers' breeding - plant selection (segregating lines) - variety selection (fixed lines). 	Beneficiary groups in participatory breeding through methods development for involving direct and indirect stakeholders accurately involved and targeted.	Effective organization forms for operationalizing participatory breeding in the research process identified and developed.	User access to products of participatory breeding assured through identification of effective organizational forms and links to supporting seed services.
Activities Inventory and compare existing participatory methods across crops and environments Identify and compare existing strategies for strengthening farmer breeding (in reference to self-pollinated, open and vegetatively propagated crops) Implement experimental research for comparing classical breeding approaches to participatory plant selection and participatory variety selection in reference to the three crop types <i>Assess impact of various participatory strategies in three crop types and diverse environments with respect to goals as: yield stability, production, genetic diversity, and other farmer objectives</i> Disseminate PPB results and relevant methods by crop type, environment, and according to priority goals Identify opportunities for institutionalizing relevant participatory breeding methods, by crop type, environment, and according to priority goals	Revise diagnostic methods for assessment of stakeholder preferences for plant varieties in short, medium, and long term <i>Assess methods to involve users in plant breeding differentiated by type including, for example, by gender, wealth, and end-use (consumers, processors, seed producers)</i> Analyze social and economic impacts on different users of various participatory plant breeding methods Analyze the costs of alternative participatory methods for involving different users in plant breeding Revise methods for assessing indirect stakeholder roles and needs Synthesize findings on how to involve hidden and indirect stakeholders in participatory approaches Synthesize case study findings on how to resolve conflicts among diverse users and stakeholders in germplasm resources Publish guidelines on the cost-impact ratios of different approaches to involving and targeting differentiated users	Inventory and compare different divisions of labor among farmers and breeders in the breeding process Revise the ways existing breeding programs organize and fund links with farmers Identify promising links and innovations Partners of organizational innovations monitor and evaluate (including cost-benefit analyses of different links and forms) for participatory breeding Formulate guidelines for decision makers on promising organizational forms Revise communication tools for improving farmer-scientist interaction	Assess various methods and tools for understanding local seed systems Identify strategies for strengthening local seed systems Revise and develop methods to link participatory approaches in breeding with local seed systems and markets Identify incentives and roles of CBOs and NGOs in enhancing seed and seed information flow Explore constraints and opportunities to include products of participatory breeding in the existing regulatory frameworks Bold indicates activity completed <i>Italics indicates activity begun and in progress</i>

Table 2 - Continued.

<p>Outputs Synthesis of the state of the art in applying PR-GA^a approaches in NRM research for different types of technologies across three scales of management^b compared.</p>	<p>Improved crop and natural resource management strategies developed and disseminated incorporating better use of existing and new PR-GA methods at different scales of management.</p>	<p>Organizational capacity to use PR-GA methods in NRM research improved with a focus on farmers, local institutions, individual scientists and extension workers, and research and extension institutions.</p>	<p>Effective methods developed for involving gender differentiated and other direct and indirect stakeholders in NRM.</p>
<p>Activities Inventory and assess use of current PR-GA methods in NRM research <i>Inventory and assess use of current institutional arrangements for participation of different users in NRM research and practice</i> Identify constraints to including specific user groups in NRM research and decision making <i>Inventory and assess methods and indicators for determining impacts of PR-GA methods</i> Regional workshops based on initial inventories of active projects to compare and assess PR-GA methods and organizational arrangements Global workshop of practitioners to identify the method gaps and prioritize areas for refining and developing PR-GA methodology with respect to specific types of NRM technology and scales of management Identify and select a number of cases for methodology development and capacity building and comparative analysis (partners, sites, technologies, scale, regions)</p>	<p><i>Develop and assess new methods for participatory resource monitoring by stakeholders at field, farm, community, watershed, and other scales</i> Test and develop new mechanisms for joining resource user experimenters with each other and with formal science in NRM <i>Researchers and local users experiment with developing and testing bundles of NRM options</i> Develop participatory methods that improve resource users' analytic tools and concepts for understanding and managing resource processes Evaluate the use of free versus controlled experimentation of NRM technologies Develop improved methods for operationalizing PR-GA at a large scale for broad coverage in natural resource management Regional workshops for practitioners to compare, integrate, and contrast different PR-GA methods and strategies for NRM research <i>Experiment with technology options and organizational arrangements to reduce conflict over resources</i> <i>Evaluate different strategies for incorporating diverse stakeholder interests into collective action</i> Publish guidelines for improved PR-GA approaches and organizational arrangements for NRM research</p>	<p><i>Develop, implement, and evaluate new options for institutional innovation and strengthening of local organizational arrangements for PR-GA methods for NRM</i> <i>Experiment with resource user- and researcher-generated methods for exploring and reducing resource conflicts</i> <i>Monitor farmer-to-farmer, locality to locality exchange and extension of PR-GA approaches within and beyond the study area</i> <i>Compare the costs and impact of farmer-to-farmer and conventional scaling up of the results of participatory NRM research</i> <i>Promote farmer representation on decision-making committees in research and extension organizations</i> Provide guidelines for decision makers on promising organizational options for strengthening the use of PR-GA methods of NRM research <i>Train trainers and researchers in PR-GA approaches for NRM research</i> <i>Partners monitor and evaluate on-going arrangements for collaborative NRM, decision making, and implementation</i></p>	<p><i>Inventory and assess methods from current practice to identify and include different users in NRM research</i> <i>Develop and test new methods for including different types of users in NRM research and decision making</i> <i>Assess the costs and impact of including different types of users to technology development in NRM</i> <i>Assess the costs and impact of involving particular users, such as poor rural women or other marginal groups, in participatory NRM</i></p> <p>Bold indicates activity completed</p> <p><i>Italics indicates activity begun and in progress</i></p>

a. PR/GA refers to the use of gender analysis to identify user types by gender, wealth, and other variables, and participatory methods including different types of users.

b. Three scales of NRM are (a) field and farm level, (b) community, and (c) beyond community, for example watershed management.

Table 2 - Continued.

Outputs Effective methods and capacity for using gender analysis developed.		Outputs Costs and impact of using gender analysis in technology development assessed	
Activities Assess current practices for including different types of users at different stages of PB and NRM (including variables such as gender, wealth, location, and direct and indirect stakeholders) Identify constraints and method gaps to effectively include different types of users, particularly less visible stakeholder, in participatory research and in organizational arrangements for PB and NRM Monitor and evaluate new approaches for including specific types of users in PB and NRM <i>Compare costs and impact of including different users at pre-adaptive and adaptive stages of technology development in PB and NRM, and in different contexts</i> <i>Contribute to guidelines for use of PR-GA methods</i>	Publish guidelines and case studies on effective inclusion of different users in technology development <i>Provide training and technical assistance on gender analysis through consultancies to a broad audience</i> Work with selected institutions to install permanent capacity for gender analysis	Activities <i>Compare the costs of including gender analysis (did it improve design?)</i> Assess the impact of gender analysis (did it improve adoption?) Assess the use of gender analysis and gender-sensitive participatory methods to effectively target PB and NRM technologies to particular types of users, especially poor rural women and other marginal groups (did it improve targeting?) Assess the costs and impact of including different types of users in local decision making or implementing institutions for PB and NRM (did it improve research planning?) Contribute to published guidelines and case studies on the effective inclusion of gender analysis in PB and NRM technology development <i>Contribute to training courses, workshops, and seminars to disseminate results</i>	<p>Bold indicates activity completed</p> <p><i>Italics indicates activity begun and in progress</i></p>

3 Planning Group Meeting and External Review

3.1 Oversight of Systemwide Program

The program's steering committee called the Planning Group has the function of providing strategic guidance to the program coordination. The Group is composed of eight individuals who represent different stakeholder interests in the program of work: donor; NARs; NGO; CG Centers; participatory plant breeders; natural resource management researchers; gender specialists; and the convening Center. The Planning Group meets periodically at a scientific meeting or conference of mutual interest in order to minimize transaction costs. In 2000 the group questioned the mechanism for accountability of systemwide programs and proposed that the convening Center's Board of Trustees consider a formal relationship with the Planning group for oversight and due diligence. This request was subsequently discussed at the Annual Meeting of CIAT's Board of Trustees (BOT –46) 30 November - 1 December, 2000, Cali, Colombia in which the Program Committee made the following recommendation; "In order to avoid duplication in the reporting and approval of systemwide programs by both the Advisory Board of systemwide programs and the Board of convening Centers, the Program Committee recommended that the Advisory Boards of the systemwide programs assume the principal responsibility for the review and approval of its activities and reporting. This advisory Board would provide a report for the CIAT Board. The CIAT Board would only be responsible for the oversight of the program. Christiane Gebhardt moved the adoption of this recommendation, seconded by Fernando Chaparro and endorsed by the full Board (Report by the Program Committee (PC) (Annex 4)."

