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**WOMEN'S ECONOMIC ADVANCEMENT THROUGH  
AGRICULTURAL CHANGE: A REVIEW OF DONOR EXPERIENCE**

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## **ABSTRACT**

This paper reviews donor experience with the design of development projects that are sensitive to gender-specific constraints. The review finds that the gap between intentions and implementation as regards gender-sensitivity is larger in agriculture than in health and nutrition. One of the reasons forwarded for this gap is the dearth of quantitative studies documenting the foregone benefits in terms of agricultural productivity of not promoting the economic advancement of women in agriculture.

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## 1. INTRODUCTION

There has been a growing awareness during recent years that projects and policy interventions that are designed without an appreciation of gender-specific constraints and potentials among intended beneficiaries can yield outcomes that run counter to original goals. Contrary to the assumption that project benefits are evenly shared within beneficiary households, women do not automatically gain from development projects, even if they have been explicitly singled out for attention in staff reports. Indeed, it has become clear that gender sensitivity in project design and implementation can be crucial to project success, particularly if success is measured with gender-disaggregated indicators as opposed to household-level indicators.

Attention has, therefore, increasingly been paid to the key question of how to design agricultural projects that do not bypass women and allow them to share in the benefits of project implementation. There have been three main approaches to this task: (1) the design of women-only projects; (2) projects in which women as part of a

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more general target group are allocated particular resources through women in development (WID) components; and (3) integrated projects in which gender issues are mainstreamed (Carloni 1987; Kardam 1989; Anderson 1990). While sound empirical assessments of project impacts on men *and* women are still few and far between, there is a convergence of evidence in the broader literature that suggests that the day of "women's projects" is over. The search is on, instead, for successful dual-gender projects that foster successful economic growth in favor of all household members. This paper provides a brief overview of the experience of several international donors with these three types of projects. The review attempts to answer the question: What type of project intervention works best to facilitate income enhancement among poor rural women?

The paper has three main sections, following the introduction. The first section asks the question, Why have projects sought to focus on women—what is the theoretical basis for such narrow targeting? The next section reviews published and unpublished reports to examine donor attempts to encourage the economic advancement of women. The final section draws conclusions from such experiences and suggests one key area of focus in the future.

## **2. WHY HAVE AGRICULTURAL PROJECTS FOCUSED ON WOMEN?**

The literature suggests five main justifications for focusing on women in agricultural projects:

1. To promote equity—to ensure equal access to the benefits of policies and programs for women and men.
2. To alleviate poverty, since women may be overrepresented among the rural poor.

3. To improve household food security and child nutrition by raising women's income.
4. To increase the effectiveness of project interventions by accepting that there are trade-offs in household time and other resource allocations that have a bearing on project participation.
5. To capitalize on the huge potential for economic growth that exists among female farmers—a group that may be underachieving at present, due to the constraints that women face in gaining access to productive resources, as compared to men.

The first justification—equity—has been widely accepted in the development community and is enshrined in the policies and mandates of most donor agencies. The World Plan of Action for the Implementation of the Objectives of the 1975 International Women's Year established the following goal to be followed by governments and development agencies for the Women's Decade: to combine the ideals of development and equality by integrating women into the process of development (UN 1976; Buvinić 1986; Moser 1989). However, as this paper will suggest, incorporating gender-equity into project agendas can undermine successful project implementation and does not guarantee gender-equitable outcomes.

A second reason for focusing on women is that by addressing women's poverty, a project can have a major impact on overall poverty. This argument is based on the assumption that women are overrepresented among the poor—an assumption that has received some support in the literature (Buvinić and Gupta 1996; Barros, Fox, and Mendonca 1992). Buvinić and Gupta (1996), for instance, point to several studies showing that female-headed households are poorer than the average for male-headed households. If widely true, the implications for poverty alleviation are significant. There has been a marked increase in the number of households headed by women in

recent decades. Estimates of women-headed households range from at least 10 percent in a number of Arab Middle Eastern countries, 14.5 percent in Latin America, 17.7 percent in the Caribbean, to almost 50 percent in Botswana (Youseff and Hetler 1984; Folbre 1991).

A recent review of the literature found that while using household per capita welfare measures does indicate that women seem overrepresented in poor households in all regions, the overrepresentation is not overly striking and there are exceptions (Haddad et al. 1994). Moreover, a rigorous empirical analysis undertaken by Quisumbing, Haddad, and Peña (1995) also arrives at the same conclusion: aside from some exceptions, there is a fairly weak relationship between headship and poverty. In other words, among the very poor, differences between male- and female-headed households are insufficiently large enough to show that one group is unambiguously worse-off or better-off than the other. However, Quisumbing, Haddad, and Peña also emphasize the following: (1) male- and female-headed households are diverse and their analysis does not take into consideration other determinants of household income or consumption, and (2) in many countries, women still have consistently lower levels of education, assets, and other social indicators than do men.

The third justification for the focus on women is that women's economic advancement has multiplier effects for household food security. In southwestern Kenya, for instance, at a given household income level, women-controlled income share had a positive and significant effect on household calorie consumption, while off-farm income shares, generally controlled by men, had a significant, but negative effect (Kennedy 1991). One explanation offered is that women tend to be mainly responsible for the provision of food in the household while men have other expenditure responsibilities. In Rwanda, a similar household expenditure pattern emerged, with females deriving most of their income from subsistence income, while males derived most of their income from cash crops. Total female incomes were

lower than total male incomes and men had more than ten times as much off-farm earnings as women, but there were no female-headed households with severely malnourished children and a less than proportional number were found to be calorie-deficient (von Braun and Wiegand-Jahn 1991).

For the Côte d'Ivoire, Haddad and Hoddinott (1994) show that women's share of household cash income has a positive and significant effect on the budget share for food. Similarly in the Philippines, Garcia (1991) finds that female cash income share is positively and significantly associated with household calories. Based on a sample of 302 households from two peri-urban towns in Guatemala, where about 50 percent of the mothers had earned some income in the past year, Engle (1991) finds stronger correlations between preschooler weight-for-age and height-for-age and mothers' incomes relative to their correlations between fathers' incomes. In another sample, composed of Guatemalan preschoolers with working mothers, Engle and Pedersen (1988) show a positive and significant relationship between mother's share of family income and height-for-age, weight-for-age, and weight-for-height. Using unearned income as a determinant of child health and child mortality in Brazil, Thomas (1990, 1996) finds that the probability of child survival is nearly 20 times greater when unearned income is earned by women rather than men.

In general, women's income share seems to be associated with household expenditure patterns that are more "child-oriented," and to be associated with improved outcomes such as the health and education of children. Women also tend to act as shock absorbers for the rest of the household by working longer hours or by disinvesting in their nutrition status (Herz 1989; Saito, Mekonnen, and Spurling 1992).

