



Centro Internacional de Agricultura Tropical

SEMINARIO

GENDER ISSUES IN THE CGIAR SYSTEM: LESSONS AND STRATEGIES FROM WITHIN¹

By

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I. Why Raise Gender Issues ?

Gender issues³ are not new to the Consultative Group on International Agricultural Research (CGIAR) System. Indeed, the importance of gender issues in agricultural research and women's roles in agricultural production and food systems have been discussed by members of the CGIAR System on several occasions during the past decade. Explicit recommendations concerning gender issues have been made by the System itself to the member International Agricultural Research Centers (IARCs):

- To incorporate the gender variable in research methods and analysis,
- to include more women farmers in the IARC technology generation process,
- to increase the numbers of women from National Agricultural Research and Extension Systems (NARES) in IARC training programs,
- and to engage more women professionals in the ranks of IARC scientific staff, management and boards.

While certain Centers have made exceptional progress in adapting and implementing many of these recommendations, adoption of the recommendations across the CGIAR system is quite uneven. Some appear to have ignored the recommendations altogether.

What factors contribute to adoption of a gender perspective among those Center's that have done so successfully? Why have the other IARCs found it difficult to deal with gender issues? What "next steps" should be taken by the CGIAR System to ensure system-wide attention to gender?

³A note on terminology: Sex refers to the physical and biological differences between men and women. These differences are congenital and relatively universal and unchanging. The term "gender" refers to a social rather than biological construct. It describes the socially determined attributes of men and women, including male and female roles. As a social construct, gender roles are based on learned behavior and are flexible and variable across and within cultures. Gender is a useful socioeconomic variable to analyze roles, responsibilities, constraints, opportunities and incentives of the people involved in research and development efforts. "Gender blindness" is the inability to perceive different gender roles and responsibilities, the perception that all farmers are male (or neuter), and the failure to realize that research and project activities can have different effects on men and women. "Gender analysis" is the analysis of the intersection of male and female roles and responsibilities with research or project goals, strategies, and outcomes, at any stage of the project cycle. The focus of gender analysis is less on equity for women and more on the effectiveness and efficiency of development activities. Effective gender analysis, however, ultimately leads to better definition of human resource needs and capabilities, results in more equitable allocation of resources and benefits and revision of the gender imbalance that exists among the professionals involved in research and development.

Guided by these questions, this paper addresses five topics. Beginning with a brief overview of the rationale for including gender issues in agricultural research and development, the paper then summarizes the existing sets of recommendations made to the CGIAR System concerning gender issues. A synthesis of the discussion and recommendations made on differential user groups and gender issues at the 1987 International Centers Week Seminar is included. Mindful of the large number of recommendations already "on the books," the next section highlights the innovative strategies and approaches taken by some Centers to deal with certain gender issues. This is followed with an analysis of the underlying reasons for the difficulties within the IARC community of incorporating gender sensitive research and development. Based on this analysis and drawing upon the successful experiences from within the System, the final part of the paper moves the discussion beyond the existing recommendations to next steps and alternative strategies to assist the CGIAR System in achieving a better gender balance in the methods and operation of its research program.

This paper has been written in direct response to a request made by several of the CGIAR donor representatives at the last International Centers Week (ICW-1989). During the meeting, they raised the question of what progress had been made by the IARCs in dealing with gender issues since the seminar conducted during the 1987 ICW that drew attention to differential users and technology. They requested that the topic be placed on the agenda at this mid-term meeting of the CGIAR System. The overarching concern of these donors and others is not directed just at the CGIAR system, but rather represents a global concern for monitoring the progress of research and development organizations in incorporating appropriate gender perspectives.

As this mid-term meeting of the CGIAR marks the beginning of the 1990s and the last decade of this century, it is timely to take stock of where we are in reaching gender equity in the international system for agricultural research.

II. A Rationale for a Gender Perspective in Agricultural Research.

In a recent IDRC technical study, Patricia Stamp poses two key questions regarding technology development and transfer that are very relevant to the work of the CGIAR System. First, she asks whether the outcome envisaged is really development. "Unless women and -- by intimate but not previously self-evident implication -- children are unequivocally served, society itself has not been served" (Stamp 1989:2). She observes that over the past 15 years there has been

"an emerging moral and scientific commitment to the truth that women are half of humanity and that gender relations are as fundamental a shaping force in society as are economic relations or political structure. Indeed, there is no political economy that is gender neutral, as those who are willing to look discover. In development discourse, women are no longer entirely invisible, even if they still get far from equal time" (Ibid.)

The second question posed by Stamp, is whether Third World social reality has been adequately considered in technology generation and transfer studies and projects. She argues, in harmony with a growing consensus of development practitioners, that "it is no longer possible to view technology as artefact or to avoid the difficult task of examining our underlying assumptions about Third World societies" (Ibid.) She then calls upon all of us to test the scientific accuracy of each development study by asking whether gender variables have been properly accounted for.

To a large extent, what the CGIAR Donors are calling for is this "gender test". Gender analysis is now recognized by many development institutions as an important aspect of the design, implementation and evaluation of development projects. The fact that women are critical to agricultural production and that their access to necessary resources and effective technologies is often constrained by gender barriers is confirmed in the explosion of literature on gender and development and the increasing number of conferences and workshops on the topic in the international research and development community.

However, there is considerable difference between voicing concern for gender -- that is, being "sensitized" -- and incorporating gender as an analytical variable in the research and development equation. The gap between sensitization and incorporation varies across the different development sectors. In agricultural research institutions, sensitization is, unfortunately, not widespread, and the gap between the few sensitized voices and actual incorporation is deep. What might be called the general "culture" of agricultural research institutions often serves to compound the "normal" difficulties of introducing gender analysis. Important among these cultural features and their implications are:

- a general belief that technology alone will solve problems;
- a view of technology as "neutral" to socioeconomic differences among users;
- increasing disciplinary and technical specialization and reliance on reductionist research methods that encourage technical fixes rather than integrated approaches;
- relatively recent and scanty inclusion of non-economic social sciences in technology development and thus the absence of relevant gender sensitive methodologies;
- a generally conservative political climate institutionally that makes the subject of gender seem like a radical intrusion rather than a call for greater efficiency of resource use;
- the language of agricultural research which has tended until only recently to make women invisible by referring to farmers and researchers only as "he";

- and, the extremely low numbers or absence of women among professional or management ranks of research; and extension institutions which contributes to the male orientation of the research agenda.

These characteristics reflect deep-seated values that have made it difficult for agricultural research to effectively reach out to low-resource or small farmers with relevant technology, much less to even speak of a gender perspective in the development of the technology.

During the past 15 years, a growing client-orientation and a gradual shift towards on-farm experimentation has occurred as a result of several new interdisciplinary approaches to agricultural technology development. Most important among these are farming systems research and extension (FSR/E) and farmer-participatory or user-oriented research. By focusing more directly on lower resource farmers and their behavior in response to technology, these approaches have allowed, at last, for the differences between men's and women's roles in production to begin to be recognized and for the assumed homogeneity of the farm household to be replaced by the concept of "intra-household dynamics".

The reorientation and methodologies embodied in the on-farm, client-oriented approach have fundamentally altered the relationship between social science and agriculture in three key ways that have provided fertile ground for the incorporation of gender analysis:

- 1) expanding the range of social science disciplines engaged in agricultural development work,
- 2) placing social scientists on technology development teams, and
- 3) developing institutional structures to provide a home base for the social sciences in agriculture.

These changes have expanded the perspective of existing agricultural staff and brought new professionals, many with gender analysis expertise, into the agricultural field. Application of gender analysis tools to the iterative procedures of client-oriented technology development is beginning to change the way production problems are identified, the understanding of division of labor, and the nature of farmer participation.

The tools of gender analysis are more than checklists or guidelines for data collection. Instead, they are analytical frameworks designed specifically to deal with gender issues (Overholt et al. 1985; Feldstein and Poats, 1990). They lead to the design of interventions and action strategies which will ensure that men and women are better integrated into on-going development efforts.

In a recent FAO study, the incorporation of gender frameworks into the work of research and development organizations has been shown to be intimately linked to five conditions:

- 1) making changes in policy mandates;

- 2) having senior management and leadership support and involvement;
- 3) implementing gender-explicit evaluation and monitoring mechanisms;
- 4) having sufficient professional staff with gender expertise; and
- 5) enhancing overall human resource capacity through training (Poats and Russo, 1989.)

Available evidence indicates that while the first four conditions are necessary, the fifth appears to be critical.

A survey of projects using on-farm research approaches found that while there was a correlation between having women and/or social scientists on teams and whether or not gender analysis was conducted, not all women or social scientists were successful in conducting gender analysis (Poats, Gearing and Russo 1989.) Their presence did not guarantee attention to gender issues. However, in all cases where training (either formal or informal) in gender issues and analysis occurred, project members did subsequently conduct or improve gender analysis. Training of professional staff across and up and down the hierarchy of a project or an organization can significantly alter cultural views that have caused gender blindness and can be a critical step in learning how to do gender analysis and how to incorporate gender sensitivity as part of the normal way of doing good work.

III. Gender Issues in the Donor Community.

The FAO study mentioned above reported on a number of organizations that are using training as a key tool for promoting the incorporation of gender analysis. Among the institutions included in the study were: the World Bank, the U.S. Agency for International Development (USAID), the Canadian International Development Agency (CIDA), the United Nations Development Program (UNDP), the International Development Research Centre (IDRC), the Australian International Development Assistance Bureau (AIDAB), the Overseas Development Administration (ODA), the Swedish International Development Agency (SIDA), the Asian Institute of Management (AIM), the United Nations Population Fund (UNFPA) and a number of U.S., Canadian, European and Indian Universities. Institution-wide training courses designed to introduce gender issues in development and to train staff in the use of gender analysis tools have been key elements in the process of incorporating a gender perspective into the development agendas of these organizations.

In another study, Eva Rathgeber (1987), Women in Development specialist at IDRC, reviewed the official position taken by nine donors on gender issues and described the efforts they are making to ensure greater benefit for women from development aid projects. Like those described in the FAO study, many of these donors are major actors in the support of the CGIAR System. It is clear that as a result of specific policy statements, training of project managers and designers, and qualified leadership in the subject matter, many donors are now guiding their funding choices with explicit attention to gender issues. This fact alone provides a strong rationale for the CGIAR Centers to

strength the attention given to gender in the agenda for international agricultural research and development. ;

IV. Does Gender Make a Difference?

For those who have added gender analysis to their toolkits for the diagnosis of farm level problems and the design or adaptation of new technology, the response is an overwhelming yes. Examples of the difference gender makes can be found in much of the literature cited in the case studies and other references to this paper. There are several efforts in progress to further document methodologies used where gender made a difference. A few examples from agricultural research on food crops and livestock, the key concerns of the CGIAR System, may be useful for those who are unfamiliar with gender issues or are still skeptical.

