PN-ABE-235
ISN 6341

WOMEN IN DEVELOPMENT: A.I.D.'S EXPERIENCE, 1973-1985

VOL. II: TEN FIELD STUDIES

A.I.D. WORKING PAPER NO. 131

Paula O. Goddard, Editor
(Center for Development Information and Evaluation, A.I.D.)

U.S. Agency for International Development

December 1989

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PREFACE

In connection with the 1985 World Conference to Review and Appraise the Achievements of the United Nations Decade for Women (1975-1985), A.I.D.'s Center for Development Information and Evaluation (CDIE) undertook a year-long study of the Agency's experience in women in development. The final report is contained in two volumes: Women in Development: A.I.D.'s Experience 1973-1985, Volume I, Synthesis Paper, A.I.D. Program Evaluation Report No. 18, and this volume, which contains edited case studies of 10 field reports. The case studies, together with six sector studies, formed the basis for the Synthesis Paper.

Interest in A.I.D. and the larger development community in women in development continues and in fact is again on the rise in A.I.D. in response to recent Congressional pressure and legislative action. But for all the intensity of interest and the growing awareness that gender plays a key role in development outcomes, frustration and lack of knowledge about how to apply women-in-development concepts in specific projects and programs continue. The shortage of women-in-development expertise is serious, particularly in the design and implementation of broad development activities where women and girls play an important role. Few today would dispute the need for gender analysis in policy reform programs, natural resource management, food production, and social programs to improve health and education. Yet the details of determining what role gender plays in the success or failure of these activities still present a significant challenge to even the most dedicated professional.

CDIE presents the 10 project case studies in this volume to benefit the scholar or practitioner who aspires to greater understanding of the role of gender in development. While the overall picture drawn from these projects was summarized in the Synthesis Paper, a reading of the individual case studies offers further and in-depth insight into the projects. The cases cover all the sectors in which women and girls in developing countries are particularly active: employment, agricultural production, and the provision of water, fuel, health, and education to their families. Of course, each case is only a snap shot of a project at a particular time, necessarily presented as though the project were in static context. However, these projects have continued to evolve since the case studies were prepared and may now bear little resemblance to the trends anticipated and the predictions made by CDIE's analysts. Indeed true students of the development process must, at regular intervals and long after initial project activities have ceased, revisit and reanalyze projects and

project impacts in order to understand the mysteries involved in what we call "development." In the Alcosa project in Guatemala, the CDIE analyst visited and studied a project 5 years after a previous researcher had completed a case study and was able to present another chapter in the ongoing story of this project. In the ADEMI project, the analyst was able to update some of the original research data from 1985 with additional recent data on that project.

But for the other eight cases, it remains the task of future researchers to return to these projects and plot the continued course and ultimate impact of each. CDIE offers this volume of 10 field studies to the interested student of the now extensive women-in-development literature as part of a historical record and as a basis for continued research and better understanding of this important topic.

Paula O. Goddard
Deputy Director
Center for Development
Information and Evaluation
Bureau for Program and Policy
Coordination
Agency for International
Development
December 1989

GLOSSARY

ADEMI	Association for the Development of Micro-Enterprises, Inc.
A.I.D.	U.S. Agency for International Development
ALCOSA	Alimentos Congelados Monte Bello, S.A.
ASAL	Arid and Semi-Arid Lands project
bachot level	educational level of those who have completed secondary school but have not passed the exam required to receive the baccalaureate diploma (Morocco)
binna	uxorilocal or matrilocal marriage (Sri Lanka)
CAEP	Caribbean Agricultural Extension Project
chena	dry-land agriculture (Sri Lanka)
comuna	Ecuadorean cooperative
deqa	virilocal marriage (Sri Lanka)
FODERUMA	
el qasto	household expenses (Guatemala)
GDP	gross domestic product
ha	hectares
IBTA	Bolivian Institute of Agricultural Technology
kgotla	traditional community meeting (Botswana)
mm	millimeters
mwethya	self-help (Kenya)
NERAD	Northeast Rainfed Agricultural Development project
OFPPT	Office of Technical Training and Job Development (Morocco)
panchayat	traditional village council (Nepal)

PTAMC	Appropriate Technology for Rural Women Project
RCUP	Resource Conservation and Utilization Project
<u>tambon</u>	political subdistrict (Thailand)
WAND	Women-in-Development Unit, University of the West Indies
WID	women in development

1. BOTSWANA AGRICULTURAL COLLEGE EXPANSION PROJECT

by

Mary B. Anderson, Economist
President, Collaborative for Development Action, Inc.

and

Edna McBreen, Agricultural Education Specialist
State University of New York

1.1 Summary

The effectiveness of the Botswana Agricultural College Expansion project in integrating women was evaluated at two levels: (1) the extent to which women were integrated into the institution as faculty members and students and the extent to which gender awareness and gender-related patterns of production were incorporated in curriculum design and (2) the impact that the inclusion or exclusion of women at the institutional level has had on the productivity and well-being of Botswana's female farmers.

The findings include the following:

1. The college has increased both its male and female faculty as a result of the expansion project. The ratio of female to male faculty at the professional level has remained at 1:3. At the technical level, the faculty increased from 11 to 23 members, but the ratio of female to male faculty decreased from 1:11 in 1979 to 1:23 in 1985.

2. In the participant training component of the project, women were underrepresented: 27 men and 5 women received training. The majority of degrees received by participant trainees were in animal health-related studies (14) rather than in crop-related studies (8), although 10 were in general fields equally applicable to animals or crops. These figures show that the effort to strengthen the college's staff was biased toward the animal-related fields, which are dominated by men in Botswana, whereas women predominate in crop-related fields.

3. An increasing number and proportion of women have been admitted to the college as students in all four training categories. The proportion of women increased from 20 percent of graduates in the Agricultural Certificate program in 1979 to 39 percent in 1984, from 0 percent in the Animal Health Certificate program in 1979 to 6 percent in 1984, from 0 percent in the

Animal Health Diploma program in 1981 to 11 percent in 1984, and from 0 percent in the Agricultural Diploma program in 1982 (first year) to 33 percent in 1984. However, the attrition rate for women students over this period was 33 percent, compared with 19 percent for men students.

4. The concentration of women students in the agriculture-related areas and men in the animal health-related areas reflects the general division of labor among Botswana's agricultural population.

5. An annual limit of 15 women has been established for admissions to the Agricultural Certificate program. The reason given for this limit is that placement of women as agricultural demonstrators in remote areas is difficult; there is, however, disagreement concerning the validity of this argument.

6. There is little concrete evidence that women and men differ in effectiveness as agricultural demonstrators, although the agricultural extension services in general are criticized for being ineffective. However, several issues did arise that warrant further investigation, including the following:

-- Women agricultural demonstrators who are pregnant are not expected to travel or work in the same way as male and nonpregnant female agricultural demonstrators. There are no figures on the number of female agricultural demonstrators who became pregnant or on actual time lost to the job as a result of pregnancies. However, our interviews indicated that women agricultural demonstrators lose 9 to 12 months of active work time during pregnancy and nursing and, therefore, they cannot serve their client farmers as well.

-- Among male agricultural demonstrators, the incidence of alcoholism and the resulting numbers of days of work lost are high. Exact figures on the numbers of days lost have not been compiled.

1.2 Introduction

1.2.1 Project Goal

The Botswana Agricultural College Expansion project of the Agency for International Development (A.I.D.) was designed to address the specific needs of small-scale farmers and herders within Botswana's agricultural sector. It was chosen for the

women-in-development study because it is an institution-building project of which the design included an explicit consideration of gender roles, and because it allowed a fuller analysis of the ways in which such a project design may or may not affect women in the ultimate project population.

During FY 1984, the USAID/Botswana program included numerous projects aimed at strengthening country institutions related to agriculture, off-farm production, and income in rural areas; improving primary and postprimary education systems; and providing advanced training for administrators and technical personnel. Usually, the Mission views women-in-development issues as an integral part of its general work, so the majority of a Mission's projects incorporate women into the mainstream of the project. However, smaller efforts focusing directly on women and their needs in development are evident.

1.2.2 Project Setting

The Botswana Agricultural College is administratively responsible for providing graduates in agriculture to work for the Ministry of Agriculture. Thus, the policies and decisions of the Ministry have had a strong impact on the project to expand the college. Having estimated the staff it will need to fulfill its goals with respect to Botswana's poorest farmers and herders, the Ministry foresees a personnel shortfall of about 600 people by 1988, unless indigenous training is greatly increased. The Botswana Agricultural College Expansion project is an important aspect of the strategy to increase the numbers of trained personnel in agricultural extension.

Several aspects of Botswana's general economic and political context have also affected the Botswana Agricultural College project.

The agricultural sector provides a livelihood for Botswana's rural population--83 percent of the country's 1 million people. That sector provides only about 10 percent of gross domestic product (GDP), but it accounts for nearly 50 percent of all employment in Botswana. Livestock (mostly cattle) production accounts for 80 percent of the sector's share of GDP. Ownership of livestock, however, is highly skewed, with only 6.7 percent of rural households controlling 54 percent of the national herd (estimated at 2.8 million head). Most households are dependent primarily on raising crops, which is mainly the responsibility of women. Cultivation is difficult and risky under prevailing climatic and ecological conditions. In years of moderate rainfall,

annual food grain production averages only 30 percent of national requirements.

Botswana's economy is strongly linked to and dominated by the neighboring Republic of South Africa. Botswana's membership in the Southern Africa Customs Union generates 32 to 40 percent of the Government's annual revenues, and South Africa accounts for 88 percent of Botswana's imports and 15 percent of its exports. Approximately 20,000 Botswana are employed in South Africa, primarily in the mining industry. The South African companies of DeBeers and Anglo-American hold significant equity and have managerial influence in Botswana's diamond, coal, and copper-nickel production.

Botswana's physical characteristics present a challenge to any agricultural project. It has a continental and semiarid climate, with highly erratic rainfall averaging only 450 millimeters (mm) annually, but varying from less than 250 mm in the southwest to more than 650 mm in the northwest. The Kalahari Desert constitutes 80 percent of the country's land area, and only about 6 percent of the land is suitable for farming. The Limpopo Valley region on the eastern side of the country has nearly 80 percent of the population, relatively good soil, and generally just enough rainfall for some dry-land crops and cattle.

Agricultural production in Botswana has suffered greatly from current drought conditions. Planting, harvesting, and production levels have all declined drastically. Three consecutive years of drought have reduced Botswana's output to 5 percent of its requirements.

The influence of gender on agricultural labor and production in Botswana varies extensively according to location, tribe, and family. The USAID Agricultural Development Officer, Dr. Anita Mackie, described the variation in Botswana as the greatest she has seen in her work in about 40 African countries. Traditionally, however, agricultural production in Botswana involves a complex system of gender-assigned responsibilities. At the macro level, men are responsible for livestock, land clearing, and plowing with oxen, and women are responsible for crops.

The actual delineation of work based on gender has been affected by variations in family configuration: approximately 40 percent of families are headed by women. In addition to single women and widows, this figure includes a sizable number of married women whose husbands are absent. Thus, strict delineation of tasks by gender appears to be breaking down.

Data on persons performing crop and livestock activities show that women are the major participants in 47.7 percent of all crop activities but do not take part in livestock activities, excluding those involving poultry. However, the data on persons responsible for crop and livestock operations show that women are responsible for 57.7 percent of all crop activities and 12.1 percent of all livestock activities.

The traditional division of labor severely limits the female-headed households' access to resources. Most women rely on men for plowing with draft animals, so female heads of households must often hire someone to do this job. The constraint on access to draft animals, therefore, quickly becomes a resource constraint affecting both labor and economic resources. Because women tend to be among the smallest landholders with the most marginal operations, they cannot easily overcome this constraint.

1.3 Project Design, Implementation and Results, and Gender Issues

1.3.1 Project Design

A.I.D. provided a grant of $7,149,300 to the Government of Botswana to support the expansion of the Botswana Agricultural College between 1978 and 1983. The objective of the project was to improve the welfare of Botswana's small-scale farmers and herders. As defined in the Project Paper, the project purpose was to establish within the college a largely localized training institution capable of serving rural sector needs. The project inputs were specified as follows:

- -- Long-term technical assistance in vocational and educational administration, extension, animal health, range management, agricultural communication, agronomy, and general science
- -- Short-term technical assistance in animal breeding, horticulture, rural sociology, and extension
- -- Construction of dormitories, classrooms, administration and faculty offices, and other buildings; and new and expanded facilities for several departments, a library, and dining hall
- -- Long-term participant training in the United States for college staff and administrators to earn bachelor's and master's degrees in agricultural economics, range

management, horticulture, agronomy, veterinary medicine, and educational administration

-- Provision of equipment and commodities including vehicles, laboratories, and furnishings for classrooms, dormitories, and other facilities

The project was also designed to address an existing and projected shortfall in agricultural personnel by doubling the college's annual admissions capacity from 60 to 120 certificate-level students, and by introducing a diploma-level program to train 30 students each year.

The primary project beneficiaries were to be 14 college staff members who were to receive training and 150 college students per year who were to receive certificate- and diploma-level training. Secondary beneficiaries were to be rural Botswana, who would benefit from improved service from agricultural extension demonstrators and veterinary assistants.

Graduates from Botswana Agricultural College are employed primarily as agricultural extension demonstrators and as veterinary assistants. Agricultural demonstrators are assigned to the Ministry of Agriculture's Department of Agricultural Field Services, and veterinary assistants are assigned to the Ministry's Department of Veterinary Health. Together, the department provide the key link between the Ministry and rural Botswana's agricultural and livestock activities.

At the time the project was designed, five women were serving as agricultural demonstrators and six women were enrolled in the agricultural program. The project intended to improve admission procedures to increase the number of women students at the college, but it set no specific targets for women. This approach--noting that women should be included without specifying numbers or procedures--is in keeping with the stated intention of the Government of Botswana and USAID/Gaborone of "integrating" women into mainstream projects. Furthermore, it reflects the awareness by the Botswana Government and the Ministry of Agriculture of the importance of women's roles in agricultural development as set forth in the 1976-1981 National Development Plan. The project's design documents, therefore, included discussion of gender roles in agriculture but did not relate them in any way to the design for the college expansion project.

1.3.2 Project Implementation and Results

On the whole, the project proceeded smoothly from its implementation in 1979. The number of participant trainees was increased from 14 to 20, and technical assistance was extended to ensure continuity until all Botswana returned from training (1986 projected). In general, the project is considered very successful--it achieved all its intended outputs. In addition, the number of women students admitted to the college has risen.

1.3.3 Project Gender Issues

Botswana's Focus on Gender. The Government has established a Women's Affairs Unit within the Ministry of Home Affairs. Its goals are to coordinate women's activities in Botswana at local, national, and international levels; to disseminate information; to conduct research on the situation of women in Botswana; and to interact with different Government departments on issues related to women. The unit works in conjunction with other ministries, using a cooperative approach aimed at integrating women into the ministries' planning and ongoing work. The unit acts as a resource to other ministries rather than as an advocate for women's rights.

The Ministry of Agriculture's Director of Field Services stressed that the approach of his Ministry has been to attempt to integrate women into the larger system both as staff members and as project beneficiaries. The Ministry of Agriculture has directed some programs toward women and, in fact, had a Women's Unit until 1984, when it was phased out.

Availability of Gender-Related Data. Extensive gender-related data on agriculture and extension activities in Botswana as well as information describing Botswana Agricultural College are available. In addition to some gender-disaggregated census data and Government records, several studies based on interviews, field observations, and national statistics have been written about women in agriculture, intrahousehold management, and the extension service's outreach to women farmers. (See, especially, Bond 1974; Bettles 1984; and Fortmann 1981.) There is, however, at least one research area directly related to the college and its inclusion of women as faculty and students that requires investigation: no data are available for comparing the success of female versus male agricultural demonstrators and their ultimate impact as agricultural extension agents; data indicating whether women farmers are reached by extension efforts are also scant.

1.4 The Field Study

1.4.1 Analytical Framework

This study addressed the following key issue: whether the well-being and productivity of small-scale farmers and herders in Botswana were more or less effectively improved because the Botswana Agricultural College Expansion project did or did not integrate women into its design and implementation. The linkage between the project (to increase the numbers of trained agricultural extension staff) and the Government's goal of improving the welfare of small-scale farmers and herders involves reaching herders and farmers to help improve their productivity. The task was to discover whether and how consideration of gender in the college expansion project made any difference to the effectiveness with which rural Botswana's productivity needs were served.

The primary focus of the study was the integration of women into the college, particularly in the following three areas:

1. Faculty: Hiring and training

2. Students: Applications/admissions; retention/performance; and placement

3. Curriculum:

   -- Content, breadth, priorities; relation to the real situation in agriculture in terms of appropriateness of technologies, gender divisions of labor, and cultural practices

   -- Relation to agricultural research efforts: the extent to which research findings are incorporated into curriculum and the extent to which student experience helps shape research priorities

   -- Adaptation of methods for reaching farmers and herders according to nature of target group

Another aim of the study was to assess the importance of gender to the broader objectives to which the project was linked. The following questions were basic to this analysis:

1. Who are the farmers and herders? Classified by:

   -- Crop types (which vary by household type, decision-making patterns, tribe, and land types)

-- Stages in crop production (plowing, planting, weeding, harvesting)

-- Type of animal raised

-- Frequency and usefulness of contact with agricultural demonstrators and veterinary assistants

2. Who are the agricultural demonstrators and veterinary assistants?

   -- Their ideal characteristics for this work

   -- Advantages or disadvantages for male or female agricultural demonstrators or veterinary assistants

3. What is the impact of the Agricultural College on productivity?

   -- When information is transmitted to farmers through college graduates

   -- By farmer type, crop type, or animal type

1.4.2 Evaluation Methodology

In examining the key issues addressed by this study, we relied on available documents and on information gained through interviews.

To assess the extent of inclusion of women in the college, we used student admissions records for the years prior to and during the project, faculty records, records from the USAID/Botswana training officer regarding participant training in the United States, and curriculum descriptions. We supplemented information gained from these documents by interviews with the college principal and vice principal and with members of the A.I.D. technical assistance team. We also visited the college and observed facilities for men and women and for a number of the subjects taught at the college.

Assessing the quality of the extension services provided by Botswana Agricultural College graduates and the influence of gender was much more difficult. First, we attempted to learn whether there was any difference in the quality of the work of female or male extension agents who had graduated from the college. Then we looked for indicators of the quality of extension advice provided by both female and male extension workers to

female and male farmers as it had been affected by the training received at the college.

Botswana's agricultural extension service has been studied and evaluated on numerous occasions. We reviewed a number of previous studies for information on the relative effectiveness of female and male extension workers. We also interviewed some of the people involved in the research and Government officials in the Ministry of Agriculture and the Women's Division about their assessment of this research and its accuracy in describing the current situation.

We also relied heavily on existing research on the gender division of labor in agriculture and on productivity levels in crop production and herding. From these studies we derived questions used in interviews with Ministry of Agriculture and other extension service officials, as well as with the extension agents and expatriate technical assistance staffs in the field. From these interviews, we attempted to discover what priorities are placed on providing extension services to the different activities in agriculture (as related to the gender division of labor) and what relationships there may be between extension agents' approaches to their work and the possibility of increasing their effectiveness in reaching female farmers and increasing women's crops. We also interviewed district-level workers and extension agents in three districts.

The fact that much research on gender roles in agriculture and several evaluations of Botswana Agricultural College had already been done was in some respects an impediment to this study. Almost without fail, the gender focus of this evaluation elicited standard responses of three types: (1) hostility, (2) recitations of numbers, or (3) stereotypical reporting of male/female roles and attributes. Several people were reluctant to meet with us or to set up additional meetings for us; they believed that the college had already been adequately evaluated and that this evaluation was unnecessary and our requests were impositions. In most cases we had to spend some time just getting people to consider the question we were actually asking: whether gender matters in the areas under discussion, rather than whether women should be or had been trained at the college.

Thus this study represents a beginning of a new approach to exploring <u>where</u>, <u>when</u>, and <u>whether</u> gender issues matter in project design and not a conclusive study of the degree to which they did matter in the Botswana Agricultural College Expansion project.

1.5 Project Analysis

Findings are reported in two parts, corresponding to the analytical framework discussed above. This section treats the project itself and the integration of women into specific components of the college--personnel and curriculum.

1.5.1 Personnel

Table 1 shows the gender distribution of the College faculty at the beginning of the project in 1979 and in March 1985.

Table 1. Number of Male and Female Faculty at Botswana Agricultural College in 1979 and in March 1985

Category	1979		1985	
	Male	Female	Male	Female
Professional				
Expatriate	7	2	8	1
Local	4	2	13	6
Subtotal	11	4	21	7
Technical				
Expatriate	9	-	-	-
Local	1	1	22	1
Subtotal	10	1	22	1

While the number of local staff increased markedly in both the professional and technical categories, the percentage of women relative to men fell in the technical category and remained at approximately one-third in the professional category.

The Botswana Agricultural College Expansion project had a significant participant training component. Eight students (male and female) were in crop-related areas, 14 in animal health, and 10 in general areas related to both crop and animal production. Of the 32 people who received training, 5 (17 percent) were women--somewhat below current female faculty representation. Two of the women concentrated on crop-related courses and three on general courses. None received a degree in animal health. The greater number of degrees in animal sciences indicates an

implicit, if not explicit, priority on developing the competence of the college staff in the livestock and other animal health courses. This emphasis is directly counter to the Ministry of Agriculture's stated priority of increasing food production and reinforces the existing bias toward male-dominated livestock production.

Of the additional faculty who received short-term training, all three were men; two received general training and one focused on a crop-related area.

Between 1973 and 1980, Botswana Agricultural College graduated 390 students, of whom 16 were women (Bettles 1984). As the college expanded its program, the numbers of both male and female enrollments and graduates increased, and the percentage of women increased as well.

There are relatively more women in the two agricultural programs than in the animal health programs. This distribution reflects the general division of labor by gender in the countryside. However, the proportion of female to male students at the college underrepresents women both in the rural population in general and in the populations engaged in crop- or animal-related activities in particular. During the life of the project, enrollments and graduations of women tended to increase. In the discussion below on placement of graduates, however, we note the present possibility of a declining trend.

The attrition rate for students in the Agriculture Certificate program was significantly higher than the 10 percent estimated by the Project Paper. The dropout rate as of 1984 was 22 percent--19 percent for men and 33 percent for women. Male/female comparisons were not meaningful in the Animal Health Certificate program because the numbers were too low; at the time this report was prepared the diploma program was only 4 years old. That the dropout rate was higher for women than for men is partially explained by the fact that women who become pregnant leave the school for 1 year. They are, however, readmitted without penalty. (Records on reentry of such students were not available, but pregnancy could account for the fact that one woman graduated in 1980 although no women were admitted in 1979.)

Everyone we interviewed who was connected with the college noted that, academically, female students perform as well as or better than male students. They noted that the graduating students with the second highest academic record in 1983 and the highest record in 1984 were women.

In 1981, the Department of Agricultural Field Services assured the Permanent Secretary of the Ministry of Agriculture that

all women trained at Botswana Agricultural College would be employed. However, interviews with the college administration revealed that the Ministry has, in writing, limited to 15 the number of women who can now be admitted to the Agriculture Certificate program. A similar limit, transmitted orally, was placed on female admissions to the Animal Health Certificate program, but applications from women did not exceed the limit. The reason given for these limitations was the difficulty of placing women in the field, particularly in remote areas.