The fourth justification for focusing on women in agricultural projects is that project outcomes may be positively influenced by a recognition of gender-specific

constraints and contributions to the farming system. For example, an evaluation of 43 of USAID's agricultural projects indicates that

the strength of the interaction between female farmers' access to project resources and achievement of project goals is largely the result of the importance of women's management and labor in the targeted agricultural activities. Ignoring women's roles can lead to reduced labor inputs, increased learning time for new production techniques, and loss of producer feedback, all of which reduce project success (Carloni 1987).

In other words, participant resource constraints (leading to poor project performance) can be underestimated if women's labor and time constraints (and potentials) are not adequately taken into consideration.

A related justification for focusing on women, the fifth posited here, is that a lack of attention to women's needs and potential in agriculture may result in a substantial amount of foregone economic growth. It is worth restating that women play a crucial role in economic development. Indeed, it has been estimated that women's household production alone is worth 25 to 40 percent of the world's GNP (McGuire and Popkin 1990). Recent International Labour Organization (ILO) statistics indicate that about 33 percent of the world's paid labor force is composed of women, and that this percentage is increasing in some countries (Leslie, Pelto, and Rasmussen 1988). In agriculture, at least 40 percent of the total work force is composed of women. They are estimated to produce about 40 percent of all food in Latin America and approximately 80 percent of all food in Africa (Joeques et al. 1988).<sup>1</sup>

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<sup>1</sup> It has been estimated that in some countries like Bolivia, Ecuador, Mexico, and Peru, and in northeast Brazil, women's actual participation in agriculture is greater than 50 or 60 percent.

But what if women had access to the same level of inputs, credit, extension, and markets that male farmers have? Saito, Mekonnen, and Spurling (1992) show for Kenya that the gross value of crop output per hectare for men is 8 percent higher than that for women. However, if women had the same capital endowments and had used the same level of factor inputs as men, the value of their output would have increased by more than 20 percent. Capturing this productivity potential among women farmers and livestock managers by improving the environment in which they produce could add significantly to overall agricultural productivity in many regions and improve the viability of countless agricultural project investments (Bamberger, Blackden, and Taddese 1994).

The first four arguments in favor of gender sensitivity are made in different project reports and in different country contexts. However, the fifth—foregone economic potential—tends to be either taken for granted or overlooked in most reports. It is rarely given as an explicit justification for agricultural development activities in favor of women. Few projects incorporate foregone economic potential from excluding women in cost-benefit analysis. Are projects ever appraised, implemented, or evaluated in such a way as to generate such information? If not, what do project reports dealing with women's issues focus on, and what are their conclusions about successful economic advancement of women (if any) actually based on? The next section addresses these issues through a review of donor experience in the context of different project modalities for the economic advancement of women.

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The underestimation of women's work is partly due to the fairly common practice of classifying the majority of rural women as housewives for census purposes, regardless of the economic activities in which they engage. Even women tend to label themselves as housewives (IDB 1987, 17).

### **3. MAKING PROJECTS WORK FOR WOMEN'S ECONOMIC ADVANCEMENT: LESSONS FROM DONOR EXPERIENCE**

#### **ADVANTAGES AND DISADVANTAGES OF THREE MAJOR PROJECT TYPES**

The three types of project interventions considered are women's projects, projects in which women are allocated resources through WID project components, and projects in which an attempt is made to integrate gender issues into the overall project goals.

#### *Women's Projects*

These projects are targeted solely towards women. Their principal advantage has been their highly visible efforts towards trying to improve the welfare of women through skill development or through activities aimed at increasing the awareness of the public of the importance of women's issues (Buvinić 1986). Women-only projects are seen by many analysts and practitioners as serving as a good starting point in directly reaching women, especially in societies in which women's economic opportunities are fairly restricted. However, women-only programs tend to be more successful when focused on traditional domestic activities, such as handicrafts, poultry raising, and health and nutrition, as compared to a direct focus on women's economic productivity and income generation.

The few women-only income-generating projects that have proved successful considered women's needs and constraints. Two examples are the Latin American Appropriate Technology project in Bolivia and a CARE project in Guatemala. The first project carefully analyzed and took account of women's existing income sources, their incentives to undertake new activities, and their time constraints. The second project established an 18-month women-in-development initiative to raise women's participation in CARE's agroforestry and integrated aquaculture projects. A

diagnostic survey conducted at the beginning of the project indicated that women were most interested in short-term activities yielding either income or food for household consumption. Agriculture was the principal source of income for 79 percent of these women.

The CARE project assisted staff in the development of activity groups that combined short- and medium-term benefits such as soil conservation, composting, gardening of higher value crops, and nursery production of forestry and fruit species, flowers, and ornamentals. It was hoped that women would become involved in activities leading to longer-term improvements in their social and economic situation. Evaluation survey results indicate that women significantly increased their participation in both agroforestry and aquacultural activities within two years (Johnson and Castillo 1990).

The most successful—particularly on a sustainable basis—women-only projects eventually become situated in mainstream institutions (e.g., ministries of education, labor, and credit banks). For example, a women's project in Morocco successfully reoriented mainstream institutions to become more responsive to women's needs by integrating women into the Ministry of Labor's commercial and industrial job training program. This program resulted in increasing female employment at favorable wage levels (Carloni 1987). Another successful women-only project started out as a nine-month pilot program in Nigeria. It involved the recruitment of more women as extension agents in zones where the *pardah* system prevailed and retrained home economists to prepare additional food processing and simple agricultural mechanization messages. The pilot program was so successful that it led to the integration of women in agricultural programs into the country's Agricultural Development Projects (ADPs). The ADP extension services have since been reorganized and strengthened to assist men and women to increase their production and incomes, and to provide agricultural development support in general. These

efforts have contributed to a resumption of agricultural growth in Nigeria after a long period of stagnation (Gittinger et al. 1990).

In general, however, the development impact of women-only projects has been minimal—many have failed because they did not take into account women's needs nor did they consider their own staff's limitations, such as lack of expertise (Box 1). In addition, women-only projects have been criticized for having small budgets and for being given low priority by governments. Consequently, projects tend to be handled by underfunded social welfare ministries or private voluntary organizations and receive little infrastructure or policy support (FAO 1985). In addition, these projects tend to be management-intensive and, yet, people who administer them usually have inappropriate technical skills. There has also been a tendency for women's projects to involve participants in domestic and/or traditional activities with low economic returns and scant opportunities for elevating women's socioeconomic status. This observation has also been made by a number of other studies (Alsop 1993; Anderson 1990; Buvinić 1986).

### *Women's Component Projects*

The second type of project intervention is comprised of women-focused activities that are components of larger projects from which they could ideally gain access to increased resources and technical assistance.