In Colombia, an on-farm bean and fertilizer research project (Ashby 1990) did not initially include women's perspectives on bean varieties because prevailing wisdom at the time held that only men were engaged in the production of beans. Cued by some unexplainable anomalies in the preferences by some households for bean varieties designated as unmarketable by the project researchers, the team decided to use participant observation tools to further explore internal household decision-making about bean variety preferences and selection. They learned of the multiple roles of beans in the household and the women's key role in influencing the choice of bean varieties for production. As a result the team retained bean varieties in the on-farm testing program that would have otherwise been discarded by breeders. Including both men and women as users of beans revealed new information about the characteristics and the process that farmers use to guide bean selection or rejection. These proved valuable to bean breeders and subsequently made a difference to the direction of the bean research in the project.

In Zambia, Chabala and Gichiru (1990) documented the experiences of an on-farm research team (agronomist, agricultural economist and extension specialist) that conducted its early diagnosis of production problems only among male farmers. Growing concern over timeliness and competing needs for labor as the critical constraint to improving crop production led the team to conduct a detailed study of household labor resources and allocation. Recognition of the increasing population of female headed households in the research area (some 30% or more of all households due to male out-migration primarily to mining regions) led to shifts in the approaches used to identify recommendation domains and potential users of technology. Reducing the labor requirement especially among women responsible for weeding became a research priority and led to an experiment mixing maize, the dominant men's crop, with beans, a key cash crop grown by women. Both crops were traditionally grown separately. By combining them, the researchers hoped to take advantage of well-known complementary nutritional interactions as well as decreasing the amount of weeding time, since both could be weeded simultaneously. However, in farmer evaluations of the technology that included both female and male farmer participants in the trial, women voiced their negative reactions to the technology. When beans were planted on land normally allocated to maize, the women lost ownership of the beans and men benefited from the cash generated by

their sales. Since men and women operated separate income streams within households and each had different responsibilities to fulfill with their cash, loss of the bean income to women could decrease the welfare of the household as a whole. Researchers were informed by this experience of gender differences in the criteria for a "successful" technology. Their next research steps would have to consider whether women's ownership of beans could be retained while using mixed cropping technology or if other labor conserving technologies would "fit" more appropriately with the existing gender segregated cropping system.

A final example comes for the Philippines and concerns an integrated pest management (IPM) project (Adalla, 1988). The project initially worked with male farmer cooperators. IPM is generally considered as a concept that is difficult initially to comprehend and involves a lot of management decision-making. As such, IPM is often thought to take longer time to learn and as a technology, more difficult to adopt. In the project, though researchers felt farmers were beginning to understand the concept, few if any were adopting. In searching for an explanation, researchers found that though men did indeed do the physical labor associated with managing pests, women also played a crucial role. "It was the wife who dictated the specific brand or kind of pesticides to buy and the dosage to use, based on friend's recommendations or based on experiences of the husband as to which poison kills most. However, in a tight financial situation the decision is to settle for the least expensive kind..." (Adalla, 1988). Even if the male farmers did see a potential value in IPM, their wives continued to purchase pesticides. Once the researchers understood the role women played in determining the choices in pest management technology, women were invited to participate directly in the IPM discussions and training. Subsequently, there was an increase in the use of IPM because women understood the alternatives to pesticides. In addition, involvement of the women resulted in a project to develop IPM tools appropriate to their vegetable gardens.

These three examples, dealing with different crops and widely differing socio-cultural and agroecological settings, show clearly that gender makes a difference. In each case, when researchers pursued "who is doing what" in the production system, they discovered that initial suppositions were wrong and that both women and men were involved and needed to be considered in the technology development process.

The above sections have outlined both the progress and difficulties encountered by the agricultural development sector in understanding gender issues and using gender analysis. The IARCs, as leaders in the international community of agricultural practitioners, need to take a serious look at the critical role and example they must play in furthering this perspective and enhancing the use of gender analysis in reaching viable solutions for the production problems of Third World agriculture.

The remainder of this paper reviews the progress and problems in accounting for gender within the CGIAR System and recommends a course of action for the future.

V. CGIAR Recommendations and Actions: 1981-86.

Attention to gender issues in the CGIAR System began with an early call to consider the importance of women in agricultural production. The Report of the 1981 Quinquennial Review Committee on the CGIAR System states the issue as follows:

"In many parts of the developing world, women play an important role in agricultural production, for example, as farm owners, managers, sales agents, and field workers. Too often, this role has been overlooked resulting in reduced impact or even total failure of programmes related to agricultural development. Consequently, it is important that the System should give explicit attention to the role of women wherever relevant to its work. In particular, Centers should review their programmes, particularly those on farming systems, to ensure that the role of women is specifically considered and that the possibility of differential benefits to men and women is analyzed. Furthermore, we consider that TAC should ensure that the impact on women of the System's work is fully taken into account in designing and evaluating programmes of work (Para. 7.114, p.97, Report of Review Committee, 1981, taken from MUCIA 1983:5.)"⁴

While these recommendations call for explicit action, little was immediately taken. In 1982, Barbara Knudson and Jean Weideman of the Midwestern Universities Consortium on International Agriculture (MUCIA) gave a presentation at International Centers Week on a proposal for a collaborative program on women and agriculture between the MUCIA Women in Development Network and the IARCs (MUCIA 1983). The program was to provide consultation services and the development of educational materials and training modules on women's productive roles in agriculture. Though the program was not funded, it was the first time the subject of directing IARC research activities towards to specific technological needs of women farmers was discussed among the donor and IARC representatives in plenary session at an ICW.

In hindsight, it is likely that the proposal was before its time. Few people anywhere were making the link between technology development and the varying technical needs and constraints of different potential users of new technology. However, the following year, the situation began to change within the CGIAR System.

⁴The Committee addressed a separate but related issue in its Report, where additional recommendations urge attention to the special needs for training women as scientists both as potential members of staff for the institutions and as future research leaders in the developing countries (Para. 5.56 cited in MUCIA 1983:5). The Review Committee advised the CGIAR to "make vigorous efforts to increase the participation of women as professional staff and to identify women qualified for membership on Boards of Trustees and of other CGIAR bodies," and to insure that "the Secretariat should report to the Group, at appropriate intervals, on progress made in these respects" (Para. 7.115, p.97 cited in MUCIA 1983:5).

In September 1983, IRRI convened an international conference on women's concerns in rice farming. Biological scientists, social scientists and policymakers from 27 countries discussed whether women have benefited from the introduction of new rice technology, how women might benefit from emerging technologies, and how women's roles in technology development and transfer might be enhanced (IRRI 1987). The conference was the catalyst that launched activities at IRRI leading to the establishment of the Women in Rice Farming Systems (WIRFS) Program in 1986. How and why this program has been successful is discussed later in this report. The monograph published from the conference, Women in Rice Farming (1985), set an example for national and international agricultural research institutions to begin exploring the direct technical relationships between specific production systems and women farmers. Conference participants also made three recommendations to the CGIAR System as a whole:

"1. The CGIAR should organize an inter-center seminar for Policy-makers on Women in Farming Systems Improvement based on the work in all IARCs. All CGIAR members could be invited to participate so that donors can contribute to the action research projects of the kind recommended."

"2. The TAC to the CGIAR should add the following to the Terms of Reference and Guidelines for external program reviews of the IARCs: 'Examine the research and training programs of the institute in relation to their potential impact on women-specific occupations with a view to diversifying employment opportunities, generating additional income, and reducing drudgery.'"

"3. Centers themselves could monitor progress during their annual program reviews."

These recommendations contributed to the decisions on measures taken by the System as a whole to explore the gender question. At its annual meeting (ICW) in November 1983, following the IRRI conference, the CGIAR commissioned a wide-ranging impact study of the results of the activities of the IARCs under its sponsorship. At this time, the Impact Study leaders and Advisory Committee recognized the need for a separate study on gender issues. Conducted by Janice Jiggins during 1984-85, the study produced a series of sector specific papers (on livestock, breeding, post-harvest issues, etc.) that were later compiled into a single volume, Gender-Related Impacts and the Work of the International Agricultural Research Centers (1986).

While the Impact Study was still underway, two conferences brought CGIAR Centers and gender issues together. In 1984 the Rockefeller Foundation hosted a conference entitled "Understanding Africa's Rural Households and Farming Systems" (Mooak 1985.) Though focused on one specific region and not targeted to the CGIAR System, participants did include representatives from a number of

IARCs and donors of the CGIAR.⁵ The conference attempted to reconcile the divergent methodological and conceptual issues between FSR/E as it was being conducted at the time and the body of household research conducted largely by social scientists. Progress was made in the exchange of ideas, experiences and methods, however, more than one participant characterized the conference as two bodies of researchers speaking past each other. FSR/E practitioners at the time were still very reluctant to acknowledge the need for a gender disaggregated understanding of the African household and social science researchers examining the African household were not generating the kinds of analysis that could lead easily to technical decision-making. It was obvious that more communication between these two groups would be necessary to arrive at a cohesive analytical framework.

In March 1985, ISNAR and the Rockefeller Foundation co-sponsored a week-long inter-center seminar at Bellagio, Italy on Women and Agricultural Technology: The Users' Perspective in International Agricultural Research (Rockefeller/ISNAR 1985 Vols. I and II.) The objectives of the meeting were to assess the current activities in the Centers related to a more effective integration of women in the modernization of agriculture and to seek possible ways of improving the performance of the CGIAR System on this issue. The thirty participants in the seminar included seven Director Generals, members of the CGIAR Secretariat and TAC, several representatives of Donors, university and national program leaders, and selected IARC social scientists with experience in gender issues and analysis.

Prior to the seminar, twelve of the thirteen IARCs prepared background papers on their experiences to date with the "users' perspective" and women as users of technology. (IBPGR did not prepare a paper but did participate in the seminar.) In addition, three regional background papers on women in Africa, Asia and Latin America were prepared. All background papers were circulated in advance so that the seminar itself was devoted to analytical presentations and discussion.

The seminar serves as a benchmark for the CGIAR System on user perspectives and gender issues. The papers prepared for the seminar summarize the experiences, shortcomings, success stories and projected needs for the future in order to conduct gender-aware research. On the positive side, six of the IARCs provided fairly clear evidence of analytical application of gender issues to problems of technology development. Several Centers gave examples of specific technology changes in order to suit needs of women users. Some of the reports were less positive.

Three of the IARC reports dealt with gender issues mostly in terms of including more women in training programs and provided little more than token evidence of gender analysis in their research programs. Two of the Center

⁵ Included among the participants at the conference were scientists and managers from: CIMMYT, IITA, ICARDA, ICPE, ILCA, IITA, ICRISAT, the former Agricultural Development Council (now a part of WINROCK International), Ford Foundation, USAID, the World Bank, and the Rockefeller Foundation.

reports are notable for their virtual lack of mention of women or gender issues. (The only mention in one was an aim to look at the relationship between nutrition and women's, in particular mothers', work patterns.) That reports commissioned for a conference dealing with women and technology could leave out women entirely raises concern. Finally, one report presented a negatively biased view of women's roles in production and misinterpreted existing data on gender issues from the region of the Center's responsibility.