3.2 Internally Commissioned External Review (ICER)

In November 2000 the program conducted an internally commissioned external review (ICER) to evaluate progress on the five year workplan (1997-2002), to obtain some guidance on future directions, and to prepare for the TAC review of systemwide Programs being proposed at that time. The ICER panel was made up by Gordon Prain, social scientist (CGIAR-SIUPA); Helen Hambly, social scientist and gender analysis (ISNAR); Monty Jones plant breeder and research director (WARDA); Wardie Leppan, donor- conservation and biodiversity (IDRC, Regional Office for Southern Africa); Luis Navarro, natural resource management (IDRC, People, Land and Water Program). The following is an excerpt from the panel's report:

Excerpt from PRGA ICER Report

The PRGA Program has made rapid and excellent progress towards accomplishing its goals and purposes. In its report, the Review Team identifies a number of areas and accomplishments of the Program that make it one of the most innovative activities within the CGIAR. However, the Review Team was specifically asked to look critically at current and past PRGA activities and to make suggestions and recommendations where

adjustments are felt to be appropriate. Six major areas were identified within which relevant recommendations were formulated, Research Program, Management and Organization, Small Grants, Methodology Development and Capacity Building, Partners and Networking and Program Impact. These suggestions and recommendations are made in the belief that the PRGA Program clearly merits continuing into a second phase and it is the hope of the Review Team that the observations set out here may help to strengthen the Program in the new Phase.

Research Program

- *Assemble and refine experiences with innovative statistical/biophysical approaches to PPB trial design, comparisons between farms, integration of results of spontaneous farmer experimentation (“mother-baby” trials) and the analysis of results and disseminate these in accessible, “tricks of the trade” type publications.*
- *Continue to support innovative and high quality social and biophysical methods used in PPB.*
- *Increase the Program’s focus on the PPB contribution to enhance biodiversity conservation and ecosystem resilience through case studies taking a biodiversity angle on PPB.*
- *Give increased attention and small grants’ support to the application of PPB to multiple crop combinations.*
- *Consider making exploration of PPB with crop combinations one of the criteria of a special set of “cutting-edge” small grants in a restructured small grant program.*
- *Link continued funding and other rewards to adherence to guidelines, and identify “best practices” from these projects that would be available for new projects (capacity building small grants).*
- *Given the importance of so-called informal seed systems in the organizational framework of crop improvement a higher priority should be given in awarding small grants to innovative approaches to integrating PPB with these complex, but powerful, forms of seed diffusion.*
- *Systematic study should be undertaken of the existing organizational structures of plant breeding within the CG Centers, with the aim of identifying constraints and opportunities for incorporating PR/GA principles and tools in these structures.*
- *Pursue the existing proposal of PRGA Coordinating Office to systematically address the issue of IPR in respect of PPB.*
- *Whilst maintaining continued close links with IPGRI on the relation of IPR to crop germplasm, PRGA should begin to take a more visible role around the issue of Farmers’ Rights and policy formulation within the CGIAR around this issue.*
- *Discontinue the Women and Technology initiative, or reformulate its design to reflect a more critical perspective on gender and technology.*
- *Come to closure on the state-of-the-art paper on gender, and provide a clear conceptual framework for incorporating gender analysis in PPB and NRM. The responsibility of the Program with respect to advocating for change in current*

research practices would benefit from further discussion among projects and the Centers.

- *Identify cases of gender analysis in PPB and NRM that clearly show how GA can add value to the research; cases would also flag issues for future attention. They should include less-researched issues such as property rights and biotechnology.*
- *Incorporate a more explicit attention to gender issues in biodiversity conservation and use.*

Program Impact

- *Efforts to strengthen Program capacity to monitor and assess impacts are highly commendable. The PRGA is encouraged to maximize use of internal and external resources through collaboration. The Program should document its impact on its collaborating institutions and on food security, poverty reduction, and NRM through a comprehensive analysis and interpretation of recently available PRGA-survey data. The Program should also include a component and identify indicators for monitoring and evaluation of projects to assess progress being made.*
- *Continue to strengthen its training activities (including more structured needs assessment and follow-up) and its research fellowship mechanisms to enhance individual, group and institutional capacity building.*

4 Participatory Natural Resource Management Small Grants Projects

The Program works with small grants to foster collaborative research, methodology development, learning experiences, and capacity building in ongoing NRM research programs as a way to promote the institutionalization of participatory approaches and gender analysis.

Table 3 shows NRM small grant recipients. Financial resources for the NRM small grants are provided by the Ford Foundation and the German Federal Ministry for Economic Cooperation and Development (BMZ).

Table 3 Institutions receiving PRGA support through the NRM small grants project.

Institutions	Project Title
CIMMYT CARE KARI-Kenya	Development & dissemination of integrated <i>Striga</i> control practices (IPM) that are adapted to the small-scale farmers of Western Kenya
ICRAF-AHI Uganda	Impact of using participatory methods to solve NRM issues in the East African Highlands
ILRI- Ethiopia	Assessment of the impacts of stakeholder participation in the diffusion of a vertisol management technology package in highland Ethiopia
IES - Zimbabwe	Evaluating the impact of farmer participatory research & extension in NRM in Zimbabwe
CIP- Perú	Impact evaluation or participatory development of integrated insect & disease management for the potato crop in San Miguel, Peru
CIFOR - Indonesia	Local people, devolution & adaptive co-management of forests
ICLARM, Solomon Islands	Community Participation and Gender Involvement in Assessing the Effects of Logging on Coastal Communities
CIAD, China	Establishment of A Farmer Centered Agricultural Research Network in China
ICRAF, Malawi	Processing of indigenous Miombo fruits
CORPOICA, Colombia	Alternatives for the conditioning and transformation of Mora (<i>Rubus glaucos</i>) at the at the farmer associate level.
Systemwide IPM Program	Whitefly Impact Assessment in El Salvador
CIAT/IPRA, Colombia	Farmer Participatory Research (FPR) on Integrated Pest Management (IPM)-Study tours
University of Hohenheim, Germany	Field work for Ph.D. dissertation on action research on PM&E in NRM in Honduras

4.1 Overview of NRM Small Grants

The original six small grants were awarded in 1998 to support collaborative research to examine the impact of participation and gender on research costs, rates of technology adoption, technology design, and gender-differentiated access to technologies in formal-led research.

Major advances were made regarding the milestones set for this year of the three small grants' projects in East Africa:

- Intervention plans were refined and implemented, and baseline studies completed.
- Stakeholder committees were formed and are operational in the project sites, with increasing representation of farmers and women.
- Gender and stakeholder analysis is being incorporated in the small grants' research projects. Most small grants report active involvement and participation of women farmers in their project activities. For example, women represented 67% of farmer research group members in AHI-Uganda, while women constituted 45% of adaptive research farmers trained on *striga* control (CIMMYT). In Ethiopia, women were also represented in the site stakeholder committee (ILRI). More proactive efforts are undertaken to increase the participation of women farmers and other categories of poor farmers.
- All small grants report changes in the types and degree of participation of stakeholders, which has been evolving towards a more collaborative mode.
- Dissemination activities were organized through field days, training, demonstrations and meetings with diverse stakeholders and farmers communities.
- Capacity building activities continued to focus on training workshops in participatory methods, gender and stakeholder analysis, participatory monitoring and evaluation, as well as on technical matters. These involved multi-institutional collaboration and partnership between international research centers, Systemwide programs (PRGA, SWNM), small grant teams, national scientists, NGOs and farmers.
- The small grants refined their impact assessment plans, identified impact indicators, and developed strategies and systems for monitoring and evaluation. The mini-workshop on impact assessment in Nairobi also helped them to sharpen their impact assessment plans.