Table 2 shows the placement of all women graduates from the Agriculture Certificate program for whom information was available as of 1984. Women graduates of Botswana Agricultural College are hired by the Ministry and placed in appropriate positions. Women generally are placed in positions equivalent to those of their male counterparts, except that women agricultural demonstrators receive favorable treatment by being placed in less remote and somewhat easier assignments for "health reasons."

1.5.2 Curriculum

From the desk review of A.I.D.-supported education projects, it became clear that one area in which gender analysis could significantly affect project design is curriculum. If curriculum content addresses women's productive roles, its relevance to girls' and women's lives will provide a strong incentive for them to become involved. Similarly, when curriculum is intended to train people who will train others, as at Botswana Agricultural College, the explicit inclusion of information on women's roles will help these students make their instruction relevant to the people they teach.

Since the final evaluation of the college expansion project, the college has published a course catalogue for the certificate and diploma levels. The course descriptions are thorough, and the sequencing of courses reflects the broad range of agricultural and animal health activities in Botswana. There is no apparent bias in favor of either subsistence farming or livestock production. Where appropriate, course descriptions refer to regional differences, including variations in soil and climate types and cultural and traditional patterns of farming. The curricula for these programs and the courses on extension, communication methods, and rural sociology could incorporate issues related to gender differences in labor and resource bases. We were unable to meet with the instructor in rural sociology and extension to discover whether he actually does deal explicitly with gender.

Table 2. 1984 Location of All Women Agriculture Certificate Graduates From Botswana Agricultural College

Position	Number
Department of Agricultural Field Services	
Agricultural Demonstrators	26
Dairy Agricultural Demonstrator	1
Land Utilization	2
Agricultural Information	2[a]
Subtotal	31
Botswana Agriculture College	
Lecturer	1[a]
Diploma Students	7
Subtotal	8
Department of Agricultural Research	
Research Staff	7
Left the Ministry of Agriculture	1
Subtotal	8
Total	47

[a]These women now hold diplomas.
Source: Bettles 1984, 27.

In interviews, as we explored the ways in which Botswana Agricultural College courses prepare graduates to work with women farmers, we were told that "if they [graduates] go to the fields, they will work with the farmers they find there--in many cases, or most cases, women." In other words, students are instructed in fieldwork methodologies but with little or no explicit consideration of women.

We concluded that the comprehensiveness of the curriculum might well constitute a good example of a "gender-blind" approach that educates about agricultural practices in an inclusive and integrated way. However, including gender awareness in course descriptions could add an additional assurance that gender issues will be addressed. It might also increase the sensitivity of Botswana Agricultural College graduates to ways in which gender-related patterns of production might affect their work priorities as agricultural demonstrators.

1.5.3 Findings on the Relation Between Integrating Women and Achieving Project Objectives

Findings on the importance of the relationship between the integration of women into the project and achievement of greater productivity and well-being for small farmers and herders are discussed in the context of agricultural production and the agricultural extension system.

It is impossible to determine the impact of an agricultural education institution on production without a complex, long-term study. Undoubtedly, the drought and the resultant declining production have offset any positive impact that the Botswana Agricultural College may have had. However, there is a need for greater understanding of the relative success of graduates in their various roles as agricultural demonstrators, researchers, ministry personnel, and the like. A follow-up study of college graduates, planned for the near future, should begin to fill this need.

Having learned about gender-related roles in agriculture, we examined the agricultural extension system to see whether gender was a factor in either staffing or effectiveness of delivery (i.e., in affecting farmer productivity).

A 1983 study (Ramolemana and Hobbs) surveyed 213 people concerned with extension to determine what factors were considered to have the greatest influence on extension effectiveness and on crop-production improvement. The study identified five major problems affecting extension worker effectiveness:

- -- Inadequate housing for agricultural demonstrators
- -- Inadequate performance review and promotion procedures for agricultural demonstrators, district agricultural officers, and regional agricultural officers
- -- Failures in the supply of needed seed varieties
- -- Transportation difficulties in the field
- -- Inadequate opportunities for in-service training.

Our interviews revealed the same issues; however, none, with the possible exception of transportation, is specifically a gender-related problem. Transportation, particularly riding bicycles on sandy roads, was sometimes cited as a greater problem for female than for male agricultural demonstrators. Using motorbikes instead of bicycles to ease the problem worked to the

disadvantage of female agricultural demonstrators because women traditionally have not ridden motorbikes. In our interviews, however, we found widespread agreement that transportation difficulties affected both male and female agricultural demonstrators and that the use of motorbikes, given adequate supply, would prove a good option for both.

Another problem faced by agricultural demonstrators was identified by the principal of the college: the relatively poor image of agricultural extension workers compared with the image enjoyed by community development, literacy, and health-extension agents. He blamed Government policies toward agriculture for this image. He considered the question of whether women could be good agricultural demonstrators to be a diversion from the more important issue of how Government promotion and support of all agricultural demonstrators could enable them to be more effective. He pointed out that programs in social and community development, health, and education/literacy all use women effectively as extension agents and send them to remote regions without unusual problems.

There have been several studies and much discussion concerning whether women are or can be as effective agricultural demonstrators as men. Bond (1974) and Bettles (1984) both found little or no prejudice against female agricultural demonstrators, although Bond found a small number of crop farmers to be reluctant to trust the knowledge of women in cattle matters. Bettles' findings are more mixed but indicate that most groups questioned, with the exception of male agricultural demonstrators, believe that women can be effective agricultural demonstrators. The male agricultural demonstrators stated that women could not do extension work because of transportation problems, lack of strength, fear of traveling in the forest, and difficulties working with livestock, among others.

To avoid repeating the work done in these studies, we took a slightly different approach in our interviews. First, we asked people to describe the characteristics they considered to be most important in an effective agricultural demonstrator; then we asked whether women or men had any special advantages or disadvantages in light of these characteristics.

There was considerable agreement on the qualities that interviewees deemed important for agricultural demonstrators. These included willingness to go into the field, work with people, and work long hours; patience; good communication techniques; and appropriate knowledge. Most interviewees believed that these qualities had little or nothing to do with gender. However, they pointed to three gender-related issues--pregnancy, alcoholism, and location--that they believed did influence the

effectiveness of agricultural demonstrators. Table 3 summarizes these responses.

Pregnancy. A high (unknown) proportion of female agricultural demonstrators become pregnant, and both they and their supervisors and colleagues agree that they lose about 9 to 12 months of active extension work during pregnancy and nursing. They are not expected to travel to the fields or to do strenuous work for much of this time. One woman explained to us that among educated women (as female agricultural demonstrators are), there is general consensus that they do not want to live as women farmers do "who must work even when they are pregnant and nursing."

Table 3. Survey of District Agricultural Officers and Regional Agricultural Officers

Question	Response
What are the most common problems you experience with your female agricultural demonstrators?	Transportation Pregnancy Health Weakness
What are the most common problems you experience with your male agricultural demonstrators?	Drinking Laziness Absenteeism Incompetence Poor discipline

Source: Bettles 1984

Alcoholism. A high (unknown) proportion of male agricultural demonstrators are frequently drunk and, as a result, do not visit farmers regularly. This was repeatedly cited as a male problem, and some people speculated that more job time is lost because of alcoholism than pregnancy. One person noted that alcoholism seems to be higher among male agricultural demonstrators than among male extension agents in other ministries, and he suggested that this was because of the unfavorable working conditions for agricultural demonstrators in general. Bettles' (1984) survey of district agricultural officers and regional agricultural officers also notes these two problems.

Location. When kgotlas (traditional community-based decision-making meetings) are used to transmit information to farmers, it is less acceptable for female agricultural demonstrators than for male agricultural demonstrators to make presentations. When agricultural demonstrators must travel to work at cattle posts, which often requires overnight journeys away from villages, it is more difficult and less acceptable for women to make the trip.

In our interviews, people frequently commented that female agricultural demonstrators had easier access to female farmers, whereas male agricultural demonstrators could work more easily with male farmers. While this is widely assumed to be true, the evidence that female farmers in Botswana are better served by female than by male agricultural demonstrators (or that male farmers are better served by male agricultural demonstrators) is less clear. Bettles (1984) shows that both female and male agricultural demonstrators spent more time with male farmers than with female farmers. Male agricultural demonstrators' estimates of time spent with female farmers were higher than those of female agricultural demonstrators, while female agricultural demonstrators' estimates of time spent with male farmers were higher than those of male agricultural demonstrators (see Table 4).

Our interviews, especially those with agricultural demonstrators and regional and district agricultural officers, could not substantiate greater access of women to women or of men to men. People frequently did comment that (1) youth was a liability that all agricultural demonstrators had to overcome by proving themselves to the farmers, and (2) female farmers in general were more open to working with and learning from agricultural demonstrators than were male farmers.

The problem mentioned concerning female agricultural demonstrators' access to male farmers at kgotla meetings and at cattle posts does affect extension delivery. However, the timing and location of agricultural demonstrators' contacts with farmers are possibly more important determinants of the number of farmers reached and the effectiveness of the contacts. Female farmers have far more demands on their time than male farmers (see Section 1.1) and are less free to attend meetings. Thus, to reach women, agricultural demonstrators must go to locations where women perform their domestic tasks in close proximity to each other. Agricultural demonstrators could also more effectively reach female farmers by living in village areas with demonstration homestead plots, water catchments, chickens, and the like, or they can reach women by training villagers as demonstration farmers. Because much of women's work is done in and near villages, the impact on women's activities of such efforts by agricultural demonstrators is likely to be great.

Table 4. Survey of Male and Female Agricultural Demonstrators

Question	Female Demonstrators (percent)	Male Demonstrators (percent)	Female Demonstrators (percent)	All Demonstrators (percent)
Can you estimate the proportion of time you spent working with male and female farmers?				
No	10	8	25	
Mainly Men	45	37		
Mainly Women	14	18		
Equal Time	32	37	75	
Do you find it difficult working with male farmers?				
Yes				10
No				90
Do you find it difficult working with female farmers?				
Yes				31
No				69

Source: Bettles (1984)

Finally, the extension "package" or technology promoted by agricultural demonstrators influences the decision about whom to work with. If early plowing, for example, is chosen as a strategy for increasing productivity, then the agricultural demonstrator should know who decides when to plow and who does the actual plowing. There are areas in Botswana where the chief or headman still decides when to plow, and farmers will only begin when he gives the word. There are other areas where men decide when to plow and do the plowing, areas where men decide but women plow, and areas where women decide when to plow and do the plowing. Advice to men to plow early has been ineffective in areas where they follow the headman's lead and in areas where women are expected to plow but have other major demands on their time.

1.6 Findings and Recommendations

1.5.1 Summary of Findings

The Botswana Agricultural College Expansion project made a serious and, for the most part, effective effort to integrate women into the faculty and student body of the College. However, the female professional faculty has remained at approximately one-third of the professional staff, even as the College expanded, while the proportion of female technical faculty has dropped significantly. Recruitment of female students received the greatest attention and represents the area of greatest project success in integrating women. The project was less successful in promoting women's involvement in traditionally male-dominated animal sciences; most women students continue to concentrate on the agricultural sciences.

The curriculum redesign is broad, inclusive, and, apparently, gender-blind. However, because "gender-blindness" is not synonymous with explicit attention to the roles women play in Botswana's agriculture and agricultural development, we suggest that gender issues be explicitly incorporated into Botswana Agricultural College courses.

Project design and implementation gave little attention to the relationship between the college expansion and the impact on agriculture in general and on female farmers in particular. No data exist on the impact of Botswana Agricultural College graduates, on agricultural productivity, or on the relative effectiveness of male and female agricultural demonstrators. There are indications of some differences in male and female agricultural demonstrators' access to farmers and number of productive days spent on the job.

1.6.2 Recommendations

1. A program for the prevention of unwanted pregnancies should be initiated at the college and maintained for agricultural demonstrators. The impact of pregnancy on time spent on the job was the only clearly gender-specific issue limiting the effectiveness of female agricultural demonstrators. It is our impression from our interviews that a large number of these pregnancies are unplanned. A comprehensive family planning program could be easily and inexpensively implemented. Such a program should include the following:

   -- Provision of family planning information, a medical examination, and appropriate supplies on entry to the college and as requested throughout the course of study. Introducing such a program at the beginning of the course of study will also lower the number of women who drop out because of pregnancy.

   -- Routine and continued provision of free information, supplies, and medical services to female agricultural demonstrators by the Department of Agricultural Field Services.

2. The comprehensive and gender-blind approach to the agricultural education curriculum at the Botswana Agricultural College suggests two changes to ensure explicit attention to the poorest subsistence farmers, many of whom are women.

   -- Explicit mention of gender-based divisions of labor and related gender issues (e.g., time, location, and labor constraints) in descriptions of courses in rural sociology and extension. Although current course descriptions lend themselves to the treatment of gender issues, they do not explicitly deal with them; explicit mention in the course descriptions would not only ensure that gender-related issues are addressed but it would also increase students' awareness of gender issues and their importance to agricultural demonstrator fieldwork.

   -- An increased number of courses related to homestead/compound vegetable gardening. Such an emphasis could have two advantages: (1) it would place farming within the time, labor, and location constraints of many female farmers in Botswana; and (2) the increased vegetable consumption that might result would lower vitamin deficiencies caused by lack of vegetables in the diet.

3. To assess the effectiveness of male and female agricultural demonstrators in reaching male and female farmers, the pending follow-up study on Botswana Agricultural College graduates should collect the following data:

   -- Specification of agricultural demonstrators' visits to farmers (or farmer contacts) by gender of demonstrator, gender of farmer, type of household (long-term absent husband, single woman, widow, divorced woman, man/woman farming together, single man)

   -- Location of agricultural demonstrator/farmer contact, with analysis of gender access to location

   -- Timing of agricultural demonstrator/farmer contact, with analysis of gender implications

   -- Extension package content and priorities and implications for <u>who</u> is contacted <u>where</u> and <u>when</u>, and gender implications

   -- Number of days lost to job because of pregnancy

   -- Number of days lost to job because of other factors, including drinking/alcoholism, by gender

2. THE ACCELERATED MAHAWELI PROGRAM IN SRI LANKA

by

Janet E. Benson, Anthropologist
(Kansas State University)

and

Jan Paul Emmert, Rural Sociologist
Center for Development Information and Evaluation, A.I.D.

2.1 Summary

The Accelerated Mahaweli Program of the Government of Sri Lanka is an extremely large and complicated river basin development project using over $1.0 billion in assistance from a number of international donors. The Mahaweli Program has dammed the Mahaweli Ganga, Sri Lanka's longest river, and is extending irrigation to several settlement schemes or "systems" being established in the sparsely settled dry zone of north-central Sri Lanka. By dramatically increasing the amount of land under intensive agriculture, the project is intended to create employment, increase national production of rice, and provide land to landless people from the heavily populated wet zone. It will also generate needed hydroelectric power for industry.

Sri Lankan women play a key role in agriculture. They are involved in transplanting, weeding, harvesting, and threshing paddy (rice); preparing fields; caring for homestead gardens, tree crops, and livestock; and managing farms. Agency for International Development (A.I.D.) planners anticipated that women would not only continue this involvement on the Mahaweli projects but would also participate in the income-generation schemes necessary to promote regional development. Project Papers stated that families in which women held special skills (not specified) were to be given priority in settler selection.

Although Project Papers suggested guidelines regarding women, they gave no specific implementation targets. In fact, the Mahaweli projects funded by A.I.D. focus narrowly on the construction of irrigation works; settlement activities are carried out entirely by the Sri Lankan Government. Thus, women have been consulted by project officials or included as recipients of training more as a response to problems arising during the settlement process than as a deliberate implementation of A.I.D. guidelines.

Seven major issues emerged from this study.

1. Settler selection. Despite statements in the Project Papers, we found that officials who were selecting settlers from the electoral rolls considered only the husband's background. A common assumption seems to be that all household heads are men and that men have primary responsibility for farming.

2. Agricultural extension. When husbands hold off-farm jobs or lack farming experience, women oversee hired labor and make day-to-day management decisions. Female heads of household (approximately 5 to 10 percent of settler households at present) also act as farm managers, either sharecropping land or working it themselves with the aid of children and other relatives. Despite women's roles as both workers and decision-makers, no agricultural extension work is aimed at married women, and almost all field staff (except for community development officers) are men.

3. Land tenure. The current system of land tenure has several implications for project success. Among new settlers selected from the electorate, men rather than women obtain allotments in 90 percent of cases, regardless of who will take the leading role in farm management. Among resettlers (previous occupants of the area) or evacuees from dam sites, residence requirements result in allotments of land to women in up to 35 percent of settler households. Land is significant not only as a basic resource but also as collateral for bank loans. Although women will continue to have some customary rights in the next generation, in most cases legal title will go to male heirs.

4. Labor constraints. Planners' assumptions about the availability of family labor were overly optimistic. Although project success is predicated on the production of two crops of rice per year using only family labor, settlers in irrigated zones must hire workers during peak seasons. Planners apparently lacked reliable information concerning what household members, particularly women, could or were willing to do in peak seasons, given their domestic work loads. Although day care centers had been introduced to free mothers for agricultural work, the majority of settlers were not using them.

5. Gender, agricultural diversity, and nutrition. The new farming system emphasizes irrigated rice, a cash and staple crop in which male labor predominates, rather than dryland agriculture (now illegal), which was previously practiced in the north-central areas. The relatively high level of nutrition in Sri Lanka has been associated with diversity of food sources, but intensification of rice production has reduced the availability of food for family consumption on the Mahaweli Program.

6. Homestead gardens. Homestead gardens, which both women and men may cultivate, could contribute more to family nutrition and supplementary income than they do at present. Women could keep milk animals (dairy cattle or water buffalo) if fodder could be grown; however, settlers complain that the 0.5-acre homestead plot size is insufficient for dairying and other activities formerly carried out by women. Lack of water for homestead gardens during the second cropping season is also a common problem.

7. Income-generation projects and employment. Viable off-farm projects for women during slack seasons would supply needed supplementary cash for the farm household. Lacking income from minor crops or cottage industries, farmers on System H must often take subsistence loans to maintain themselves between paddy harvests. Training programs target only men and young unmarried women, however.

2.2 Introduction

2.2.1 Project Setting

Sri Lanka is a small island republic the size of West Virginia. Its population of 15 million is 75 percent Sinhalese (mostly Buddhist); minority groups include largely Hindu Tamils of south Indian origin (20 percent), Christians, and Muslims. Following independence from Great Britain in 1948, the Government invested heavily in health, subsidized food, and educational programs. As a result, socioeconomic indicators for Sri Lanka are unusually positive for a South Asian country: high literacy rate (86 percent), high life expectancy ([illegible] years), low infant mortality, and low birth rates. Sri Lanka has remained a poor country, however, with a per capita income of only $320 in 1984. Despite a slowing birth rate, the population has more than doubled since 1946. Low productivity, restriction of the private sector, and low prices for traditional export crops like tea led to food deficits and widespread unemployment by the late 1970s.

Women's status in Sri Lanka is higher than in other South Asian countries. The island's positive socioeconomic indicators are undoubtedly related to women's relative freedom, at least among the Sinhalese ethnic group. As of 1981, literacy among woman (82 percent) almost equaled that among men (90 percent). In India and Bangladesh, by way of contrast, literacy among women is less than half that among men. Sinhalese kinship structure is bilateral, meaning that relationships are traced through women as well as men; both women and men customarily inherit land, and a

husband may reside in his wife's community after marriage (Leach 1961).

Sri Lanka is characterized by two major climatic and ecological divisions. The wet zone, located in the island's southwest quadrant, receives more than 2,000 millimeters (mm) of rain per year and is the most densely populated area of the country. The dry zone, which encompasses the rest of the island, receives less than 2,000 mm per year and has an "effective dry period" of 3 consecutive months. The unreliability of rainfall rather than its average amount limits rainfed agriculture, making irrigation essential for the production of two crops per year (Johnson and Scrivenor 1981). The Mahaweli Program therefore has enormous potential for increasing productivity and promoting population redistribution.

2.2.2 A.I.D.'s Women-in-Development Perspective

Current A.I.D. policy regarding the role of women in development goes beyond an earlier concern with equity. A.I.D. assumes that gender roles have important implications for project success or failure.

It is difficult to reconstruct what the USAID Mission orientation toward women-in-development issues was at the time the Accelerated Mahaweli Program was being designed. One statement in a Mahaweli Project Paper (USAID/Colombo 1980) suggests an orientation similar to present agency policy:

> Obviously Sri Lankan women have a key role in agriculture (transplanting, weeding, harvesting, and threshing of paddy; care of the homestead gardens and tree crops), but it is expected that they will also be heavily involved in the agricultural and nonagricultural diversification on which the project depends for regional development. To encourage and promote this, families in which women have special skills are being given priority in the selection of settlers. In addition, training courses are planned to provide new skills which the women can utilize to supplement family income. Also, there is a special effort underway to recruit women for the provision of services which will be of prime concern to the project (e.g., women agricultural extension agents, health workers, and irrigationists).

However, despite this statement, it appears that the Mahaweli projects funded by A.I.D. focused narrowly on the construction of

irrigation works and were not viewed as part of the Mission's women-in-development effort.

2.3 Project Design

The Accelerated Mahaweli Program of the Government of Sri Lanka is large and complicated river basin development project that is receiving over $1.0 billion in assistance from 11 international donors. It is also a massive resettlement project, originally intended to relocate 450,000 people. The Accelerated Mahaweli Program has dammed the Mahaweli Ganga, Sri Lanka's longest river, and is extending irrigation to several settlement schemes or "systems" that are being established in the sparsely settled dry zone of north-central Sri Lanka. By dramatically increasing the amount of land under intensive agriculture, the project is intended to generate employment, increase national rice production with the goal of achieving self-sufficiency in foodgrains, provide land to landless people from the heavily populated wet zone, generate hydroelectric power, and stimulate regional development.

The program allots small farms (usually two acres of irrigated land, with half an acre for the homestead), as well as some nonfarm plots, to voluntary settlers. Because paddy (rice) is a dietary staple as well as a major cash crop, the Accelerated Mahaweli Program heavily emphasized paddy production until recently.

The Accelerated Mahaweli Program is planned and implemented by the Mahaweli Authority of Sri Lanka, under the Ministry for Mahaweli Development, which oversees the complex settlement process and supplies farmers with credit, marketing, and extension services. Program implementation requires clearing large areas of jungle, creating dams and irrigation systems, preparing fields, selecting farmers, resettling thousands of families, and creating an extensive infrastructure, including roads, wells, and training centers. Activities are supported by specialists in land allocation, agriculture, engineering, marketing, community development, and livestock production.

Support of the Accelerated Mahaweli Program has been central to A.I.D. assistance to Sri Lanka for the last 7 years. This analysis considers activities on the older system and three current A.I.D. projects in support of the Accelerated Mahaweli Program. Two of the projects focus on irrigation construction in System B, and the third is a sector support loan, which the Government of Sri Lanka may use for a wide range of development activities, such as road and minor canal construction.