The conference confirmed that several Centers were already well engaged in gender-sensitive research on some topics and were taking steps to assure that gender analysis would be included in other areas of responsibility. The concluding statements of the participants affirmed several key points⁶ on the relevance of women's and gender issues to research:

- that gender is an important variable in distinguishing among potential beneficiary groups for agricultural technology research and policy analysis;
- that female farmers do not form a homogeneous group for development purposes and gender and other variables need to be considered in defining categories of people for research and development activities;
- that choice of technological approach is based on more than the production process itself; it is based on the entire food and economic context of the household and women play an active part in that choice;
- that the economic contribution of women to the household can be disrupted and disadvantaged by the introduction of well-intentioned technological change, particularly when biased towards male heads of households; and
- that women are crucial repositories of information on plant and animal species as well as technical aspects of production practices and useful insights are lost when women are ignored.

The seminar confirmed the need for complementarity between the IARCs and national programs in addressing gender issues and women's participation in the technology development process. Characterizing the relationship as a team effort requiring more two-way flow of information, the seminar participants called for:

- increased, systematic use of information and cooperation in raising awareness of gender issues at national and international program levels;

⁶ These issues are drawn directly from the Concluding Statement of the report prepared on the seminar (Rockefeller/ISNAR 1985 Vol.1) and from an interview with Josette Murphy, then with ISNAR, conducted following the seminar and reported in CGIAR News Vol. 5, No. 2, June 1985.

- development of a long-term strategy to consider women in all phases of research and development work;
- greater collaboration and recognition of complementarity among the IARCs, especially between the commodity centers and IFPRI and ISNAR; and
- inclusion of gender issues in the evaluation of the impact of IARC work at the national systems level.

Finally, the concluding statement of the seminar listed a set of suggestions for the CGIAR System as a whole that are summarized below:

- 1) Gender issues must be linked to the entire technology generation process.
- 2) IARCs should collaborate with national organizations in generating information and methodologies dealing with gender issues.
- 3) Interdisciplinary teams of scientists should identify specific areas in which gender makes a difference to the effectiveness and efficiency of IARC work.
- 4) Inter-center exchanges among natural and social scientists to discuss specific issues in incorporating gender into research plans and procedures need to be organized.
- 5) High-quality studies should be commissioned and widely disseminated on the experiences of and methodologies for incorporating gender issues.
- 6) IARCs and national programs should offer more training opportunities for women, find ways to increase the number of female extension workers to reach farm women, and pay specific attention to gender factors in on-farm research.

Taken together, the seminar statements affirming the need for understanding gender issues, calling for collaboration between international and national research entities, and laying out specific suggestions for the CGIAR System, represent a very positive step towards gender sensitivity for the entire System. In effect, the conference "signaled the beginning of a system-wide dialogue on the subject of women and agricultural development" (CGIAR News 1985).

However, two critical elements were left out of the agenda.

First, no mechanism was developed to insure that the System would follow the seminar suggestions. Instead, as Josette Murphy, currently at the World Bank, explains (CGIAR News 1985), "it was left to each center to decide exactly what it needs to do under its mandate and how it should go about doing it. Reporting and other administrative requirements were not included to

avoid artificial isolation of the issue.' While the argument for not isolating gender issues is valid, the lack of System-wide mechanisms to require, evaluate and monitor progress in this area has contributed to the great unevenness in Center attention to gender issues. To a large extent, those Centers that were already beginning to deal with gender issues, at least in some program areas, have continued to do so, provided that the people who had the capacity to direct and conduct the work have remained at the Centers. Only one Center, IRRI, has developed an explicit program to take leadership for gender issues. Those where the issues were weak or misdirected in 1985 have, with few exceptions, continued in the same fashion to present.

Second, no consideration was given as to how Centers were to go about capacitating their scientific and management staff to be able to incorporate gender issues. Those present at the seminar represented only a tiny percentage of the total staff of the CGIAR System. They could also be characterized as being "the already converted" within the System. How would the larger numbers of scientists, managers and policymakers for the System be sensitized to gender issues? Where would they learn the skills and methods to be able to incorporate gender concerns into their work?

Overlooking these two concerns has meant that while the System has called for attention to the issues, only the committed few have taken and continue to take action. Until these areas -- evaluation and capacitation -- are addressed, gender issues will not become part of the most critical task of the CGIAR System, the technology generation process.

Following the Bellagio Seminar, many IARC scientists proceeded to communicate results of gender-related research in several international meetings. To some extent, the Bellagio Seminar may have at last validated the topic as legitimate for discussion outside the Centers, if not within. Papers by Center scientists were included at the 1986 Conference at the University of Florida on Gender Issues and Farming Systems Research and Extension (Poats et al, 1986), at several meetings of the Association for Women in Development (AWID), and at the annual Farming Systems Research and Extension Symposium.

In 1986, Janice Jiggins's report for the CGIAR Impact Study was released. It added numerous examples, both from within and outside the IARC work, where taking gender into account made a difference in the development and adoption of technology. She reiterated many of the concerns and suggestions from the previous Bellagio conference with two important additions. She called for explicit attention to the links between varietal characteristics, production and domestic processing. In arguing for early attention to preservation and preparation technologies, she identified these areas as largely a female domain and one that is normally excluded from all but a very few IARC programs. Second, she highlighted the lack of understanding of multiple uses for much of the biomass produced by rural households. Defining research objectives in terms of single uses for crop or livestock products often disadvantages users, frequently women, of the other traditional products from these same commodities.

Jiggins's report has been widely circulated and cited among the international community of researchers and development workers addressing

gender issues. It has joined a growing set of literature on gender issues and agricultural development. The increasing call for further discussion and action on gender issues and analysis led the CGIAR Secretariat to organize a half-day special seminar on "Gender Issues: User Impact, Agricultural Technology and the Global Agricultural Research System" at the 1987 International Centers' Week. While the 1983 conference at IRRI and the 1985 seminar at Bellagio had brought together a range of CGIAR System leaders and specialists on gender issues, the ICW Seminar in 1987 was the first time since 1982 that the entire system, donors, Centers, Secretariat and TAC discussed the question of gender and agricultural technology.

VI. The ICW 1987 Seminar on Differential Users: Summary and Recommendations on Gender Issues⁷

"...it's not so much that women are the issues; it's the issues that women are concerned with is what our focus must be."

(W. David Hopper, World Bank)

The focus of the ICW seminar was the need to understand the potential impact of agricultural technology on disadvantaged user groups, particularly women. Three themes were addressed by the presentations and the discussions:

- 1) How can the research process bring user implications to bear in technology choice?
- 2) What are the respective roles of national research systems and international centers in incorporating user considerations into technology design?
- 3) How far have the centers themselves progressed in achieving gender balance and incorporating it into research and training activities?

Finally, given the wide differences in Center reaction to the gender issue question, the possible usefulness of a Stripe Review on the subject was raised.

The seminar included five presentations, comments by a selected panel, and open discussion from the floor. Immediately following the seminar, the CGIAR Secretariat summarized the overarching recommendations from the discussion.

- 1) That the centers play a role in bringing processes and methods to national systems which allow decision on research thrusts and on technology choice to be made in the light of the needs of and potential impacts on different user groups.

⁷The information presented in this section draws directly upon the transcript of the ICW 1987 Seminar on Differential Users. All of the quotations in the section come from the transcript prepared by Miller Reporting Company, Inc. October 28, 1987.

- 2) That the Group should receive information on progress in this area, and in the balancing of genders at the centers themselves, on a routine basis.
- 3) That external reviews of centers take up gender as an explicit issue in the questions asked of centers and in their report.

In addition to these, most of the participants made additional recommendations and raised questions for further consideration during their presentations. Drawing upon the transcript of the seminar, these additional issues are summarized here.

Margaret Catley-Carlson, CIDA, outlined three essential elements to effect institutional adoption of a gender perspective: a clear, agency-wide policy mandating attention to gender as a development variable; an action plan created from bottom-up for implementing the policy; and training for all staff, starting with those at the top. These elements are applicable not just to donors, but to the Centers as well. Catley-Carlson also laid down the donor bottom line by saying, "for those of us who invest millions, if not billions, of dollars in international development, it's quite silly to go on doing so if we're not targeting the actual actors in the process."

All of the presenters highlighted the need for the incorporation of user considerations in technology development and the essential inclusion of gender analysis as a critical element in determining user groups. However, including a "gendered" user perspective raised other concerns. Given the location specificity of user group patterns and needs, how can the IARCs, with a broad mandate to develop technology for the range of users embraced by individual national programs, orient research output and research program planning to all of these differing user needs?

Concerning this question, Bob Herdt, Rockefeller Foundation, clarified that the key role of the IARCs is to develop appropriate analytical methods to address user concerns. These methods must be oriented to the challenge of identifying innovative technologies that will have a positive impact on the general groups that are the ultimate CGIAR System clients: the poor, the women, and the disadvantaged. The IARC responsibility is to provide leadership and training in these methods as part of their overall mandate. Ashby's presentation underscored the IARC role vis-a-vis national programs.

"A user-orientation in the research agenda, such as giving priority to commodities or activities where women are likely to benefit from research, reflects values which are not necessarily shared in all cultures where NARS operate. The IARCs have the opportunity to show by their example, the relevance of user-oriented research to attaining the objective of improved food availability for the poor. To the extent that resources invested by IARCs in networks, training, and methodology development reflect concern with specific groups of users, commitment is likely to be generated in national programs to respond to user priorities in the research process."

Opponents of the user perspective and a concern for gender issues often fall back on the argument that the role of the IARCs is to generate what might be called "generic technology". This is then adapted to local conditions by national programs, or in some cases, local user groups, in the process of developing "brand-name technology". While the boundaries between what is IARC work and what is NARS work are often fuzzy, the seminar discussion highlighted the importance of feedback along the research chain to identify user relevant priority thrusts at the applied and strategic levels. User concerns and information must play a strong role in informing the research agenda from the beginning. Technology developed at strategic and applied levels in isolation from user concerns and criteria, will likely be insulated from user adoption.

"The diversity of user circumstances and of potential impacts which can arise from technological change means that user implications ultimately have to be accommodated in technology design through greater involvement of users in problem definition and technology evaluation. The issue at this level is fundamentally one of how to institutionalize the participation of users in the research process to inform research strategy and orient technology design." (Ashby presentation)

On-farm, client-oriented or farming systems research within the IARCs will continue to have the greatest responsibility for the user perspective in research. However, to carry this out effectively, beyond its concern with technology adaptation, FSR must increasingly emphasize a feedback role engaging in the dynamics of research priority-setting and strategy-building. And, most importantly, FSR will have to accommodate methods which can account for the gender and intrahousehold differentials in technology impact.

The case experiences discussed in the seminar confirmed that efforts to right the gender imbalance in agricultural research are better placed as part of the mainstream effort rather than as special women's projects which may further isolate the problem and solution from the general bureaucracy.