An example of a women's component project is the Naimey Department Development II program in Niger that successfully maintained a good balance

## BOX 1

**Examples of Unsuccessful Women-Only Projects that Failed to Consider Women's Needs and Project Staffs own Limitations**

**Upper Volta**

In an N S project installed a solar pump to save women the task of lifting water. However, lifting water was the least time consuming and least difficult part of water collection for women. They spent most of their time and energy in carrying water buckets from the well to their homes.

The actual beneficiaries turned out to be male cattle herders who needed many buckets for watering their cattle. For the technology to have been more useful for women, it could have dealt with the installation of piped water in homes, schools and Weir 1 1

**Southern Africa**

Solar stoves were introduced to eliminate the need for women to spend so much time, as much as six hours each day, gathering firewood. However, using solar energy required a significant rescheduling of the daily activities of women since they traditionally cooked in the early morning or late afternoon in order to avoid the midday heat. The time requirements of this innovation relative to other uses of time were not considered by the technicians who introduced the new technology. S S 1

**Senegal**

Appropriate technology Project did not work out since it promoted handicrafts even though women wanted palm oil presses and crop inputs. cited in Carloni 1

**Burkina Faso**

At the project design stage, the nature of activities the project would support was not clearly defined. Moreover, excessive responsibility for the identification and formulation of income-generating projects was placed on women's extension services even though there was a lack of expertise in assessing their economic feasibility. In addition, they only had limited technical stopping capability. cited in Carloni 1

between addressing women's agricultural needs (credit and agricultural training, which included new techniques in millet and sorghum cultivation, vegetable gardening, and raising small livestock) and home economics training (health, nutrition, and literacy). It was also well-integrated with other components of the

bigger project, which sought to establish a village-based technical assistance/input delivery system (Carloni 1987).

Another women's-component project that was fairly successful, in the sense that it was able to address women's financial needs and help alleviate their time constraints, is called PRODEM, which was established in 1984 by the Ecuadorian Development Foundation. The project's goal was to provide owners of very small businesses with short-term loans for working capital (\$50 to \$200 per initial loan). As borrowers established a good credit record, they were able to obtain larger and longer-term loans.

A \$50,000 fund was reserved for women borrowers during PRODEM's first two years of operation, and the project involved the provision of technical assistance in areas of particular interest to female small-business owners. Project administrators and loan officials were conscious at all times of the objective of providing loans equally to women and men. After two years of the project, women constituted 35 percent of the individual borrowers and 65 percent of the group borrowers. However, women still borrowed smaller amounts than men. Female small-business borrowers used the credit to increase their hourly income as much or more than did men, but the former used this increase in hourly income to reduce the number of hours they spent each day in the business. Women tended to use credit to increase their efficiency and reduce their business work hours because of their double responsibility to produce not only in the workplace but also in the household, since many of them have five or six dependents.

In 1988, PRODEM extended its scope. The fund became more oriented toward very small manufacturing businesses and strengthened its training and technical assistance activities with Ecuador's Ministry of Labor. Many borrowers were given multistage loans, and the same interest rate was charged whether the loan was for working capital or for fixed assets. Most of the loans were granted to individuals.

Women comprised the majority of the redirected project's beneficiaries; 58 percent of the borrowers during that period were female.

Recently, a medical clinic was established as part of the PRODEM project, with the assistance of the Ministry of Health. The clinic may be used by PRODEM loan recipients through health insurance provided by the project (beneficiaries pay about \$5 per month). This health service was designed to assist small-business owners who did not have access to government social security and health insurance.

In practice, however, most women-components have been criticized for the same reasons as women-only projects. First of all, they tend to have small budgets—for instance, usually less than or equal to 5 percent of total USAID project costs (Carloni 1987).<sup>2</sup> Second, they often stress women's domestic roles, and give inadequate attention to their economic roles (for example, through the inadequate provision of training and needed technical inputs, as illustrated by Box 2).

Third, as summarized in Box 3, other projects tend to initially overlook women's needs or assume that they are similar to men's, such as a project in the Dominican Republic. Others fail to consider the various constraints that women face, such as time (in Kenya and Lesotho), income and assets (in Lesotho and Malawi), and social perceptions (Malawi). In the Kenya project, the project planners were able to respond in time to rectify existing problems, while programs in the Dominican Republic, Lesotho, and Malawi were not able to do so.

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<sup>2</sup> However, having bigger budgets does not automatically guarantee project success. For instance, The Bilateral Institutional Support to the National Development Foundation (NDF) Project in Jamaica assumed that since 35 percent of the loans are made to women and 25 percent of the NDF officers are women, benefits to women would "naturally flow," despite the lack of specific provisions for training, policy development, and client advice that would ensure more of women's participation and access to resources (Rowan-Campbell 1992, 25).

## BOX

### Example of Projects that Emphasized Women's Domestic Roles But Overlooked Their Economic Roles

#### Burkina Faso

Women are responsible for most of the small-scale sheep, goat, and poultry production in a village-level livestock project initially directed resources for small animal production to men. Towards the end of the project, a consultant was recruited in who was able to point out the fact that women who were directly responsible for small livestock production were not included in the project. Efforts were then made to include women in the project, but little could be done before the project terminated (cited in Carloni 1).

#### Cameroon

The purpose of the project was to increase per hectare yield of sorghum and peanuts by establishing and institutionalizing a self-sustaining regional system for production, distribution, and use of improved seeds and thereby reduce food scarcities, improve nutrition, decrease seed importation, and increase rural incomes.

Improved sorghum and peanut seeds were to be tested and multiplied at three centers and distributed to cooperating farmers who would produce larger amounts for sale. Packages would be disseminated by extension agents, radio, and a leaflet campaign. Forty couples per year were to be trained as model farmers in a Rural Farmer Training Center.

However, the project paid a little attention to gender division of cropping enterprises. The training center had a slot for a home economist to work with women, but there was no indication of what agricultural training was intended for women. It was only in 1981 that a special evaluation study was able to point out that women's small domain included responsibility for the peanut crop. Although project resources do not indicate how project resources were allocated, gender, the extension system was mostly male (cited in Cloud 1).

#### Bhutan

The project sought to establish in eight sub-districts an agricultural technology development system for increasing productivity and farm incomes in rainfed agricultural zones. Its components: extension, research, improvement of land, and water resource use.

Despite women's management roles and control of resources, agricultural households are still heavily matrilineal and land is inherited primarily through the women. The project excluded them from direct access to almost all resources, both inputs and information.

The project assumed that men were the principal farmers and trained them to carry out crop trials. Women were excluded from off-site training on all crops except silkworms. This also posed problems because of the following: the marketing issue was not addressed; high mortality of delicate hybrid silkworms; design of rearing rooms posed difficulties since some women did not have enough land to plant new mulberry trees; first training sessions were held at a distance from home for 3 days during the busy rice growing season; they are excluded from on-site poultry training and co-ops because they bring children who were feared to be potentially disruptive at meetings.