Funding, which was suspended at the end of 1999, was only restored in mid June 2000 and this created some uncertainty among small grants' projects and forced many of them to scale down their activities. In most of East Africa, a very unpredictable season occurred during this reporting period, resulting in a prolonged drought that affected activities of the three small grants. Natural resource management is a long-term process where the benefits are observed over time. As a consequence, small grants have expressed concerns on measuring impacts in this short term of the project ending in December 2001.

4.2 NRM Learning Cases Workshop (Nairobi, 10-11 Nov 2000)

The NRM Small Grants Learning Cases workshop was attended by a total of 24 participants including recipients of the NRM small grants (both BMZ and Ford Foundation projects), PRGA scientific staff, and a small group of resource persons.

The purpose of the workshop was to review together empirical work and progress made to date in each small grant project, and provide guidance and advice in organizing effective participatory research process, improving the quality of participatory research, gender and stakeholder analysis, impact assessment and participatory monitoring and evaluation.

The specific objectives of the workshop were to:

1. Share results of small grants' work in progress, exchange experiences methods and tools in implementing participatory research and gender analysis in their projects , and obtain input from resource people on future plans;
2. Reflect on how gender and stakeholder analysis is being applied in small grant stakeholder committees, research-in-progress, and institutions;
3. Gain familiarity with and make input to the Impact Guide, and its application in the small grants' impact assessment;
4. Identify with small grants their needs for support from the PRGA Program in 2001-2002.

The workshop was organized for two days, from 10 to 11 November at ICRAF in Nairobi, Kenya, in conjunction with the PRGA 3rd International Seminar on Uniting Science and Participation in Research. The objectives of the international seminar were to document and disseminate current knowledge, promote interdisciplinary cooperation in research, stimulate debate on the issues, and facilitate exchange of concrete experiences about best practice and pitfalls to avoid in participatory research. The seminar was organized into plenary sessions with keynote speakers, parallel sessions, mini workshops and poster sessions around four different themes:

- Challenges to organizing participatory research processes
- The quality of participation in participatory research
- The quality of science in participatory research.
- Scaling up participatory research.

All the NRM small grants recipients attended various sessions of the international seminar, and a special mini-workshop on impact assessment to gain familiarity of a framework and some practical tools for impact assessment of participatory research projects.

Each small grant project made a 30-40 minutes presentation, followed by 30-20 minutes discussions. The presentations highlighted the following:

- Background information: titles, scale and types of organizations involved, type of natural resources and types of innovation or technology

- Objectives and hypotheses of including participation and gender analysis in the research process
- Types of participation: what types of participation was being used (using the typology of PR framework developed by PRGA)
- Gender analysis, i.e. did the project use gender differentiation, what type of gender analysis, how participants were selected, what is the target stakeholder group, functions of site stakeholder committees, etc.
- Project activities: what participatory methods and tools are being used, progress with stakeholders committees (composition, formation and selection process, function and facilitation, and linkages with communities and higher level groups), activities and outputs/ results
- Quality of participation: analytical variables to describe the types of participatory research being used, management principles, skills and experience of actors, roles and responsibilities
- Impact assessment: update on impact assessment plan: baseline study, refinement of indicators, process impacts, cost impacts and technology impacts, participatory monitoring and evaluation.
- Conclusion: lessons learned, questions and advice on aspects of the project.

The presentations were general and described project activities and their intended impacts. Most of the impacts were development oriented, and few projects presented specific process, technology or cost impacts, or developed hypotheses relating these impacts to the specific types of participation used in the project. Without such hypotheses it will be difficult to set up an empirical study that would provide convincing evidence on which to evaluate the hypotheses and impacts. Several of the projects have baseline data available, but the usefulness of this data depends on the extent to which it can be used to analyze specific questions. Consistent with the experience in the mini-workshops, the projects seem to be focusing more on project impacts rather than on the impacts of using as against not using participatory methods in the project implementation.

Three working groups were formed to discuss cross-cutting issues related to: 1) building and facilitating participatory research and learning processes; 2) integrating gender and gender analysis, and 3) impact assessment of PRGA approaches. The working groups addressed two broad questions: What are the real challenges in each issue and how to overcome and deal with these challenges?

4.3 Impact Assessment Workshop, 7 November 2000, Nairobi.

An important capacity building event this year was the "Impact Assessment half-day Mini-Workshop" held at the Third International Seminar, Nairobi, Kenya. Two separate half-day impact assessment workshop sessions were held and about 70 people attended the event. All the PRGA-funded small grant recipients attended the first session, and the second session was open for all seminar participants.

The workshop topics covered included identifying stakeholders and their impact objectives, prioritizing objectives, developing specific hypotheses relating to the type of participation used, and designing a rigorous methodology for testing them. Each topic included worksheets that participants filled out concerning their own projects. The focus of the workshop was on assessing the impact of the participatory methodology rather than the impact of the project, and this was difficult for the grantees to understand. The workshop participants had a relatively easy time identifying their stakeholders and stakeholder objectives, however, when it came to developing hypotheses about how user participation and gender analysis affected the project, many struggled. Choosing a counterfactual and control and recognizing the implications for extrapolation of bias in the selection of participants were not concepts with which they felt comfortable. In the workshop's evaluations, feedback was almost universally positive, however, these topics received the lowest ratings in terms of perceived usefulness. Projects need more exposure to why these issues are important before they begin to tackle them empirically in their own projects.

4.4 Capacity Building with Small-Grant Recipients

Capacity building in the PRGA program is part of the strategy for mainstreaming and involves building a learning process for scaling up that includes, among others:

- Small grants as learning cases,
- Training over an extended time period through regional learning workshops for skill building involving small grant recipients and other partners, and
- Monitoring and evaluation of the learning process involving the use of gender-sensitive, participatory research approaches, and building stakeholder committees in projects receiving small grants.

Important partnerships for capacity building have been built around the small grants with other Systemwide Programs and networks, for example the CGIAR SWNM, African Highlands Initiative (AHI), and CIP-UPWARD in Asia, as well as a new small grant for capacity building with CIAD in China. In 2000, collaborative and co-financed NRM capacity building workshops were conducted with the AHI in collaboration with CIAT, ILRI, CIMMYT, ICRAF, and SWNM (March 2000).

. The following training workshops were completed in 2000:

- Gender and stakeholder analysis tools for watershed management. The 2-week training workshop was organized by the PRGA Program in collaboration with the Africa Highlands Ecoregional Program (AHI), the Soil and Water Nutrient Management (SWNM-TSBF) Program, and CIAT Highlands Ecoregional program (ICRAF) and NARS from five east African countries.
- Participatory methods for identifying and classifying local soil quality indicators. This training encounter was organized in collaboration with the SWNM, the AHI Initiative, and the TSBF Program to develop regional groups of trainers in Africa to

test and refine training guides appropriate for researchers engaged in PNRM research. Follow-up training and testing of training materials was completed early in March 2001.

- Participatory monitoring and evaluation workshops were conducted for AHI teams in Ethiopia (May 2000, 20 participants) and Madagascar (July 2000, 25 participants), and in Honduras (September 2000, 22 participants). Two research fellow are also conducting action research to further develop tools for PM&E in Africa (Uganda) and Central America (Honduras).