Patel's presentation on adaptive research and gender issues in Zambia brought out another critical issue: the rapidly growing numbers of female-headed households due to male-outmigration. Though in southern Africa, this situation is reaching drastic proportions, it is occurring at a rapid rate in all developing countries. The growing feminization of agriculture, especially food crop production, will have profound implications on the definitions of user needs for research and the ability and resources of poorer farmers and households to adopt improved technology. Gender sensitive analysis will need to play an even stronger role in determining the differences among women farmers as well as between male and female farmers. Given the mandate of the CGIAR System as a whole to increase the amount, quality and stability of food supplies for poor people in low-income countries, the Centers must deal with the fact that unless the trends are quickly and drastically altered, the majority of the faces of their clients in the near future will be female.

Though most of the seminar discussion focused on the users of technology, a parallel thread addressed the gender imbalances among the

designers and managers of the technology innovation process: the researchers, staff, management and boards of the Centers. In the final seminar presentation, Richard Sawyer, Director General of CIP, underscored the need to increase the number of women professionals in the CGIAR System. He pointed to the lack of women in the centers themselves, on the boards and within the Technical Advisory Committee and the CGIAR secretariat itself. Using CIP as an example, he recommended that other centers actively recruit women professionals into their ranks without sacrificing quality for equity. However, he warned against getting too involved with the internal politics of national programs in trying to balance gender inequities among participants in IARC training courses.

Echoing the concerns of Sawyer, John Mellor, Director General of IFPRI, noted that "sometimes we forget, as we look at the question of gender, what a powerful force the combination or juxtaposition of latent racism and sexism represent in the world, ... we need to give some special attention to that interaction within international organizations."

While the attention of the IARCs and the entire agricultural research establishment to the gender issue is long overdue, the discussion during the seminar revealed another problem. Gender refers to men and women, not just women. The use of gender analysis is not gender specific. Male and female researchers can be equally proficient at gender analysis. Likewise, a woman researcher trained in a narrow technical discipline can be as gender-blind as a male trained in the same profession. Both need training in the skills of gender analysis to become proficient and effective in applying it to their work. So, hiring more women scientists, unless they are specifically trained in gender analysis techniques, will not rectify a gender bias in the technology generation process. A surprising number of the participants at the seminar seemed by their comments to be confused on this issue. The implications of confusing affirmative action or "the equity issue" and the "efficiency issue" of gender analysis in development, are discussed later in this paper.

In the final comments of the seminar, Janice Jiggins brought the discussion back to the need to assess the progress made, and yet to be made, by the Centers in dealing with user perspectives and gender issues. She observed that very practical and constructive efforts have been made by some Centers both internally and in collaboration with national programs. Other have been far more hesitant and she posed the question why some Centers remain resistant to gender. As a prelude to exploring this issue, the next section presents some examples of the strategies used by various Centers to address user needs and gender analysis in technology development.

Before moving on, it is important to note that gender has surfaced at least twice more among the centers since the ICW 1987. One was during the International Agricultural Research Centers Workshop on Human Resource Development Through Training, held at CIP, Lima, Peru, in September 1988. In the summary report listing major issues and recommended actions, number 14 reads as follows:

*Women in Human Resource Development in Agriculture.

Centers recognize that women farmers are an important target population and that action should be taken to encourage the participation of women in their training programs.

Recommendation: That centers develop training materials which point out the importance of reaching women as a neglected target group for technology development and also explore methods for improving the participation of women in center training activities."

A second time gender issues were raised was at ICW 1989, when several donors discussed the issue in smaller group sessions as well as in the plenary. They called for a report on the progress made since the 1987 ICW seminar on the incorporation of gender and user issues in the Centers. This report is a first response to that request.

VII. Strategies for Gender Issues: Examples from the System.⁸

From the previous sections of this paper, it is quite clear that there is no lack of recommendations to guide the CGIAR System in dealing with gender issues. However, as stated in the beginning, the application and use of the recommendations is quite uneven among the 13 Centers. Based upon the literature from the system reviewed for this paper, the Centers can be grouped into three categories. The first comprises those Centers with a clear mandate or policy on gender issues, an operating research program that has a focus on gender, training in gender analysis, and a commitment to a gender balance among staff and trainees. The only Center in this category is IRRI.

The second group consists of Centers where individual scientists have

⁸ A thorough review of all gender-related activities undertaken by the CGIAR System was beyond the scope of this paper. Instead, a purposive search was made to find examples of successes and then to identify the factors that encouraged success and the lessons learned from the experience. This search was done by interviewing a number of people who hold current positions within the System and others who used to work with the Centers. The selected interviews were complemented by a rapid content analysis of the most recent reports and documents from the CGIAR, TAC and the Centers themselves. Annual reports from each Center (mostly for the years 1988 or 1989) were reviewed to locate any references to women, gender, household, or intra-household issues. Special publications, journal articles and project reports were also scanned. Where available, strategy statements and long-range planning documents were reviewed. In addition, several external program and managements reviews were studied to see whether reviewers had complied with recommendations from the CGIAR to include gender issues in the regular review process of the Centers. Finally, several of the CGIAR Impact Studies were also included in the review. All of the documents consulted in this review are listed in the references to the paper, including documents that were studied but not cited directly. A large part of the literature consulted was provided by the CGIAR Secretariat office in Washington, D.C.

done good work either directly on gender issues or have incorporated gender analysis into an on-going research direction. These Centers do not have a clear policy on gender and the work that has been done on gender, even when recognized internationally, appears to have a limited audience within the Center. In some instances, such work is given brief mention in annual reports, but in most cases, the results remain at the level of projects and programs, does and not serve to inform the Center effort as a whole. Seven Centers fall into this category: CIAT, CIMMYT, CIP, ICARDA, IFPRI, IITA, and WARDA.

The final category include those Centers where there was very little attention or mention of gender or women in the documents reviewed. Some of the Centers in this group made no mention at all in any of the documents reviewed, others have some minor mention in project related reports, but usually nothing at the level of the annual report or strategic plan. This group includes: ISNAR, IBPGR, ILRAD, ICRISAT, and ILCA.

From the first two groups, a number of strategies can be identified that would be useful to other centers in the System. I have selected three for discussion. Among these, considerable attention is given to IRRI due to the length and depth of that institution's experience. Several other examples are given at the end of the section.

IRRI

The most succinct statement on IRRI's position regarding women and gender issues is found in "IRRI Toward 2000 and Beyond". Of the five IRRI policies laid out in the document to guide the future of the institution, the fourth is stated as "women and rice". The brief summary of the policy reads:

"Women and rice: Affirmative action will be taken in recruitment, in selection of candidates for training and in research design to address the roles of women in IRRI itself, in national rice programs, and as users and beneficiaries of rice technology." p. 23.

An expanded version of the policy provides some additional information about the program and its results.

"The role of women in rice research and rice farming has both efficiency and equity implications. IRRI has been sensitive to this issues for many years. Some progress has been made in regard to women in IRRI itself, in national rice programs, and as users and beneficiaries of rice technology, but much remains to be done.

We recognize and uphold the principle of affirmative action in the recruitment of all staff at IRRI. We will intensify our efforts to recruit qualified women scientists and administrators. We also aim to increase the proportion of women in IRRI graduate and postdoctoral fellow programs and short-term training programs.

We will continue to promote the integration of women's concerns into all research projects in IRRI and in national programs. Specifically,

gender analysis will permit recognition of the contribution of women to rice production, marketing, and consumption; technologies that reduce the burden on women without displacing their income-earning capacity will be developed, and research on rice processing will aim at conserving the level of essential nutrients. These activities will help us to focus more sharply on the whole family as the ultimate beneficiary of rice research."

The cornerstone of IRRI's focus on women and gender issues is the Women and Rice Farming Systems Program (WIRFS). WIRFS traces its history to the Women in Rice Farming conference held at IRRI in 1983. In addition to the recommendations made by the conference to the System as a whole (mentioned earlier) participants also called for IRRI to organize a network on women and rice farming systems for the Asian region. In 1984, a consultant with long-term expertise in women and rice production, Jennie Dey (currently with FAO), was funded by the Ford Foundation to lay the groundwork for such a network involving six countries: Bangladesh, India, Indonesia, Nepal, the Philippines, and Thailand.

Following the Bellagio Conference on Women and Agricultural Technology, IRRI took steps to implement the recommendation to develop a long-term strategy for involving women in all phases of research and technology development work. In 1985, IRRI held a project design workshop to create WIRFS. Leadership for the first year was provided by Gelia Castillo from the University of the Philippines, a noted scholar who was already serving on the boards of several Centers. She coordinated WIRFS activities at IRRI, in the Philippines and within country members of the Asian network for rice farming systems. In 1986, WIRFS began action research within one of IRRI's crop-livestock projects (Paris, 1988). This work demonstrated to IRRI scientists and management that introducing a gender perspective made a difference in research priorities and directions, as well as identifying new topics, such as glutinous rice preparation, that had not previously been the subject of IRRI research attention.

On the basis of the initial results of the WIRFS initiatives, the 1987 IRRI External Program Review recommended strengthening WIRFS work at the Institute. This recommendation was endorsed by TAC. As a result, IRRI obtained funding from the Ford Foundation for expanding WIRFS activities at IRRI and within the network. To date, WIRFS has sponsored more than 26 different research projects. During the past two years, it has organized 11 workshops and training courses at national and international levels during 1988-1989. Funding from a number of other donors has been obtained for many of the WIRFS activities including IDRC, CIDA, DANIDA, USAID, Rockefeller Foundation, and a number of the Universities in the region. Over 87 papers or presentations have been delivered by members of WIRFS on their work, at national and international conferences and workshops between 1986-1989.

The impressive record of WIRFS at IRRI is not duplicated at any of the other Centers. No other Center in the CGIAR System has a policy statement on women and gender issues. A number of critical factors have enabled IRRI to develop such a policy and, more importantly, gain the necessary consensus among Center staff and management, as well as the participating national

programs and governments, to have it approved. These critical or "conditioning" factors are listed below. ;

- 1) International legitimization for a focus on women and use of gender analysis. The international conferences and external/international advisors have provided legitimacy and respect for the WIRFS effort in the eyes of the other members of the Institute. Donor funding has also assisted in legitimizing the effort.
- 2) Sustained experienced leadership for WIRFS. The individuals leading the program have been qualified researchers in the social sciences with experience and training in gender analysis tools. They were able to provide both scientific as well as managerial leadership.
- 3) Support and protection from top management at IRRI. It is no coincidence that WIRFS developed during the leadership of IRRI by Dr. M.S. Swaminathan. Long committed to both affirmative action and gender analysis in research, Dr. Swaminathan provided the young WIRFS with guidance as well as insulation during the time it needed to become established. The critical role of such "guardian angels" during efforts to institutionalize new approaches is recognized in development literature and was key to the acceptance of WIRFS (or at least silent acquiescence) by IRRI scientists.
- 4) External funding provided flexibility and autonomy. WIRFS has been quite successful in attracting sufficient funds from outside the Institute to sustain its activities. This has provided the flexibility to try out new approaches, new methods and to be very responsive to ideas and interests from members of the network.
- 5) Substantial external exposure. WIRFS member researchers have participated in a number of international conferences and workshops. These have exposed the program to the critical eyes of peers and enhanced the intellectual and methodological innovation needed to keep the program fresh and on its target.
- 6) Strong national involvement in the program built through networking and training. WIRFS has not focused just on research at IRRI but has been developed around the concept of the collaborative research network. Rather than creating a new network, WIRFS took advantage of the existing IRRI supported network on Asian rice farming systems and drew participants from that network.
- 7) Evaluation of WIRFS as part of Institute-level evaluations. WIRFS has been included in the regular program and management evaluations conducted by the CGIAR and TAC. Positive assessments of WIRFS to date have strengthened the program and have assisted in maintaining its sources of funding.