Wives did not receive training, and so crops were incorrectly planted, power tillers provided by the project went unused, and even when the husband was present, information was usually incorrectly transmitted from husband to wife. Women were never consulted about their interest in the project. Some trials were a year behind schedule. When some wives found out that the trials would entail considerable additional work, they pressured their husbands to drop out. Blanc-Santon, Viéros-Lon, and Suphanchainat 1.

#### Nepal

Women's component for the project was narrowly focused on women's domestic roles: cooking, stitching, and sewing. The stove component directed attention from including women in the project's broader resource conservation activities such as afforestation, watershed management, and soil conservation. Even the stove component

## BOX

### Examples of Women-Components that are Not Fully taken into account

#### Various Constraints Faced by Women

##### **Guatemala**

The reforestation component of an integrated rural development project called Plan Sierra did not consider the possibility that men's needs from the forest may differ from women's needs so only men were consulted. Thus intercropping cash and subsistence crops and planting indigenous and exotic pines for watershed management and timber were emphasized.

Women were only consulted during a midproject evaluation and it turned out that they had other needs like help in developing water and fuelwood supplies, patios, gardens and cottage industries and access to fuelwood trees and palm fronds for fiber used to make baskets.

The scarcity of fuelwood had the most impact on poor smallholder families, forcing some women to give up their cassava bread-processing operations. However, since the need for fuelwood was not recognized earlier as a problem, technical and staff expertise available to solve the problem were lacking. (Fortmann and Ochoaueau 1)

##### **Kenya**

Strategy for improving production and preserving the agricultural resource base is to popularize trench terracing and water conservation in the semi-arid highlands while it carries out agronomic research to develop technical solutions for the arid lowlands. Social soundness analysis conducted by the project indicated that women are the principal farmers and that due to male out-migration women's groups would be the main source of labor for project works like terrace construction and water catchments. A warning was issued that tariffs would not be met if women were expected to supply free labor for soil and water conservation during the peak agricultural seasons. It was recommended that women either get paid or that conservation tasks be suspended during the peak season.

The above warning was initially ignored until project management recognized that the original tariffs were not feasible and suspended work during the peak season. Recognition of women's economic responsibilities and time constraints has been a critical factor in securing their unpaid labor for soil and water conservation work. The Kenyan government assessed the value of women's unpaid labor contribution to the project at 1. (Carloni and Orenstein 1)

##### **Lesotho**

Women's groups or associations need to be registered as cooperatives in order to obtain official recognition and assistance. Only registered agricultural cooperatives are eligible for agricultural credit. One of the prerequisites for accreditation is for these groups to be trained in managerial bookkeeping and marketing skills. However, the available training classes are offered by the Ministry of Rural Cooperatives at specific times and in certain town centers. Women usually have a difficult time attending these training sessions which last from three to four weeks due to their responsibilities at home and at work. Moreover, they usually cannot afford to pay for the trip and other expenses involved. (Safilios-Othschild 1)

##### **Malawi**

Only 10 percent of credit club members were women even though women represent 50 percent of full-time farmers and 50 percent of the country's agricultural labor force.

Fixed clubs composed of both men and women were not successful in providing women with credit due to the following reasons: 1) married women were unable to obtain direct credit since it was assumed that they are supposed to get credit indirectly from their husbands. There was a sort of social stigma associated with women who belong to these clubs since only unmarried women or those married women belong in to polygamous households whose husbands chose to share the loans with other wives could get credit directly from the club as well as attend the extension meetings and these clubs usually admit members who own reasonably-sized gardens (1 to 2 hectares) but women generally possess small gardens. About 50 percent of women farmers have farms less than 1 hectare in size.

Village-level women's clubs were few and the amount of credit received by members

Fourth, there is a tendency for these projects to overlook "gender issues" such as decisionmaking, control of resources, and allocation of time in their other components. For example, the Jahally-Pacharr project in The Gambia, which initially set out to include women farmers in land redistribution, unintentionally induced a shift in the use of rice land from *maruo* (food crop field for household consumption) and *kamanyango* (personal field to be used mainly for cash crops) production by women to almost exclusive *maruo* production using irrigated lands by men (the degree of control that women had over land depended on the technology level utilized. To be more specific, women controlled 91 percent of traditional rice plots; 77 percent of partially irrigated fields, and only a little more than 10 percent of fully irrigated fields). This also caused men to reallocate their labor--constituting 60 percent of irrigated riceland labor and 68 percent of household labor for shared food crops (decreasing both the area and labor devoted to groundnuts). As a result, women ended up reallocating 22.5 percent of their labor from private to communal farming, while men had to only reallocate 6.9 percent of theirs (Dey 1996; von Braun, Puetz, and Webb 1989).

Fifth, contrary to original plans, components focusing on women sometimes tend to operate as discrete components separate from other project activities, instead of establishing linkages with them. Since they tend to function as "added-onto" segments rather than being well-integrated into the main project, women's components end up being isolated from the rest of the components of the project. For example, the growing importance of women's agricultural role due to male migration was heavily emphasized during the planning stage of a women's component project in Mauritania. However, in practice, women still ended up having access to considerably less resources than men. There were substantially less female extension workers than male extension workers, even though the latter could not directly work with women, due to local customs. Most of the female extension workers hired were

also rated as less competent relative to their male counterparts by supervisory reports. Hence, women farmers ended up attending project on-farm demonstrations where they could stand in the background and observe, but not ask questions. Project reports do not indicate whether demonstrations of labor-saving technologies for food processing such as grain threshers and winnowers were ever held as planned and there is no mention of whether the revolving credit fund for purchasing new labor-saving or production-increasing technologies was operationalized for the women's component (Cloud 1987).

### *Integrated Projects*

These gender-sensitive projects are sometimes referred to as integrated or mainstreamed<sup>3</sup> projects. All project components are designed to take into account how changing circumstances induced by the project will affect existing gender relationships, and vice versa. Integrated projects represent an attempt to avoid the shortcomings of the previous two project types as well as the pitfalls of so-called gender-neutral development projects that do not allocate specific resources to women but, nevertheless, assume that they benefit as part of the project population. For example, prior to 1988, most CIDA projects actually had no specifically designed WID interventions—most of the so-called WID program annexes reflect assumptions that, since both men and women comprise a target population, both sexes would benefit equally from projects. No analysis seems to have been undertaken to determine who uses which services, at what cost, and level of use by gender (Rowan-Campbell 1992).