2.3.1 Field Study Methodology

Because we had a very limited time of 16 days in the country, we began our research by interviewing project staff and settlers. In all, we conducted approximately 110 interviews with scholars and officials and with members of farm families, many from the same family. We traveled to System H, the earliest of the project schemes, to gain insights into situations that may appear later in System B.

Our choices, with all the limitations they imply for the Women-in Development study, were as follows: First, we chose to concentrate more of our time on System B, which offered more promise of insight into gender issues than irrigation activities; but we also spent a day in each of the three projects of the older System H. Second, we focused on resettlement as well as irrigation. We particularly tried to examine the allotment process, which determines who has access to land. These two choices left us without a single definitive project design document. None of the A.I.D. Project Papers provided very detailed information on resettlement plans, which were clearly not the primary concern of the A.I.D. planners. We therefore drew inferences about the design of System B from any sources we could find: the A.I.D. Project Papers, Mahaweli Authority documents, interviews, and comments in reports.

2.3.2 Gender Assumptions Underlying Project Design

System B Project Papers assumed that the major beneficiaries of the project would be poor or landless people, farm families and nonfarm settlers alike, who would come mainly from outside the project area through a voluntary settler selection program emphasizing agricultural skills. In fact, not all settlers are poor; some are evacuees from headworks dam construction sites; also, there are more residents of old villages within the project boundaries than had originally been estimated. It was assumed that benefits would also accrue to nonsettlers and the second generation, for whom jobs would be created as part of the regional development spurred by intensified agricultural production. Planners also assumed that each household would contain only husband, wife, and unmarried children. Because of concerns about land fragmentation in the next generation, plot subdivision is illegal, and homestead allotments are too small to contain more than one house and garden.

Aside from some general guidelines, gender-related assumptions underlying project strategy are not readily apparent from

A.I.D. Project Papers, and no implementation plan for settlement activities is outlined. Project personnel also assumed that married women were not appropriate targets for agricultural training, income-generation activities, or volunteer health work. All programs in these areas were aimed at men and young unmarried women. This pattern may be due to a need for off-farm employment for settlers' adult children or, at least partly, to the assumption that married women occupied with their families and unable or unwilling to participate in training programs. However, officials do recognize women's participation in agricultural production.

According to project land officers, settlers and project personnel assume that the single descendant allowed to inherit the land allotment will probably be male. The result will be that most legal titles will go to men in the next generation, except in families that have only daughters. Although women may in fact have some access to land, they will not possess the allotment certificates required to receive bank loans.

2.3.3 Accommodation of Project Design to the Target Group

Given the projects' scale and the scattered location of potential settlers, beneficiary participation in project design was minimal. We can, however, analyze whether implementers of the present Mahaweli schemes, especially System B, take account of settler needs identified in earlier projects. A particularly important question concerning women is whether they have effective input into local policy and implementation decisions on agriculture and resettlement in general. Because women have important roles as cultivators and farm managers, decisions made without their input may involve unrealistic innovations and ignore constraints to production (e.g., lack of child care or agricultural training). The greater the participation of settlers, both men and women, in problem-solving, the greater the potential for developing effective solutions to local problems. A more participatory approach, in which settlers select their own leaders and control their own organizations, could facilitate communication between farmers and settlers and help reduce some of the built-in dependence of settlers on Mahaweli staff.

2.3.4 Accommodation of Project Design to Women

System B Project Papers mention that women's skills and interests were not taken sufficiently into account during settler selection on System H (the pilot project), and they state that on

System B, "families in which women have special skills are being given priority in settler selection." The "special skills" are not defined. When we interviewed Sri Lankan project officials about settler selection, they indicated that only the background of the husband (all settlers must be legally married) is considered. An implicit assumption at the electorate level, therefore, seems to be that all heads of household are men and that men have primary responsibility for farming. The Project Papers mention that training courses are planned for women so that they can supplement family incomes, again without describing the proposed courses. Project Papers also call for special efforts to recruit women as agricultural extension agents, health workers, and other public servants (USAID/Colombo 1981). However, no gender-specific target figures are given in any of the project documents.

It is not clear to us whether women's input affected settlement design. A System B Project Paper states that "the decision to increase the homestead size from less than 0.2 ha [hectares] to nearly 0.3 ha was based on complaints made by women settlers in System H that the smaller size homestead did not provide sufficient space for gardening, tree crop production, and livestock raising, activities in which women were actively involved." In fact, the Mahaweli Authority did not implement such a change in System B.

Planners have successfully maximized social solidarity on System B by settling in a single hamlet, whenever possible, people from the same parent community, ethnic group, and sometimes the same extended family. Apparently System H's greater social heterogeniety offers considerably less sense of community and social support for families. This decision has had important practical consequences for women, particularly those with young children. Women's mobility was apparently much more restricted on System H because they had no relatives or trusted neighbors to care for children in their absence.

Women may be particularly disadvantaged by the installation of agency employees as leaders of settler organizations. Women's clubs organized in rural India under the administration of male government officers have proved ineffective in promoting economic development because of poor communication and the male administrators' stereotyped urban middle-class view of women's roles.

Although there is no rigid bar to female participation in irrigation turnout and community development groups, members are men, and leadership by women is rare. There seems to be no regular mechanism for the expression of women's needs except through male-dominated groups. As a result, women's opinions on a number of issues, such as the type of child care desired and special

constraints to agricultural production, are not clearly expressed.

One accommodation of project design to women on System H has been to require that at least half the community development officers be women. System B has only male officers at present, but female staff are to be recruited at a later stage of the project. Finally, day care centers (supported by UNICEF) have been introduced in both systems, apparently in response to settler requests.

2.4 Gender Issues

2.4.1 Local Production and Consumption Systems

There are three categories of Mahaweli settlers: prior residents of areas now constituting settlement schemes, evacuees from areas flooded by large dams upstream, and eligible new settlers selected from election rolls across the country. We do not have detailed household-level data on women's economic roles among settlers from these groups prior to resettlement, and it is likely that considerable variation existed. Some roles are also affected by structural features of resettlement such as the land allocation process and community layout.

2.4.2 Division of Labor by Gender

The subsistence economy of villagers in the North Central Province just prior to colonial rule was based on two kinds of agriculture, shifting dryland cultivation (chena) and tank-irrigated paddy (rice). Women and men participated in both types of production, but women played a greater role in chena and men in rice cultivation. Men cleared the dryland fields and guarded the crops by night; both sexes sowed, weeded, and guarded the crops during the day. The chena produced finger millet of high nutritional value as well as other grains, pulses, and vegetables. Men played a more dominant role in paddy production, although women participated in harvesting and threshing. Women were also responsible for post-harvest grain processing, cooking, fetching water and firewood, and caring for children (Schrijvers 1983).

According to the Mahaweli settlers and officials interviewed, current activities of men and women on the Mahaweli schemes are similar to the precolonial activities, except that the Accelerated Mahaweli Program is focused on irrigated

agriculture, in which male labor predominates, rather than on dryland farming. Although, under the right conditions, irrigated rice can maintain a much larger population than dry-land farming, focusing on one crop has had unfortunate results. The present farming systems on the Mahaweli schemes are relatively undiversified compared with earlier systems in the north-central region, where tank-irrigated rice cultivation and chena cultivation existed side by side, and fewer staple fruits and vegetables are now available for family consumption. Lack of diversification has had serious economic and nutritional consequences.

Homestead gardens are potentially important component of the Mahaweli farming system. Such gardens may be planted and tended by women, their husbands, or other family members. Who actually cultivates the garden probably depends on a number of factors: whether a woman has young children to care for without assistance, whether a male settler is occupied with paddy cultivation, what the settlers' farming backgrounds are, and especially what the incentives for homestead gardening are.

.4.3 Land Tenure

In the Sinhalese areas of Sri Lanka prior to British rule, ownership and control of land by women was much more common than in some other South Asian countries. Among all classes, both sons and unmarried daughters inherited property. Marriages were classified as either dega (virilocal) or binna (uxorilocal or matrilocal). Binna marriages, in which a husband came to live with a land-owning wife or her family, were common. In such cases, the married daughter, and not her husband, would inherit land after her parents' death (Yalman 1967). The jungle outside the village could be cultivated by anyone, male or female, but rights were held only as long as the land was actually used. Women heads of households (widows or those separated from their husbands) could support their families by dryland cultivation and by allowing their paddy fields to be sharecropped by others (Schrijvers 1983).

According to some accounts, women's land rights began to erode during the British colonial period. The Land Development Ordinance of 1935 required that crown lands (land other than house sites, paddy fields, and gardens in use at the time of British survey) be given only on permanent lease; the tenant was required to nominate a single heir for the holding. (This ordinance contravened the cultural tradition of equal inheritance by all children.) Our interviews with land officers on the Mahaweli Program confirmed that this law is still in force and that in 90

percent of the cases people nominate a successor, usually the eldest son.

2.4.4 Ownership and Control of Assets

Poor settlers in the Accelerated Mahaweli Program areas possess little property other than houses and paddy plots. Wealthier settlers may own tractors, draft animals, bicycles, sewing machines, and other goods. We do not have detailed data on ownership of property other than land, but some authors suggest that machinery and animals handled by men, such as draft animals, are considered male property.

In our household interviews, we tried to learn whether men and women have separate income and expenditure streams and how families handle finances. Men and women sometimes earn income independently, although opportunities are fewer for women than for men. Men are more likely to market the main field crops, paddy or chilies; women sometimes sell vegetables, fruits, eggs, or small quantities of grain to itinerant traders or local markets. Particularly among poorer families, both women and men work as agricultural laborers. We also met a few unusually entrepreneurial women engaged in trading or cottage industries.

Earnings of both men and women usually go into a common household fund. Most people interviewed stated that this fund may be managed by either husband or wife but that both participate in major financial decisions. Some husbands purchase cigarettes or alcohol without consulting their wives, and in a few households men completely control the household budget. In other cases, the husband admitted turning over all or most of his income to his wife, who takes the leading role in expenditure decisions.

2.4.5 Male Off-Farm Employment and Female Farm Managers

In several households we interviewed, husbands were engaged in off-farm employment (usually Government service) while wives supervised hired laborers and cultivated on a day-to-day basis. Our interviews also indicated that these women often undertook much of the farm management as well. One bank official estimated that approximately 30 percent of the agricultural loans made to Pimburettewa (part of System B) settlers were in the wife's name, because she held title. However, there were no firm gender-disaggregated data on this point.

Female heads of household, usually widows, also manage farms, sometimes with the help of children and other relatives. Women may allow sharecropping of their land if their children are small and they have no adult male assistance, but they try to cultivate the land by themselves if they have sufficient family labor. Perhaps 5 to 10 percent of settler households on System B are headed by women who have responsibility for their families. This percentage is likely to increase in the program area as the population ages.

Because of serious labor shortages at peak periods in the paddy cultivation cycle, there is little outmigration of men seeking manual labor. On the contrary, laborers (mostly men, but some young women as well) migrate seasonally from the wet zone to Mahaweli Program areas.

2.5 Project Analysis

2.5.1 General Effects

The Accelerated Mahaweli Program seeks to generate employment and hydroelectric power, increase production, spur regional development, and improve settlers' quality of life. What have the accomplishments been to date?

Constraints related to irrigation canal construction, delayed settlement in certain areas, and the withholding of credit to some settlers caused considerable disruption of the development plans within the two systems (H and B) examined here.

Of the elements that affect quality of life, nutrition is particularly affected by gender-related factors. The present farming systems, which are based on monocrop rice cultivation, do not provide sufficient diversity of production for good family nutrition. The possibility of women's dryland chena cultivation has been effectively eliminated by the loss of crown land to irrigation schemes and homesteads, and sufficient water is not usually available for homestead gardens during the dry season. Farmers focus almost exclusively on cash crops such as rice and chilies, despite recent efforts of project staff to encourage diversification.

2.5.2 Effects of Project on Gender-Related Goals

Basic resources and services in the Mahaweli Program include land, water, capital, credit, employment, and training. Although not all of these resources and services were funded by A.I.D., they are all a part of the basic settlement package of the Accelerated Mahaweli Program. No targets for women (e.g., number of trainees, loan beneficiaries) appear in A.I.D. Project Papers, perhaps because funding concentrated more on the physical infrastructure than on resettlement. Gender-disaggregated data were scarce. We were able, however, to locate some information on allottees and project staff. Officials and bank managers also gave us rough estimates of women given credit, managing farms, or heading households.

Land. Some accounts of System H state that women have lost rights to land under the project; the actual situation is considerably more complicated and varies according to category of settler. Evacuees and prior residents of an area being settled are entitled to receive land, regardless of gender, if they are married. Officials on System B estimated that approximately 35 percent of allottees there are women. In villages with many evacuees or prior residents, the percentage is higher; for example in one hamlet there were 75 female and 102 male landholders. The allotment process is more restrictive for new settlers chosen from the electorate, with the result that usually only men are considered for allotments and female heads of household tend to be excluded. Because most later settlers will be chosen by this method, the percentage of women allottees in System B will gradually drop.

Several features of the Land Development Ordinance of 1935 appear to have negatively affected women's access to land in the settlement schemes: restriction of land title and land inheritance to one person, and the assumption that the person inheriting will probably be male. As long as land remains for allotment on the settlement scheme, landless children of either gender can apply for plots in their own right; once those plots are gone, however, the eldest son will in most cases inherit the land.

Although legally land cannot be subdivided, in practice it is. In fact, this is a common occurrence in settlement schemes worldwide: land may officially remain in the name of one person while actually being shared with others according to customary practices. Women will continue to have some customary rights to land in the next generation, but they may face difficulties obtaining bank loans and purchasing inputs because their land ownership is not legally recognized. This development in turn will decrease the effectiveness of the project.

Water. Availability and management of water affect all settlers, male and female. Officials assume that irrigation is a concern predominantly of men, although women apparently participate in turnout (irrigation self-help) groups if they are heads of household or if their husbands are unable to attend. On-farm water management would be most effective if the actual farm manager, regardless of gender, received training and information.

Credit. Our information on credit availability, at least from banks, indicates that female allottees have no more difficulty than do male allottees in obtaining crop loans. However, because almost all loans to settlers must be secured by a land allotment, women whose spouses are allottees can seldom obtain loans in their own names. According to personnel at the Bank of Ceylon in System B, 25 to 30 percent of seasonal loan recipients are women. Although most of these women have husbands, they not only take loans, but they also actively manage the farms using hired labor.

Crop loans are available (almost entirely for rice), but both male and female entrepreneurs have difficulty obtaining bank loans for anything other than farming. Almost everyone already has a crop loan, and banks will not exceed certain credit limits, a fact that inhibits the development of small businesses. Because bank officials believe that local demand is insufficient, they are dubious about the profitability of most rural enterprises.

However, not all settlers enter these schemes without resources. We met a number of entrepreneurs, including several women. The Mahaweli Authority has set aside commercial allotments of up to 1.5 acres for various commercial activities ranging from boutiques (small general stores) to rice mills. In the Kalawewa project area of System H, 217 people have received allotments for a little over 42 acres. No official gender-disaggregated figures were available, but an administrator estimated that about 2 percent of these commercial allotments are leased to women, mostly for boutiques and dressmaking shops. Women from well-to-do families, who make up a minority of settlers, obviously have more investment opportunities than do poor women.

Off-Farm Employment. Employment opportunities for women, as for most men, are limited primarily to agricultural labor and construction work, when it is available. Women are reported to constitute about 20 percent of the agricultural laborers on System B's experimental farm. Both men and women receive about 30 rupees (a little over $1.00) per day for agricultural and

construction work. The women laborers we interviewed, who were usually married and had children, needed the extra income to help support their families.

An issue related to employment is the extent to which the Mahaweli Authority attempts to recruit female staff members. In System B, where settlement began only in 1982, the only female staff members were health volunteers and clerks and secretaries in the project office in Aralaganwila. There were no female field staff. The view of the project leadership was that under the frontier conditions prevailing in much of System B, assigning women to the field staff was not realistic; however, this situation was expected to change within a couple of years.

The health volunteers are young women between the ages of 18 and 25, selected from the settler population, educated up to the 10th standard, and trained by the Social Services Department in such subjects as health, nutrition, child care, and family planning. Much of the work of health volunteers on both systems involves treating malaria. There eventually should be one health volunteer for every 50 families. Volunteers receive no salary but value their training and the chance to contribute to the community. In a society that holds education in high esteem, this training also gives young women prestige.

In addition to the health volunteer program, System H has a few female officers. There were far more men than women in all positions except those of secretary and community development officer. Officials make special efforts to select community development officers from within the project. According to Mahaweli Authority rules, each block (2,000-2,500 households) should have one male and one female community development officer, with female officers concentrating on women's and children's welfare. In the Kalawewa project area of System H, for example, 10 of the 13 community development officers were women. Because men are apt to be promoted more rapidly than women, the tendency has been for women to remain community development officers while men move up, a fact that has resulted in a preponderance of women in this post. At the unit (200-250 households) level, three of the 88 positions were filled by women, all field assistants.

Where the Mahaweli Authority has required local recruitment of women, it has been quite successful in hiring qualified female staff. However, women have been assigned at the higher project levels only in positions considered to be of interest to women--that is, in community development positions dealing with health, nutrition, and child care, and not in agriculture. Although the use of women in key field positions at the unit level seems to be successful even where women are providing agricultural extension services primarily to men, there are still only a few women at

that level even in System H. As in many developing countries, a middle-class urban model of female roles influences policy decisions about appropriate employment for women.

Training Opportunities. The Mahaweli Authority provides women with information on agricultural topics at several Home Development Centers it created in System H. The Home Development Centers incorporate several innovative approaches, and they respond positively to settler requests for income-generation projects. So far, only a few centers are operating (Kalawewa has one for approximately 55,000 settlers), and their impact appears to be minimal. However, some areas still lack development centers, and there are no programs for married women at any of the centers. At one of the centers, UNICEF has provided equipment and bicycles so that the women can commute daily from home, an innovative solution to the lack of mobility that has limited women's training opportunities in most South Asian countries.

Students attend the Home Development Center program after completing the 10th standard. The Kalawewa project center's 4-month curriculum includes 4 days on national traditions and customs; 2 weeks on home science; 2 weeks on health and sanitation; 2 weeks on cattle and agriculture; and 2 weeks on needlework and handicrafts. The remaining 2 months are spent in village projects such as home gardens. Doctors and health educators give guest lectures about common problems such as worms, dysentery, childhood diseases, and contaminated water. Agricultural topics include dairy cows, seed beds, fertilizer, and agrochemicals (not advised for home gardens).

During our visit, the Kalawewa project center was using two borrowed sewing machines but expected to receive 20 more from UNICEF. The students were producing jams and chutney, sewing children's clothes, and making handicrafts to be sold at an upcoming national rural mobile market. The center had initiated the jam and chutney making in response to local demand; after farmers had grown too many vegetables and glutted the market, they asked officials for some way of preserving them. The Mahaweli Authority gives the center loans to buy vegetables. UNICEF supplied the canning equipment. Students who have finished the course may return to the center later to use its equipment and make products for sale.

The Mahaweli Authority had provided the center with a shop at Nochchiyagama, and another will be opened at Kalawewa. Because the sales outlet was in its first month of operation, it is hard to say how profitable these endeavors will be. An apparent demand for school uniforms and children's clothes suggests that tailoring would be a good occupation to encourage; it is not clear, however, whether the jams and chutneys will be as much in

demand. Other crafts such as wall hangings, wood carvings, and handmade lace require an urban market. Neither staff nor students could tell us what the expenses were or, in some cases, how items would be priced.

In addition to income-generation projects at the Home Development Centers, there were a few programs elsewhere on System H. For example, the Mahaweli Authority started a vocational training center a year before our visit to the Ipalogama Nochchiyagama project area. This center teaches young women to make baskets and straw hats, which are sold locally; 30 students per course attend the 6-month program. In the Eppewela project, schemes included a rexine (plastic products) center at Theriyama; a sewing center at Pahalagama financed by a 10,000 rupee interest-free loan for materials from the Mahaweli Authority; and a handicraft training center (plaster of paris religious statues) at Tambuttegama, with mostly women participants.

Most of the income-generation schemes that were examined are commonly started without any clear market orientation, analysis of profitability, or training in elementary business skills. The Mahaweli Authority in effect subsidizes some activities by providing interest-free loans, transportation, shops, or a ready market for goods.

2.6 Lessons Learned

Providing new technology without adequately considering its social impact may not only threaten project success in the narrow sense of production goals but, more broadly, may also prove detrimental to farmers' well-being. For example, a more thorough initial consideration of the farming system being introduced on the Accelerated Mahaweli Program would have addressed issues of crop diversification, gender roles in agriculture, potential labor demands on men and women, and the necessity for training all farmers in new agricultural methods, particularly water management.

Several problems that Mahaweli Authority officials face today might possibly have been avoided it gender analysis had preceded project design. Larger homestead plots might have been created, more attention might have been paid to gardening and tree crops at an earlier stage, and greater emphasis might have been placed on supplementary income projects for both married and single women. More information on women's daily and seasonal work schedules might have improved project design. Given a realistic appraisal of likely labor inputs from a farm family during peak seasons, more emphasis might have been placed on crop

diversification at an earlier stage of the project. However, the size and complexity of the Accelerated Mahaweli Program and, particularly, the speed with which it proceeded probably precluded such considerations.

2.6.1 Gender Roles, Agricultural Diversity, and Nutrition

In most agricultural societies, including Sri Lanka, the existence of complementary male and female farm activities helps to maintain diversified farming systems. Women often specialize in certain agricultural operations or crops compatible with household duties while men concentrate on others. In Sri Lanka, rice production has traditionally been considered the responsibility of men (although women assist during peak seasons and carry out certain field and postharvest tasks), and dryland agriculture receives more attention from women. Sri Lanka is unusual among developing countries because of the importance of fruits, vegetables, and fish in the diet.

In lowland areas of the dry zone, women contribute to the diversity necessary for good family nutrition by tending fruit trees in homestead gardens and cultivating pulses, millet, and cassava on nonirrigated land. In the Kandyan highlands, from which many of the new settlers came, home gardens are very important for the nutritional status of the family and also provide income throughout the year. Home gardens may contain 16 or more different species of fruit and vegetables and provide a wide range of food needed by a household, including all spices (which are also cash crops) and coconut (a major dietary staple).

The virtual elimination of women's subsistence agriculture in the Mahaweli Program in favor of irrigated rice has compromised family nutrition. Fewer foods are available for household consumption, particularly in the first years of settlement when fruit trees are just being established, and farmers have little money for food purchases between harvests. Officials on System B now recognize the problem inherent in focusing on only one crop and encourage homestead gardens and crop diversification. The Mahaweli Authority suggests a model garden plan, creates demonstration plots, and provides settlers with seeds and saplings.

If women's economic activities were focused on crops other than paddy, the farm family could benefit from both improved nutrition and an alternate source of income. A dairy animal could provide milk for the household and for sale.

Viable off-farm projects for women during slack seasons could also supply needed supplementary cash. Without income from minor crops or cottage industries, farmers on System H must often borrow money to maintain their subsistence needs between paddy harvests.