- 8) Results from WIRFS research shows that gender makes a difference. This is perhaps the most important factor in WIRFS favor for making a potential impact on the institute as a whole. Explicit, well-defined examples of changes within projects in technology design, priorities, testing, or new research directions have resulted from WIRFS.

All of these factors together have enabled the program to get started and to begin to make a difference to some of IRRI's work. At present, however, WIRFS is at the end of the phase of Ford Foundation funding and will hold a review in March 1990 to determine the future of the program. The review team will have to deal with several critical issues that will determine the extent to which WIRFS will be continued.

First, leadership at IRRI has changed in the last year and the new management wants hard evidence of WIRFS strengths and impact. WIRFS internal leadership will also shift shortly with the departure of one of its two leaders. Under Swaminathan, junior scientists at IRRI, many of whom are from the Philippines, were given significant responsibilities, including the ability to travel outside the Institute to participate in regional and international activities. This is unusual among the Centers. The prime "mover" for the program during the past three years has been a Philippine woman with a M.S. degree. Though not senior IRRI staff herself, in the eyes of WIRFS collaborators, she has represented and "spoken" for IRRI. Within IRRI, she is a junior staff member and thus less able to influence the senior scientists from other programs. WIRFS has capitalized on the substantial cadre of Philippine women scientists for conducting WIRFS activities. The extent to which this can continue should be assessed. Also, critical attention needs to be given to the need for a leader with senior ranking within the Institute in order that the valuable lessons from WIRFS activities can influence the larger IRRI program agenda.

The second issue is that the program up to now has functioned largely in the mode of a special project focused on women. While gender analysis has been the working apparatus, the mode has been to operate through special projects and teams that have been composed largely of women scientists. Participants in WIRFS activities have been mostly women. While it is important to involve more women in the research work of the Institute, it is essential that the male scientists working in the mainstream be brought into "a gender way of thinking." WIRFS has very successfully captured the "converted" within and around IRRI and gained the basic foundations of experience and results. Its challenge now is to mainstream the effort into the internal research program and the larger rice farming systems network.

CIMMYT.

Until recently, it was difficult to find any mention of gender or of women in CIMMYT annual reports or strategy documents. However, CIMMYT's 1989 strategy statement, "Toward the 21st Century," includes a section dealing with "Perspectives on Women in Agriculture." In this statement, CIMMYT recognizes the important role women play in agriculture and the need to identify the

technical needs of women farmers. The statement also underlines the need to emphasize women's roles in production within CIMMYT's training programs, and the need to include more female participants in the training courses. CIMMYT's growing attention to gender issues is largely due to the results of gender-sensitive work conducted at various field sites.

In an internal CIMMYT study on the impact of the Center on women, Carney (1988) notes that "the principal manner in which CIMMYT has directed assistance to women in developing countries is through its work in on-farm research, known as on-farm research with a farming systems perspective (OFR/FSP)." Within its OFR activities, CIMMYT has reached women farmers in two broad related areas: the development of methods for sensitizing researchers to the needs and circumstances of a target group of farmers, and workshops and training programs in the effective use of the methods. The key OFR concept directly relating to women farmers is the "recommendation domain" which is a "homogeneous group of farmers who share the same problems and possess similar resources for solving these problems" (Low cited in Carney 1988).

When applied correctly, the recommendation domain concept has the potential to identify production problems for women and men farmers and to engage women in on-farm research to solve these problems. The problem is that too often the method is not applied in a sufficiently unbiased manner, and recommendation domains are delineated according to the problems shared by male farmers, not all farmers. However, the concept has great potential to facilitate the involvement of women farmers in technology development.

The second example comes from CIMMYT activities in Africa. CIMMYT Eastern and Southern Africa Economics Program operates explicitly from an on-farm research perspective and has taken the lead in the region for providing training and national capacity building in adaptive research. From 1987, the CIMMYT program has taken steps towards the application of gender analysis to agricultural research. In April 1987, it sponsored a Networkshop on Household Issues and Farming Systems Research. The workshop included presentation of a case study incorporating gender analysis (Chabala and Guichiru 1990), papers by participants on the application of intra-household analysis to trial design, farmer selection, and trial analysis, and general discussion of methodologies and issues related to the application of intra-household or gender analysis to on-farm research (Alistair Sutherland 1987.)

In 1989 and 1990, resource persons with expertise in the application of gender analysis to agricultural research were included in Part 1 of CIMMYT's annual basic training course in on-farm research held at the University of Zimbabwe. Participants are generally agronomists or agricultural economists from national systems who have not had formal training in OFR. The course is divided into two parts: Part 1 covers diagnosis, informal and formal surveys and runs for three weeks in February; Part 2, trial design and evaluation, runs for two weeks in September. The schedule for Part 1 is relatively tight since emphasis is put on field practicums. In 1990, the resource person gave a one hour lecture on gender analysis which included a slide show, methods for developing "gender related" cropping calendars, and key definitions and questions; prepared a "gender sensitive" supplementary handout to the detailed

guidelines for the informal survey; led one group for the informal survey; and prepared suggestions for further incorporation of gender into the regular curriculum.

This kind of work by an external training advisor is a good beginning, but still leaves gender analysis more or less as an add-on, not an integral part of the training. Gender as a useful and important variable needs to be threaded throughout the lectures, field exercises, and field reports. While the foreshortened nature of each field exercise makes in depth questioning of farmers more difficult, some strategic, ahead-of-time planning and commitment on the part of the trainers could incorporate gender, an important variable in understanding farmer decision-making, as a natural part of the on-farm researcher's toolkit.

One of the areas which does need to be addressed with more material in future courses is the approach to learning about women and from women. Participants talked about the awkwardness of interviewing women--either because husbands were unwilling to have their wives interviewed alone or, when interviewed, women were deferent in the presence of their husbands. It was clearly an explicit barrier (probably hiding other deeper barriers) to better gathering of gender disaggregated information on the production system and therefore to the adequate inclusion of gender analysis.

Another example of a growing gender concern is highlighted in CIMMYT's OFR work in Ghana. CIMMYT and Ghanaian researchers have become aware of the unique decision-making roles that women exercise in the choice of technology.

"In Northern Ghana, women will normally have the responsibilities of seed selection and planting of cereals, while decisions about other cultural practices, such as fertilizer selection and weed control, will often be made by men. Thus field-days that focus on the maturing crop will normally only attract men, yet it is the women who make many of the important decisions concerning choice of variety, time of planting and plant density and arrangement." (Edmeades, pers. comm. cited in Carney 1988).

A recent study on changing maize production practices in Ghana showed that women adopt new technologies as fast or faster than men (Tripp et al. 1987). But as Carney points out (1988:4) the fact that women only represented 15 percent of the study's sample and of these, only five grew maize as a monocrop, has uncovered additional areas that need to be researched. In fact, the team, as a result of such information, has begun several interesting new initiatives. For example, work is now being conducted on mixed cropping systems for maize because women farmers nearly always plant maize with other crops, such as cassava, and have been, thus far, uninterested in the mono-crop technology developed by the project and adopted largely by male farmers.

The project staff in Ghana have recognized that the gender of the research teams -- all male members -- makes it difficult for women farmers to interact or collaborate in OFR work. Therefore, they are collaborating with a new Ghanaian reorganization that has taken existing home economics extension

agents -- all women -- and re-structured them as the Women Farmers Extension Service. The CIMMYT project is providing OFR training to a large group of these new agricultural agents and intends to place them on field teams, like male extension workers, with the explicit objective of collaborating more with women farmers. It is probably significant that the donor for this project is CIDA, and CIDA project officers are insisting that CIDA's mandate regarding the incorporation of gender issues be followed in the Ghana program. However, it was evident from discussions with CIMMYT scientists in Ghana that they are strongly supportive of gender issues and their key concern is to learn appropriate methods for including gender issues in the research process as well as including women in the on-farm trials.

These experiences from CIMMYT's on-farm research program are good examples of how, both in training and in field work, gender issues can be included and make a difference. One can argue that at selected field and project interfaces, CIMMYT's research is being influenced by the results of gender analysis. However, as indicated in CIMMYT's strategy statement, concern for gender issues is confined largely to on-farm research activities and the Economics Program. As the Economics Program moves "upstream," away from adaptive OFR towards applied and strategic research, it will be important to continue to incorporate gender analysis within the new research initiatives. Likewise, consideration of gender issues should move laterally into the concerns of both the wheat and maize programs.

CIAT.

The pioneering efforts to develop a user orientation to research and participatory research methods at CIAT by Jackie Ashby have already been discussed in this paper and are well-documented elsewhere (Ashby 1990, 1987).⁹ Her efforts to incorporate gender issues and analysis within the user perspective have been very important. It is significant to note that Ashby's work has been supported by and large by external, not core funding. While this has provided a great deal of flexibility, it has also contributed to the "special project" status and the difficulty of influencing other CIAT scientists with the results of a gender sensitive research strategy. No mention is made of the research in the last two annual reports from the Center.

In a recent strategy document, CIAT in the 1990s, there is a statement under the bean program activities within the Africa section, that production is by small farmers, mostly women, and is predominantly subsistence (CIAT 1989). Unfortunately, there is no further mention of whether this fact calls for any changes in agenda or methods of reaching farmers. No other program mentions gender or women.

Despite the lack of mention at higher levels of management, -- in the

⁹ CIAT and IFDC collaborated in publishing an annotated bibliography on Women, Agriculture, and Rural Development in Latin America by Jacqueline Ashby and Stella Gomez (1985). It is one of the very few resources on women in agriculture in Latin America.

bean program, and to a lesser extent in the cassava program, there is increasing attention to and use of gender analysis methods. Breeding work on beans at headquarters in has been significantly affected by Ashby's work in Colombia that has identified gender differentiated and user defined criteria for bean selection.

Within the Bean Program's Great Lakes Program in Eastern Africa, two anthropologists have placed attention on women needs in bean development. Joachim Voss, the first anthropologist with the team based in Rwanda, illuminated the fact that the majority, if not all, of the bean producers in the region of the program were women. If they did not focus on women, they would miss the farmers entirely.