4.5 Involving Local People in Monitoring and Evaluation

With increased interest in participatory approaches to research, and a growing demand for demonstrated success, there is also a greater recognition that monitoring and evaluation should be “participatory”. In international agricultural research the discussion around participatory monitoring and evaluation (PM&E) mainly refers to the evaluation of technological innovations or impact assessment involving primary stakeholders in a consultative way. The conceptualization of PM&E to support self-reflection and learning processes and to contribute to the improvement of a research initiative is rarely applied in practice.

The purpose of the study carried out by a regional research fellow, who is a Ph.D. candidate at the University of Hohenheim and funded by the PRGA, is to generate knowledge on PM&E as a tool to support learning processes and to assess the impact and benefit of PM&E itself.

An action research approach, that is, a process of action–reflection– evaluation, was initiated in three ongoing NRM research projects in Honduras to yield knowledge on PM&E out of practice.

The three case study projects are:

- Participatory Research in Central America (IPCA Project) / Local Agricultural Research Committees (CIALs)
- CIAT-Hillsides “Supermarket of Technological Options for Hillsides” (SOL)
- the Community Forestry Project (GTZ-AFOCO) / Agroforestry Cooperative “La Guadalupe” Ltda.

Lessons learned:

- The PM&E approach makes different stakeholders’ expectations and criteria for success in a participatory (research) process more transparent.
- M&E at the level of local groups (e.g., CIALs) is a tool for supporting group processes and organization building. Members of CIALs perceived M&E as particularly useful for improving information and communication among group

members, to identify problems and failures, and to increase group cohesion and commitment.

- M&E at group level generated new information that was not available for project staff beforehand.



The photograph shows part of the process of establishing an M&E system or improving existing M&E with project staff and local groups: developing indicators, forms, assigning responsibilities etc.

5 Participatory Plant Breeding Small Grant Projects

The Plant Breeding Group small grants have recently finished two years of funding (for many, the end of ‘Phase I’). They vary in content, some focusing on farmer-led work, some on formal-led PPB; some with biodiversity enhancement goals, others aiming for production gains in the marginal areas; some strictly working to enhance breeding skills among the poorer women and farmers. Yet all have addressed key gap-filling methodological areas in the field of PPB—and all have made significant progress in a remarkably short time.

To encourage wider information sharing among PPB practitioners’, and to give strong visibility to PRGA field grant recipients, we provide in this section overview summaries of three PPB grants supported by this systemwide program.

Table 4 **Institutions receiving PRGA support through the PPB small grants project.**

Institutions	Project Title
ICARDA, Syria	Village-based participatory breeding in the terraced mountain slopes of Yemen
INIAP, Ecuador	Incorporation of user channels in participatory plant breeding in Ecuador
IPGRI, West Africa	Farmers practice of domestication and their contribution to improvement of yam in West Africa
EMBRAPA/CNPMPF, Brazil	Amplification and uses of the concepts of participatory research in cassava improvement
LIBIRD, Nepal	Farmer-led participatory maize breeding in the middle hills of Nepal
PROINPA, Bolivia	Participatory Potato Breeding Project in Bolivia
University of Arizona, USA	Development of new methodologies useful to participatory plant breeding
CORPOICA, Colombia	Incorporating farmers’ knowledge and formal models of their decision making in participatory improvement of cassava-maize intercropping
FIDAR/CIAT, Colombia	Participatory development of low-cost simplified rustic tissue culture for cassava
ZAMORANO, Honduras IPCA, Honduras University of Guelph, Canada	Participatory methodologies for breeding of common beans
NLH, Agricultural University of Norway	Study of participatory plant breeding/biotechnology on sorghum through assessment of farmers’ variety development, selection methods, seed systems and management, genetic diversity and conservation
CORPOICA, Colombia	Release of four cassava varieties in the Caribbean region of Colombia
ICRISAT, Mali	Scaling-up participatory plant breeding: sustainable seed delivery systems for meeting farmers’ needs for diversity and varietal change over time

5.1 *Escuela Agrícola Panamericana Zamorano: Women's Legitimate Role in Agricultural Activities Confirmed*

In Honduras, women do not typically play a leading role in field cropping activities. Instead, they concentrate their activities within the patio garden where they take care of pigs, chicken, and, occasionally, vegetables. In the municipality of Yorito, however, one of the major project sites of this small grant, women seem to buck this trend. Even amongst those women who had never worked in cropping prior to this project, there is now pride in their knowledge and understanding of what was formerly their husband's domain.

Findings from this assessment of farmers' (both men and women) interest in participatory breeding and research are very positive. Farmers have a clear sense of investing in their future and that this is a worthwhile endeavor. They also consider their investment in learning to be very important. In this sense, participatory work is important for capacity building and for the sense of empowerment that accompanies this. This is particularly valuable for women. One (male) farmer participating in the project expressed:

“Now when I return home my wife asks me about plant diseases that I have come across in the course of my day. Both she and my daughter feel confident about selling crops if someone comes to the door because they know what the going rates are. Before they didn't have a clue. All the CIAL women are very independent and make their own decisions”.

Another commented:

“If the woman has to put her back into the work, she has the right to make decisions in the question of sales”.

These quotes reflect the importance of the CIAL work on gender relations. And in Yorito, in particular, gender relations have been positively affected through women's active participation in the CIALs.



In the photograph, plants from each family are examined for beneficial traits, such as numerous pods, large size of pods, number of beans per pod, architecture of plant, etc. Each plant is examined separately since farmers are aware that at this stage of segregation (F4),

each plant has the potential to become a new variety. When asked for their understanding of F4, farmers responded that in this case they were dealing with the “great-grand children of *concha rosada* (their landrace) and, just like children, the plants were each going to be different and therefore it was necessary to examine each separately”.

Project Objectives

The objective of this project is the development of participatory plant breeding methodologies for the genetic improvement of common beans (*in situ*) to facilitate broadening the genetic base, to increase the utilization of improved germplasm and the development of farmers’ capacity to conduct participatory processes, and to generate varieties adequate to their cropping systems and socioeconomic environments.

The local varieties currently used by small-scale common bean producers in Honduras are relatively well adapted to their bean/maize cropping systems, yet the productivity of most local bean varieties currently used is limited by their susceptibility to diseases. Benefits derived from use of improved varieties are limited by seed dissemination systems that limit access for small-scale farmers, limited acceptance of grain traits, and lack of adaptation to low input production systems.

Studies were conducted to characterize the target communities, farming systems, and production constraints. Sets of bean breeding populations were developed for testing three alternatives: two participatory methodologies for farmer selection, and one conventional methodology. Varieties were characterized and a bean ideotype was defined for each community. Participating farmers conducted evaluations and the selection of breeding populations. After selection and testing, results from the comparative study of these methodologies will provide estimates of effectiveness, cost/benefit, and acceptability.

Innovative Features

This project has a number of innovative features, both technical and social. The project contributes to the development of *in situ* PPB methodologies for the common bean, through building first on local materials for initial crosses.

Second, it rigorously and directly compares the costs and benefits of three breeding models: conventional, PPB with advanced populations and PPB with early generation materials. Farmer evaluation of the segregating materials takes place at the pod stage and through grain evaluation. In the field, farmers better appreciate the nature of the plant, location, etc. and their relationship to grain production. (The disadvantages lie in the risk of theft, trampling by animals, pest attacks, etc. if this process is delayed for any reason.)

Finally, the project explicitly works with and through local research groups of farmers (CIALS). Of the three mature CIALs involved in the bean selection process, which contained a total of 43 farmers, just under 50% (N=20) were women. The fourth CIAL

(in the process of being formed) had no women in it, as frequently occurs in the early period of CIAL formation.

The advances in participatory breeding activities under the present project suggest a significant progress by farmers in the learning process and development of basic abilities for the management of segregating populations. Because the process advances gradually as the farmers manage the evaluation and selection processes, it is expected that after the third year of activities, farmers will have been exposed to most of the improvement processes of a well-structured program. At the end of the first 2 years, as well as continuing the PM process in the regions of Yorito and Santa Bárbara, a strategy is planned to disseminate (“scale up”) the application of PM methodologies based on the project’s experiences. The initial activity for the dissemination of PM methodologies in the second phase will be the preparation of the necessary tools (a practical manual for PM). This will be used to qualify technicians of organizations of the region that are interested in applying this focus of PM to develop improved local varieties and for in situ conservation of native germplasm. These technicians and participating farmers will be given necessary training.