2.6.2 Gender and Rice Cultivation

Women's labor is also central to project success as narrowly defined in terms of rice production. According to an evaluation carried out at the same time as this study (Nott et al. 1985), the Mahaweli Project can be viable with paddy as the main crop only if yields exceed 100 bushels per acre for two crops a year and if the family supplies all labor. Irrigated rice is very labor-intensive compared to most other crops. Because women have daily domestic and child care duties for which they receive little help when they are in a nuclear family setting, the additional labor demands on women during peak planting and harvesting seasons are particularly stressful.

Although planners assumed that family members would carry out all agricultural operations, in fact husband and wife alone (most children are young or in school) are not able to handle the work load during the highest labor-demand periods. Most families hire half their labor requirements, reducing net income from the 12,000 rupees estimated as necessary to support the family to an average of 8,400 rupees. Labor costs and availability are therefore major constraints to production. Given the right markets, other crops can be more profitable than paddy alone and can lessen the heavy seasonal demands for labor.

2.6.3 Settler Selection and Training

One implication of women's active participation in agriculture is that the selection process for settlers chosen from the electorate would be improved if the qualifications of wife and husband were considered jointly. Presumably, allotments would be better managed if both husband and wife were experienced and interested in agriculture. Women's other skills and entrepreneurial experience should also be considered. Both male and female farmers require training in new agricultural techniques, particularly water management. Agricultural training should include options for the most intense, integrated, and profitable household garden cultivation possible under a diversity of local conditions. Given women's child care responsibilities and

relative lack of mobility, special efforts may be necessary to reach married women.

2.6.4 Impact on the Status of Women

Although we have no information on the settlers' status prior to resettlement or on comparable groups of nonsettler women, we do know that the land law will reduce women's chances to legally inherit land in the next generation. This means that female farm managers and entrepreneurs will not be eligible for bank loans.

Settlers' situations also vary at different stages of the settlement process. The first years are particularly stressful. Women's work loads increase, settlers must cope with malaria and diarrhea, and nutrition is apt to be poor. Daughters are more likely than sons to be removed from school when the family moves. After settlement is complete, the Mahaweli Authority and other Government agencies try to involve women in the program by recruiting female volunteers and some female staff locally and by providing training programs. However, employment opportunities outside agriculture are still very limited.

2.7 Recommendations

1. The Homestead Plot. Mahaweli Authority officials are currently emphasizing agricultural diversification and the homestead garden more than before. Considering the plot's potential economic importance for the family, increasing its size for new settlers may be a worthwhile strategy. Settlers frequently complained that plots were too small for dairying and other activities. Planting fruit- and nut-bearing trees and other crops adapted to a dry climate could improve family nutrition and produce subsidiary income.

2. Settler Participation in Decision-Making. Women's reactions to various issues, such as day care centers, are difficult to ascertain from the existing literature. By encouraging feedback from settlers, particularly women, project officials could gain useful information and ensure better cooperation. Community development groups should be headed by settlers (perhaps jointly by one man and one woman), not by project officials, and other types of settler organization should be encouraged. Women's involvement in settler associations should be encouraged so that women members would constitute more than a token minority.

3. Selection. The settler selection process should consider the qualifications and interests of both wives and husbands.

4. Agricultural Training. Agricultural training (including water management) should be aimed at female farmers, married or single, as well as at male farmers. Hiring and training female officers and agents might not only facilitate communication with female farmers (rapport is likely to be greater with members of the same gender) but would also create models for young women to emulate and would emphasize that farming is indeed "women's business."

5. Income-Generation Projects. More effort should be devoted to designing viable supplementary income projects for women. Market research should be undertaken before activities are started on any scale, and potential entrepreneurs should be encouraged to develop their own credit and marketing networks rather than to depend heavily on the project. Local people frequently mentioned dairying and tailoring as activities with local market potential; one woman entrepreneur wanted to grow herbs and another wanted to start a hand-loom industry. Sri Lankan business people from outside the settlements might be recruited as consultants.

The Accelerated Mahaweli Program has so far increased national rice production and provided land to many families that were formerly landless. However, optimum production has not yet been achieved, and numerous problems affect settlers' well-being at this stage. A more thorough initial analysis of the farming systems being introduced would have addressed issues of crop diversification and productivity, household income, the role of men and women in agriculture, potential labor demands on men and women, and the necessity for training all farmers in new agricultural methods, particularly water management.

Consideration of gender variables at an early stage of the project might have resulted in improved settler selection, better agricultural extension training, larger household plots, and greater attention to gardening and tree crops. Household economic data and feedback from both male and female farmers might have assisted project planners in making some of the early project design decisions. But the size, complexity, and speed of project implementation probably precluded such detailed advance considerations. The fact that most beneficiaries were not yet living in the project area and the long time between the initial design and the settlement of people also complicated the planning process.

3. THE NORTHEAST RAINFED AGRICULTURAL DEVELOPMENT PROJECT IN THAILAND: A WOMEN-IN-DEVELOPMENT ASSESSMENT

by

M. Cristina Blanc-Szanton, Anthropologist
(Columbia University)

Anamaria Viveros-Long, Sociologist
(Agency for International Development)

Nongluck Suphanchainat, Economist
(Khonkaen University)

3.1 Summary

The evaluation of the Northeast Rainfed Agricultural Development (NERAD) project demonstrates that in a Southeast Asian rural setting where male and female roles in agriculture are not clearly differentiated, gender constraints may play a significant role in either ensuring or hindering the ultimate success of a project.

The lack of systematic gender analysis in the NERAD project stemmed from (1) faulty assumptions among project planners and managers about intrahousehold patterns and behavior, and (2) the lack of assessment of the project participant selection process. These factors translated into project shortcomings in the areas of labor output, technology transfer, trial success rates, and overall improvement in the quality of life.

The main objective of NERAD was "to address the needs of the rural poor in Northeast Thailand by establishing in eight subdistricts a replicable, area-based agricultural technology development program for increasing productivity and farm incomes in rainfed agricultural zones." The major components of the project included: (1) the identification and assessment of improved farming practices such as new subsistence or cash crops, improved water use, and better animal husbandry; (2) improvements in basic land and water resources; (3) a more effective extension system; and (4) the establishment of interactive means of matching Government of Thailand technology development, programs, and resources with farmers' needs.

The primary implementers and ultimate beneficiaries of the NERAD project were to be the "poor Northeastern farm families." These undifferentiated households were to be given tasks and would presumably perform them in order to acquire the presumably equally shared benefits. The intrahousehold structure--its mode

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of operation, its constraints, and its internally differentiated incentive structure--were never adequately analyzed.

Although the NERAD Project Paper did mention that women were "expected to benefit at least as much as men in most project activities and [possibly]...more than men in a few of them such as silk production and animal husbandry," the project did not specifically target women as project participants or beneficiaries.

The analysis of gender-related issues in the project design only briefly acknowledged the flexibility in the division of labor for agricultural activities in Northeast Thai households, and the fact that women often controlled the land and usually managed the household budget. Little significance was given the fact that women and young children frequently were left on their own to perform essential agricultural activities because the men and older children had migrated to urban areas or to other rural areas for cash income. These factors were never incorporated into the project design or implementation documents. Furthermore, other background studies, including a socioeconomic survey of households in 66 villages in the Northeast region, did not analyze gender issues or consider the potential for farm household labor constraints.

Throughout the implementation phase the project had considerable impact on women that directly affected project outcomes. Women actively participated in the various components of the project by providing at least half the required labor and by selectively receiving some of the project inputs such as training in silk production. Ultimately, the project has increased the amount of labor required from women and children because: (1) the new crop alternations are generally more labor intensive, and crop diversification implies that agricultural labor is more evenly distributed throughout the year; and (2) there is an increasing incidence of seasonal and longer migration of men for off-farm income. Women and their children have thus had to assume the portion of farming activities usually performed by the male family members. An increased female and child labor requirement also has implications for the overall quality of life, since women and older siblings are less available for household and child care duties.

In addition, women have been excluded from benefits in a number of domains immediately affecting the progress of the project:

-- Female farmers were not consulted in the research phase about farming activities that are their responsibility and that are often required to increase rural

productivity (crop planting and processing, harvesting, poultry raising, and vegetable growing)

-- Female-headed or female-managed households, often a significant number of the middle-income households in a village, are systematically bypassed as specialist farmers for crop trials or other farming activities

-- Rural women are consistently and systematically excluded from training in the use of new technologies and other inputs.

The development of appropriate agricultural technologies may be jeopardized because the project solicits information only from male farmers and does not acknowledge women's considerable labor input to farming tasks, their ownership role, and their management of the household budget.

Labor constraints at crucial times during the agricultural cycle and the absence of essential technological knowledge appear to have significantly limited cropping trial results. The project strategy of crop diversification and improved inputs is very labor intensive, but because of male migration, these increased labor demands are being absorbed primarily by Thai female farmers. Even though women are performing key agricultural activities, training and agricultural extension support continue to be directed toward male heads of households. Serious crop losses have occurred because of poor planting practices and misapplication of pesticides and fertilizers--often under the care of females left to perform these tasks.

There were negative responses to training provided through the project that could be directly attributed to lack of gender consideration. Male farmers would enter a training program but would drop out at the implementation stage because females in the family refused to provide the added labor required of them, or they voiced a preference for another, less labor-intensive farming activity (fish raising instead of poultry raising). The training that was targeted to women, silk production, was poorly planned and implemented.

3.2. Introduction

The Northeast Rainfed Agricultural Development (NERAD) project was selected for field study because it offered an opportunity to examine how gender-related issues affect the achievement of project objectives in a Southeast Asian rural setting. There is still a strong assumption that because the roles of men

and women in rural areas of Southeast Asia are not as clearly differentiated as in other cultures, development projects there do not need to pay specific attention to gender-related factors.

The objective of the NERAD project is to increase the economic well-being of poor farm families by establishing a replicable agricultural development program in eight subdistricts in Northeast Thailand. The project's short-range goals are to develop and test appropriate technical packages for the intensification and diversification of rainfed agriculture and to strengthen the agricultural extension service's ability to disseminate information and technical packages to farmers. The NERAD project operates both at the institutional and at the farm level, but this study focuses primarily on project interventions that are directed to farmers. From a gender perspective, this is an "integrated project"--that is, its funds have not deliberately been targeted to men or to women farmers.

To elicit appropriate gender-related information, the following questions were asked about this project:

-- Were gender issues recognized in the assumptions and design of the NERAD project?

-- Did project components reflect the gender dimension of labor and other resources in the system of production and consumption of Northeast Thai farm families?

-- What are the outcomes of the project to date for men and women?

-- How do gender issues relate to the achievement of project purposes and goals?

3.2.1 Project Setting

Agroecological Characteristics. Because 95 percent of the Northeast region has not been irrigated, crop production depends solely on rainfall, which varies widely from year to year. Erratic weather patterns can lead to flooding and drought within the same field during the same year. Precipitation patterns also vary considerably by province. Soils are generally high in acidity, lack major natural nutrients, and are characterized by low water-holding capacity.

Socioeconomic Characteristics. During the past 20 years, agriculture in the Northeast region has evolved from almost totally subsistence to a mixed cash-subsistence type of farming.

Farmers have responded to population pressure and to difficult conditions by converting most forests into agricultural land. While there has been a shift to cash cropping in upland fields, subsistence crops (mostly rice) continue to be the major products and the major concern in farmers' decision-making. Low crop yields and low farm incomes have led farmers to minimize cash inputs (such as fertilizers and pesticides) into agricultural activities and to look for cash-generation opportunities in off-farm employment.

The Northeast region is the poorest area in the country, with the lowest per capita income. The NERAD project is directed toward approximately 10,000 households distributed in the 101 villages of nine representative tambons (political subdistricts) within four different provinces. Data collected during the design phase show considerable variation in poverty levels in the project area. This variation has important implications for the development of technical packages suitable for both the wealthier and the poorer farmers.

The field study team identified major differences in household composition in the villages studied. The major types of households are as follows:

-- Extended households
-- Nuclear households
-- Household headed by women
-- Marginal households
-- Households temporarily managed by women

These household patterns are determined by the Northeastern family system, which emphasizes matrilocality (residence of daughters with or near their mothers) and customary inheritance of land by females, and by outmigration for off-farm income. These patterns of residence and inheritance, not uncommon elsewhere in Southeast Asia or Thailand, have remained particularly strong in the Northeast.

Outmigration from the Northeast region to other countries or to Thai cities or other rural areas for off-farm employment has increased greatly since the middle of this century. Nonfarm cash income was already proportionately higher in the Northeast than in any of the other regions of the country in 1975-1976.

Agricultural Research and Extension. Agricultural research has not yet generated appropriate solutions for the difficult conditions in the Northeast region. The variability of agroecological and environmental conditions makes the development of improved technologies and their transfer to farmers very difficult. Moreover, agricultural research has been carried out in

experimental stations, and research results have not been integrated with and adapted to the local farming systems in the area.

Agricultural extension services lack well-trained personnel and local facilities. The subdistrict agricultural extension agents, the main contact agents between the Department of Agricultural Extension and the farmers, generally do not live in the tambon, nor do they have local offices, storage space, or convenient places for meeting with farmers. Because of the strongly centralized bureaucratic structure of the Royal Thai Government, the extension agents tend to follow top-down agricultural policies formulated in the Ministry of Agriculture and Cooperatives in Bangkok. They tend also to interact mostly with more successful male farmers, thus limiting the dissemination of improved agricultural practices to a small sector of the village households.

Gender Roles in Production and Consumption. Land in the project area is held in the woman's name and is inherited through the mother. The division of labor in agriculture is relatively flexible. Men prepare the land for rice and other field crops. Women do most of the planting and transplanting. Both men and women weed crops, although women do more than men. All household members participate in harvesting. Women do all the time-consuming work of processing kenaf. In addition, women perform most domestic tasks.

Income from rice and field crops is pooled. Tobacco and sugarcane are considered to be exclusively men's crops, and vegetables and poultry raising are women's activities. Women administer the household cash. Because rainfed agriculture is not sufficiently productive to generate enough cash to support a family, men and women engage in a variety of off-farm and nonfarm income-earning activities. Among the poor, both men and women hire out as casual wage laborers during the peak agricultural season, and men seek construction work during the dry season. Silk production is traditionally a female dry-season activity, but the cloth is mainly for home use.

About 10 percent of the households in the project area are headed by women, because male migration is widespread. Among the poor or middle-income households, men leave the district during the slack season in search of wage employment. Among all socioeconomic groups, women work longer hours than men. The poorer the household, the greater the responsibility women have as farmers and income earners.

Political Participation by Gender. The principal mechanism for channeling project activities at the grassroots level is the tambon council, which receives special central Government funds

and has directed local planning since 1975. Tambon councils are dominated by prominent local families: the subdistrict headman, the village headmen, and one other qualified or experienced person from each village in the subdistrict. Tambon councils do not have women members. But, since the 1982 Administration Act, 120 women have been elected village head and thus participate in tambon councils as ex officio members. This number represents only a beginning, however, since there are over 50,000 village headmen in the country.

Tambon councils interact at the local level with village development committees, whose female membership is only 3 percent. The female members rarely attend meetings, and when they do, they remain silent. To remedy the de facto exclusion of women by the very centralized and hierarchical Thai bureaucracy, the 1982-1986 Thailand Development Plan initiated a parallel administrative structure of women's development committees to supervise the development of women around the country. This parallel structure has had limited funds and impact; women continue to be generally excluded from key rural development decisions (Vuthimedhi 1982).

3.3. Project Design and Gender Issues

3.3.1 Project Design

The goal of the Northeast Rainfed Agricultural Development (NERAD) project in Thailand is to increase the economic well-being of poor farm families by establishing a replicable agricultural development program in eight subdistricts. Its immediate objectives are to develop and test appropriate technical packages for the intensification and diversification of rainfed agriculture and to strengthen the agricultural extension services. Project components include cropping systems research and trials, village water resource development, village common-land management, management training and extension, economic studies, and other farming systems modifications. The project is implemented by the Ministry of Agriculture.

The purpose of intensifying and diversifying rainfed farming systems is to generate a cash surplus over and above household consumption need. The main thrust is crop development. The cropping system research and trials component is helping to develop improved technical packages for five different agroecological zones.

The project strategy relies heavily on farmer-managed trials as a source of feedback about proposed innovations. Participants are selected by the village headman in consultation with the subdistrict development council. As an incentive to cooperate, participants are given free seed, fertilizer, pesticides, and construction materials. At the grassroots level, project activities are channeled through the village council.

The project's impact on production depends on how many farmers adopt the improved cropping practices. This, in turn, depends on the extension service's ability to reach the average farmer. The Ministry of Agriculture intends to strengthen extension services by doubling the number of outreach workers.

Gender Analysis and Inclusion in the Project Design. The Social Analysis Appendix in the NERAD Project Paper contains a one-page statement acknowledging the fact that women own the land, manage household cash, and play a major role in agriculture, but the text of the Project Paper makes no reference to these facts. It merely states that "women are expected to benefit at least as much as men in most project activities and may benefit relatively more than men in a few activities such as silk production and animal husbandry."

No attention was paid to a case study entitled "Northeast Rainfed Agricultural Development in Thailand: A Baseline Survey of Women's Roles in Household Resource Allocation for a Farming Systems Approach," prepared by Ingrid Palmer for the Population Council in 1983. Although the study provided important information on interhousehold and intrahousehold behavior within the NERAD project region, its findings were neither incorporated in the project nor translated into Thai.

The suitability of institutions, delivery systems, technical packages, and feedback mechanisms for reaching and benefiting women has not been considered. The implicit assumption is that communication within the farm household is adequate. Unfortunately, evidence from project households confirms that the opposite is actually the case, a fact that argues for more personalized targeting to make technology transfer more effective.

3.3.2 Project Implementation from a Gender Perspective

The following subsections will examine major project components from a gender perspective. To the extent that the data permit, we will examine the participation of men and women in each component, the benefits that resulted from the intervention,

and implementation problems generated when greater attention is provided gender issues.

Cropping Systems

The primary aim of the cropping systems component was to test at least 13 crop modifications that were designed to help stabilize subsistence rice production and to increase cash crop production. The cropping component of the project included the following activities:

-- Selecting villages and villagers to conduct NERAD cropping trials

-- Gathering information on current local farming practices and problems through rapid assessment techniques

-- Monitoring yearly cropping trials, with accompanying inputs of equipment, training, and information

-- Expanding dissemination of trial results and other useful farming information

All farmers in the project area actively participate in project implementation by providing information about problems and practices. Although rural women contribute at least half of the farming labor, have major responsibility for designated agricultural tasks, and do all the farm marketing, they are seldom consulted for information because men feel that they themselves know more about farming. In fact, we found that women could articulate their farming problems more clearly than the men in their household. Despite women's acknowledged contributions to the agricultural sector, the NERAD project staff did not consult them during the implementation phase.

Participating farmers, selected by extension agents, village headmen, NERAD field managers, and Department of Agricultural Extension representatives for various cropping trials, also provide land, labor, and occasional cash for fertilizers and pesticides. Specialist farmers are targeted by extension agents and village headmen for selected training and dissemination of technological information. Participating farmers and specialist farmers also receive direct inputs including equipment and free advice.

The selection of participating and specialist farmers was distorted socioeconomically and by gender. Participants were usually contact farmers who had been working with the extension

agents in the principal villages of the tambons and who had been selected in the past during village meetings called by the headman. These contact farmers were frequently friends of the headmen and usually were the larger, wealthier farmers in the area. This selection process systematically discriminated against small landholders with less than 30 rai (4.8 hectares), who were the majority of farmers in many tambons. It also discriminated against female-headed or temporarily female-managed households.

NERAD and extension agents are usually more concerned with producing successful cropping trials than with assembling a representative selection of farmers for those trials. The selection process was also affected by the implicit assumption that the selected "leading" farmers would be the most effective in disseminating the results of the trials, and by the belief that women were not technically farm operators, despite the overwhelming evidence to the contrary.

Women's participation in formal training sessions providing initial information about crops and equipment was also sharply limited. Women farmers were very rarely invited and, because they seldom were selected as specialist farmers, they rarely participated.

Child care constraints and inconvenient meeting times further reduced women's participation. If the training session was located some distance from home, women were less willing than men to leave the family for several days at a time. Such constraints are very real and create special problems for women, even though extended family support permits women to work in the fields daily or to seek wage labor.

Despite women's increased participation in plowing and other phases of farming and marketing, formal technology transfer has clearly focused on the male heads of household. Participating farmers continue to receive advice and information directly through field and home visits by NERAD projects or by extension staff trained by the project. The exclusively male extension agents and NERAD field managers easily established personal contacts with the wealthy male farmers whom they visited most often and who provided them with local information. Only rarely did extension or project staff meet with women in the fields to discuss crop technology with them.

Gender constraints are related to the way Government officials have consistently interacted at the local level and to the way they are perceived by villagers. In a less politically oriented context, we were told, women would feel quite free to discuss farming issues. But women's participation in the project's

cropping systems component remains formally peripheral, sporadic, and indirect.

Marketing

A key component of local economic success is the marketing of crops. In mid-1984, a Marketing Working Group was created within NERAD after a vegetable marketing report suggested the use of trials, rapid assessment techniques, and farmer-merchant meetings and encouraged group buying and selling, procurement, and periodic market activities at the local level. Nowhere in the report was it acknowledged that the growing, processing, and marketing of vegetables, as well as group procurement and selling, are predominantly women's activities. Nor was it mentioned that women play a key role in deciding which vegetables to plant and when to plant.

Village Water Resources Management

Water resources are a very serious constraint on productivity in the Northeast, both in terms of managing runoff from heavy rainfall to keep paddies continuously flooded but not overflowing, and to prevent them from drying out after rice is transplanted, as well as increasing water availability for rice and other seasonal crops. Suggested solutions examined by a Water Resources Working Group within NERAD included, among other things, diversion weirs and modified shallow wells.

Women regularly participate in the volunteer labor supply for maintaining weirs and wells. Gender-disaggregated data were not kept on water resource management activities, but women derive direct benefits from their participation. Weirs and wells support rice paddies owned by women and help the survivability of other crops as well. In addition, women learn how to construct a weir or well when they volunteer their time.

Women farmers were usually not selected to have a village well located on their land--a decision made by the village headman. Although a well could be used by neighboring farmers, the greatest benefit was naturally derived by the farmer on whose land it was located. Poorer or female-headed or -managed households had little chance of obtaining wells since they were not likely candidates in the eyes of the village headmen. Male heads of household usually decided upon the actual location of the well, although the land often belonged to the wife; and the needs of cash crops--for example, tobacco with its assured market--

often overrode considerations of irrigation for vegetables or water for domestic use.

Village Common-Lands Management

Common lands are important in Northeastern farming systems for rotating livestock foraging and fuelwood collection. During the last 30 to 40 years, these common lands have increasingly been converted to private use and farmed by squatters.

The NERAD Common Lands Working Group has planned seed and forage improvements and fast-growing eucalyptus intercropped with cassava and hemata grass for forage. The Working Group used rapid assessment techniques to study the role of common lands in village farming in 1984, and by 1985 had started tree seedling nurseries in many villages to satisfy both the need for common woodlots and private farmers' transplanting needs. These tree nurseries were operated by wage workers, often young women, according to our observations.

The Common Lands project activities have so far provided only limited inputs. Nevertheless, implementation plans do not reflect the work women do in these areas nor the need to investigate further how to include females as well as males in implementation.