Louise Sperling, the current anthropologist with the team, has built upon Voss's earlier work and the CIAT experiences in farmer participatory research and designed an innovative strategy to bring farmer's criteria for bean variety selection into the breeding process at an early stage (personal communication, L. Sperling, December 1989.) Working with bean breeders and farmer communities, "expert seed selectors" were selected by their neighbors and brought to the experiment station. There, they were exposed to the "logic" of bean selection on-station while providing information on their own selection procedures on-farm. Over time, the farmer selectors, all of whom are women, have become a regular part of the bean selection process. The result is that farmer experience of decades of bean selection is being incorporated into varieties, scientists are altering their field trial arrangements to accommodate better farmer understanding and involvement in selection procedures, and there is higher probability that the varieties to be released will prove acceptable to the farmers they are intended to help. As Sperling says, "Farmer knowledge, combined with breeder talents, has a chance to produce something better than each expert's isolated efforts." Additionally, Rwandan and CIAT scientists, long conditioned not to view rural women as "thinkers" nor "decision-makers" are gaining a new perspective on women farmers who can match the breeders at their own game on their own turf.

These examples from CIAT demonstrate the value of user perspectives and gender sensitivity in the research program. However, the impact of the understanding derived from attention to gender remains at the immediate level of the field activities and does not filter up the system, nor systematically across the Center to other programs. This problem is not limited just to gender analysis results, but is true for much of the socioeconomic research at CIAT and at the other IARCs. This fact is supported by a statement from CIAT's recent External Program Review that says "little use has been made of economic research capacity by CIAT administrators for Center-wide management decisions."

A Selection List of Gender Sensitive Work at Other Centers.

As noted above, most of the other centers have experienced, to a greater or lesser extent, some gender sensitive research work. Further study is needed to bring to light the entire range of activities undertaken by members of the CGIAR System. The list below included some of the researchers at the various other centers who have conducted work with women, focused on women, or

included gender analysis in other on-going studies.

CENTER	RESEARCHERS	TYPE OF WORK
IITA	Natalie Hahn	women soybean producers in Nigeria women's research farm women's training program at IITA WID, literature added to library
	Kristen Cashman Susan Almy	women in agroforestry on-farm research with women in Cameroon
ICARDA	Andree Rassam Dennis Tully	agricultural machinery, labor and gender
CIP	Ella Schmidt	women potato producers
	Greta Watson Susan Poats Marisela Benevides	women and consumption studies women and potato processing women and potato storage household gardens
	Vera Ninez Robert Rhoades	farm household in potato/sw.potato systems
	Linda Crissman	Kenyan women potato seed producers
IFPRI	Eileen Kennedy Joanne Csete Joachim von Braun	gender impacts from the commercialization of food production
	Schubh Kumar Per Pinstруп-Anderson	women and deforestation in Nepal international agricultural research and human nutrition
WARDA	Dunstan Spencer Victor Nyanteng	women and rice production in West Africa women and rice systems
ILCA	Irene Whalen	women and livestock
ILRAD	Barbara Grandin	women and livestock diseases
ISNAR	Susan Poats Dely Gapasin	management of women staff in OFCOR women in agricultural management

This list is by no means complete. It would be useful for the scientists within the CGIAR System to have an inventory of the work that has been done related to gender in order that they could draw upon each others' experiences. It would also be useful for donors to have a sense of what might have been tried elsewhere before it is repeated in a new setting or expanded. Finally, national programs who are facing growing requests by donors to include gender issues in their donor-funded work, would benefit from the experiences gained by the IARCs.

VII. Why is the Gender Question So Difficult ?

The review of gender issues in the CGIAR System reveals that the topic has been difficult for the IARCs, TAC and the CGIAR Secretariat to address. While considerable work has been accomplished, many of the researchers responsible for the effort do not feel they have succeeded in convincing other colleagues of the utility of gender analysis. Little of the results from work dealing with gender issues has influenced or informed the research agendas of the Centers. While some difficulties are Center-specific, others cut across the System and create a general barrier to gender sensitivity and analysis. These cross-cutting issues are discussed in this section, drawing on specific centers as examples.

1. Confusion between gender analysis and affirmative action.

There is general misunderstanding of the difference between gender analysis and affirmative action. Gender analysis is aimed at greater efficiency in production through the use of analytical tools designed to better define who does what in the production system and to align research and development priorities, resources and participation of users accordingly. Gender analysis is not gender specific and can, and should, be done by men and women. The use of gender analysis as part of the routine of agricultural research results in a gender sensitive approach to development as a whole.

Affirmative action, on the other hand, refers to the staffing of agricultural research entities and revising the overwhelmingly male structure to one that involves equitable numbers of men and women at all levels of staffing. Affirmative action is applied to training programs through mechanisms to assure that men and women have equal access and participation.

Though gender sensitive research and development and affirmative action are related, they are not equivalent. Women, just because of their sex, are not gender experts. Gender analysis is learned, like any other skill. Within many IARCs, however, managers have confused the two issues and have assumed that hiring a few more women scientists will solve the problem of gender issues. While the simple presence of more women professionals at all levels in the System may influence some researchers to "see" more women farmers and decision-makers in the rural sector, it does not guarantee the use of gender analysis. Managers must be careful to clarify, separate and manage them as two issues.

2. Good gender analysis requires experienced social scientists.

As defined earlier, gender is a social construct and gender analysis draws on social science tools, especially from anthropology, sociology, geography and economics. There are relatively few social scientists in the CGIAR System as a whole. The few that are there, are not uniformly equipped (trained) to do this type of work. In addition, the disciplinary bias of the socioeconomic divisions or positions with the System is towards agricultural economics. Agricultural economics training, with few exceptions, does not address gender issues nor provide training in gender analysis methodologies.

In fact, as others have pointed out, the predominance of agricultural economists as the voice of social science in the Centers and especially in on-farm research teams, likely contributes to gender blindness through a reliance on traditional household models that assume the farm household functions as a single unit for production and consumption and that assume that consensus exists among household members on the allocation of resources and benefits, and that all household members' interests and problems are identical (Cloud 1988).

As Murphy notes in a recent World Bank guide:

"The contribution of women to development is often underestimated in economic analyses if these include only formal market activities, because much of the economic contribution of rural women is done through non-market labor. Yet this contribution is highly significant although its relative proportion varies between countries. The World Bank Long Term Perspective Study estimates that women are responsible for about 70% of the food staple production in Africa. Their labor contribution to export crop and to informal trade is also highly significant" (1989:3).

To deal with this problem, managers can add, judiciously, gender-experienced scientists from the other social science domains, either on a permanent or project (consultant) basis, to expand the analytical and methodological base of the social sciences in the Centers and provide the capability to conduct gender analysis. Alternatively, training existing staff and backstopping them with experienced professionals drawn locally and internationally would be another solution to enhancing the gender analysis capacity. Pooling analytical resources across international and national research institutions is another route to enhancing capabilities.

A key tool for enhancing a gender perspective is the incorporation of a gender analysis framework in research. One of the reasons why frameworks for gender analysis are useful to agricultural researchers is that they pose a set of questions that should be asked at every decision point in the process of agricultural research. The questions -- who does what, with what resources, who has access or control to the resources and benefits, and who should be included in research activities -- are always the same. The answers vary. Analysis of the information generated by the questions becomes part of the overall analysis of the production or food system. Practice with a gender analysis framework will make it part of the normal process of inquiry.

3. Lack of contact between scientists and women farmers.

IARC scientists generally have very little contact with women farmers. Even with FSR or on-farm research programs, it is rare to find consistent or extensive contact with women farmers, therefore little knowledge and understanding is gained of the differences that might occur between males and females practicing agriculture in the same zone. One reason for the lack of women participants in on-farm research is a lack of rigor and methodological justification in the selection of farmer cooperators. A recent ISNAR study (Biggs, 1989) pointed out the selection of farmer cooperators is the weakest

methodological aspect in the realm of farmer participation. More often than not, farmers are selected for their convenience, not for representativeness. They tend to be wealthier and commercially oriented. They often have very little in common with women farmers in the same area. Poor implementation of the methods for farmer selection prevents adequate inclusion of women farmers and exacerbates the lack of contact with scientists despite the growing use of on-farm research approaches.

Better application of the tools to build representativeness into the selection of farmers as collaborators in the research process will lead to a rational inclusion of women farmers in the process.

4. Geographic location of IARC headquarters will influence gender sensitivity of scientists.

When a Center is headquartered in an area where women either historically have had a smaller role in the production of the commodities within the mandate of the Center, or where women are believed to play a small role in agriculture, the beliefs and understanding of the Center staff concerning gender roles in production are greatly influenced by the immediate surroundings. For example, the location of IITA in a region of Nigeria where women are not very involved traditionally in production activities has caused or reinforced the belief that women in general are not involved in agriculture. (personal communication, A. Goldman, January 1990.)

In the north of Nigeria women are not even involved in marketing activities. Field exposure there has served to reinforce a lack of attention to the issue since it simply doesn't visually hit researchers over the head. Likewise, the location of CIMMYT in an area of Mexico typified historically by men taking major responsibility for field tasks in agriculture has contributed to a similar bias (personal communication, J. Carney, February 1990.)

This kind of "conventional wisdom" can serve as blinders to gender differences, even when one is confronted with them, face to face. Carney explains that in Mexico, women are becoming major decision-makers in agricultural production for maize and wheat. In the past, they were not. Even though migration to the U.S. on a seasonal basis was always an economic strategy used by men to augment household income, they were able to be at home to perform the major agricultural tasks. Now that seasonal migration is illegal, men can no longer return to perform these tasks and women must bear the burden of the agricultural work. Usually they use remittances from the men to purchase labor in the form of mechanization. Bound by their beliefs in the system "the way it was," the research community has not perceived these changes in the production system and nor questioned whether it makes a difference. In the definition of problems and design of technology, the male is still considered as the head of the household and key decision-maker.

In the Mexican situation above, if researchers first asked who does what in the local production system, they would discover the changes in gender roles brought on by larger political and social changes. They could then adjust research directions and priorities accordingly. If they don't ask the

question, then they remain blinded by their beliefs in the way the system used to be instead of how it really is. ;

5. Lack of senior scientist involvement in gender issues.

Research relating to gender issues is often assigned to or undertaken by junior staff: the post doc's, junior scientists, research associates, and research assistants. Because women have been the primary actors in dealing with gender issues and because women are generally within the Centers in more junior positions, the lack of senior status and involvement has created a type of "second class standard" for gender issues work. This has made it difficult for those conducting gender analysis to make their results heard within the Center and within the CGIAR System. Additionally, most of the attention to gender is by social scientists, who also generally have less status and seniority within agricultural research.

Not only does this deafen the larger research effort to gender analysis, but also there is a lack of guidance and mentoring for the scientists and researchers who do engage in gender analysis. While there are gender-sensitive male scientists within the System, few apparently are willing to be vocal in public on the subject. Often this is a case of simply lacking experience in articulating gender issues within the agricultural research framework. For others, there is a definite perceived social and even professional risk in standing up for gender amongst their peers. As long as the "culture" of the Centers make it risky to voice gender issues, the effective incorporation of gender analysis in research is unlikely.

The risk perceived in voicing gender concerns is linked to the connection of gender issues to the social sciences, and in most cases, to on-farm research. Gender is embedded in a whole approach to conducting agricultural research that is still not well accepted across all sectors of the field. Resistance to doing research with direct farmer involvement is still so strong that proponents often fear to complicate the issue further by adding the gender perspective. Thus, many of the more gender-sensitive male scientists in the System are reluctant to push the issue since they are already fighting a difficult battle just to get any farmers at all involved in the process.