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<sup>3</sup> The term "mainstreaming" evolved from the WID movement in the early 1980s. It is now often used to describe comprehensive strategies that are composed of both programs that not only target women but also activities that integrate them into existing mainstream structures—defined as "the place where choices are considered and decisions made that affect the economic, social and political options of large numbers of people" (Anderson 1993, 5).

Box 4 describes two untargeted development programs that did not take into consideration women's needs (in Peru) or did not acknowledge the gender-based distribution of responsibilities (in Central Kenya).

On the other hand, an example of a project that appears to have successfully incorporated and "mainstreamed" gender issues from project design to implementation exists in Malawi. The Women in Agricultural Development Project (WIADP), which operated from 1981-1983, had the following objectives: to research women and men's roles in smallholder farming; to use farming systems research to determine smallholder's—especially women's—needs; to disaggregate agricultural data by sex; to work with extension and research units to target women as well as men farmers; to evaluate women's programs; and to orient policymakers to consider women farmers in agricultural programs.

Primary and secondary research by the WIADP revealed the following information: (1) women were assuming management of more family farms due to male out-migration; (2) contact with extension workers was the primary source of advice for both men and women farmers, but the former received more personal advice and visits than the latter. Upon further disaggregation, the data showed wives benefitted from more services than female household heads. However, the assumed transfer of technology and advice from husbands to wives and from men to women in the household did not take place; and (3) women farmers were contacted infrequently by survey teams. WIADP prepared guide sheets that incorporated the following categories of farmers to be sampled during diagnostic surveys: (1) different economic situations (e.g., low resource farmers who hire-out their labor, wealthy farmers); (2) different household types (e.g., monogamous,

## BOX

### Examples of Undertaken Projects that Failed to Take Account of Women's Needs and Constraints

#### Peru

In the mid-1980s the Industrial Bank of Peru (BIP), a government institution for the promotion of industry, created a development fund for small- and medium-sized rural industries.

In 1981 BIP established a similar loan program for small urban businesses that was created to assist small-business owners in the poorer sections of Lima and other Peruvian cities by providing them with loans and technical assistance. Similar to the requirements of the rural loan program, loan applicants must live in the poorest sections and must be able to provide a loan guarantee.

Results: Both rural and urban loan programs were successful in redirecting their loan portfolios towards small businesses. For example, from only 1 percent in 1981, small-business owners comprised 10 percent of the rural loan program's clients by 1985. Both projects, however, had only a limited number of female clients. During the first seven years of the rural loan project, only 1 percent of the subsidized-interest loans went to women, while at the end of the urban loan project's second year, only 1 percent of its total loans was granted to women.

Moreover, the amounts borrowed by women were smaller than the amounts borrowed by men. For instance, the average amount borrowed by women was 1/3 but twice that for men. Reasons for limited female participation:

1. Very few women requested loans in the first place, since they felt discouraged by the strict requirements, the loan guarantee, and the amount of documentation required.

Female borrowers themselves had requested for smaller loans compared to male borrowers. The former tend to be involved in businesses like services, commerce, and sewing, that require relatively less capital.

The BIP fund was not oriented towards small business loans in the commerce and services sectors, where women predominate.

#### Central Kenya

The wheat-irrigation scheme introduced commercial rice cultivation to an area that did not traditionally produce rice. Women grew maize and beans and also worked on men's plots to produce coffee for a cash income, which accrued to men. Its main objective was to have rice grown both as a food and as a cash crop to raise household income.

Results: Planners assumed part of the rice was to be consumed by the tenants and allocated women's responsibility to feed the family out of their own production and sales. Since men did not like to eat rice, women were required to grow the customary food crops. Plots allocated to these crops were small and marginal in quality.

Women were required to work on their husbands' rice plots, since men were the official tenants. Thus, the women's workload was substantially increased over that of customary agricultural production, especially at harvesttime. In effect, the labor of wives and children was entirely under the control of the men. Even though they had little to do with the rice crop between planting and weeding, who had complete claim to the income from the paddies, women were paid by their husbands with rice, the amount varying arbitrarily.

Women received some remuneration but resented the extra work and loss of control over their own food farming, so they began to neglect the weeding. They also found that they had insufficient cash to purchase firewood and there were no nearby forests in which to gather it. Nutritional surveys found serious indications of malnutrition among women and children.

It was not until the management of tenant associations, which were dominated by the leading male tenants, were alarmed by the low rice yields that better firewood and mill supplies were organized. But the fundamental questions of land use rights and income distribution were not addressed. (Anker and Morris 1981)

polygamous, unmarried women with children, etc.); (3) diversity of ages and life-cycle situations (e.g., young couples, recent widows).

A new method of establishing creditworthiness was introduced in which the male village headman could vouch for the potential borrower. This was especially important for women farmers, since they were not members of farmers clubs organized by male workers and they often lacked collateral. The standard credit package of improved seeds and fertilizers (in multiples of 1 acre) were found to be more than what women farmers usually needed, so a smaller technical package was created. With the assistance of the male extension staff, the number of women obtaining credit from the project increased from 5 percent to 20 percent within a year.

WIADP helped include women researchers and extension workers on the teams until it became fairly standard practice to have women on farming systems research and extension teams. Male village leaders were asked to designate women farmers for leadership training conducted by both male and female extension personnel. Women were also trained as trial cooperators in conducting on-farm research (e.g., experiment and demonstration using soybeans). An extension circular that legitimized and advertised the fact that male extension workers could work with women as well as with men farmers and that working with women farmers was not the sole concern of female extension workers was distributed by WIADP to all grassroots workers and agricultural project managers. The circular also explained how to use leadership training to encourage women to attend village meetings and agricultural training courses, as well as to participate in credit and conservation programs and farmers' clubs (Spring 1988).

There is a widespread feeling among donor agencies that women-only and women-component projects have been useful activities, but that the time of gender-targeted economic development projects is past. Well-designed women-only and women-component projects have demonstrated the advantages of offering

opportunities to rural women, but, in general, these projects have proved to be unsustainable, because they are not tied to mainstream development plans and activities. In several instances, the provision of special treatment to poor women, women in cooperative groups, or even just women in general raises opposition to project activities among community members outside of that group, stalling progress for all.

A review of project experiences from the past 10-15 years suggests that gender-sensitive mainstream projects are the most effective way of enhancing women's socioeconomic status. Gender-sensitive integrated projects view women not just as "isolated beneficiaries" but as active participants—together with men—in the development process. Women-only and women-component projects have served to raise awareness of the different spheres of activity controlled by women and men within the same households. Integrated projects now seek to acknowledge and work with those spheres in project design, implementation, and evaluation. Table 1 summarizes the main advantages and disadvantages of the three major project types.

The next section proceeds to build on this review of donor experience by offering some guidelines for effective project planning and execution.