The participatory breeding activities executed by the project are beginning to be recognized by other local and regional organizations. To date, we are collaborating with PM projects in Nicaragua and Costa Rica; and other similar initiatives are under discussion. Some Honduran organizations have shown interest in a better knowledge of the PM approach. Assuming leadership in the region has allowed us to be part of the Meso-American PM group and of its Executive Committee, and to gain financing for a PM maize project.

Research Objectives

The project is trying to increase resistance to the most important diseases in the study regions (anthracnose and rust in Yorito, and angular leaf spot and golden mosaic virus in Santa Bárbara). Farmers identified these characteristics from the improved germplasm (elite) to improve their native varieties, and they form part of the components of the ideal type of bean that farmers defined.

To measure impact, two such methodologies are being evaluated in comparison with a conventional one in “Participatory Selection Centers” and on farmers’ properties. The three methodologies are: (i) PM starting from intermediate generations (PM-1); (ii) PM starting from advanced generations (PM-2); and (iii) conventional or traditional improvement.

Strengthening Partnerships

This project is a collaboration of Escuela Agrícola Panamericana / Zamorano; the IPCA Project (Participatory Research in Central America); the University of Guelph, Canada; and bean producers of local agricultural research committees (CIALS, from their Spanish acronym) in two regions of Honduras.

The activities in Yorito and Santa Bárbara are executed with the active participation of farmers of the involved CIALs. IPCA's technicians supervise the management of the nurseries and trials and act as facilitators of the PM process in the communities. The Program for Bean Research (PIF)-EAP-Zamorano acts as leader and gives direction as necessary and with the required flexibility. The interaction between PIF and the IPCA technicians consists of biannual planning (before sowing times), and the revision and updating of plans in monthly meetings in the project sites (Yorito and Santa Bárbara) or at IPCA headquarters, La Ceiba. Additionally, IPCA technicians visit EAP-Zamorano two or three times per year.

Other opportunities for informal meetings occur during events in which both participate. Personnel of EAP-Zamorano participate in the evaluations that are carried out in the field or postharvest, where they can discuss with the farmers specific points of the project or related aspects (e.g., problems of cultivation, supply of new nurseries or trials, seed increase, training, etc.). Strengthening the capacity and technical knowledge of IPCA personnel during 2000 was facilitated by their participation in training events in EAP-Zamorano.

5.2 *The Foundation for Interdisciplinary Agricultural Research and Development (FIDAR) and CIAT: Farmers Construct Low-cost, Simplified, Rustic Tissue Culture Laboratory*

Using local equipment and tools that cost 20 times less than those employed in a conventional laboratory, farmers in Cauca, Colombia now run a biotech lab in the field. A culture medium was also produced with local inputs, which was four times less expensive than the check medium and had a higher multiplication rate (1:4).

Cassava is a food security staple for small farmers of Latin America, especially the lowland tropics. However, propagation rates are slow, with 'stakes' multiplying at a rate of 10 to one and over decades, diseases have affected the planting material of most native varieties, reducing yields up to 60%. Tissue culture can be used to propagate cassava rapidly but because the vast majority of cassava producers are small-scale farmers and current tissue culture practices are too costly.

Cassava in the Cauca region is grown by about 5000 families farming from 2 to 4 hectares. Cassava is used for home consumption, but the larger part is sold to about 200 starch extraction plants that provide rural employment.



In the photograph, farmers are being trained in tissue culture techniques, totally new for them.

Joint Research

An interdisciplinary team—consisting of farmers, CGIAR biotechnologists, and an NGO—has worked together to develop a low-cost tissue culture method for propagating clean planting material of cassava. This critical seed system support contributes to the development of participatory improvement efforts of both farmer-led and formal-led PPB as it makes the products of the joint research more readily available.

The collaborating institutions include FIDAR, The Foundation for Interdisciplinary Agricultural Research and Development, a small NGO in southern Colombia; a farmer community in the Department of Cauca, Colombia; and the International Center for Tropical Agriculture, CIAT.

Researchers gave farmers recommendations on the parameters for building the tissue culture laboratory, and the technical aspects of seed production and laboratory management were defined jointly. A representative farmer from Cauca received formal training, and the community selected a group of women to operate the pilot plant to produce cassava seed *in vitro*. This farmer trained the group of 11 women who now operate this rural tissue culture laboratory.

Innovative Features

The participation of men and women in the validation and adaptation of tissue culture technology has been basic to the orientation of future project goals, taking into account individual, family, and community perspectives.

This project addresses a knowledge gap important for improved quality, quantity, and diversity of cassava and other common vegetatively propagated crops in small farmer

systems. By making products of participatory breeding and farmers' breeding for cassava more available, it may help to stimulate interest in these activities, and enhance their impact. This is one of the first instances of biotechnologists and farmers learning to work directly together in research. It is also somewhat unusual as an example of participatory research at a relatively upstream, still experimental, stage.

Finally, farmers in this project are learning enough about the basic concepts and methods of tissue culture so as to actively influence the design of this cassava biotechnology research, as well as to suggest new proposals for work with other plant species.

Project Impact

Rural tissue culture laboratories will allow farmers to control the availability of planting material, increase the supply of preferred materials, increase the diversity and flexibility of small farming systems, stimulate the interest in cassava R&D and enhance its impact, and serve as a model for other regions. Based on the partial results of the project presented by researchers at different seminars, 15 Colombian institutions and two international entities have expressed their interest in repeating this experience in other cassava-producing regions that present problems of cassava seed quality and supply.

Preliminary project results were disseminated at the local, national, and international levels, through participation in different forums and 2 workshops on biotechnology and its use in seed quality and multiplication. As a result of these seminars, 15 national and two international entities showed interest in working with this low-cost *in vitro* seed production technology for cassava.

5.3 Local Initiatives for Biodiversity Research and Development, (LIBIRD) and the National Maize Program of the Nepal Agricultural Research Council (NARC): Blending Local Knowledge with Formal Breeding Techniques

Participation of farmers in the maize breeding process has actually enhanced the speed of germplasm exchange and increased the value of landrace and exotic materials in the Middle Hills of Nepal. The level of awareness of local landraces has spread among the community, positively affecting biodiversity conservation *in situ*.

Based on past experiences and successes in upgrading the productivity of local landraces through introduction of improved varieties and subsequent seed selection, this project is currently researching a farmer-led PPB project in the Gulmi district of the western hills of Nepal.

The project has been jointly implemented by LI-BIRD (Local Initiatives for Biodiversity Research and Development), farming communities at the project sites, and the NMRP (National Maize Research Programme) of the Nepal Agricultural Research Council (NARC).

Project sites are remote areas where maize is the main source of livelihood and the impact of the formal research system has been small. Maize productivity is quite low and farmers have limited access to improved varieties and information; lodging causes up to 80% losses in bad years. Certain location-specific problems are not addressed by the existing research system.



After a series of field visits, two sites were selected and village workshops and individual visits (photo) were conducted to inform the community, as well as the government about the project.

Multiple strategies were employed to improve the maize population in two villages, based largely on population improvement principles, i.e., increasing the frequency of genes in the population for the farmer desired breeding goals. They include:

- Diversity deployment by bringing released and pipeline cultivars through the participatory varietal selection (PVS) method;
- Introduction of elite germplasm from CIMMYT and NMRP for base broadening of local landrace population;
- Mass selection of major landraces;
- Population improvement of selected landraces;
- Farmer participation in goal setting, selection, evaluation, and seed diffusion process.

In the first year, 62 farmers were trained in general selection techniques, and in following years 545 (316 of them female) received training. After one year of exposure to the project work, farmers initiated their own breeding program. Within two years, farmers developed their own maize population. Results have shown that the quality of farmer participation is enhanced if farming communities are involved in defining the research

objectives and carrying out their own breeding programs, and if technical skills are provided to them.