6. Gender viewed as the responsibility of NARS not IARCs.

As mentioned earlier in the paper, gender issues and analysis, and indeed any research directly involving farmers, is viewed by many within the CGIAR System as the responsibility of NARS not the IARCs. While it is true that the adaptive stage of the research process should be squarely in the domain of the national programs, the technical results from strategic and particularly from applied research cannot be generated in isolation from the realities of farmer production systems. There is a crucial need to maintain a contact with farmers to assure relevancy. If this contact is lost or mediated only through several layers of researchers, the technology released by the System may be inappropriate, or worse, miss the target entirely. The exact balance of farmer and user contact necessary to research depends on the problem being addressed and the skills of the human resources involved.

Gender issues must be articulated in the formulation of the research problem as well as the formatting of its solution. For some problems, gender, as well as other socio-economic variables, are moot issues in the solution process. However, for the majority of problems facing developing country disadvantaged farmers, the socioeconomic variables are part and parcel of the problem and we cannot afford to overlook them.

A related element to this is the fact that the CGIAR Centers are the source of research methodology for many NARS researchers. Many look to the Centers for training and for the latest innovations in agricultural research. The absence of gender perspectives, sensitivity and methods of study in the training programs offered by the CGIAR System perpetuates the invisibility of women as a client group for IARC/NARS technology.

7. Gender issues as a special project.

Gender related projects and programs, the few that exist, are underfunded, and/or rely on special funding. They tend not to be core funded. This makes them very vulnerable to funding cutoffs. It also tends to isolate the issue as a "special topic" rather than integrating the content and methods throughout the program. Special "women's projects", like those at IRRI and IITA, can sometimes backfire in the long run. They serve to bring women into the system and often to produce relevant research results, as long as the special funds last. When the funding or the project terminates, there are no mechanisms in place to assure continuity in funding or direction.

There needs to be far greater "mainstreaming" of the efforts dealing with gender issues. Mainstreaming will also help to legitimize the work of the scientists who are already conducting work on the subject.

8. Lack of mechanisms to implement affirmative action goals.

While correcting the current gender imbalance in the staffing patterns and the training courses of the CGIAR System will not automatically achieve gender sensitivity, having more women professionals in the System is a related concern and a stated goal of many IARC directors. However, managers complain that they do not get enough women applicants for staff positions. Most agree with Richard Sawyer's comment at the 1987 ICW seminar, that it is important not to sacrifice quality in favor of balancing numbers. While this is true, it may be that the Centers have not been pro-active enough in their searches. The men who currently dominate the staffs of the Centers, have contact in the professional world and in their disciplinary societies primarily with other men. Overtime this may change. As more women move into the system, more women will gain access and interest through their presence. Increasing numbers of women specializing in agricultural research with international interests will enhance the pool of human resources for future staffing.

In terms of training at the Centers, managers face a different problem. Much of the responsibility for selecting trainees for training courses is in the hands of national program leaders. Centers are reluctant to make demands for specific kinds of participants with regard to gender. However, criteria

are set for other qualities such as degree level, country representation, disciplinary background and technical responsibilities. Training managers should explore whether criteria for balancing male and female participants would really cause problems at the NARS level. It might require more time in negotiation and discussion about participants and, for this, training managers could approach the issue with NARS leaders on an informal basis. In other cases, it may be useful to substitute field experience for formal education in the requirements for admission to training in order to allow women greater access to technical training, even when the educational system has previously biased their acquisition of basic formal disciplinary training. Sometimes, the barrier is simply taking the first step. In the short run, quota systems or similar mechanisms may be necessary. However, if regional IARC staff and collaborating national program leaders can be sensitized to the issue, then it is likely that targets for increasing women's participation in training will be achieved.

Monitoring the progress of the CGIAR System in including women as staff and trainees was called for in several of the sets of recommendations from the series of conferences summarized earlier in this paper. It is difficult to assess the degree of compliance with this request since the public documents of the Centers (the annual reports in particular) still do not report any gender disaggregated staffing or training information. Even discussion in several reports and planning documents from Centers, and from the CGIAR Secretariat of critical human resource deficiencies in Africa, as a special topic, did not mention women professionals as an overlooked or scarce resource. Even though the statistics on the critical role women play as the predominant food crop farmers in Africa are well-known and cited almost routinely in international circles, there is little or no linking of women farmers to the need for women professionals within the agricultural research and development ranks.

The CGIAR Secretariat has taken some steps to implement changes in response to this recommendation in the management reviews of the Centers. Looking at the three concluded in the last six months, it is worthwhile considering the terms of reference for the task and the results in the review reports.

In the CIP EMR (1989) the question that focused on gender/women in the list of questions in the management review terms of reference was found under human resources:

"#7. Does CIP actively promote recruitment, retention and career development of women? Are there barriers to women's advancement in the center?"

The response to this question by the EMR team was found on p. 48 of the report:

"CIP has around 138 women employees of whom five are international scientists and a further five are postdoctorals. CIP has no quota for women and does not consciously monitor their number. CIP has an admirable record in this area. CIP women have chaired the Board and its

projects in remote areas. There are no discernable obstacles to the advancement of women and, in terms of selection and work opportunities, there is equality of opportunity."

To test the validity of this assessment, the CIP professional staff were disaggregated by gender using the staff listings in the 1988 annual report, the same year as the management review (see below). As can be seen, among senior management, women only appear on the Board. This means that in terms of day-to-day management and scientific leadership, women are absent. Among the research scientists (headquarters and regional) with a Ph.D. only 8.5% are women (5 out of 59). Among the other research scientists, 19% (2 out of 21) are women. While these numbers have increased since 1983, they do not substantiate the assessment by the EMR team of "no discernable obstacles" or having "equality of opportunity". Among the scientific assistants, 35% are women and in several departments, the numbers of women assistants is nearly half; in two departments (social science and training/communications) women number equal to men or more. In terms of total numbers, however, there are 48 women (or 24%) and 149 men. These numbers differ from those quoted from the EMR. It seems likely that secretarial staff may have been inadvertently included in the total number of women staff counted by the EMR.

GENDER DISAGGREGATION OF THE CIP STAFF
(Based on rough analysis of the 1988 Staff
Listings:1988 Annual Report pp 196-200)

Category:

Leadership	No. Women	Total No.
Senior Management	0	8
Board of Trustees (Prog. Comm.)	2	7
Research Thrusts leaders/co-leaders	0	20
Department Heads	0	7
Regional Leaders	0	9
Scientific & Support Staff (Including thrust, dept., regional leaders, but excluding senior management)		
Headquarters Research Scientists (Ph.D.)	4	40
Other Headquarters Research Scientists	2	9
Regional Research Scientists (Ph.D.)	1	19
Other Regional Research Scientists	2	12
Training and Communications	4(1 PhD)	8(4 PhDs)
Administration	2	10
Scientific Associates	0	5
Total Research Scientists	15 (14.5%)	103
Scientific and Other Assistants		
Breeding/Genetics	1	11
Genetic Resources	0	2
Nematology/Entomology	4	8
Pathology	5	11

Pathology	5	11
Physiology	6	14
Taxonomy	1	3
Social Science	2	4
Research support	1	4
Regional Programs	1 (7)	14
Training and Communications	8	13
Administration	4	10
Total Assistants	33	94
	(35%)	
TOTAL	48	197
	(24%)	

In the CIAT EPR (1989), within the terms of reference for the review, the following question was included:

"8. Is CIAT giving sufficient consideration in planning research and related activities to the needs of women and to the implication of the application of research results for women?"

In the review document produced by the program evaluation team, under the section "Target groups and gender issues" no further mention of the word "gender" is used. While the "equity orientation" of CIAT in terms of limited resource farmers and consumers is applauded, no concern is raised over lack of gender disaggregation to see if there is any differentiation among this group. In addition to noting that the bean farmers in East Africa are women, the only further note on gender is at end of the section where it states: "At the other end of the spectrum, at the micro-level, the Farmer Participatory Research Project is seeking ways to draw men and women into the research process in their capacities as producers, processors and consumers."

In the CIAT EMR (1989) the gender-specific question posed in the terms of reference was the same posed to CIP:

"7. Does the center actively promote recruitment, retention and career development of women? Are there barriers to women's advancement in the center?"

Answers to question are hard to find. On p.39 it states:

* More aggressive assistance with spousal employment may also be warranted, particularly if CIAT is serious about improving the gender balance; professional women almost invariably have professional spouses. There is already a new policy permitting CIAT employment of spouses in outreach programs under specified conditions. This issue is endemic to all CGIAR centers and a concerted collaborative effort to identify solutions would probably be useful."

The report also notes that at CIAT internationally recruited staff includes 97 men and 11 women (10.2%). There is no breakdown by gender for programs nor by discipline in the review.

Looking finally at the IITA review; questions about women were included in the terms of reference for both the EPR and the EMR. In the EPR, it asked:

"What mechanisms does the Centre have to ensure equal recognition of the role of men and women in agricultural research and access to its products?"

This question was placed in the general list of review questions. In those addressed specifically to IITA, there was no further mention of women nor gender. In the EPR report (1990, p. 67) it states: "The Institute is also working to ensure that women will soon fill at least 30% of training opportunities."

On p. 66 it adds the following clarification:

"Records over the past four years show that only 6.8% of African trainees at IITA were women. Given the important role played by women in African agriculture, this participation is obviously inadequate, IITA is now developing an affirmative action programme to identify and encourage women to apply for training opportunities at the Institute. In 1989, 22% of the PhD and 23% of the MSc graduate students were women, while in group courses, the women represented 12% of the total participants. In 1985, IITA received a grant from the Ford Foundation to cover the expenses for five female MSc students and 34 women on short training courses. A second proposal seeking financial support for ten female agricultural professional (MSc. and PhD.) has just been approved for funding. The IITA objective is to have women fill at least 30% of the openings in education and training at IITA. Despite substantial improvements since 1986, that target remains elusive, and will remain so unless financial support for the young dependents of female students is provided."

In the IITA EMR (1990) under human resources the terms of reference included the same questions posed to CIP and CIAT:

"#7. Does IITA actively promote recruitment, retention and career development of women? Are there barriers to women's advancement in the center?"

In the report itself, on p. 39, the response is "The ratio of male to female international staff is about 8:1. The ratio has shown slight improvement in recent years. Efforts to hire more female staff should continue." For all of the other indicators on human resources, there are tables with information, but not for gender. There is no information about gender disparity or problems with recruitment, retention and career development. There is no information on any measures to attract women nor issues of turnover. There is no information on nationally hired staff regarding gender, sector or discipline. In sum, the answer to the question by the evaluation team is incomplete.

The same can be said for the other reviews. Though it is necessary to

include the question in the terms of reference for the EMRs and the EPRs, and the CGIAR and TAC are to be commended on taking this initiative, having the question is not sufficient. TAC and the CGIAR will have to monitor whether the review teams address the question and how well they can assess a response. Obviously, there are some errors in the CIP review report. For all three of the examples, the answers for the questions are very incomplete. Rectifying this will take some thought and attention. It is not sufficient just to be sure a woman is on the review teams. Some of these teams did include women. One had two women. It is necessary that the Centers themselves take the issue seriously and prepare for the review by disaggregating their staff and training participants by gender. This will enable the CGIAR to monitor progress in reaching gender balance over time and allow reviewers easier access to the necessary information to make an assessment.