Other Farming Systems Modifications

Fish Production Improvement. Fish is an important element of the Northeastern rural diet and a source of supplemental income. Activities in both newly constructed and existing fish ponds included training, stocking, fertilization, and planned harvesting. Selected villagers offered their labor or ponds and received in exchange fingerlings, fertilizers and pest control chemicals, food, and technical assistance. The major goal, an increase in fish production, was set at harvesting over 200 tons per year, well above the current 80 tons per year in the project area.

Since 1982, the NERAD project and the Department of Fisheries have encouraged public and private fish production by stocking existing village ponds with improved fingerlings and providing technical advice to newly created village fish committees. Thirty-eight fish farmer specialists were trained in 1984; all were men.

Although women actively participate in all phases of fish production, males are usually considered the fishermen. The project has provided no breakdown of fish production activities by gender. However, the provision of supplies (fingerlings) and technical assistance follows the usual village political leadership patterns: they are provided to male farmers who become specialist farmers and sit on village fish committees.

We learned during our interviews that wives often influence the selection of the supplementary activities, such as fish production. As household financial manager, a wife's greater knowledge of relative inputs, labor commitments, and estimated profits from each activity greatly influences her husband's decision-making. In some cases, women favored fish production because it is less labor intensive than poultry raising, for example.

Poultry and Livestock Production. Native chickens and ducks have long contributed to the household diet and provided an occasional cash supplement for women. Livestock--cattle and water buffalo for draft power--belong to the men but are cared for primarily by women and children. The project targeted an increase from the current 100,000 to 275,000 birds and an increase to more than 55,000 dozen eggs and 500 head of large animals per year.

The specialist chicken farmers formed village poultry committees and received free hatched native chickens, medicines, vaccinations, use of egg hatcheries, and general information and training. Care and supervision of chickens were provided by both men and women. Women shared heavily in the daily cleaning and feeding tasks, while men concentrated on technical procedures, such as vaccinations. Women occasionally assumed this task if male members of the household were not available, but they had not been encouraged to do so.

Women are active participants in chicken farming, but they are losing their traditional control over that activity as backyard production is replaced by larger scale commercial chicken farming. Men's and women's labor inputs have increased because of the increasing number of birds, yet women are not included in the intensive technical training and assistance provided by the project.

Sericulture. Rural Northeastern women produce silk to weave cloth for family use and occasionally for sale. With appropriate production improvements and marketing supports, silk production could provide significant income, given the current international price for woven silk cloth. However, the quality and quantity of silk cloth produced in this region are low, mainly because of poor environmental conditions and poor management techniques.

Consequently, silk production is considered a marginal activity for older women and not an important home-based, cash-generating endeavor.

In 1984, the project sponsored its first silk training sessions for 72 women specialist farmers, and village training was offered to interested farmers in 19 villages. In additions, 23 tambon extension agents were trained in improved silk production practices at the Korat silk station. Although demonstration rooms have been built and improved mulberry varieties and hybrid silkworm varieties from the experiment stations have been introduced in several villages, these technological improvements have not been effectively transferred to women farmers.

Women are the main participants in both silk production and training activities. However, this component of the project has started very slowly, and training efforts have not been very successful because of poor scheduling and inappropriate training techniques. The training was conducted at an inconvenient time for women--during the busy rice-growing season--and required a 25-day stay far from home. Training coincided with flooding, which caused women to worry about their crops, and per diem rates were not considered sufficient to cover the time away from the farm. Thus, one-fourth of the women attending left before the end of the training. Farmers and extension agents agreed that the training was not appropriate for local conditions.

Thus, the one activity specifically aimed at women farmers has not yet developed successful inputs and has had very limited outputs. More testing and better planning are needed if sericulture is to become a viable income producer.

Management, Training, and Extension

Participation of Women. The personnel involved in the management of the project and in its very important extension activities consist of both NERAD and Ministry of Agriculture and Cooperatives staff. In addition, many of the NERAD project components are implemented and field-monitored by agriculture officials. All Ministry personnel receive training and staff support--an important component of the project.

The NERAD managerial staff consists mostly of well-trained Western and Thai technicians, all of whom are male, except for two regional government agriculture officials. The clerical staff, on the other hand, is heavily female. The differential participation by men and women that is common in most Royal Thai Government offices is mirrored in the NERAD staff.

Social Science Training. The Ministry staff for the NERAD project are professionals in key positions in the Ministry of Agriculture in Bangkok and in provincial managerial positions, and agricultural officers and subject-matter specialists at provincial and district levels. In 1984, approximately one-third of the field-level extension agents were female. These female extension agents were assigned to supervise home economics and youth programs rather than agricultural extension activities.

Would it help the overall extension process if there were more social scientists in the planning and training departments of Department of Agricultural Extension? Would it help if more field-level extension agents were female?

Informal discussions with various agricultural officers and NERAD project personnel suggest that more social science training would help field-level extension agents to clarify the mediating role they are supposed to play between farmers, technology, and the Government, to better understand household organization, and thus to become more successful change agents in rural communities. USAID/Bangkok personnel also suggested informally that gender distortions and handicaps in the project might be addressed by increasing the proportion of female extension agents. A general impression emerging from a number of recently completed rural projects in the Northeast region is that women extension agents are more effective than men and associate with a wider range of villagers when they are assigned to agricultural extension work.

Ingrid Palmer (1983) also received strongly favorable answers from both male and female farmers in the NERAD tambons to the question: "Would you prefer extension agents to be women?" Male farmers we interviewed said that women are more willing to deal with detailed issues of economic management and that working with a woman avoids the status-conscious political relationships of the male culture, often accompanied by social drinking, and places the interaction within a business- or service-oriented context. Women preferred female extension agents because the interaction was more constructive and practical. However, the assumption that female extension agents would interact more frequently with female farmers about issues related to farming and farming systems was not confirmed by our interviews in the field. This is an issue that needs further study.

More important than the sex of the extension agent is the content and context of the message delivered. Future research must explore these areas to determine more effective ways to communicate with farmers.

3.4 Project Outcomes

3.4.1 Project Effectiveness

By March 1985, the implementation of project components, especially at the farming level, was considerably behind schedule. This fact is in part attributable to institutional difficulties and the resulting slow delivery of agricultural inputs. However, observations from this field study and supporting evidence from other studies suggest that the lack of attention and adaptation of the project to gender issues and the simplistic assumptions about the household as an undifferentiated unit may also have contributed significantly to project inefficiencies.

Womens' Participation. Of the more than 3,000 NERAD participating farmers selected during the first 4 years of the project (1982 to April 1985) for cropping trials, rapid assessment techniques, fishery, poultry, sericulture, machinery, livestock and water control, and fertilizers and pesticide production and adoption, only 7 percent were women; and most of them were involved in sericulture. Less than 2 percent participated in formal fishery, poultry, livestock, or crop production activities. Among the more than 1,000 specialist farmers during the first 4 years of the project in poultry, fertilizer, crops, fisheries, fruit trees, and sericulture, only 70 were women, and they were trained only in sericulture.

Women's cooperative participation is required throughout the farming cycle. Even production credit, supplied by government and commercial banks, requires the signature and approval of the women, who generally own the land.

Data Collection Limitations. The development of appropriate agricultural technologies may have been jeopardized because the project solicited information only from male farmers during rapid assessment technique reports and did not acknowledge the fact that women perform at least half the farming tasks, own a majority of the land, and manage household finances. Thus, women farmers, with their own perspective of farming tasks and considerable knowledge of farm economics and labor needs, did not contribute to the project decision-making process.

Labor Constraints Affecting Productivity and Adoption. The project strategy of crop diversification and improved inputs is very labor intensive. Off-farm work and male migration have increased labor demands on Thai female farmers. Labor constraints affect the timely care of rice, corn, and other crops during the peak labor season and lead to lowered productivity

levels. Seasonal or yearly migration for off-farm cash also affects the kinds and number of crops planted and their subsequent care.

Our interviews disclosed cases in which male farmers had migrated overseas for work and the wives had taken over the Department of Agriculture crop trials, often with poor results. Such labor constraints were exemplified by the case of a woman in Nong Pan village, Roi-Et tambon. Her husband had been away for 18 months, and, even with the help of her four teenage children, she had had a very difficult time in growing her usual quantity of rice. She had planted only half a rai of tobacco instead of the usual two rai, and she had not dug the temporary shallow well needed to irrigate tobacco and vegetables. She had tried to keep up with fertilizer and pesticide applications on tobacco, but the harvest was poor and she received a low market price as a result.

Technology Transfer Constraints Affecting Productivity and Adoption. Because technology transfer and crop information are addressed to male farmers while many of the key farming operations are performed by women, decision-making and action are delayed, information and technology transfer is not always complete, and cropping trials yield poor results.

A frequently reported reason for poor yields is farmers' lack of expertise in key farming operations, especially with new crops. Woman farmers, lacking regular access to extension services, are at a particular disadvantage. For example, a female farmer in the Roi-Et district was planting her root crop stocks sideways instead of straight up until her husband, who happened to be bringing her the roots, told her how to plant them correctly. This single error resulted in the loss of half her crop that year.

Our observations also indicated that women frequently do not use new equipment, which is introduced into farming households through male heads. Because men are frequently absent from the farm, it is likely the machinery will not be used properly. Women continue to work with old technologies unless they are included more directly in the technology transfer process.

The field interviews further demonstrated the negative consequences of aiming technology training to men only. Women who performed key agricultural activities in the absence of the trained men often misplanted seeds and misapplied pesticides and fertilizers. Serious yield losses resulted.

Negative responses to training provided by the project in other farming systems activities such as poultry, fish raising, livestock improvement, and fruit trees could also be directly

attributed to lack of gender considerations. Because of the particular selection procedures of trainees among specialist farmers, this training was provided exclusively to male farmers. Male farmers would enter a training program but then drop out at the implementation stage because their wives and daughters refused to provide the labor or preferred another, less labor-intensive, farming system activity (fish raising rather than poultry raising, for example). As has been mentioned, in silk production, the only activity expressly targeted to women in the project, the location, timing, and duration of the training did not respond to the needs and constraints of the female trainees, so they often dropped out.

In marketing new and old crops and other outputs from the Northeastern rainfed farming system, the project experienced serious problems that it is just beginning to address. Since some of the pre- and post-rice crops are marketed exclusively by women, NERAD's failure to include women in the implementation planned by the Marketing Workgroup is likely to cause more problems in the future.

In general, the NERAD project placed increased labor requirements on female farmers, who were already overburdened. The field study indicated that the fact may have some potentially negative long-term effects on household nutrition and well-being.

The evaluation of the NERAD project from a gender perspective demonstrates that in social contexts in which women have strong decision-making and managerial positions in rural households, neglecting to encourage their active cooperation in project design and implementation may lead to significant project inefficiencies and delays and may jeopardize the ultimate goals of the project. In the case of NERAD, the lack of systematic gender analysis and adaptation seems to originate from (1) faulty assumptions among project planners and managers about household internal behavior and (2) the lack of careful assessments of existing socioeconomic and gender distortions in the farmer specialist selection procedures currently used by the Department of Agricultural Extension. These factors translated into project shortcomings in the areas of labor constraints, technology transfer, trial success rates, and overall improvement in the quality of life.

3.5 Lessons Learned

1. The activities that men and women perform in local farming systems should not be overlooked in the development, adoption, and dissemination of new agricultural technologies. This

consideration is particularly important in a Southeast Asian context, where women own land and men and women actively participate in most stages of agricultural production, processing, marketing, and division of resources.

Because the development of appropriate farming systems requires thorough knowledge both of pre-existing agricultural practices, problems, and constraints and of the needs of individual farmers, related information should be gathered from the men and women directly engaged in farming.

The adoption of new farming practices depends mainly on (1) the availability of both male and female labor resources in the household at specific points in the calendar year and (2) an awareness of the alternative costs and incentives of the new practices to both male and female farmers throughout the calendar year. The dissemination of farming practices depends on the techniques used to reach everyone involved in different aspects of the farming system. If the information is targeted only to male farmers, the adoption of new practices often suffers.

2. Gender analysis is an essential component in understanding how project goals can be achieved, and it must be integrated into the project design and implementation. Gender analysis and the adaptation of project design and implementation need to be performed by Agency for International Development (A.I.D.) staff and consultants and host country personnel responsible for the project. An understanding of the political, social, cultural, ethnic, and religious context at both the country and local levels is crucial to raising awareness about gender issues in development projects.

3. In complex projects such as NERAD, gender analysis and incorporation of women's resources into project design and implementation should occur in a context that acknowledges the importance of other factors that affect project success. The promotion of agricultural technologies that increase demand on women's limited time may have negative consequences for child care, child nutrition, and overall household well-being. Agricultural projects that demand increased farm labor should provide households with alternative options such as appropriate child care arrangements.

3.6 Recommendations

1. A consistent effort should be made to incorporate both female and male farmers into project activities, including gathering information, selecting farmers, and providing agricultural

inputs, equipment, and training. This goal could best be achieved in the following ways:

-- By holding interviews with both women and men as part of the periodic project information gathering process.

-- By using these data to determine the target populations of each project component.

-- By holding training sessions for both women and men. Project training activities should be timed and organized for maximum convenience: meetings should be scheduled for evenings rather than mornings in convenient village locations, training sessions should be shorter and should be held in the village, and seasonal labor peaks should be avoided. The training sessions, to be most effective, should be arranged for the convenience of the farmers rather than that of the government agencies.

-- By including a sample of female-headed or female-managed households among participating farmers and specialists to ascertain the range of problems faced by different kinds of households and to broaden the impact of the project among poor farm families.

2. The project should help Thai agricultural ministries improve training of extension agents in communication techniques so that messages are delivered to <u>all</u> farmers engaged in project activities.

3. The possibility should be explored of encouraging women's cooperative child care at the village level. This could relieve labor pressures during peak seasons as well as facilitate women's participation in training sessions.

4. ENTREPRENEURSHIP, CREDIT, AND GENDER IN THE INFORMAL SECTOR OF THE DOMINICAN REPUBLIC: THE ADEMI STORY

by

Rae Lesser Blumberg*
University of California, San Diego

4.1 Summary

One of the major purposes of this research was to explore the women-in-development (WID) implications of a mainstream development project that had not been designed specifically to "take women into account," but did, in fact, include them. The project chosen was the Dominican Republic's ADEMI (Association for the Development of Microenterprise, Inc.), which gives short-term working capital loans at market rates of interest to informal sector microentrepreneurs.

In this successful, innovative project, the involvement of women was inadvertent. ADEMI eliminated almost all the lengthy delays, bureaucratic red tape and collateral requirements that generally exclude poor people from qualifying for most Third World credit projects. Since ADEMI, a private sector organization, aims its small loans at poor and very poor microentrepreneurs of the urban informal sector, and this group includes a high proportion of women, the removal of the barriers meant that significant numbers of women were able to become credit recipients.

As the data of this study show, women clients proved better than their male counterparts at job creation--a primary goal of the project. This was particularly true of women in the clothing/textile sector, where nearly half the numerous loan clients were female. Moreover, women's payback record proved to be at least as good as that of men.

Overall, not only has ADEMI been successful in promoting microentrepreneurship and incorporating women, its program also has helped to create a sizable number of new jobs at low cost while stabilizing even larger numbers of existing jobs in a country where unemployment and underemployment are on the rise.

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*The author gratefully acknowledges the editing assistance of Kathleen Moran of A.I.D. and Suzanne L. Willis of the University of California, San Diego.

ADEMI was founded in 1983 with two program components: One provided loans to individual microentrepreneurs (17 percent of whom were women) who had from roughly one to six employees. The second made financing available to the very lowest level of the microentrepreneurial hierarchy--street sellers, recyclers, home-based mini-workshop ventures, and so forth. These loans were provided through Solidarity Groups, composed of four to eight people who knew and trusted each other and who would band together to guarantee each other's loans. Fully 43 percent of Solidarity Group members were women.

Unfortunately, the Solidarity Group component was suspended in late 1984 because of growing top management concerns over a worsening economic situation, fears of loan abandonment, a low job-creation rate, and other subjective reasons. In effect, this single policy change eliminated about 77 percent of all women beneficiaries. Yet the findings of this study indicate that the fears about the Solidarity Groups were not borne out by empirical data. Therefore, to resurrect the Solidarity Group component would be the single most important WID action ADEMI could take.

Still, the data in this study show that the ADEMI project provides a model of great potential. In less than 2 years of operation, it began approaching administrative self-sufficiency, and it clearly had developed a methodology of getting credit at market rates of interest to poor microentrepreneurs who never before had access to credit below usurious moneylender rates.

ADEMI represents an usually successful story in a new type of development project (private sector organizations offering microenterprise credit for the informal sector) that is both growing rapidly and enjoying a high level of success. The notion of private sector organizations may eventually compete to give credit to large numbers of poor male and female informal sector entrepreneurs may be stretching reality too far. But, even on a greatly reduced scale, if such organizations as the one examined in this study prove replicable and capable of achieving self-sufficient growth within several years, enormous progress could be made toward two achievable development goals: incorporating women into mainstream development efforts, and promoting "growth with equity" for a substantial stratum of the Third World poor.

Lessons learned from this examination include:

-- The ADEMI concept could serve as the model on which to build the "McDonald's of Third World credit projects." It is fast, profitable, efficient, low in cost, and capable of reaching large numbers of people.

-- ADEMI has adopted procedures that eliminate the barriers that prevent poor people and women from benefitting from most credit programs: it has eliminated multiple visits for loan applications, abolished collateral requirements for most loans, substituted "streetwise" college student "promoters" (asesores) for traditional bureaucrats in selecting loan clients, and guaranteed subsequent loans if previous ones are paid on time.

-- The economic benefits derived from making loans available to women, who as a group have been responsible and successful, can bring considerable social benefits in their wake, ranging from women clients' increased self-confidence to increased spending on their children's education and welfare.

4.2 Introduction

The overall purpose of my 1985 field research on women in development in the Dominican Republic and Guatemala, when I investigated two "mainstream" development assistance projects of the United States Agency for International Development (A.I.D.), was to analyze the extent to which they were incorporating women as well as men--and with what effect on both sexes and on the project in question. I used a Rapid Rural Appraisal methodology to explore the WID implications of two projects that involved substantial sums of money and had not been designed specifically to "take women into account."

The ADEMI project proved to be of particular interest for both WID and "mainstream" development reasons. Microenterprise credit projects aimed at the burgeoning informal sector of the Third World are coming increasingly into vogue as a development tool. As the recent, growing literature on such projects shows, such projects tend to be very successful in providing direct benefits to quite poor people, who use the small loans in ways that create appreciable numbers of jobs for people even poorer than themselves (Boomgard 1989, Blumberg 1989). Moreover, as Boomgard's (1989) synthesis report, based on a sample of 32 microenterprise credit projects, concludes, such projects "are well suited to the goal of integrating women into the development process. The proportion of women beneficiaries is high in many of the programs reviewed" (p.xv).

4.3 Project Design and Related Gender Issues

4.3.1 A Successful Start

The Association for the Development of Microenterprises, Inc. (ADEMI) proved to be a strong example of both of Boomgard's generalizations. It is an extremely successful, innovative, well-run and soon-to-be-profitable credit project that gives small loans to poor and very poor urban entrepreneurs. And, without deliberately attempting to target women, its methodology is such that it lowered the barriers that usually exclude both women and the poor from credit programs.

Indeed, the fundamental fact about ADEMI is its remarkable success. At the time of the 1985 field research, ADEMI was 2 years old and had grown spectacularly in that time. It was clear that this innovative private sector organization had found a way to dispense with most of the red tape and constraints that almost everywhere limit lending to the small microentrepreneurs of the informal sector. At ADEMI, procedures are simple and fast: short-term loans for working capital are processed and ready only a few days after application has been made. Even more impressive than the streamlined organizational procedures is the association staff. From the executive director to the messenger/photocopyist, they are typically dedicated, hard-working, competent, efficient, honest, and empathetic young people. More adjectives would strain credulity, but from the top to bottom, I found ADEMI people working with enthusiasm and elan.

Background research in preparation for my field work had prepared me to expect a project with an exceptional track record. If anything, the figures I found proved even better: after only 2 years, ADEMI is on the verge of making a profit, creating a self-sustaining and growing mechanism for generating both income and jobs for the urban poor. In April 1985, Mirtha Olivares, ADEMI's executive director, summarized the organization's activity and impact as follows:

-- It creates one job for every US$818 it lends (paying US$67, RD$209, per month per employee).

-- It creates an average additional monthly profit of per microentrepreneur.

-- It rotates its portfolio 3.5 times a year.

-- Therefore, with a US$100,000 loan portfolio ADEMI can lend US$350,000 and can generate US$1,184,000 in additional income per year, as follows:
  - US$343,000 for new workers
  - US$841,000 in additional microentrepreneurs' income

-- Thus, each dollar of the original US$100,000 generates almost US$12 of new income a year.

ADEMI'S program also has been successful in creating new jobs. The average microentrepreneur loan client has added nearly 1.5 new workers. The Dominican Republic is suffering a serious crisis of unemployment and underemployment, which is especially worrisome in the urban sector. Thus, the fact that loans to microentrepreneurs have created sizable numbers of new jobs at low cost while stabilizing even larger numbers of existing jobs will prove to be quite significant to the discussion below.

ADEMI is an indigenous private voluntary organization created in February 1983 by a group of influential Dominican business leaders. Before ADEMI existed, informal sector microentrepreneurs could get credit only at usurious rates and by pledging capital assets. In contrast, ADEMI provides its short-term working capital loans at market rates of interest. A.I.D. has been supportive during ADEMI's formative period, providing DR$150,000 from local currencies into the credit account and DR$500,000 over 2 years for overhead expenses until ADEMI reaches organizational self-sufficiency.

One additional background detail is needed. ADEMI was created with two program components. The first involved loans to individual microentrepreneurs who had some means of production and from roughly one to six employees. The second was even more innovative and provided loans to the very lowest level of the microentrepreneurial hierarchy: street sellers, recyclers, home-based mini-workshop ventures, and so forth. The vehicle for the second type of loan was the Solidarity Group, in which some four to eight people who knew and trusted each other would guarantee each other's loans. They would be loaned a sum to be divided among the group members. Common to both components was the idea of the gradually increasing loan size. With each successful, on-time payment, borrowers were eligible to receive a larger sum, up to the then-existing ceilings on loans to individual microentrepreneurs and to Solidarity Groups.

In reviewing project documents in preparation for my field work, I learned that the Solidarity Group component had been suspended. Why this occurred will be discussed below. Nonetheless, ADEMI statistics continue to list Solidarity Group data. (During 1983, ADEMI's first year of operation, 214 of the 215

Solidarity Groups were formed; the last was formed in February 1984, although the program was not formally suspended until September-October, 1984. But by the spring of 1984, loans to Solidarity Groups began to be delayed, frozen, or cut--even to groups that had never been late with a single payment.) Table 1 shows important data, compiled by Mirtha Olivares, about ADEMI's operations.