## SUMMARY OF GUIDELINES FOR EFFECTIVE PROJECT PLANNING AND EXECUTION

A number of key points can be highlighted, based on an examination of a number of project reports:

1. For the sustainability of agricultural projects that intend to assist women, one cannot deal with women in isolation—the people with whom they interact

**Table 1 Summary of advantages and disadvantages of three main project types**

Project Type	Advantages	Disadvantages
Women-only	<ul style="list-style-type: none"> <li>• good starting point in reaching women, especially in cultures where their economic opportunities are often limited. Could be effectively used as pilot projects for bigger projects.</li> <li>• have been found to be particularly successful in delivering training, health/nutrition benefits, and family planning services</li> </ul>	<ul style="list-style-type: none"> <li>• generally not as successful in increasing productivity and incomes due to tendency to involve women in traditional/domestic "welfare-oriented" activities which often yield low economic returns</li> <li>• tend to be underfunded</li> <li>• work with women in "isolation"</li> </ul>
Women-component	<ul style="list-style-type: none"> <li>• part of a bigger project from which women could gain access to more resources and technical expertise. Could be effective and possibly sustainable if well-integrated with other project components.</li> </ul>	<ul style="list-style-type: none"> <li>• tend to have small share of budget relative to other project components</li> <li>• often focus on women's domestic roles, not their economic ones</li> <li>• components often remain separate from other project activities--they do not establish needed linkages</li> <li>• tendency to overlook gender issues in other non women-components which could result in unintended/negative outcomes such as increasing time demands on women</li> </ul>
Integrated or Mainstream	<ul style="list-style-type: none"> <li>• gender sensitive integrated/mainstream projects are designed to deal with gender differences and complementarities. They do not deal solely with women but with women in relation to men, the community, and society</li> <li>• if integrated well into mainstream structures then could ensure sustainability</li> <li>• more likely to enhance women's socioeconomic status than women-only projects and women-components</li> </ul>	<ul style="list-style-type: none"> <li>• could be ineffective if they simply assume that women will benefit as part of project population without taking into consideration gender-specific potentials and limitations in program design and execution</li> <li>• may also concentrate only on women's domestic roles although they have a better record of also considering women's economic roles than women-only projects and women-components</li> <li>• integration of gender concerns makes it more difficult to isolate and identify gender-differentiated impacts due to the project</li> </ul>

(males and children), and the sociocultural environment in which they operate, must also be considered. Incorporating women into projects such that their

capabilities and concerns are linked with macro-development issues such as food security, poverty, and the environment is crucial to enable them to function as economic resources (UNFPA 1989). Enabling women to become not just beneficiaries, but participants, in project planning and design may also minimize unintended conflicts between project goals and assisting the target group of women.

2. The points below illustrate the difficulty of adequately evaluating the performance of most agricultural projects. These definitional and measurement problems often cause us to discuss the more extreme examples of project success or failure.

To measure success in addressing gender issues, project goals and indicators must be well-defined (Quisumbing 1993). Determining baseline conditions is essential, since these should serve as the bases for determining whether improvements are being made through projects or not. However, baseline studies are often not conducted or are conducted only after the projects had begun. On the other hand, the baseline study of IFAD's Tamil Nadu Women's Development Project in India actually encouraged the active participation of the target group.

The establishment of agreed upon indicators for monitoring progress beyond baseline conditions is also crucial. These must relate to disaggregated measures of input delivery success, delivery processes, and delivery outcomes. For example, use of loan absorption rates or average crop yield growth as a proxy for successful income growth among all participants may generate highly misleading conclusions. IFAD's Fayoum project in Egypt has been evaluated in such a fashion in the absence of disaggregated baseline information, despite clear indications that wealthier farmers were gaining greater access to project inputs than poorer farmers. Thus, the use of average yields and loan use to

measure project progress can mask the project's real impact, both on poverty and on women (IFAD 1992; Abdel Gadir Badr 1992).

Defining terms for consistency of measurement is very important (Carlioni 1987; Cloud 1987). For example, how should "women's benefitting from a project" be measured? Is participation enough of an indicator? How, in the first place, should participation be measured? Most of the indicators used in the evaluations we reviewed tend to be "effort-oriented" or "process-oriented," such as the amount of loans disbursed, the number of water pipes installed, vehicles purchased, and training sessions held—there were very few "result-oriented" or "impact-oriented" indicators used, such as improvements in income and socioeconomic status. In the case of socioeconomic status, it was not clear from the project documents we reviewed as to how this was measured. In the Tamil Nadu Women's Development Project in India, for example, measures to assess women's socioeconomic status were not defined, even though the evaluation reports state that the project facilitated women's social advancement more than their economic advancement. Hence, there is a need for both quantitative and qualitative indicators to be explicitly mentioned in project reports.

Other measurement problems to be considered in performance analysis include (1) the fact that projects partially or wholly operate based on subsidies may make it difficult to accurately assess their performance and sustainability and (2) it may be hard to identify exactly which institutional constraints affect project performance—it is even more difficult to isolate these from the economic and environmental context in which projects operate (Goldberg 1993).

3. The design of new projects that claim to be gender sensitive must be based on a thorough analysis of the farm and sociocultural environments, including resource ownership and distribution, responsibilities by gender, and the

potential allocation of project benefits. For example, some agriculture projects argue for an expansion away from a narrow commodity focus towards an approach that would, in itself, bring women's agriculture more to the fore through a greater emphasis on livestock management. To succeed in such an expanded focus, information about women's activities should be obtained from women themselves through interviews and observation, and not from husbands or men (Alsop 1993; Endeley 1993; Anderson 1990). An absence of such data plus a "paternalistic" attitude towards beneficiaries have been identified as contributing factors in the failure of women's components.

The participatory approach (where the target group has a voice in the design and implementation of development programs) is increasingly being recognized as a more effective way to achieve project goals (Bamberger, Blackden, and Taddese 1994; IFAD 1992). A review of 122 completed water supply projects by the World Bank has shown that projects that adapted to the local environment and incorporated client feedback, used local knowledge, and allowed for time to build in participation of both men and women, as well as ownership of facilities, were more successful. Women's participation emerged as a strong factor in contributing to project success (Narayan 1994).

4. It has been established that successful project execution is more likely when project participants are not required to perform too numerous, complex, and/or unfamiliar tasks (Cleaves 1980; Tandler 1982; Buvinić and Nieves 1982; Esman and Uphoff 1984). Successful projects tend to be well-focused in terms of goals and based on a limited number of components that reduce the complexity of administration (Berg 1987). This argues against the "do-it-all" tendency of integrated rural development programs and, rather, in favor of agricultural projects that have clear goals.

Projects would ideally assemble a group of complementary inputs and services to be delivered, either sequentially or simultaneously. Examples of such an approach include the Grameen Bank (centered around credit availability), and a World Bank agricultural development project in Guangdong, China, which offers a package of credit, marketing services, production techniques, and technologies that are integrated around the core of improved agricultural extension (Goldberg 1993).