Project Goal and Objectives

The goal of the project is the development of effective participatory methods in open-pollinated maize with focus on farmers' breeding. The purpose is to strengthen local crop development process through participatory crop improvement methods using farmers' local knowledge and resources.

The project's research objective is testing participatory crop improvement (PCI) methods in open-pollinated crop (maize), developing new farmer-preferred maize varieties, and strengthening farmers' breeding and informal seed selection and maintenance process.

A multiple approach was adopted to enhance the process of farmer-led PPB in developing new maize varieties. These approaches included variety improvement through mass selection and crossing; and variety selection through other supportive research activities, such as observation nursery, coordinated varietal trial, varietal display, participatory variety selection (PVS), and informal research and development (IRD) program. Farmers' research was further supported by training on mass selection technique for use under their own local circumstances.

Promising Results

The project has already produced very interesting and promising results, both in terms of process as well as product, for example:

- Farmers are advancing and improving six F_1 populations of maize.
- Farmers tested more than 75 different genotypes of maize and identified five genotypes as superior to their existing varieties.
- Of 607 farmers who received training on mass selection and seed selection method, more than 50% were female.
- About 200 farmers are improving their local variety on their own.
- Farmers are capable of planning project activities, organizing farm walks, focus group discussion, monitoring and evaluation, and selection of tested varieties.

All the grass-root stakeholders were satisfied with the program content and implementation process. They opined that the project is working on problems pertinent to the farmers in the area, thus the project outputs will be beneficial to them. The formation of farmers' research committees (FRC) was very effective in the implementation of the project activities particularly seed distribution, discussion, and communication. Similarly, participating farmers (both male and female) realized that they had better access to input (seed) and information because of the formation of FRC in the community. All stakeholders were optimistic on the development of suitable maize lines. FRC and participating farmers (both male and female) were found to have considerable knowledge about the promising lines.

Farmer Training

One-day training on “Mass selection” was organized for the farmers. The training was given at both the sites just before the tasselling of maize in the farmers’ field. Farmers liked the training program and reported that the content is useful to them. This is reflected by the sheer increase in the number of participant from 62 in 1999 to 545 during 2000 (Figure 1). With this learning, 200 farmers have initiated their own breeding program and other farmers are utilizing the knowledge and skills gained in seed selection. This 2-year small grant ended its first phase in December 2000.

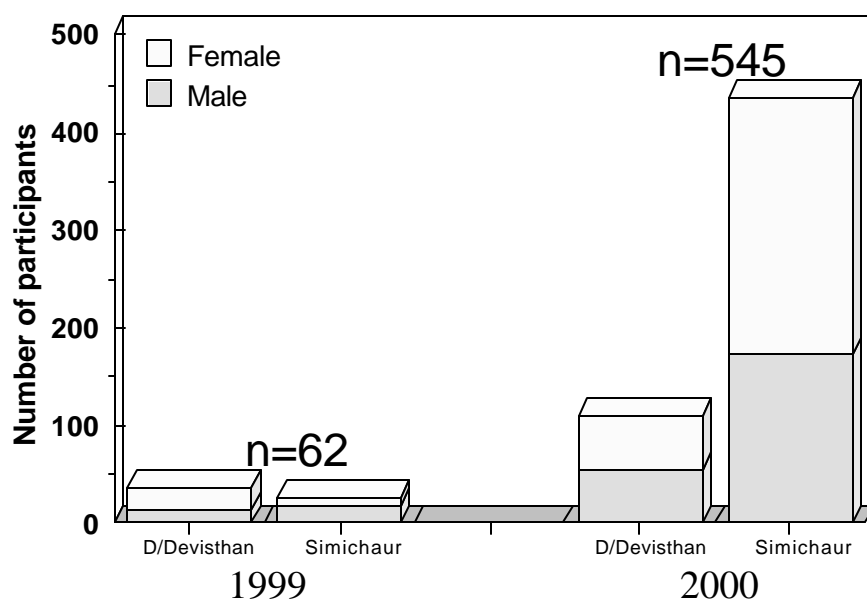


Figure 1. Number of farmers participating in training in 1999 and 2000.

6 Inventory of PRGA Projects

The PRGA has compiled three inventories of projects that use participatory research methods. Our goal is to provide a systematic assessment of the impacts resulting from the use of PR and GA, and to make this information available to researchers practitioners, farmers, donors, and any others interested in the field.

The inventories will soon be available as a data base on our website. Visitors will be able to browse through the data base with advanced search engines to find complete descriptions of the projects included, name of institutions participating, and name and address of contact persons in the project. Among other parameters, the inventories include information on size of project, type of gender analysis used, research activities, breeding methods, in addition to an assessment of impact and research outputs.

If you would like to submit a new case or provide updated information on an existing case, please send e-mail to prgainfo@prga.org for the appropriate forms.

The screenshot shows a web browser window titled "PRGA Inventories - Microsoft Internet Explorer". The address bar shows the URL: http://volante_ri2000/serlet/prga/inventory.html?setlet/inw=PPB. The page features a sidebar with the PRGA logo and navigation links: "Introduction" and "Inventories". The main content area is titled "Participatory Research and Gender Analysis" and "INVENTORY OF PARTICIPATORY RESEARCH PROJECTS FOR PPB". It includes a search form with dropdown menus for "Theme", "Country", "Crops", and "Resource", along with "Search" and "Advance Search" buttons. Below the search form is a table listing various projects.

PROJECT TITLE	DESCRIPTION	INSTITUTION	CONTACTS
1. Namibia, Maria Kahero Pearl Millet (PPB) Composite	Pearl Millet Composite	View Institution...	View Contacts...
3. Participatory Crop Improvement in High Potential Production Systems in India and Nepal		View Institution...	View Contacts...
4. High Altitude Rice Breeding in Nepal (PPB)		View Institution...	View Contacts...
5. Participatory Rice Improvement and Gender Analysis (PPB)	PVS: farmers are invited to visit a rice garden of upto 80 lines (including traditional and improved O. sativa, O. glaberrima, and interspecific hybrids) 3 times during the growing season: at maximal tillering, maturity and a post-harvest visit. Farmer selections are recorded during each visit and the varietal characteristics for why each variety was chosen. Farmers are given 1kg of seed of each of the varieties they have chosen (up to 5 varieties) for testing in their own fields during the second year. During the third year, farmer interest with the tested varieties is evaluated and farmer willingness to pay for seeds is elicited.	View Institution...	View Contacts...
6. Strategy for Rice Breeding in Rainfed Areas of India (PPB)		View Institution...	View Contacts...
7. Farmer Participation in On-Station Tree Species Selection for Agroforestry: A Case Study from Burundi (PPB)	Farmer involvement in on-station trials to choose species to test on their farms	View Institution...	View Contacts...
8. Farmer Participation And Use Of Local Knowledge In Breeding Barley For Specific Adaptation (PPB)	In the first three years we conducted 4 types of selection: farmers' selection in their field, farmers' selection on station, breeder's selection in farmers' fields, and breeder's selection on station. In the second phase we only have farmers' selection in their fields and seed multiplication on station	View Institution...	View Contacts...
9. Increasing the Relevance of Breeding	Trials with different types and number of breeding	View Institution...	View Contacts...

Cases included in these inventories were collected at different times and information was provided by researchers themselves. Many of the projects were still underway at the time of data collection. The cases have been classified as NRM, PPB or Gender. These Program Highlights will focus on the NRM and PPB cases.

6.1 NRM Projects

With the goal of obtaining as comprehensive an inventory as possible of the projects using PR and GA in NRM research, over 500 questionnaires were sent out between October 1999 and May 2000. The cases on which the analysis is based constitute a self-designated, self-selected subset of projects that report that they are using PR or GA on *research* for NRM. While we attempted to get as representative a sample as possible, several possible biases should be acknowledged. Given that a CGIAR program did the data collection, CG-affiliated projects may be over-represented in the sample. The IARCs are responsible for 37% of the projects, followed by NGOs (16%), universities (12%), and NARs (9%).