Table 1. ADEMI Activity to March 31, 1985

Measure	Individual Micro-enterprises	Solidarity Groups (n=215)	Totals
People Benefited			
Business financed	847	1,150	1,197
Persons benefited			
Directly	5,521	1,150	6,671
Indirectly[a]	27,605	5,750	33,355
New jobs created	1,150	-	1,150
Loan Activity			
Loans granted	4,408	1,805	6,213
Total amount loaned (US$)	1,544,882	392,375	1,937,257
Average amount/ loan (US$)	350.47	237.38	311.81
Loan portfolio (current) RD	$606,563[b]		
US	$189,551		

[a]Assuming 5 people per household of each direct beneficiary

[b]In this table, US$1.00 = RD$3.20; elsewhere, US$1.00= RD$3.125

4.3.2 Related Gender Issues: The Policy Change That Eliminated Most Female Clients

Two statistics about ADEMI must be highlighted. First, as Table 1 shows, no new jobs were attributed to the Solidarity Groups, versus 1,150 for the individual microentrepreneurs. Second, in a study entitled, "Women's Participation in ADEMI," Rebecca Reichmann (1984) found that as of February 1984, only about 14 percent of the individual microentrepreneurs were female, whereas fully 43 percent of the 1,150 members of the Solidarity Groups were women--almost 500 individuals. The figures I found (May 1985) show that 17 percent of the microenterprises receiving individual loans are run by women--150 out of a total of 874 ventures. In short, by suspending the Solidarity Group component, ADEMI had eliminated about 77 percent of all women beneficiaries.

Why this dramatic policy shift? Project documents, Reichmann's study (conducted for Accion International/AITEC, which originated the innovative ADEMI methodology and continues to provide technical assistance and evaluation for ADEMI), and my own interviews in Boston with Accion International/AITEC officials (Steve Gross and Jeffrey Ashe) provided no more than interesting clues. None of the ADEMI documents mentioned the disproportionate effect on women of suspending the Solidarity Group component. What were mentioned (very briefly) were vague and unsubstantiated rationalizations for the suspension: the economy was deteriorating and those on the bottom would be most hurt, making future loans risky; some recipients may have encouraged the migration of "country cousins" to join their Solidarity Groups and share the ADEMI bonanza; other recipients might abandon the city to return to the country if the economic situation grew more precarious; Solidarity Groups did not create jobs; delinquencies seemed to be increasing.

Prior to going to the field, I was able to find data about only one of the vaguely stated justifications for freezing the Solidarity Group component--delinquencies. During 1983, delinquencies were only 1 percent among Solidarity Group members, and they rose among both microentrepreneurs and Solidarity Groups in early 1984 as economic conditions deteriorated. Furthermore, preliminary analyses from the only study done to date that compared the performance of different subgroups of loan recipients found no tendency for the smallest loans to be more often delinquent than larger ones. Clearly a field follow-up of the Solidarity Group puzzle was needed.

4.3.3 Methodology: Rapid Rural Appraisal Techniques

Follow-up Interviews. Following up on Rebecca Reichmann's early 1984 investigations of women's participation in ADEMI, I interviewed 16 microentrepreneurs (10 women and 6 men) and 20 members of Solidarity Groups (10 women and 10 men) representing 11 different groups. The microentrepreneurs were interviewed individually, in their places of business or in their homes. The Solidarity Group members were interviewed both in groups and in a marathon group session including 10 men and 2 women, that went on for hours.

I developed a questionnaire that incorporated much of Reichmann's 1984 instrument. She had stressed the factors, such as transaction time and costs, collateral requirements, and so forth, that frequently restrict women's access to credit--factors that ADEMI has almost wholly overcome as part of its normal operating procedures, which apply to both men and women. The questionnaire also included topics relating to my overarching WID research agenda (such as the internal economies of clients' households and changes in workload, relative decision-making power in the family, self-confidence, and economic plans). After completing the questionnaire items, I asked open-ended questions about institutional issues (ADEMI's policies, delivery systems, and practices and how they have changed). With the Solidarity Group members, I also asked about their group's payment record and history and explored their perception of ADEMI's policy change and the impact on their lives.

Records Comparison. A review of ADEMI records enabled me to check the information about the various people and Solidarity Groups interviewed. Loan amounts compared exactly, but interviewees were often vague as to whether they were on their eighth or eleventh ADEMI loan. They also tended to mention more part-time or family workers than their ADEMI records showed.

Informant Interviews. I also interviewed key informants in ADEMI: the dynamic president, Lic. Camilo Lluberes, the three Peace Corps Volunteers who provided ADEMI with accounting and computer expertise and design advice for clients, and five of the asesores, who acted as counselors, promoters, and credit investigators and who formed the foundation of ADEMI's successful strategy.

Data Gathering. I took advantage of the new computer system to request a number of sex-disaggregated statistics. As these statistics were generated programs were written that will permit such information to be routinely disaggregated by gender in the future.

Data Analysis. To explore the rationale for suspending the Solidarity Groups, I coded, tabulated, and analyzed the available data on the 46 Solidarity Groups that had never been a day late on a payment (21.4 percent of the 215)--even in the months when ADEMI was winding down the Solidarity Group component and loans were frequently delayed or cut.

In all of the steps described above, I attempted to use "triangulation" techniques, in which the multiple approaches provide a broader and deeper picture of what is being investigated, despite the rapidity of the process. Triangulation, involving getting more than one source of data for a strictly delimited number of variables and topics, is the heart of Rapid Rural Appraisal. With it, one can generate data that are reliable and valid enough to support the real-world decisions affecting people's lives that are often based on RRA research: projects are developed, continued, or discontinued; groups of beneficiaries are included or excluded.

In the case of ADEMI, since the microentrepreneur component is continuing and thriving, and since the female microentrepreneurs, although relatively few, were shown by every method of used to be doing at least as well as the men, let us begin the analysis with a gender-disaggregated examination of the data for individual microentrepreneurs.

4.4 Project Analysis

4.4.1 Male and Female Microentrepreneurs: Present Performance and Future Prospects

The data from the computer runs show a picture of remarkable success among male and female microentrepreneurs. Interviews with 16 of the clients revealed people who, for the most part, proved remarkable in person, while appearing mediocre on paper. What would a bank have said about even the two most highly educated?

-- A 38-year-old man with a university degree in social communication and with artistic inclinations. Unable to find work in his field, he needed a friend's advice to produce tourist handicrafts. For 8 years he has operated a modest workshop producing amber handicrafts and jewelry.

-- The 32-year-old wife of a top executive (he administers 200 employees), trained--but not happy--as a Certified Public Accountant. Some five years ago, she began to move into the dressmaking business on a small and often fluctuating scale.

What, indeed, would a bank have said about some of the less well educated, and thus more typical, microentrepreneurs?

-- A 55-year-old women household head with six dependent children and a fourth-grade education who, although trained as a dressmaker, finds she earns more running a hardware store. Six years ago, she opened a small-scale backyard factory to make cement blocks--a highly non-traditional business for a female.

-- A 52-year-old bachelor who has fathered 14 children, has a sixth-grade education, and who worked in shoe repair in New York for many years. He brought back some antiquated shoe repair equipment that he has installed in a shop on the main street of one of the poorest and most remote shacktowns of Santo Domingo.

These four cases are not the most successful. One couple went from 5 to 50 employees in an amber and handicrafts business, fueled by 12 ADEMI loans over an 18-month period. Another man, a bakery owner, expanded from 8 employees to 20, spurred by 8 ADEMI loans over a 23-month period. Nevertheless, the stories of the people described above:

-- The man with the social communication degree saw his amber handicrafts and jewelry business grow from 2 employees to 8, and from DR$1,380 to DR$4,800 in sales--using 9 ADEMI loans over 19 months. Now he plans to expand and upgrade "as far as I can."

-- The women exaccountant is already on her fourth ADEMI loan in 7 months. Her loans have increased from DR$400 to DR$1,300. She has added one employee and stabilized and increased the working hours of her other four employees. She feels her business is now organized; soon she hopes to make it grow by adding men's shirts and retail sales to her women's wear line. She feels more self-confident and secure, and thinks that because she now feels better organized, "I have more control" in economic decisions in her home.

-- In 18 months with ADEMI, the woman with the backyard cement block factory has had seven loans rising from DR$200 to DR$2,000. She has added two employees and, as

is common, especially among female microentrepreneurs, most of her children also help. Her volume has increased from one to three truckloads of sand delivered per week. "Sometimes I never even close; sometimes I'm up wetting the blocks at 6 a.m., but it doesn't bother me." She is proud and pleased with her business's growth and she now wants to buy more land to expand it. Any small savings go for the children "so that they can study" and for the house. And her modest house shows it: it contains a set of encyclopedias, a new refrigerator, and the children's stereo.

-- Finally, the man with the shoe repair business has almost more business than he can handle. Sales have increased from DR$1,400 to DR$19,000/month during his 23 months with ADEMI. He has had nine loans, rising from DR$300 to DR$5,000. He has gone from two to nine employees, and, during busy hours, he has customers waiting in line. He even uses his machines to do additional work for other shoe repairers who don't have such equipment. He says his income has gone up 500 percent, but he reinvests it, anticipating a business with 20 employees. He also is more active in community charity work "for sick children--one has to help the others." He is more confident, tranquil, and secure, he tells me. But during the whole interview, during the afternoon rush hour, the jammed shop is closer to pandemonium than tranquility.

Some Gender Statistics. From this small glimpse of the people involved, let us move to some selected aggregate statistics. Even though ADEMI's microentrepreneurs are engaged in a wide array of businesses, over 80 percent of the 150 female clients are found in only three economic sectors: food, clothing, and ceramics. The single largest economic category is clothing: 150 clients engage in mostly small-scale tailoring, dressmaking, and related production/sales activities, and almost half are women.

Table 2 compares the statistics for men and women microentrepreneurs in general, as well as those in the clothing sector. The results for the clothing sector are particularly striking: women's businesses grew faster than men's in five of the six categories. In the sixth category, fixed assets, women's businesses initially had more than the men's, which are now catching up.

Even more significant, given the increasing concern in ADEMI policy for job creation, the women microentrepreneurs have created more jobs than have men. The comparison is especially drama-

Table 2. Comparison of Men- and Women-Owned Microenterprises in General and in the Clothing Sector

Measure: Clothing Sector	Men (n=77)					Women (n=73)				
	Initial Status		Current Status		Percent Increase	Initial Status		Current Status		Percent Increase
	Total	Mean	Total	Mean		Total	Mean	Total	Mean	
Fixed assets (US$)	335,780	4,361	487,530	6,332	45	552,779	8,567	625,399	8,567	13
Sales (US$)	269,535	3,500	352,438	4,578	31	178,690	2,448	281,217	3,825	57
Profits (US$)	50,231	652	89,323	1,160	78	38,951	534	92,153	1,262	137
Savings (US$)	6,976	91	19,489	253	179	49,938	68	16,262	223	229
Salaries (US$)	57,440	746	72,796	945	27	44,772	613	16,262	953	55
Employees	299	3.9	348	4.5	16	289	4.0	391	5.4	35
Mean Salary (US$)		192		209			155		178	
Jobs Added			49	.64				102	1.4	
Measures All Sectors	**Men (n=724)**					**Women (n=150)**				
Fixed Assets (US$)	3,247,168	4,485	4,317,524	5,963	33	1,055,095	7,034	1,130,869	7,539	7
Sales (US$)	2,617,590	3,615	4,026,125	5,561	54	402,415	2,683	590,822	3,939	47
Profits (US$)	479,983	663	1,060,299	1,464	121	85,073	567	180,167	1,201	112
Savings (US$)	36,118	50	223,687	309	519	6,706	45	22,739	152	239
Salaries (US$)	549,238	759	871,028	1,203	59	85,289	569	126,924	846	49
Employees	3,102	4.3	4,074	5.6	31	583	3.9	804	5.4	38
Mean Salary (US$)		177		214		146		158		
Jobs Added			972	1.3			221	1.5		

tic in the clothing sector, where men's businesses have increased by .64 employees, while women's businesses have added an average of 1.4 jobs each. For the total 874 businesses, women's enterprises added 1.5 jobs each versus 1.3 for the men's enterprises.

In short, despite the fact that the economy has suffered greatly since early 1984, both men and women microentrepreneurs have used their ADEMI loans to make their businesses grow. That's a success story.

The fact that women microentrepreneurs perform so well in their businesses is new. Nevertheless, those working for ADEMI already had subjective impressions that women's payback record is somewhat better than men's, and women tend to be more responsible than men in their business ventures. This attitude came out in each of the interviews with the asesores and their supervisor, who had daily contact with both male and female clients, and it was echoed in the comments of ADEMI's top management. Data to test these impressions are available, at least in part. Male versus female performance would have to be compared in smaller versus larger businesses, and with smaller versus larger loans.

Small Versus Large: The Risk Factor. In an analysis funded by the Inter-American Development Bank, Accion International/AITEC found that those with small businesses/small loans were no more likely to be delinquent than their larger scale counterparts. These findings had not yet been presented to ADEMI in final form, however, and some, from the president to several of the asesores, mentioned their feelings that, as economic conditions have deteriorated, smaller microentrepreneurs may represent a worsening risk because of the greater precariousness of their businesses.

Moreover, some ADEMI people seem to have acted (consciously or not) on their impressions. In comparison with the heady days of 1983, there seems to be a tendency for the loans to "trickle up" a bit toward somewhat larger and more established microentrepreneurs. A comparison of the distribution of ADEMI loans in the last quarter of 1984 with the distribution of microentrepreneurs surveyed in a large-scale 1980 study of the microentrepreneurial/informal sector shows something of an upward skew. The average microentrepreneur in the 1980 study had 1.6 employees; ADEMI's recent loan recipients averaged 3.8. Table 3 gives further details.

Table 3. Distribution of Microentrepreneurs and of ADEMI Loans

1980 Study: Microentrepreneurs with Fixed Location, Santo Domingo		Clients of ADEMI as of July, 1984, per Initial Loan Application Forms	
No. of employees	Percent	No. of employees	Percent
0	33.8	0	2.2
1-2	47.9	1-2	26.6
3-4	12.0	3-4	35.0
5-6	2.1	5	11.3
7 and up	4.2	6-10	19.0
		11 and up	5.9
Source: Study for the Dominican Development Foundation by Stephen H. Gross; personal communication from Jeffrey Ashe		Source: Personal communication from J. Ashe; based on analysis requested from ADEMI	

In other words, ADEMI has given 36.2 percent of its loans to microentrepreneurs with five or more employees (6.3 percent of the 1980 study's universe), and 71.2 percent to those with three or more employees (18.3 percent of the 1980 study's universe). Only 28.8 percent of ADEMI loans went to those with two employees or fewer (81.7 percent of the 1980 universe).

Implications for Gender Consideration. Why is this upward skew of ADEMI loans important? Quite simple: it is commonly agreed that the higher up one looks in the microentrepreneurial hierarchy, the fewer females one finds. To date, only 17 percent of the microentrepreneurs to whom ADEMI has given loans are women, and the proportion of female beneficiaries would almost surely drop sizably if the loans were to "trickle up" still further to the larger, better established businesses of the microentrepreneurial sector. Moreover, because of strong loan demand ADEMI does little promotion, an activity that might attract new female clients if women-linked communications channels were used. Furthermore, with the imminent plans to buy small motorcycles for the asesores, there has been serious talk of not hiring any more women for the job--and anecdotal evidence indicates that women asesores have more women clients. In sum, it appears that future prospects are for fewer rather than more women microentrepreneurs

as clients of ADEMI, despite their solid performance and general reputation as more reliable borrowers.

4.4.5 Male and Female Solidarity Group Members

It was not until the last few days of my stay in Santo Domingo that I was able to make contact with the former head of the Solidarity Group component and begin meeting with the Solidarity Group members. Meeting the people and hearing their stories brought home the human impact of the policy decision to suspend the Solidarity Group component. And it provided additional support for my tentative conclusion that, in its keyday, the Solidarity Group program had been a success in economic, social, and gender terms. In other words, ADEMI had had two winning components.

What is clear is that, faced with a resource crunch (delayed receipt of Inter-American Development Bank funds) and an eroding economy, ADEMI top management in early 1984 began opting for the job-creating, less poverty-stricken microentrepreneurs over the survival-sustaining Solidarity Groups. What is not clear is that any empirical evidence exists to buttress management's admittedly subjective impression that the performance of the Solidarity Groups was questionable and their prospects very risky. To the contrary, I found indications of positive, rather than negative, performance. Only a full-scale study can fully resolve the question of whether any misconduct on the part of Solidarity Groups contributed to their demise.

Analysis of the Solidarity Groups. Table 4 shows data on the "super performers"--those out of the total 215 Solidarity Groups that had never been even one day late in repaying their loans.

Three things are clear from Table 4. there are no gender differences in the composition of the "super performer" 46 Solidarity Groups versus the full 215: all-female groups, all- male groups, and mixed groups are represented in the same proportions among the 46 as in the 215. Second, the "super performer" groups averaged from 7.4 to 9 loans each--thus, their performance held up over time. Third, residence data do not support the "country cousin" allegation contained in ADEMI's 1984 third-quarter report that Solidarity Group members might be bringing their rural relatives to join in their groups and share ADEMI's largesse.

Table 4. Data on 46 Top Solidarity Groups

	215 (Total) Percent	46 Super Performers			
		Percent	Mean No. Loans	Average Group Size	% Members w/ <2 Yrs. in City
All-female groups	4	3	9.0	5.0	0%
All-male groups	33	33	7.7	5.6	9.5
Mixed groups:	64	63	7.4	5.7	3.0
>50% female	25	24			
Female coord.	28	26			

In addition, in data not shown, my analysis of the members of the "super performer" groups found no apparent relationship between years of education and income. Worse yet, there was a clear trend for younger Solidarity Group members to have more education, with no consistent effect on their fortunes. It appears that unemployment and underemployment and the state of the economy are now such that many young people with well over primary school (sixth-grade) educations are unable to be incorporated into the mainstream economy; and in the informal sector, as evidenced by the top 46 groups, the do not seem to be doing any better than their less educated counterparts.

All this was brought home during the first day I interviewed the Solidarity Group members. My last interview of the day was with three women from two of the all-female groups. The house was a humble wooden shack but it had a refrigerator and TV. Two middle-aged women (48 and 45, with 3 years and no education, respectively) represented a group composed of five female heads of household street peddlers. The third woman was the 26-year-old daughter (with two children and an eighth grade education) of the 48-year-old in whose house the interview took place. Her group of seven young women with children included four dressmakers and three street sellers of cosmetics and cloth. The 45-year-old said that before ADEMI she had been "enslaved by the moneylender." Her group had had 12 ADEMI loans, but as 1984 progressed, they had had some delays and cuts in their loan levels. This depleted their working capital to the point that they sometimes had to go to the moneylenders when an ADEMI payment was due. After concluding with a discussion of their hard-

won economic independence ("Some women who earn money accept the man's authority, but we don't."), I was asked by one of the group if I could drop her off near her night school. She had changed to stylish clothes and her make-up was stunning. I didn't recognize her. She was studying "to improve her life." I didn't mention my data analysis showing no relation between education and income among Solidarity Group members.

Earlier that afternoon, I had been involved in a meeting that took place in a barrio fronting the Ozama River that fought a yearly battle with flooding and impassable dirt roads. The 10 men and 2 women included representatives of two of the "super 46" Solidarity Groups. We aired the problems with ADEMI's lengthening delays in 1984 loans. We discussed the economic crisis; the people's frequent response was to change business in order to survive. For example, one man had sold plastic on the street. When that became unprofitable, he sold vegetables on the other side of the river. Now he is working as a driver. He had been the coordinator of one of the two "46" groups represented, "but you have to be flexible."

I also learned the story of the coordinator of the other "46" group represented at the meeting. In order to maintain his group's perfect on-time record in what turned out to be their last loan, he pawned his TV. The group never got another loan, and he lost his TV.

Nevertheless, most of the Solidarity Group members interviewed said they would be willing to work with ADEMI again if the Solidarity Group program were resurrected. Even though they agreed that the loans never reached a sufficient level to "get them over the threshold" and create a growing and sustainable business, most had experienced some economic improvement. And even though the Solidarity Group members I met are much poorer than the microentrepreneurs, they spoke with the same entrepreneurial spirit. They explained to me in detail just how much of a working capital loan a person in each of their varied economic activities would need to get a viable business off the ground. The amount varied from DR$200 to DR$500 (for an upholsterer), probably double what was needed in 1983. ADEMI's Solidarity Group loans had never gotten up to the needed breakthrough level.

In none of the meetings with Solidarity Group members did I hear of evidence to corroborate another of the subjective impressions advanced by management (in ADEMI documents) as a rationale for suspending the Solidarity Group component: that Solidarity Group members might well flee the city. To the contrary, most of these people were long-time residents of the city. Most were old enough that they had growing children for whom the city meant

schools and a possible better life. ("How could we abandon our children's future, to go back to the country?")

In fact, the only ADEMI contention that the Solidarity Group members supported was that the groups should be smaller rather than larger. Groups of six to eight were seen by some as too large. Smaller group sizes of three to five were mentioned when we talked about their attitudes toward participating in a resuscitated Solidarity Group program.

A Future for Solidarity Groups? By late summer of 1985 (after I returned for a second field visit), the president of ADEMI had become willing to restart an experimental Solidarity Group effort, if it were accompanied by a baseline study and ongoing monitoring and evaluation. But he felt that because, in his opinion, women Solidarity Group members proved more responsible than some of the men in paying back loans, such a program should be limited exclusively to women. In fact, he would prefer that they be female heads of household who have the urgent necessity for economic activity and display responsible behavior.

In that direction, however, lies the possibility of a small "charity" program rather than a large, growing, and self-sustaining economic program. What is so unique about the ADEMI Solidarity Group program is precisely its economic viability. Lending costs are low (presumably lower than in the individual microentrepreneur component, although comparative data are not available), and large numbers of people of both genders who already are experienced in microentrepreneurial activities would be eager to join. If, indeed, women's performance is at least as good as the men's, then, given their high representation in the lower levels of microentrepreneurs--the Solidarity Group target population--it behooves management to include them. But not exclusively. The "lessons learned" of a decade of WID indicates that "all women" means "small." And ADEMI's ultimate promise is for something very big.

4.5 Lessons Learned

4.5.1 Credit Projects in "McDonald's" Wrappers?

Jeffrey Ashe summed up the promise of the original ADEMI conception, a twin Solidarity Group-plus-microentrepreneur focus, in a striking phrase: as the model on which to build the "McDonald's of Third World credit projects to help the poor." Fast, profitable, efficient, low-cost, capable of reaching large numbers of people--it could as well be an achievable prognosis

for an ADEMI-type program as it proved to be for the U.S. fast food industry that grew out of McDonald's breakthrough idea. If the ADEMI model were refined and "franchised" worldwide, its potential to provide substantial economic benefits to conceivably scores of millions of Third World women and men informal sector entrepreneurs--while paying its own way--is incredible. Furthermore, economic benefits can bring considerable social benefits in their wake, ranging from the virtually universal increase in self-confidence among ADEMI beneficiaries to increased spending on their children's education and welfare. Additionally, if the ADEMI model, including the Solidarity Group component, proves to be a successful private sector venture, then this new type of "McDonald's" would presumably generate its own competitors.