5. Women's participation in agricultural projects cannot be taken for granted. Female participation in mainstream projects is determined by whether or not some activities that women typically perform are included and on their opportunity costs. For example, the timing and duration of activities should be considered so that projects do not conflict with women's other tasks. Some projects may increase household incomes but at the expense of demanding more of women's time and labor away from their own fields, such as in the Jahally-Pacharr project in The Gambia (von Braun, Puetz, and Webb 1989; Webb 1989). Similarly, in Niger, wives were initially unable to fully participate in farmer training courses, since part of the training schedule clashed with their meal preparation time activities. Grain mills were eventually introduced to reduce meal preparation time, so that women could attend the training sessions (Cloud 1987).

In addition, when a project focus is on productive activities rather than domestic activities, the involvement of women is not automatic (Carlioni 1987). For example, the location of project activities and services must be strategically planned. Because of women's responsibilities, women have been found to participate less in out-of-country than in-country training and were more likely to prefer day training than residential training (Anderson 1990). In Kenya, women's participation increased when committee meetings were held by the

water source. Women were the primary users of water and this place was more convenient for them. They were also more comfortable in speaking up, unlike in village meetings, which were usually monopolized by the men. Special efforts may be considered in such circumstances to raise women's participation—making sure that economic activities do not impose additional work burdens and/or conflict with the timing of women's domestic or other income-generating activities (Carloni 1987).

6. Projects need to be flexible in their administration and adapt to new information about gender constraints. For instance, the pool of eligible female participants can be affected through (1) changes in eligibility criteria or institutional procedures, such as not targeting the projects to male household heads, and (2) the establishment of special programs to train more women to instruct other women—male staff can be trained to work with village women unless they are prohibited from associating with women due to religious and/or cultural reasons (Carloni 1987). As Table 2 illustrates, training more females for other agricultural staff responsibilities aside from home economics or, whenever applicable, training more male staff to work with women, especially concerning agriculture technology, is important, given the wide disparity in the number of women and men hired for agricultural staff positions and the disparity between the number of male- and female-headed households that have been visited by extension workers—even in Africa where female farmers tend to dominate food production (Table 3).

**Table 2 Agricultural extension staff in 27 African countries, 1989**

Agricultural Staff Category	Male Number	Female Number	Female Male Percent
Agricultural fieldworkers			
Home economics fieldworkers	1	1	1
Specialists	1		11.1
Administrators/supervisors	1	1	

Source: UNFPA cited in Blumberg (1991) African Farmer

7. Finally, even the most appropriately designed projects will not succeed without institutional mechanisms that ensure their proper and timely implementation. These mechanisms include gender/social awareness training of staff for the establishment of staff accountability. For example, since 1989, CIDA has invested significantly in providing training to its staff on social/gender analysis that seeks to provide them with a means of "organizing information and thinking about the relative positions of women

**Table 3 Percentage of families ever visited by extension workers by gender of household head**

Countries year	Male-headed households Visited Percent	Female-headed households Visited Percent
Kenya 1	1	
Malawi 1		
Nigeria 1		
Tanzania 1		
Uganda 1		1

Source: Ouisum in (1)

and men," which can be used in project design and in diagnosing existing or potential problems. Despite these efforts, CIDA noted that for WID issues to be given a high priority within, other institutional mechanisms such as recognition and reward for knowledge, skills, and initiatives in the area are necessary. To be more specific, it has been observed that attention to WID issues had been "uneven" within the Agency and heavily dependent on the personal interest and motivation of staff members, as well as on consultants (Schalkwyk 1992, 5).

It is clear from the above points that for projects to effectively and efficiently enhance the economic situation of both women and men, gender-specific potentials, constraints, and indicators must be consistently incorporated in every stage of the project cycle. Institutional mechanisms (training and the establishment of incentives) are essential for projects to be properly executed.

The following section summarizes the main conclusions of this review—the major lessons learned and specific areas to focus on in the future.

#### **4. CONCLUSIONS**

Three key conclusions emerge from the foregoing discussion about the targeting of women in agricultural development projects. *First*, the identification and integration of gender issues in project design and implementation can be crucial to achieve project goals while minimizing unintended negative consequences (such as imposing excessive labor and time demands on women). Few project documents can now be found that do not at least pay lip service to the need for greater gender sensitivity.

However, there is a considerable difference between expressing concern about gender issues—showing sensitivity for the issues through mandatory "WID paragraphs" in appraisal and evaluation documents—and truly incorporating gender as an analytical variable in project design and implementation. This gap between sensitization and operationalization varies across sectors of development activity. In the health and nutrition sectors, for example, rhetoric and action are not far apart. In agriculture, however, the gap between sensitization and actual incorporation remains wide. For example, a review of CIDA projects from 1984 to 1992 indicate that the treatment of gender issues was strongest in the social sectors such as health and sanitation, population, nutrition, and education, while the agricultural sector was the weakest in analyzing and integrating gender issues (RRA Ltd. 1993).

The relatively recent shift in development focus from high-input technologies to low-resource farming and the need for locally-adapted technologies has allowed for a better recognition of differences between men's and women's roles in production (as evinced by the rise of women's projects in the 1980s). Yet, the incorporation of gender analysis into untargeted project design still lags.

Poats (1991) argues that this lag is the result (among other things) of (1) a perception that agricultural technology is neutral to socioeconomic and sociocultural differences among users; (2) a focus on the farm as a unit of analysis rather than on multiple farmers per household; (3) a general lack of staff trained in gender analysis skills (agricultural economics rarely provides training in gender issues, and checklists or guidelines are of limited value to the uninitiated); and (4) a sense that the subject of gender seems "like a radical intrusion rather than a call for greater efficiency of resource use."

All four of Poats' points are borne out in the above review of donor experiences in varying degrees. The last point, for instance, has been modified over the years—considering gender in projects is no longer viewed as "radical and intrusive."

Yet, the economic contribution of women in terms of measurable goals or as a benchmark for success or failure has not yet been systematically incorporated in project monitoring and evaluation reports. The potential of women to be major economic players through project assistance tends to be disregarded or welcomed as an unexpected bonus. In fact, our understanding of how to tap the huge economic potential of women in agriculture has been side-tracked for a decade as a result of investments and interest in the possibilities offered by women-only projects that have been geared mainly towards women's domestic roles.

This brings us to the *second* conclusion. There is a widespread feeling among donor agencies that women's projects have been useful activities, but that the time of gender-targeted economic development projects (as opposed to health or nutrition projects) is past. Women's projects have served to raise awareness of the spheres of activity controlled by women and men within the same households, and some projects were successful in reaching their defined goals.