Because the survey was done via e-mail or fax and in English, it is also likely that the results are biased towards projects with access to good telecommunications technology and English-speaking staff. Additional Spanish- and French-language cases are currently being added to the inventory. Finally, it is important to note that the data collected in this survey represent a self-assessment of each project.

Projects in the inventory using PR and GA are found around the world, working on a variety of technologies and other innovations to improve the management of all major types of natural resources. Projects tend to take an integrated approach to NRM, developing several technologies for improving the management of multiple resources within a single project. The typical project works at the community scale, but the benefits are more widespread. On the average, 12,528 households in an area of over 56,000 km are benefited.

Projects tend to use consultative or collaborative participation, although a great deal of variation occurs within a single project in the type of participation used at different stages of the research process. The implications of this variation for project outcomes and impacts are currently being analyzed.

According to projects' self-reported impacts, participatory NRM research is generating both direct human and social capital benefits for participants and indirect benefits to users and the environment via the adoption of project technologies. However there may be cause for concern about how these benefits are being distributed. Only 26% of projects claimed women as specific targets of their projects, and only 18% were targeted towards the poor. This is worrying because including marginalized groups and their unique perspectives is one of the underlying principles of participatory research.

Of particular concern is the use of gender analysis in participatory NRM projects. Nearly two thirds of projects claim to use gender analysis, however the most common form is “transfer-oriented”, which focuses on how to disseminate already developed technologies to women. This approach is likely to overcome barriers to adoption such as availability or lack of information, but it does not address fundamental issues of appropriateness of a technology for women.

Data on methods of participant selection also suggest a lack of direct participation by women and other marginalized groups in the research process. Most projects rely on self selection or community selection on the basis of “efficiency” criteria such as education, skills, or status, methods that are likely to bias the process towards the favored groups in a society. Only 27% of projects included equity as a criterion in the selection of participants. Thus women and marginalized groups would not appear to be capturing the direct benefits of PR, and their ability to obtain indirect benefits depends critically on the extent to which they can adopt technologies generated by research processes in which they are not involved. Empirical evidence about whether women and the poor must participate in order to benefit from participatory research on NRM is needed.

Finally, this study documents several significant differences between IARC and non-IARC projects in certain aspects of their methods and outcomes.

6.2 PPB Projects

In September 2000, the PRGA Program began updating its existing inventory of plant breeding projects that use participatory research (PPB). The updated inventory, with new cases added, included more extensive data on costs and impacts and includes results of a survey on the types of participation used in projects. We sent the inventory forms to about 150 researchers involved in the PPB, including:

- 48 projects from the PPB inventory previously compiled by Weltzein/Smith, Meitzner and Sperling,
- 50 participants of a Latin American symposium on PPB organized by the PRGA in Ecuador in 1999,
- 25 participants of an Asia symposium on PPB organized by the PRGA in Nepal in 1999,
- An additional 20 researchers referred by various resource persons, and
- Open calls were also placed in the PRGA PPB listserver and the PPB listserver for Latin America, inviting scientists to include their projects in the inventory.

By March 2001, we had received updated information on 18 of the existing 48 projects and information on 31 new projects. The PPB inventory will be used to better understand the impacts and costs of PPB work on a project level. It will be used to find out who is doing participatory research, where, how, and with what results.

7 Uniting Science and Participation in Research— The Third International Seminar, Nairobi

7.1 Introduction

The PRGA Program conducts an international seminar biannually for the purposes of networking, work plan development and monitoring progress. A successful international seminar and two small grant workshops (PPB and NRM) of the PRGA Program were held at ICRAF in Nairobi. The objective of the small grant workshop was to provide the program's small grant recipients with hands-on technical backstopping.

The theme of the Third International Seminar (6-9 November 2000)—“Uniting science and participation in research”—focused on understanding different options for the organization and management of science and participation in participatory, client-driven, research processes.

The objectives of the seminar were to disseminate current knowledge on what determines the “quality” of participation in the research process and how this affects research results. The seminar aimed at stimulating debate on the issues, tools, and methods, and facilitating exchange of concrete experiences about best practice and pitfalls to avoid.

Leading scholars in the field of PRGA gave keynote presentations. Over 200 participants from CG centers, donor agencies, western universities, NARS, and NGOs from Africa, Asia, and Latin America, as well as research institutions attended. Keynote plenary presentations, 19 in total, were given highlighting aspects of the four seminar themes: the organizational challenges of institutionalizing PR and GA; the quality of participation in PR; the quality of science in PR; and the scaling-up of PR.

Also organized around these four themes were 22 mini-workshops focusing on, amongst other things, teaching a specific PR and/or GA methodology or tool or presenting a particularly interesting experience in PR and/or GA. In addition to keynote presentations and technical mini-workshops, the seminar also provided space for the presentation of 62 posters on participatory research experiences/projects throughout the developing world.

An important practical event at the seminar for the NRM learning cases was the half-day impact assessment workshop. Colleagues from all the NRM learning cases attended. Discussions took place on topics and tools such as identifying stakeholders and their impact objectives, prioritizing objectives, types of PRGA, types of impacts, developing specific hypotheses relating to the type of participation used, and designing a rigorous methodology for testing them.

Also held during the seminar were meetings of the NRM Group, the FPR-IPM group and the Soils Group.

7.2 Working Group Meetings

NRM Scientists' Group Meeting

Participatory technology transfer cannot solve the problem that technologies are still being designed that are unsuitable for the very poor, and especially for very poor women producers

This is especially problematic in the area of natural resource management. For example, the lack of a client-oriented, and gender sensitive approach to the basic design of conservation farming practices for low input systems is contributing not only to poor adoption, but to inequity. There are still too many examples of resource conservation technologies like alley cropping coming off experiment stations and out of elaborate, participatory adaptive testing processes that are basically flawed from the point of view of poor women subsistence producers, even if adoptable by men for cash crops.

One of the important achievements of 1999 with support from the Ford Foundation was to bring together a group of scientists in the CGIAR from a combination of scientific fields who are beginning to use participatory approaches in pre-adaptive research. This group met for the second time at the PRGA III International Seminar, 6-9 Nov, in Nairobi. The purpose was to brainstorm issues and produce an action plan.

The NRM Scientists' Group Meeting was attended by a diverse group of researchers working across the very broad area of NRM, but who are bound together by the common thread of innovation in the development and practice of participatory approaches.

Participants felt that we should have a name paralleling that of our sister group, the Participatory Plant Breeding Group, so the "Participatory Natural Resource Management Group" (PNRM group) was adopted. Brainstorming for ideas on how to create impact as a group led to a definition of the function of the PNRM group (Box 1).

The first hour of the session was held jointly with the PRGA International Participatory Plant Breeding Working Group (PBG). An overview of the work in progress was given, including the PRGA objectives, evolution, and what has been accomplished. There followed a short summary of the history of the group, leading up to the present meeting, which was a continuation of the process initiated in Chatham, UK.

At Chatham, and in the months that followed, the NRM Scientists' Group conceived some follow-up activities designed primarily to document the process and outputs of the meeting and to increase the visibility of the PNRM work. These included:

- Internal circulation of a proceedings document (completed and circulated)
- Publication of a book building on the case studies presented at the meeting (in preparation)
- Publication of a booklet for International Centers' Week (October 2000) summarizing the state of the art in participatory NRM research in the CGIAR centers. This booklet also draws upon the case studies presented at the Chatham meeting.

Box 1. PNRM Group Functions

- Act as an information clearing house/resource center organized by thematic issues. As a resource center, we can contribute to networking and the mainstreaming and institutionalization of PNRM.
- Develop or adapt methodology collaboratively in gap areas identified via an inventory of tools and methods.
- Maintain a toolbox with examples of how different methodologies fit within particular cases, with a possible focus on institutional innovations and methods to improve priority setting, methods to increase the speed of technology evaluation, and methods to enable scaling out of technology.