4.5.2 Replication to Extend Mainstreaming?

The notion that private sector organizations would compete to give credit to large numbers of poor male and female informal sector entrepreneurs may be stretching reality too far. But, even on a greatly reduced scale, if honest and efficient ADEMI-type organizations prove replicable and capable of achieving self-sufficient growth within several years, enormous progress could be made toward two achievable development goals: incorporating women into mainstream development efforts and promoting "growth with equity" for a substantial stratum of the Third World poor.

All in all, the computer data confirmed subjective impressions of women microentrepreneurs as good loan clients. Their businesses grew impressively on all major indicators and outperformed those of their male counterparts in the clothing sector, the largest single category. And although the Solidarity Group component remained suspended, the president of ADEMI proclaimed his willingness to revive it on an experimental, research-backed basis. Finally, there was the alluring promise that the ADEMI model might be a replicable way to extend mainstream development benefits to women along with men in the urban informal sector of much of the Third World.

Accordingly, let us conclude this examination of the full ADEMI concept (i.e., both the individual microentrepreneur and Solidarity Group components) by putting it in the context of other microenterprise credit projects and then underlining the features that simultaneously allow it to achieve success as a mainstream development project while facilitating the incorporation of women.

First, the fact that women prove as good as or better than men as loan clients is not unique to ADEMI. Lycette's review of the literature (1984) shows that women's loan performance is at least as good as men's. This finding is supported by two more recent studies of Guatemala's SIMME urban microenterprise project. By August 1988, 1,623 individual loans averaging $1,300 had been granted; 287, or 17.68 percent, were given to women, although there was no special emphasis on reaching women clients. Of the 1,623 loans, 248 (15.3 percent) were in arrears. Yet only 26, or 10.48 percent of the 248 were women's loans (Blumberg and Reibel 1988). In August 1989, the SIMME project was revisited shortly after an upsurge in late payments had been stemmed by a new emphasis on one-on-one contact between individual loan client and their asesores. By this time, women were 22.8 percent of SIMME's 4,824 loan clients. Once again, they were less likely to be in arrears: 41 percent of women, versus 49.87 percent of men, were a month or more behind on their payments. Moreover, women were less likely to be seriously in arrears: 20.35 percent of men, versus. 12.36 percent of women, were four or more payments behind (Blumberg and Revere 1989).

Furthermore, microenterprise credit projects with many women clients have been found to be the most successful. For example, according to Timberg (1988), Bangladesh's renowned Grameen Development Bank has a minimal default rate, under 3 percent. As of 1988, it had provided loans to over 400,000 of the "poorest of the poor." At the end of 1986, women were 69 percent of loan clients, accounting for 55 percent of the cumulative loan amount. Since then, the bank has further expanded loans to women, based on their better performance. Timberg (1988) also cites Indonesia's enormous and successful BKK program, which extended 2.7 million loans amounting to over $55 million just between 1972 and 1982, and which involves 60 percent female clients, mostly traders. In addition, Tendler's (1987) meta-evaluation of 100 "livelihood, employment and income generation" projects (1987) found that microenterprise credit projects were among the most successful. Of eight best performing projects, five dealt exclusively with women and the other three gave serious attention to women clients from the start (McKee 1988).

What specific lessons can be learned from ADEMI? Perhaps the most general one is that ADEMI proved so successful in reaching poor and women informal sector entrepreneurs because it eliminated the high "up front" costs and barriers that typically exclude them. ADEMI's procedures included the following:

-- It reduced the number of trips that a person had to make to a credit office in order to process a loan application (generally, to a single visit).

-- It did not require collateral for most loans (indeed, the Solidarity Groups functioned as a group guarantee for the poorest clients).

-- It used "streetwise" promoters (asesores were typically college night students who soon learned and cared about the microenterprise sector) to select loan clients and aid them with the application process. This contrasts with the bureaucrats administering most credit programs, who tend to intimidate poor, uneducated potential clients, and who often have a deep-seated negative view of clients' loan repayment inclinations.

-- It rewarded on-time payment by offering an immediate, new, slightly larger loan for prompt and full repayment.

These procedures proved sufficient to allow the entry of substantial numbers of women, who make up an appreciable proportion of those working on their own account in the informal sector of much of the Third World (see, e.g., Berger 1985; Berger and Buvinic 1988).

One final benefit could flow from extending the ADEMI model: projects that put income in the hands of women get an additional bonus. It has been repeatedly documented that income under female (versus male) control is more likely to be spent on family "basic human needs," especially children's nutrition (Blumberg 1988 summarizes the empirical evidence). And control of this income tends to enhance these women's role in household decision-making, giving them greater leverage in fertility, domestic, and economic decisions (Blumberg 1989 documents this fact). Thus, the increased resources of women microentrepreneurs who receive credit not only create jobs in the informal sector but also contribute to such other development goals as lower fertility, better child nutrition, and increased emphasis on children's education and health (two other areas to which women are more likely to dedicate income under their control). In conclusion, the ADEMI model may provide a "win-win" scenario for both mainstream and WID goals.

5. WORK, WEALTH, AND A WOMEN-IN-DEVELOPMENT "NATURAL EXPERIMENT" IN GUATEMALA: THE ALCOSA AGRIBUSINESS PROJECT IN 1980 AND 1985

by

Rae Lesser Blumberg
University of California, San Diego

with the assistance of
Maria Regina Estrada de Batres
and
Josefina Xuya Cuxil

5.1 Summary

Women, it has been documented, are increasingly important producers of wealth in today's world economy. In much of the development community, to have women creating wealth makes a stronger argument for including them in development projects than to have women creating welfare.

Fortuitously, the results of this study, which looked at the socioeconomic effect a food processing plant had on local women, provide preliminary support for the idea that when women work to create wealth, and get to keep some of it, both the efficiency and equity aims of development are enhanced. Project data indicate that income flowing into female hands increases their sense of efficacy, which, in turn, bodes well for their future productivity and contributing to family welfare.

Using the groundwork laid during an earlier research effort in an agricultural area west of Guatemala City, Guatemala, this follow-up study compared the original research findings to the circumstances found 5 years later. How had women fared over time in a project that was not targeted to them but nonetheless greatly affected them? By reexamining the four original sites, the findings showed how the gender division of labor and of resources affected both the men and women involved and the overall development process associated with the introduction of a food processing plant in the area.

5.2 Introduction

This paper presents something unusual in the social sciences: a follow-up on a "natural experiment." The research

being followed up was not originally focused on women in development, nor had it been planned as a "natural experiment." Rather, Ken Kusterer, a sociologist from American University, had spent 4 months in 1980 conducting a study published as The Social Impact of Agribusiness: A Case Study of ALCOSA in Guatemala (Kusterer, Estrada de Batres, and Xuya Cuxil 1981). The research covered three villages where poor peasants--mainly Cakchiquel-speaking Mayan Indians--grew cauliflower, broccoli, and snow peas on contract for ALCOSA (Alimentos Congelados Monte Bello, S.A.), a wholly-owned subsidiary of a U.S.-based multinational company, Hanover Brands. In addition, Kusterer studied the Ladino women who worked at ALCOSA's processing plant, where the vegetables were frozen and packed for export to the U.S. market. Kusterer's work represents development research at its best: an insightful combination of qualitative and quantitative techniques that sharply illuminates the human impact of large-scale development. And because Kusterer's well-written and richly detailed monograph paid attention to both men and women, the ground was laid for a serendipitous discovery: by rearranging the data from the four sites studied, one could construct a "natural experiment" that shows that as women's involvement in the activities and benefits of a planned development project increased, so, too, did the positive impact on both the women themselves and the project.

Although the women-in-development (WID) field has accumulated a large body of knowledge and increasing policy prominence in the years since Ester Boserup's landmark 1970 book, Woman's Role in Economic Development, funding for in-depth field research is not abundant. By returning to Kusterer's research site, one could, at low cost, do a "five years after" follow-up of what unexpectedly turned out to be a striking array, from low to high, of women's involvement in the process and rewards of development.

This paper examines the findings from the ALCOSA Agribusiness Project: To what extent is the project a success, independent of its attention to women? To what extent is it a success from the WID perspective? This report also attempts to highlight the wider implications of what happens to women, to their men, families, and communities, and to the project itself, when planned development deliberately or incidentally affects the gender division of labor and resources.

5.2.1 Project Setting

The Socioeconomic Status of the Area. The three villages of poor contract growers and the town where the processing plant are located all are part of the lush, green areas of Guatemala. The three villages are to the west of the capital, Guatemala City, in

the "Indian Highlands" area. Although Guatemala must be considered a racially divided society, with the various Mayan Indian groups definitely subordinate to the dominant Ladinos, moving from one group to another is possible. To do so, one must speak Spanish, not an Indian language, and must abandon Indian customs and clothes. Nevertheless, many Indians resolutely cling to their traditional identity even in the face of so many obvious disadvantages.

The women retain much more of their visible Indian personas than do the men. They are likely to speak almost exclusively in their Indian tongue. Indian females receive less schooling than males, so often their Spanish is rudimentary, at best. Large numbers of them continue to wear their magnificent native costume, a hand-woven marvel of brilliant hues and distinctive designs. Wearing the costume is an act both of proud tradition and of courage.

The Mayan Indians of the highlands generally adopt a "family subsistence strategy" in order to survive. This does not mean that every cent earned by every family member is automatically pooled into a "common pot." The prevailing pattern is that the male household head and the grown children who are still participating members of the household (even though they may not live there year-round) contribute some proportion of labor and/or earnings; they keep remainder of their earnings for themselves. Guatemalan wives also tend to engage in economic pursuits. Moreover, Guatemalan wives' traditional income-generating ventures (e.g., weaving) and market trading are done partly on their own account. But qualitative evidence indicates that Guatemalan women, like women around the world, tend to devote virtually all income they control to household subsistence expenses.

The main subsistence crops in the highlands are corn and beans. In addition, a variety of traditional horticultural crops are grown: radishes, carrots, cabbage, and so on. While the extent of women's involvement in field work varies from village to village, they have a long history as market vendors, marketing the family's surplus production, their own weavings, or other products in the town and city markets. The women also raise chickens and other small animals, tend kitchen gardens in many areas, and perform all the relatively invisible tasks that keep the household economy going and reproduce its labor force. They and their children fetch water, fodder, and fuel; process harvested crops; and perform the cooking, cleaning, child care, and other domestic activities. An important activity for many is weaving for both household use and sale. Seasonal migration (especially by men) to the coastal plantations and other possible job locations helps round out the household survival strategy.

The survival of many families was jeopardized during the years of political and economic instability that peaked in 1981-1982. The research described in this paper was done prior to the November 1985 election that put a popular civilian government, under President Cerezo, in power for the first time since 1954.

The Development Context: Agency for International Development (A.I.D.) Strategy. In 1975, LAAD de Centroamerica, a subsidiary of the Latin America Agribusiness Development Corporation, promised a low-cost loan to Hanover Brands' new wholly-owned subsidiary, ALCOSA. The world economy was in deep recession at this time as a result of the first energy crisis. A.I.D. was looking for new programs and ways to reach the rural poor. It also sought to promote both agribusiness and "agricultural diversification" (away from overemphasis on a small number of traditional export crops). The LAAD de Centroamerica loan project seemed to touch all the bases. According to the 1975 Capital Assistance Paper (the principal project proposal document), the overall long-term development goal was "to create an environment or the conditions in which the rural poor will have increased opportunities for participation in the benefits emanating from development." To accomplish this:

> This project will contribute substantially to the promotion, development, and expansion of agribusiness systems and enterprises in Central America through addressing constraints in agricultural production and supply systems where capital, management, training, technical, and financial assistance can be productively applied. To this end, LAAD will provide its specialized resources to agribusiness opportunities which offer maximum potential for beneficial economic impact on a priority target group composed of small farmers and landless workers.

The more specific short-term project purpose was twofold:

1. To develop agribusiness activities in Central America in nontraditional agriculture which increase the participation of the rural poor; and

2. To develop LAAD into a self-sustaining financial operation based on commercially available capital

A subloan to ALCOSA fit in well with the project purposes. ALCOSA, backed by Hanover Brands, would introduce contract growing of nontraditional horticultural crops (principally cauliflower, broccoli, and snow peas) to poor and very poor Guatemalan farmers. As people in the United States changed their health,

exercise, and dietary habits in the 1970s, the market for many commodities boomed. Opportunities were created for enterprises located in the Third World to enter those markets. And, given the sometimes strange interdependencies of the world economy, the lives of the poor peasants in the 17 contract-grower villages where ALCOSA was operating by 1980 would be transformed. Indeed, the lives of the several hundred female employees in its processing plant would be revolutionized.

In 1975, women in development was not yet a real A.I.D. concern. In fact, the word "women" does not even appear in the 1975 Capital Assistance Paper for the LAAD loan project that would fund ALCOSA. Nor was women in development a concern of the Guatemalan Government. Absolutely nothing in the 1975 LAAD project or its ALCOSA subloan was geared to even the mere recognition of the gender--let alone gender-disaggregated analysis or the adaptation of the project to incorporate women. In short, although women would participate and benefit in varying degrees in this project, it was not because of any deliberate program design that they did so.

Accordingly, the main aim of Kusterer's research was to clarify ALCOSA's impacts (favorable or otherwise) on the lives and fortunes of its contract farmers and processing plant workers, women as well as men. As it turned out, many of the effects on women, both positive and negative, fell into the "unintended consequences" category.

5.3 Project Design, Methodology, and Gender Issues

5.3.1 Project Design

Some Guiding Hypotheses. To address the broader concerns of the A.I.D. study, the Guatemala research was guided by a series of hypotheses. Hypotheses 1 to 7 deal with gender stratification and women in development; Hypotheses 8 and 9 are about planned development.

1. For women, control of economic resources (relative to men) is the most important variable affecting gender stratification and a variety of other consequences affecting their lives.

2. Independently controlled income (versus control of land or other property) is the most readily accessible form of economic power open to women.

3. Therefore, women's independently controlled income is associated with their greater leverage in fertility decisions and household economic and domestic decisions.

4. Women's activities that do not result in independently controlled income are not associated with women's greater leverage in family fertility and economic decisions.

5. Women's independently controlled income is associated with their greater sense of efficacy and self-esteem.

6. Women are more likely to spend income under their control on family well-being, especially children's nutrition and necessities.

7. When women's independently controlled income falls, they lose household power more sharply and quickly than they gain it when their income rises.

8. When scarce development resources are targeted to poor, powerless groups, such as women, the landless, and so forth, there is a tendency for those resources to be distributed in terms of "power and privilege" (Lenski 1966), which is manifested as a "trickle up" of benefits.

9. Vulnerable groups (women) may be shut or pushed out of project benefits unless (1) barriers to the group's receipt of benefits are reduced by deliberate selection procedures and appropriate delivery mechanisms, and (2) there is continued oversight of project benefit allocation.

Kusterer's research sites, arranged in the WID-related progression in which they will be presented here, were as follows: three villages in the Cakchiquel-speaking western highlands areas--Patzicia, Chimachoy, and Santiago Sacatepequez--and the town of San José Pinula, where the ALCOSA plant is located, in the Ladino area just south of Guatemala City.

Village of Patzicia. What is striking about Patzicia in WID terms is that (1) neither Cakchiquel nor Ladino women worked in the fields in pre-ALCOSA days; (2) the ALCOSA vegetables are extremely labor-intensive; (3) by 1980 such critical labor shortages had developed that large farmers had generally abandoned contract growing entirely and some of the poorer farmers were forced to spend scarce resources in expensive "labor-saving" farming methods; and yet (4) as of 1980, women still did not work in the fields, to their husbands' clear disadvantage. As

Kusterer reported (Kusterer, Estrada de Batres, and Xuya Cuxil 1981, 17): "Only Patzicia has such sharp problems of labor supply because only Patzicia overlooks what has emerged in the other two villages as the obvious solution: farm labor for women." What had happened in the intervening 5 years? Would there still be farmers engaged in contract growing for ALCOSA 1985? And if so, would the women of Patzicia still be as male-dominated, submissive, and timid as they were in 1980?

Village of Chimachoy. 1980 was a bad year for this Cakchiquel village of about 100 families, located on top of a mountain reached by a barely passable dirt track. Kusterer found that, of the three villages, Chimachoy was the most negatively affected by ALCOSA's continual calls for more production. Chimachoy's farmers cut back on their traditional food crops to expand cauliflower production. So when ALCOSA was hit with an unexpected torrent of cauliflower from its 17 grower villages in July 1980 and abruptly suspended its purchase, some two-thirds of Chimachoy farmers were left with no viable outlet for their crop (one-third were not then harvesting). Hunger, anger, and drastic losses followed. There was even an attempt to burn down ALCOSA's buying shed. Many of the villagers were left with onerous levels of outstanding debts. The better-off villagers had been building concrete block houses to replace their cane and straw huts, many with special loans; many poorer families were paying in installments for small purchases.

With respect to the WID hypotheses presented above, what is significant about the Chimachoy case is that the women, who previously had helped in the fields only during planting, now were pulled into 2 to 3 days of horticultural labor each week on top of their normally overburdened schedules. As a result, they had to cut back on their marketing trips to town, thus reducing their only independently controlled income. In consequence, Kusterer found, they were increasingly dependent on their husbands and had a possibly decreased voice in household affairs. Furthermore, although the women were working 2 to 3 days per week on the ALCOSA vegetables, the ALCOSA payment came in the form of a check (that had to be cashed in the nearest big town) made out solely to the husband. In short, in Chimachoy, Kusterer found the situation that has become a classic in the WID literature: a development project that increases women's labor burden while failing to give them a direct share of the new benefits, and eroding their existing resource base. In the WID literature, such a scenario often has been tied to lowered productivity and efficiency and even to the failure of the project itself. (For supporting evidence, see Blumberg 1989.)

Village of Santiago Sacatepequez. In 1980, this was the most successful of the three villages with respect to the

project. A Swiss-formed cooperative, Four Pines, dealt directly with ALCOSA on behalf of its more than 400 members, and, in order to sell to ALCOSA, farmers had to be a co-op members. Results were exceptional (Kusterer, Estrada de Batres, and Xuya Cuxil 1981, 61):

> The average farmer in Santiago has lower costs than his counterparts in the other two towns, yields that are more than twice as high, proportions of first-quality product that are 15 percent higher than Patzicia and 20 percent higher than Chimachoy, and net income per unit of land that [is] many times higher than elsewhere.

As a possible explanation, Kusterer cites the labor-intensive farming methods used on the small plots (Santiago is only 20 kilometers. from Guatemala City and on the fringe of suburban development, so holding are very tiny), better initial knowledge, and better advice from the co-op's agronomists than from ALCOSA's. Might there also be a connection with the project's 1980 "WID status"?

Specifically, in 1980, Kusterer found that the women worked more as partners than as helpers to the men. Although the ALCOSA vegetables were new, these women already had a horticultural tradition and were skilled, experienced farmers. Moreover, in 1980, women seemed to be sharing in direct benefits. Women were almost as likely as men to deliver produce to the co-op and were often lined up with the men at the window where cash payments were made. They had paid a price: in addition to an added "double day" burden, the women had to cut back on their formerly frequent marketing trips to Guatemala City's main terminal market (their principal source of independently controlled income). Kusterer did not address directly the extent to which women actually shared in direct benefits and the consequences of their involvement in the project. Nevertheless, it was clear that Santiago women were getting more direct benefits than women in the other two villages. Questions for 1985 would include how Santiago women were faring relative to their husbands, and what the relative success of the project was for the co-op and for the people affected, both collectively and disaggregated by sex, class, co-op membership, and so forth.

<u>San José Pinula's Processing Plant Workers</u>. In 1980, some 85 percent of the processing plant's permanent workers and 100 percent of the seasonal ones were female. ALCOSA, unlike most Guatemalan employers, paid the minimum wage and legally mandated benefits. Moreover, during most of the 8- to 9-month "high season," ALCOSA worked very long shifts--12 to 16 hours. As a result, according to Kusterer's figures, the plant's female employees made from 150 to 300 percent as much as they could have

made in market selling and domestic service, their two main alternatives. Consequently, fully 95 percent of the ALCOSA women said they were highly satisfied with their pay, jobs, and lives as working women, and that they wanted to continue working indefinitely, regardless of any husband or children they might subsequently acquire.

Moreover, in keeping with the WID hypotheses outlined above, Kusterer found that the women retained ultimate control over their income (not one woman reported giving all her income to her husband), and, therefore, they had become empowered in their domestic relationships and decision-making. Moreover, they had increased in independence, self-reliance, self-respect, and self-esteem. Finally, there were indications of a negative effect on fertility. In a nutshell, the Kusterer study found the whole array of effects that have been hypothesized in the WID and gender stratification literature as flowing from an increase in women's independently controlled economic resources. (See, e.g., Blumberg 1984.)

5.3.2 Project Methodology

Both of Kusterer's original research team members again helped with interviewing the men and women Cakchiquel speakers in the three villages. The study employed a Rapid Rural Appraisal methodology, which involves the "triangulation" of diverse data-gathering approaches, from interviews with key informants, to analysis of records, to group meetings, to small surveys. Other techniques employed included participant observation and meetings in which preliminary findings and interpretations were discussed by people with varying perspectives on the project and the situation in Guatemala (e.g., Regional Office and USAID/Guatemala officials).

Counting only the ALCOSA female plant employees and present and former ALCOSA growers of both sexes, a total of 101 people were interviewed, most of them in their homes. (This enabled us to get a better sense of their level of material well-being). Among the plant workers, half were employees who had been there since the previous study in 1980, and half had been hired in the last few years. In the villages, we also attempted to split our interviews among recently contracted ALCOSA growers, those who had had contracts since the previous study, and those who no longer were growing vegetables for ALCOSA.

5.4 Project Analysis: What Happened to the "WID Natural Experiment?"

5.4.1 Patzicia: A Case of Economics Eroding Cultural Restrictions on Women's Work?

The 1980 interviews in Patzicia had revealed no female participation in agriculture. In 1985, we found a considerable degree of female involvement in the single most labor-intensive, time-sensitive operation, harvesting.

Although newer families seemed a bit more likely to claim the wives' participation in agriculture, in 13 of 23 cases the woman was described as working in the fields. One man, by far the most prosperous of those interviewed, said his wife did not work in the fields--she dedicated herself exclusively to her home and children. But his wife, in a separate interview, told me a very different story. Her first response to the question was to deny that she did field work. But under further probes ("What about during the broccoli harvest: Do you ever help out with the cutting?"), she said that she did. Three days a week, in fact, for a total of over 4 months a year. Her children also helped when they weren't in school. And no, field work was something she had never done before they began growing the ALCOSA vegetab es. Yes, it was a good deal of extra work, but household income had increased....She was wistfully optimistic that her husband would spend (some of) the extra income on family well-being. She did not sell in the market, she said, so she had no outside source of income whatsoever.

Thus, because of the labor-intensiveness of the vegetables grown for ALCOSA, it appears that some 1980 participants began placing economic criteria over cultural convention and using their wives' field labor. The bottom line is a changed picture from 1980. It appears that Patzicia in 1985 is approaching where Chimachoy was in 1980: women are adding a "double day" of field work and are not receiving direct benefits, but seem hopeful that their efforts will aid family well-being.