Nevertheless, if well-designed women-only projects and women's components have demonstrated certain advantages in offering opportunities to rural women, such projects are generally unsustainable if they are not tied into mainstream development plans and activities. Narrow targeting on a gender basis has been found to be counterproductive and/or difficult to administer: (1) the provision of special treatment to small target populations, such as poor women, women in (nominally-voluntary) cooperative groups, or even just women in general, can raise opposition to project activities among community members outside of that group, thereby stalling progress for all; (2) it is difficult to evaluate the gender impact of projects that either have multiple donors or have been operating in a context of rapid policy change. Which component of a multisectoral project (say, agricultural technology transfer coupled with growth monitoring and primary education promotion) was responsible for an

observed gender-biased outcome? Was it the project or the government policy environment that had the greater effect on project outcomes at the time of evaluation?

Experiences of the past 15 years therefore suggest that gender-sensitive mainstream projects are the most effective way to address women's needs while, at the same time, enhancing their socioeconomic status (Carloni 1987; Cloud 1987).

Women should be seen not just as "isolated beneficiaries" but active participants together with men in the development process. This calls for the design of projects that directly benefit women by simultaneously enhancing their productivity and earnings *alongside those of men*. Women's special needs *and* economic growth can best be addressed by raising women's access to project inputs and outputs alongside, and in equal proportion to, men's.

For this "mainstreaming" to occur, project planners and policymakers need to shift their attention to the central question of how to maximize economic growth among both genders simultaneously. The equity argument, supporting special attention to women, is no longer regarded as controversial as it used to be. The poverty-targeting argument is rather weakly supported by recent empirical findings. The strongest arguments are based on the multiplier effects of women's income (which tend to be measured more in terms of noneconomic outcome variables, such as nutritional status or educational attainment), and the economic potential foregone when women are ignored or not targeted properly by agricultural projects.

One practical remedy for this situation, the *third* conclusion here, is to seek to demonstrate to operational staff how much economic growth potential is foregone when women are not given equal access to project components. Nguyen (1993) refers to this process as part of trying to close the "conviction gap" among many skeptics<sup>4</sup> in

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<sup>4</sup> For example, a survey among CIDA's professional staff revealed that a large number of them do not believe that gender inequalities are among the first constraints to improving women-in-development projects (RRA Ltd. 1993).

the development community that gender equality, aside from being "politically correct," can actually help to advance economic development.

While it is known that women contribute as much as 70 percent of the labor to agricultural production in Africa (and somewhat less, but still significant, shares in other continents), it has been commonly assumed that their potential in terms of productivity growth is less than for men. However, as Table 4 illustrates, this hypothesis has been rejected and there are gains to be made by investing in ways to assist poor rural women in order to increase their productivity.

In general, women face unequal rights vis-à-vis men to household and community resources and face greater institutional biases than men in access to training and new technological inputs. This results in lower observed productivity in agriculture for women and reinforces the concept that women are poor farmers. For example, the lower yields produced by women in the Kano River irrigation project in Nigeria were mainly because they were allocated fragmented land of inferior quality (poor soil and had waterlogging problems) that were located further away from their homes (Jackson 1985). A more careful study by Udry (1994) comes to the same conclusions. His study controls for land quality and access to inputs and still found that yields in women's plots were lower than those in men's plots. Udry points out, however, that women put in nearly as much labor on men's plots as their own plots, while men were not observed to do the same for women's plots. Other studies, such as in Burkina Faso (van Koppen 1990), Ghana (FAO 1991), and Nigeria (Palmer 1991), have also attributed the lower productivity in women's plots to the fact that, in general, women are obliged to work first on communal and/or men's plots before working on their own plots.

**Table 4 Projected payoffs from investing in female farmers**

Study and Sample	Policy Experiments	Increase in yields
Mooch 1976 Farmers in Kenya	Effects of increase in female farmers' education and input levels  Effects of increase in female farmers' sample mean characteristics and input levels	
Saito, Mekonnen, and Spurling 1992 Food-Crop maize beans and cowpea Farmers in Kenya	Effects of increase in female farmers' education and input levels  Effects of increasing land area to male farmers' levels  Effects of increasing fertilizer to male farmers' levels	15  44

A number of studies indicate, however, that the productivity gains that would occur if women farmers had access to the same level of inputs as male farmers are large. Tibaijuka (1994) shows that, for a sample of Tanzanian farmers, a liberalization of sex roles would increase the overall productivity of labor and capital for all farmers by 15 percent and 44 percent, respectively. Saito, Mekonnen, and Spurling (1992) show that, for a sample of Kenyan farmers, the gross value of crop output per hectare for men is 8 percent higher than that for women. However, if women had the same capital endowments and had used the same level of factor inputs as men, the value of their output would have increased by more than 20 percent. Moock (1976) shows similar results for Kenya. Capturing this productivity potential among women farmers and livestock managers could add significantly to overall agricultural productivity in many regions and could improve the viability of countless agricultural project investments (Bamberger, Blackden, and Taddese 1994).

Yet, this potential is often not realized precisely, because projects are not gender-sensitive. A number of examples of the nonadoption of project designed to improve crop technology can be explained in this manner. In Jones' (1986) study of Cameroon, rice was considered to be a male crop. Any income generated from it was controlled by men, even if the crop was produced by women. Consequently, few women entered into improved rice cultivation schemes. Instead, they continued to grow sorghum, the product of which they controlled, despite its lower returns. In Zambia, women were encouraged to intercrop beans, a woman's crop, with maize, a male-controlled crop (Poats 1991). Intercropping would have been welfare enhancing in two ways: there are well-known complementary benefits from consuming these two crops, and the amount of weeding time for women would have been diminished. However, women refused to adopt this change because, if beans were planted on land normally allocated to maize, they lost ownership of the beans.

The hypothesis that women's productivity growth potential is less than men's has been only weakly challenged in the literature because of an absence of empirical data allowing a methodologically sound comparison of male and female productivity in more than one country (Quisumbing 1994), while very few studies exist that have seriously addressed the relative productivity of women and men for the same crops and technology (Dey 1996).

The generation of information that will allow for a rigorous analysis of the foregone benefits of not promoting the economic advancement of women in agriculture should now be given a high priority by the research profession. If it is found that women are at least as productive per unit of land, labor, or other factor inputs as men, then the potential for national economic growth based on women's agriculture can be calculated with reference to levels of project inputs gained by men. Faced with figures for economic growth potential *lost* due to gender-blind development activities, the argument for mainstreamed gender activities in agriculture

will be immeasurably strengthened. Concrete project designs based on such calculations will also stand a much higher chance of success and sustainability than in the past. The future of gender analysis lies in determining how to effectively maximize the economic potential of both men and women.

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