Restrictions on the numbers of people on review teams and the variety of qualifications that must be represented will limit the extent to which gender specialists can be placed on the teams for both EMRs and EPRs. For the latter, however, given the move to more strategic EPRs, greater attention will be paid to linkages with the national systems and their capacity to collaborate as strong partners with the centers. For this assessment it is imperative to have a member on the panel who is highly sensitive to the issue of NARS linkages with their resource poor clients, and not least to the potential impact of technologies on gender balance in the farm household.

9. The gender information gap.

While there is a virtual explosion of literature today on gender issues in all aspects of development, this literature does not seem to come in contact with the majority of Center staff. Part of the reason is that the scientists themselves are fairly specialized by disciplinary interests and by their assignment to specific tasks. Their fieldwork and travel schedules do not often allow exploration of related research fields, even if they have the interest. Access to literature is also a problem since the Center libraries are also focused to their specific mandates. It is not feasible for the Centers to invest in expanding their collections to include the whole gender literature, but selective inclusion of relevant materials would be an improvement. Information specialists could be another resource on this topic by learning about and providing access to literature sources on gender issues at local and international levels.

Presentation of the information in the CGIAR System publications could also be improved. Though there is substantial use of pictures showing women as farmers and consumers in the Center documents, few pictures portray women as scientists, collaborators in research or as significant numbers within training courses. Again, referring to the example that the Centers set in international agriculture, improvements could be made in the visual presentation of the importance of men and women in the work of the System.

VIII. Next Steps.

The CGIAR System is not lacking in recommendations regarding gender

issues. Rather, the problem lies in identifying actions to implement the recommendations already made. This section outlines five next steps to alleviate the difficulties the System has in dealing with gender.

Step 1. Donors to the CGIAR System must exert pressure upon the system to adopt an explicit gender perspective and incorporate gender analysis in the research agenda. This pressure cannot be limited to an annual call for ad hoc reporting at the ICW. Many, perhaps most, of the major donors to the CGIAR System have already implemented gender or WID policies that are routinely applied to other development efforts. Donors must reconsider these policies and devise appropriate means to apply them to the CGIAR System.

Step 2. TAC and the CGIAR have taken a critical first step by adding questions on women and gender issues to the terms of reference for the regular review process of the Centers (the EMR and the EPR). However, this was not sufficient. Review teams must be instructed (trained or advised) on how to look for information to answer these questions. They must be encouraged to address all of the questions, not just the part on "how many women are employed." This means looking at two aspects of gender:

- The first is the use of gender as an analytical tool in the description of problems, the design and testing of new technology and in the examination of impact on clients and beneficiaries. In this sense, gender is a part of the research process and evaluators must look for its appropriate application.

- The second aspect deals with staffing. Review teams must look at the gender of the staff of the Centers to see the extent to which women are present at each level and within the various programs.

Centers themselves should assist the review teams in this process by providing annually a gender disaggregated accounting of staffing at all levels, by covering pragmatic themes and summarizing gender-related research and results. Between the regular reviews, Center progress on these issues can be monitored by reviewing annual reports, research reports, planning documents, and other accounts of Center activities.

Step 3. If Centers are to take gender issues seriously and incorporate gender analysis into relevant parts of their research and programming, Center staff need to learn how to do this. It is clear from the review of the Center's experience to date that only a very few scientists, largely social scientists - use gender analysis as a tool in their work. Those who do, came to the Centers with these skills learned elsewhere. Despite the literature on gender issues from within and without, the Centers have not adapted their methods to include gender analysis, in their work. Simply reading or hearing about gender issues is not sufficient to make a change in the way research is done. What is needed to encourage this change is training.

Training needs to be carried out at two levels: for those currently being trained by the Centers and for those within the Centers themselves. Taking the first level, the curriculum of the training offered by the Centers for

national program researchers and practitioners needs to be reviewed and revised for gender content. This does not mean the creation of a special course on gender, but rather the careful incorporation of gender issues and methods within existing, appropriate courses. Obviously, there is no need for gender content in the courses dealing with such specialized technology as virus testing procedures, however, courses dealing with user or client-oriented research methods, such as processing and storage systems, small-scale machinery, pest-management, seed management and on-farm research in general can be enhanced with the inclusion of gender issues and methods. The CIMMYT example from East Africa described earlier or the work done at IRRI to revise the farming systems course curriculum (A. Frio, personal communication, March 1990) are useful models for other Centers. In each case, the course was not necessarily expanded, but alternate materials and exercises were included that draw participants attention to male and female roles in farming and gender analysis tools for technology design and testing. Relevant training materials and literature do already exist for these purposes. The necessary next step is their incorporation through the normal channels of training curriculum review and revision.

Training at the second level - among the Center staff itself - is also critical. While it is not necessary for every Center staff scientist or research assistant to be an expert in gender analysis, it is important that the Center as a whole adopt a positive attitude towards gender. Providing training of all staff, from top to bottom is a significant step towards revising the gender bias that exists in agricultural research institutions - Centers included - and creating a climate in which gender issues can be dealt with a rational analytical level, rather than through the haze of misperceptions and subjective prejudice. I would like to propose three different types of gender issues training for the Centers:

- Type 1. Sensitization and awareness
- Type 2. Gender analysis methods
- Type 3. Training of trainers.

Type 1. Sensitization and awareness. This is a 'starter' course and it is targeted at the entire staff. The purpose is general awareness and understanding of the difference between sex and gender, the reasons why gender issues are important in agricultural research, and the framework and basic tools used in gender analysis. The training will give Center staff a common set of terms and definitions - a vocabulary to use in discussing gender issues and analysis. This will help to correct the many misconceptions and confusions that exist between gender analysis and affirmative action, respectively the efficiency and equity aspects of gender understanding.

The content for a Type 1 course can be drawn from existing gender training materials (see ... examples Overholt, et al. 1985); Feldstein et al. 1989; Feldstein and Poats 1990) but should be complemented with examples from the commodities and areas of concern for each center. The course should contain hands-on exercises to give each participant a chance to handle gender data and experiment with analysis and interpretation. Practical exercises in applying the lessons of the course to staff member own job responsibilities should be the final part of the course.

Type I training should be conducted first among all senior management and leaders of each Center. There should be no exceptions. Training must start at the top to set an example that the issues are important to the Center as a whole. From the top, the training should be implemented in groups of 25-30, mixing senior scientists and research staff in interdisciplinary fashion.

It is suggested that the trainers, for this course be drawn from outside the Center in order that all member of each Center can participate equally. However, the trainers should be familiar with the Centers and their activities. It might be possible for existing gender-experienced researchers from other Centers to participate as trainers or resource persons.

Experience in conducting this same type of training in a wide range of institutions for similar purposes strongly suggests that a minimum of one-and-one-half days should be allocated for the training session. To conserve on trainer costs, it is wise to schedule a series of courses in a row at a time when staff are gathered at headquarters. Follow-up monitoring at six and 12 months should be designed to elicit impact on staff members work.

Many Centers are presently undergoing a number of other staff training programs dealing with management, research planning, resource allocation, etc. Gender is susceptible to "short shuffling" in the face of these perceived priorities. Donors, CGIAR, TAC and Center Directors will have to determine just where their commitment lies on user issues as a whole, and gender specifically, and then allocate the necessary resources to get the job done.

Type 2. Gender Analysis Methods. Following Type 1 training, those persons with research responsibilities that draw them into close contact with technology users, should be selected for a more thorough training in gender analysis methods. Gender-experienced center staff can be valuable resource persons and facilitators for such training, or, depending on individual capabilities, trainers themselves. This training course would be more explicitly focused on data gathering and analysis methodologies, interpretation skills, and field practice. Field practicum work is an essential part of such a course, because it provides the necessary experience in doing research through a new gender perspective.

The content of the course is similar to the gender content described above under level one. However, since the researchers participating would already be experienced in the other content areas, the gender methods alone would be the focus. Between three and five days is usually needed for such training in order to accommodate the field exercises.

Including research collaborators from projects with NARS may be an effective mechanism to promote a team approach to addressing gender-issues in new or on-going projects. Type 2 courses can be designed actually to initiate field or project work to include gender issues. In essence, the practicum launches participants in applying gender tools and using the gender analysis framework on an actual research problem. Tying training to such work can enhance both the relevance and speed with which the tools become part of the

normal way of doing research.

Type 3. Training of trainers. Sustaining the gender perspective within the training program of the Centers will be the task of the Center trainers and training staff. Trainers should participate in Type 1 and 2 training courses and then move to a Type 3 to focus on additional experience, ideas, options, approaches, and practice in doing gender issues training. Centers may wish to combine forces in training, their trainers to be able to incorporate gender issues within their own training programs by holding Type 3 courses for all trainers at once.

The content of a Type 3 course should be focused on practice with a variety of training materials that already exist that have been useful in teaching gender analysis tools to researchers and development workers in other settings. Trainers should also be exposed to new types of training materials and approaches that have been particularly effective in dealing with gender issues that might not already be in their particular repertoire of training tools. Finally, trainers should be given practice and guidance in developing new materials specific to their technical mandates for teaching gender issues in their own centers.

The length of time for this type of training depends on the existing skills of the trainers and the number of people in the course. The important thing is to give the trainer-participants enough time to practice training on gender issues and in designing gender components for other training courses so that they will be able to carry this work on within the Centers. Well qualified and experienced trainers who have done gender training themselves should be sought as the facilitators for this course. The experienced trainers can serve as mentors to the trainer-participants as they begin training in their respective Centers.

Taken together, the three types of training will develop the capacity of the Centers to undertake research with a gender perspective and to sustain that perspective with new members of their own staff and among the trainees from national programs.

Step 4. Centers should use existing networks such as those already established for collaborative activity on commodity research to develop common themes and research methodologies for dealing with gender issues. There are several advantages of doing this. First, networks bring a vitality to research by engaging a number of researchers in different socioeconomic and agroecological settings to focus attention on similar issues and using similar methodological approaches. For gender analysis, the networking approach will bring greater innovation to the methodologies for gender analysis as well as a range of examples that demonstrate why and how gender sensitive research can make a difference to the development and adoption of technology.

The networking approach applied to gender issues will also help to reinforce the linkage between the IARCs and the NARS. Placing gender issues and analysis within a network helps to integrate the gender perspective into the larger research framework.

Step 5. The CGIAR should develop a strategy paper for the general implementation of existing recommendations. These should be followed by Center-specific strategy statements. Each Center ultimately needs to develop and gain consensus on such a statement, such as IRRI's, and translate that into explicit provisions in the workplan and the allocation of resources.

These five steps will enhance the capacity of the Centers, and the CGIAR system as a whole, to employ gender analysis as a normal, pragmatic way to conduct good agricultural research and to develop useful technologies for resource poor farmers.

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