At the Nairobi meeting, the PNRM group continued from where the Chatham meeting had ended. The objectives of the PNRM workshop were to:

- Discuss if and how this group might act together to give more visibility to innovative work using participatory research in NRM within the CGIAR, so as to attract more donor and high-level management support, and broader recognition in the scientific community.
- Brainstorm mechanisms and/or structures for focusing and organizing ourselves; develop ideas for deriving added value from collaboration and participation in the group; outline how the group might be supported by the PRGA program; and envision what impact donors should realistically expect.
- Brainstorm a theme, objectives, and goals for a 2nd NRM Scientists Meeting. The PRGA has requested funds for this meeting, which, if approved, will take place no later than November 2001.
- Review and refine the plans developed for the book project conceived by this group in Chatham last September. Work on the book has been progressing under the leadership of an editorial committee consisting of Barry Pound (NRI), Siegelinde Snapp (Michigan State University), Cynthia McDougall (CIFOR), and Ann Braun (PRGA consultant).

During the NRM Scientists' Meeting, the following action plan was developed:

- Completion of the PNRM book based on the 1999 Chatham meeting and case studies
- Develop an inventory of PNRM methods and tools
- Over time, build a “living” inventory or library of methods, organized by themes
- Develop subgroups focused on the NRM thematic areas identified at the III PRGA Seminar.

The action plan is divided into current and ongoing processes and events, and upcoming events.

One of the main developments since the III International PRGA Seminar was the establishment of a thematic subgroup on soils. The soils group will hold a workshop in Bulawayo, Zimbabwe in Oct 2001. The workshop will explore linkages and complementarities between farmer participatory research and computer-based modeling in addressing soil fertility management issues at the farm level. The purpose of the workshop is to improve the capacity of scientists and farmers to interact more effectively by incorporating farmer participation in the conceptualization of questions, definition of variables and provision of data that can be used to construct realistic scenarios for simulation and the formulation of recommendations and options for improved soil fertility management and future research.

As a first step towards developing its PNRM Resource Center, the PNRM group has initiated a rapid internal inventory of NRM methods and tools to be complemented by input from the FPR-IPM project and the Bula wayo workshop. Linkages with information and communication technology initiatives such as Prolinnova, InterDev and PolicyNet will be explored. A workshop is planned for early 2002 to design a process for building, over time, a "living" inventory or library of PNRM methods and tools, organized by themes. The inventory will contribute to increasing the speed of technology evaluation and enabling scaling out of technology and institutional innovations. The inventory will also permit the identification of key gap areas, where collaborative methodology development should be catalyzed or pursued. The purpose of the workshop will be to define the scope of areas to be included, the products and how they would be developed, and the roles, responsibilities and resources required. The participants will also work on the design of hands-on learning processes that enable users to learn and apply the methods, possibly drawing on learning workshop approaches similar to those in the FPR-IPM and soils groups.

The PNRM group operates a list-server as a communications forum for 124 subscribers. A website archive of important documents is under construction

FPR/IPM Working Group

Together with the CGIAR Systemwide Program on IPM, the Global IPM Facility, FAO, the CABI-Bioscience Technical Support Group to the GIPMF and CIAT, the PNRM group is a contributing partner to "Farmer Participatory Research and Learning for IPM (FPR-IPM)" a project that is fostering cross-learning among six innovative IPM projects with different types of participatory approaches and extending this learning to a wider audience. During May-August 2001, these projects will conduct pairwise, reciprocal, mentored exchange visits with common terms of reference. The visits will be followed by a Learning Workshop in September 2001 where lessons learned within and across the case study projects will be synthesized. The workshop will be attended by 40 participants from Africa, Asia and Latin America, including the 12 study tour participants, their mentors and guests from several other projects and institutions. A CD containing a

compilation of FPR-IPM project resources will be distributed at the workshop. Resources to be developed from the workshop outputs include a conceptual framework for farmer participatory research and learning with case study examples drawn from integrated pest and production management, and a process guide for cross-learning initiatives.

8 Seminar on Participatory Plant Breeding in Africa: An Exchange of Experiences, Ivory Coast, May 7-10, 2001

The seminar was co-sponsored by:

- CGIAR Program on Participatory Research and Gender Analysis for Technology Development and Institutional Innovation (PRGA)
- West Africa Rice Development Association (WARDA)
- International Center for Research in the Semi-Arid Tropics (ICRISAT)
- International Center for Tropical Agriculture (CIAT)
- International Plant Genetic Resources Institute (IPGRI)

The symposium's purpose was to give equal opportunity to formal-led and farmer-led PPB approaches. It had a dual focus on PPB and dynamic approaches for biodiversity conservation and enhancement and aimed at joining forces of stakeholders interested in participatory plant breeding, seed systems, the use and conservation of plant genetic diversity, and the application of participatory research methods in Africa. Stakeholder groups included agricultural researchers, plant breeders, farmers, social scientists, curators, agronomists, and development practitioners from national agricultural systems and non-governmental agencies, universities, the CGIAR and donor agencies.

Specific Purposes

- Exchange and compare the diversity of experiences of PPB/dynamic biodiversity enhancement in Africa
- Encourage dialogue between professionals and farmers on PPB
- Identify gaps in experience of PPB and networking needed for potential second regional workshop in 2003
- Network African plant breeders using participatory methodologies, tools and approaches
- Make current contributions to working document on guidelines for PPB prepared in an expert consultation (1997) and updated in Latin American/Caribbean and South/Southeast Asian Symposia (1999, 2000)
- Identify follow-up actions to support farmer-led and formal-led PPB
- Identify follow-up actions to support dynamic approaches for biodiversity conservation and enhancement
- Sensitize institutional plant breeders on participatory approaches to crop improvement

Structure

The symposium consisted of plenary sessions with submitted papers on experiences with participatory plant breeding and dynamic biodiversity enhancement in Africa. Based on these case studies and the experiences of participants, working groups were formed to derive guidelines from current experiences; to identify examples which illustrate the guidelines for teaching purposes; to identify gaps and areas where new work is needed.

9 Information Dissemination

9.1 List of Publications

1996

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Table of Contents

	Page
1 Program Overview	1
2 Milestones	11
2.1 Research milestones	11
2.2 Capacity building milestones	12
2.3 Mainstreaming PRGA within CG	15
3 Planning Group Meeting and External Review	21
3.1 Oversight of Systemwide Program	21
3.2 Internally-Commissioned External Review	21
4 Participatory Natural Resource Management	25
Small Grants Projects	
4.1 Overview of NRM small grants	26
4.2 NRM Learning Cases Workshop (Nairobi, 10-11 Nov 2000)	27
4.3 Impact Assessment Workshop, 7 November 2000, Nairobi.	28
4.4 Capacity Building with Small-Grant Recipients	29
4.5 Local people in Monitoring and Evaluation	30
5 Participatory Plant Breeding Small Grants Projects	33
5.1 <i>Escuela Agrícola Panamericana Zamorano:</i> Women's Legitimate Role in Agricultural Activities Confirmed	34
5.2 <i>The Foundation for Interdisciplinary Agricultural Research and Development (FIDAR) and CIAT: Farmers Construct Low-cost, Simplified, Rustic Tissue Culture Laboratory</i>	37
5.2 <i>Local Initiatives for Biodiversity Research and Development, (LIBIRD) and the National Maize Program of the Nepal Agricultural Research Council (NARC): Blending Local Knowledge with Formal Breeding Techniques</i>	39
6 Inventory of PRGA Projects	43
6.1 NRM Projects	44
6.2 PPB Projects	45

7	Uniting Science and Participation in Research— The Third International Seminar, Nairobi	47
7.1	Introduction	47
7.2	Working Group Meetings	48
	• The NRM Scientists' Group Meeting	48
	• FPR/IPM Working Group	50
8	Seminar on Participatory Plant Breeding in Africa: An Exchange of Experiences, Ivory Coast, May 7-10, 2001	53
9	Information Dissemination	55
9.1	List of Publications	55
9.2	References	57