From the standpoint of the broader WID research, Patzicia also provided support for Hypothesis 3. In 12 cases, the data showed a relationship between the woman having independent income and the man consulting with her on household decisions. The woman's income was derived from marketing and in most instances merely contributed to el gasto, the household subsistence expenses deemed to be women's domain. But if a woman made some material contribution to this subsistence budget, she participated in some degree of "consultation" with her husband.

Overall, unlike Kusterer in 1980, we encountered no women too timid to voice an opinion. In cases of a joint husband-wife interview, however, the man dominated the conversation. And while we found the women of Patzicia to be the most dependent and male-dominated of the three villages, they now appeared to be more open and less submissive than they were in 1980.

Also relevant is the case of a Ladino woman whose family had arrived in Patzicia only 9 months before. It indicates that a woman's independently controlled income is more important than her "mere work" in production in determining her degree of household power and decision-making leverage (Hypothesis 4), and that a woman's status relative to her husband can erode very rapidly in the face of an abrupt drop in her independently controlled income (Hypothesis 7). The woman's husband had lost his job (working in surveying) in Guatemala City, inherited a small plot of land in Patzicia from his father, and moved the family there to try their luck growing vegetables for ALCOSA. She had always worked in the city and felt that her income gave her more independence and household power there. Previously he had given her the money for el gasto and decisions were mutual. Here, although the initial decision to plant for ALCOSA was mutual, it was the last such joint decision. Now she works 3 days a week in the fields and has no outside income, and now he makes the decisions: how much to spend on food, clothes, school expenses, and so forth. She would like to have some sort of business (market commerce) here, but she has no one to take care of the youngest of her six children. Fertility? There will be no more children --her husband has decided that it is now too expensive. Meanwhile, she and her children work harder and longer than ever before.

5.4.2 Chimachoy: Overtaken by Events

Chimachoy, perched on the top of a mountain, benefits from a cool, moist climate that permits its inhabitants to cultivate even during the dry season. But the town suffers from the terrible condition of the dirt road that serves it.

Chimachoy, we found, was a victim of the peak of counter-insurgency violence in 1981-1982. Except for a very small number of cane and straw huts that were still inhabited, we found the previous location of the village largely deserted. The previous military government had relocated most families to a more accessible new "colony" (pacification village). In 1980, Kusterer had found the most successful and prosperous of the contract growers building new concrete block houses along the road. In 1985, we found that all of these houses had been completely gutted.

Kusterer had found a population of about 100 families; we were repeatedly told that "the violence" had left 40 widows.

We found the people of Chimachoy to be very hard-pressed economically, especially the widows and their families. ALCOSA had not operated in the village since 1981, although a small number of farmers manage to haul their produce to the municipality seat, San Andres Itzapa, where ALCOSA has a buying shed. It is a difficult trip, however, and few farmers have ALCOSA contracts.

Overall, we found that the overriding problem was subsistence. We saw no trace of the installment purchases that in 1980 gave evidence of several good years with ALCOSA.

5.4.3 Santiago Sacatepequez: The Cooperative Thrives but Policy Changes Hurt Women

Santiago is a different world from Chimachoy, and its story is complex. The co-op has thrived since 1980, but a 1984 policy change essentially eliminated women's access to direct benefits, and there seem to be negative repercussions for female autonomy and welfare. As the cooperative has grown and become more bureaucratic, its dedicated professional staff have changed some of its earlier policies. The number of women co-op members was not clear--between 2 and 8 of about 500 active members. Since early 1984, the payoff has usually been in the form of a check, made out exclusively to the member.

In short, the 1980 situation whereby women shared in the direct benefits is gone. Under the new system, many women do not know how much their member husbands receive, thereby further weakening their claim to a share. Co-op professional staff agree that the position of the women has deteriorated and that they are now more dependent on their husbands. As has been mentioned, the women of Santiago Sacatepequez have a long history as skilled horticulturalists, and most co-op wives are reported to be heavily involved in all phases of ALCOSA vegetable production. But in comparison with 1980, co-op families in 1985 devoted less time and space on their small parcels to growing the traditional horticultural crops that Santiago women have long sold (at least partly for their own gain) in Guatemala City's terminal market. Encroaching suburbanization keeps land at a premium. The men prefer to use it to grow more ALCOSA-type vegetables for guaranteed sale to the co-op, rather than other horticultural crops women can sell in the city. Since women's direct access to benefits has been choked off at the co-op, they are now doubly disadvantaged, while working at least as hard as ever.

On the basis of women's typical 3 to 4 days a week of field work, could they be made co-op members in their own right, along with their husbands? Unthinkable, according to the head of the co-op's social program. In his opinion, the men would never allow it. In Guatemalan co-ops, there has been only one member from a household--the head, who bears official financial responsibility.

In terms of WID "lessons learned" (see also Hypotheses 8 and 9), the Santiago experience illustrates three points: (1) the importance of project delivery channels as "gatekeeper mechanisms" affecting women's access to benefits; (2) the rapidity with which the balance can tip against women if there is no continuous monitoring of institutional policies and procedures as they differentially affect each gender; and (3) the finding that benefits tend to be distributed on the basis of relative power and privilege; they "trickle up" over time. Even where women initially obtained valuable benefits, it is difficult for them to retain them.

Tulio Garcia, founder of the co-op, agreed that women's position has deteriorated and noted that there is less improvement in home and basic human needs consumption--including the family diet--than in economic consumption. In terms of the hypotheses presented above, this is no surprise. To the extent that women's independently controlled income and household decision-making power have declined, we would predict that men's spending priorities would be more fully realized. And what are these priorities?

First, co-op staff and men farmers all stated that many men save for scarce and increasingly expensive land, since additional land means additional income from the co-op. As has been noted, however, farmers are in competition with the developers, who view Santiago as not too far from the capital for suburban subdivisions. Second in importance among men's spending priorities, according to the interviewees, was transport. Indeed, we were told about, and observed, many items such as pickup trucks among the wealthier members.

Two ironies are involved in the economic success of the co-op members, many of whom were said by co-op staff to have been initially poorer than their neighbors. First, a new form of stratification seems to be emerging between co-op members and nonmembers in the town of Santiago and its several outlying hamlets--the co-op members are increasingly seen as the rising stratum. Second, co-op staffers were concerned enough about both "the problem with women" and "the problem with health and nutrition" that they have begun special programs targeted at both concerns. But these programs involve the most traditional home

economics and do not seem to be having the desired effects. In keeping with the "trickle up" hypothesis (Hypothesis 9), though, it is relevant that the three people chosen by the village leaders to be trained by the co-op as health/nutrition promoters were not the requested two women and one man; rather, three well-off young men were named, on the grounds that they can more easily get away for the 4-week training.

Interviews with the men revealed their support for an activity that provided income to their wives. The interviews with women revealed that, although the hours they work in agriculture have increased since the co-op began, most had always cultivated. Nevertheless, co-op technical assistance has been directed solely to the male members, thereby confirming another of the most frequent "WID lessons learned": even where women are traditional farmers, it is overwhelmingly the men who get the training and extension help.

The co-op has become a large employer. It has 30 permanent employees and, from July to February, employs about 100 to 125 people as packers. Of these packers, two-thirds are women and one-third are men. (A brief experiment, tried in 1984 by the co-op directors, ended in failure. Disturbed by the "constant talking" and "romances" of the women employees, they fired them and replaced them with men. Production nose-dived so sharply that they fired the men after only 1 week and hired back the women--who continued to be high producers and talkative at the same time. The directors now view packing as "women's work" because of the women's allegedly greater manual dexterity and their tolerance of the boring routine.)

In sum, the most dramatic contrast involves how quickly and how much the co-op has grown, while the position of women has deteriorated. Further analysis and, probably, further field study are needed to draw all the lessons from the Santiago Sacatepequez experience.

5.4.4 The Women ALCOSA Plant Workers of San José Pinula: Unlikely WID Paradise?

The situation of the women processing factor employees is at least as good in 1985 as it was in 1980, when it was terrific. Income remains high as the result of the long shifts, and not one woman claimed she was less than satisfied with the work. Much of the women's satisfaction stems from the economic benefits, which, in keeping with the hypotheses, continue to have strong repercussions on the women's power and decision-making leverage in their households. The proportion of women who are married has gone up

since 1980, but there are still no women who turn over all their pay to their husbands.

The 1985 data confirm the first fertility trends noted in 1980: fertility seems strongly curbed by ALCOSA employment. Almost half of the women say they will not have more children; and they have only 2.6 at a median age of 33.5. In fact, the 30 women (all between the ages 18 and 39) average only 1.8 children. Table 1 compares the fertility status of "1980 veterans," their more recent coworkers, and the Patzicia sample--the only one of the three villages with a substantial Ladino population. The sharp contrast in fertility parallels the differences in the women's lives: the costs versus benefits of children are sharply different for female factory workers toiling long shifts and for rural farm women.

Table 1. Fertility Comparisons: ALCOSA Employees and Patzicia Women

Category	ALCOSA Employees			Patzicia Women (n=15)
	Veterans (n=15)	Group (n=15)	Total	
Median Age	32.5	26.0	29.0	33.5
Mean Number of Children	2.2	1.5	1.8	5.2
Won't Have More	47%	47%	47%	--
Median Age of "Won't Have More" Group	37.0	31.0	33.5	--
Mean Number of Children of "Won't Have More" Group	2.3	3.0	2.6	--

A total of 9 of the 30 processing plant women are single and childless--1 of the 1980 veterans (age 30) and 8 of the newer employees. The median age of these 9 childless women (30 percent of the 30) is 24 years, an extraordinary statistic by Guatemalan standards.

For another perspective on the fertility patterns of the female ALCOSA plant workers, Table 2 compares the 1985 data on marital status with the 1980 data.

Table 2. Marital/Fertility Status of ALCOSA Women Workers (percent)

Category	1985 Data			1980 Data
	1980 Veterans (n=15)	Newer Group (n=15)	Total (n=30)	(n=42)
Married, w/children	47	20	33	21
Single, no children	7	53	30	39
Single, widowed, divorced, w/children				40
Single	27	7	17	
Divorced	13	7	10	
Widowed	6	13	10	
Total	100	100	100	100

Table 2 shows that of the women who remained with ALCOSA (the "1980 veterans"), a much higher proportion are married: 47 percent versus 21 percent of the Kusterer 1980 sample and 20 percent of the newer 1985 employees. Only 7 percent of the "1980 veterans" remain childless. Significantly, although these women are reproducing, they are doing so in moderation: 10 of the 15 women have had 13 babies since 1980, but not one woman has more than two children under 5. These "1980 veterans" are young enough to have had considerably more children: they range in age from 25 to 39. (Since the 1985 sample is not random and is quite small, these data may not be generalizable to the full universe in question.)

Two related points should be mentioned. First, the low fertility of these women factory workers is related to the high financial and personal costs to them of children. Of the 21 women in the total 1985 sample who have children, 10 pay for child care (6 to relatives and 4 to employees). In fact, all the women who

gave reasons for not intending to have more children mentioned economic costs as a factor.

The second point is that these women make an income high enough to support their family on their own, if they so choose. They keep independent control of that income (only two newlyweds even pool any part of their income with their husbands.) And their income seems to empower them in their personal relationships with spouses, parents, and children. It also seems to give them more leverage in household decision-making, not only in economic matters, but also in domestic affairs and fertility (see Hypothesis 3).

The economic basis of these women's household power came out repeatedly in the interviews. For example, one 37-year-old woman's common-law husband is an agricultural day laborer who earns very little. She has been with ALCOSA since its beginning in 1975, and three of her four children, ages 7, 4, and 2, are "ALCOSA babies." A servant does the housework and child care. The woman makes well over 75 percent of total family income and pays not only for the household expenses and the servant but also for some of her husband's agricultural expense. However, she gives nothing of her salary to him, controlling it all herself. She feels more independent and self-confident, and receives more respect from her husband, since she has worked for ALCOSA. She also has more power in the household as a result: "One has one's resources and says 'I can buy and do.'" Most tellingly, she now feels superior to the man: "I am superior: I bring in the money and he takes me into account. If wants to do something, he consults me first."

While this women is more blatant in asserting her money-based power than others are, the patterns illustrated by her case are found in much of the sample. Some of the aggregate statistics are presented below.

Work

-- 93 percent of both the "1980 veterans" and the newer employees are "very satisfied or satisfied."

-- 93 percent of the sample want to continue indefinitely with ALCOSA (83 percent even if they have more children).

-- Only one person (3 percent) does all her housework; the others have delegated it to paid or unpaid other women or to their children.

-- Although for the greater part of the year a 72-hour workweek is standard, only 20 percent consider total work load "excessive"; 47 percent find it "supportable"; and 33 percent find it "comfortable." (Total work load includes both ALCOSA and household labor.)

-- Hours worked at ALCOSA are greater than at hours worked their last job in 66 percent of the cases, equal in 24 percent, and less in 19 percent (all of the 19 percent had been domestic servants).

Economic Contribution and Control of Income

-- For none of the women is her income less than 25 percent of total household income; for 23 percent of the women, her income represents 25 to 50 percent of total household income; for 40 percent, her income represents 50 to 75 percent of total household income; and for 37 percent, her income is over 75 percent of total household income.

-- In 83 percent of the cases, the women herself decides how she wants to spend her income, without consulting anyone.

-- Although only 30 percent of the women fail to give part of their income to their parents (66 percent give to their mother), in only two cases of newlyweds did the women pool any of their income with their husbands. All the women with children use their earnings to support them. Thus, even for married women with children, the neoclassical economics single production function model of the household would have been wrong.[1]

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[1]This still-prevalent view of the household as a monolithic entity in which labor, income, and other resources are pooled ignores the empirical reality of power differences among members (male and female, senior and junior) and the fact that members often maintain "separate purses," as was found in this study. According, the concept of the single production function household is coming under increasing criticism by WID authors.

How ALCOSA Income Has Changed the Women's Economic Situation

-- Previous to ALCOSA, 37 percent report, their economic situation was "desperate"; 26 percent report that their economic situation was "difficult"; and 37 percent report that their economic situation was "comfortable."
-- Now, 70 percent have been able to make purchases beyond subsistence-level needs (e.g., furniture, appliances).

-- Overall, 87 percent report that their lives have changed. The change mentioned most often is "increased income," with "greater liberty" mentioned second most often.

-- 87 percent report that their economic situation has improved, and 13 percent state that it has stayed the same; not one person reports decline.

How ALCOSA Income Has Changed the Women's Self-Perception and Perception by Others

-- 82 percent report greater self-confidence than before (in keeping with Hypothesis 5), many offering economic reasons.

-- 80 percent report greater independence, 53 percent giving explicitly economic reasons.

-- 67 percent report receiving greater respect from family members; again, economic reasons are sometimes offered spontaneously.

In the 1980 research, Kusterer found that the women's independence extended to their domestic arrangements: about one-fourth of his sample had changed their household more to their own liking, and only one-fifth of the sample were married. In 1985, 27 percent of the 30 women interviewed were female household heads, but the proportion of "1980 veterans" who were married had risen considerably (to 47 percent from 21 percent).

Is ALCOSA's impact stabilizing or disrupting women's domestic arrangements? Since the statistics presented above are based on a nonrandom sample of only about 11 percent of the current ALCOSA labor force, no inference is possible. Nevertheless, the 1985 data do not support a family disintegration scenario.

In sum, by the standards of women's work in Guatemala, the women of ALCOSA have found a very positive situation. Of the four research sites, this is now the only one that provides direct benefits to women, and the consequences seem, if anything, to be more positive than in 1980. San José Pinula may not be "WID paradise," but the situation of the ALCOSA women interviewed does provide a treasure trove of support for many key WID hypotheses.

5.5 Lessons Learned: A Short Report Card on the "Natural Experiment"

The situation in the four research sites in 1985 proved very different than that in 1980. No longer is there a clear-cut progression that can be labeled "WID effects--from low to high." But much has been learned.

1. In Patzicia, there has been substantial incorporation of women in cultivation. That what was seen in 1980 as such an ingrained "cultural tradition" (of women not working in the fields) was so substantially and rapidly breached must be viewed as significant. Its significance is both positive and negative. On the positive side, it indicates that "the dead hand of tradition" will not long sustain a gender-related practice that has become economically counterproductive. (If it is merely less productive, and the people have enough of a cushion of surplus to tolerate some inefficiency in the name of preserving the comfortable status quo, the gender-related practice probably will survive.) On the negative side, it indicates that, in a society in which women are subordinate, their control of resources and benefits is a fragile thing and may be quickly undermined. Such undermining can come from unplanned or very macro-level economic transformations and trends. Or, as per Hypothesis 8, it can occur as the unintended consequence of institutional policy shifts and choice of project delivery channels (e.g., what happened in Santiago Sacatepequez). But either way, the lesson learned is that the relative position of women vis-à-vis men, work, and resources is much more volatile than is often thought to be the case.

2. Work, per se, can be cashed in for few "WID prizes." Slaves, workers, and peasants have long labored in the major productive activities of their milieu without inheriting the earth or much of anything else. So the women of Patzicia are unlikely to find that their harvesting work brings them much more leverage in major household economic decisions or much more status (vis-à-vis males) in the local community. But work in production does seem to be a first step on an often long and problematic journey

whereby women gain a share in productive resources (or at least that universal solvent, income).

3. The data from all the research sites indicate support for the propositions that women's relative degree of independent control of economic resources and income is more important than "mere work" in affecting their degree of control over their own lives (Hypothesis 4) and seems to affect their family's as well as their own well-being (Hypotheses 3, 5, 6).

Meanwhile, many of the women of Patzicia are working harder than ever before but are justifying it (rather than bemoaning their "double day" load) on the grounds that it should enhance family welfare. Patzicia wives do not complain that their earnings from market selling are lower and their household leverage correspondingly reduced. Rather, the women newly working in the fields, against what was considered immutable cultural tradition in the 1980 study, see themselves as contributing more.

4. Among the lessons learned of Santiago Sacatepequez--where a change in the co-op's payment procedures cut off women's access to direct benefits--is that keeping benefits channelled to an underdog population (ethnic, gender, class) requires a good deal of help and commitment from development administrators and project staff (see Hypotheses 8 and 9). If the underdog population does not have an advocate who can assess the impact of even "mere procedural" changes, its chances of keeping such benefits over time probably are not good. Another danger is that there may well be some outright attempts to coerce those resources out of the hands of the underdog population.

5. The ideal situation is one in which it is in the interest of the non-underdog population to keep certain benefits among the more vulnerable group. In San José Pinula women were hired as the preferred labor force because they were seen as more productive and as more tractable in certain tasks. A WID lesson that remains to be learned is how more "win-win" scenarios can be developed and adopted.

6. In all four research sites, evidence indicated a direct connection between women's independent control of resources and their level of self-confidence, independence, and decision-making power, in keeping with the hypotheses of this study. In the most clear-cut instance of women gaining control of significant income (the ALCOSA plant), they dedicated it to family welfare, while working at high levels of productivity and satisfaction for their employer's benefit.

In summary, it appears that when women create wealth--and benefit from it--the gains extend beyond the women themselves in a widening circle that, if repeated enough, could enhance the course of world development.

6. A SOCIOECONOMIC ASSESSMENT OF THE ARID AND SEMI-ARID LANDS PROJECT IN KENYA

by

Alice Carloni
(Independent Consultant)

Nadine R. Horenstein, Economist
(International Center for Research on Women; at the time of this evaluation, with the Office of Women in Development, A.I.D.)

6.1 Summary

This study examines the Arid and Semi-Arid Lands (ASAL) project in Kenya within the context of the mechanisms and strategies that the Agency for International Development (A.I.D.) has used to implement the 1973 legislative mandate for women in development. The ASAL project was chosen for this evaluation because it illustrates the issue of women's incentives to participate in project activities and represents a successful adaptation to women's seasonal time constraints. The project stemmed directly from U.S. involvement with the Government of Kenya in developing its arid and semiarid areas and aimed to address issues of low productivity caused by degradation of the land and the use of inappropriate farming practices. The project's purpose was to assist the Government of Kenya in its efforts to establish a basis for a national accelerated development program through (1) enhanced administrative, planning, and technical capabilities and (2) testing of an array of activities in soil and water conservation and tillage methods.

The project began in 1979 and was to be implemented over a 4-year period. However, in response to the findings of a 1983 project evaluation indicating a need for reform, the project was refocused to concentrate and expand on district-level activities, while still retaining the major themes of the original project. Greater emphasis was placed on increasing the production and productivity of small farmers, the project's soil and water conservation activities were expanded to include rehabilitation and development of a number of water points, and the extension and education activities were reorganized to provide greater outreach to farmers.

The first phase of the project emphasized preservation of the existing agricultural base rather than increased production. The intended beneficiaries were smallholders who would eventually

adopt the soil and water conservation technologies. Members of self-help (mwethya) groups, mainly women, who were already organized and performing many of the soil and water conservation activities in the project area, were also expected to benefit from paid employment and from increased access to resources.

With greater emphasis on activities in Kitui District under the second phase of the project, mwethya groups became the natural vehicle for channeling inputs, training, and technical guidance. Thus the mwethya groups formed the base for project implementation. Nearly all project activities are carried out by the groups without cash compensation. Their labor contribution is critical to the project's expected outputs and to the self-sustainability of the project. The groups represent both the participant and beneficiary populations. Overall, it is estimated that the project currently reaches about 60 percent of the total 2,768 registered mwethya groups active within the project area.

In general, the ASAL project appears to be achieving the objectives of the second phase. Of the activities undertaken thus far, two stand out for their achievements and impact: (1) soil and water conservation and (2) water development activities. The number of workdays contributed by mwethya groups to soil conservation activities has already exceeded the target. A large number of tools have been distributed, and many small projects have been completed. Adult education classes have increased substantially as a result of activities in the project's community education and training component.

Several important lessons have emerged regarding the importance of gender analysis to project success and project impact. In summary, these are as follows:

1. Awareness of gender roles in the farming system. In the original Project Paper, lack of awareness of the gender-based division of labor was symptomatic of a general disregard of the target group and the farming system. Subsequent to a 1983 evaluation, more specifically focused district-level activities were developed that were more responsive to the farming system in general and to gender issues in particular.

2. Awareness of women's seasonal labor constraints. Because the women members of mwethya groups have many competing demands on their time, labor constraints are a potential problem. The project's willingness to organize soil and water conservation activities so they did not interfere with women's work in the fields was a critical factor in achieving the targets.

3. Awareness of gender-specific incentives. Women are motivated to supply labor for the construction of water points

because they benefit directly from the time savings; they build and maintain terraces because they are responsible for growing food for the family. These incentives explain women's willingness to supply labor without cash compensation.

4. Awareness of gender differences in access to delivery systems. The discovery that innovations introduced through the training and visitation extension system were not spreading from contact farmers to follow-up farmers led to the reorientation of extension delivery systems. Mwethya groups are now regarded as a convenient vehicle for delivery of extension services and a wide array of other agricultural information and training.

This study views the mwethya groups' participation in and benefit from the project as a good illustration of adaptation and reorientation during project implementation. Although the mwethya groups did not figure prominently in the project design, they have become central to successful project implementation. The project recognized the crucial role of the groups as both participants and beneficiaries and was able to successfully adapt many of its components to the groups' incentive structure and constraints.

6.2 Introduction

The Agency for International Development (A.I.D.)-funded Arid and Semi-Arid Lands (ASAL) project in Kenya was chosen for study because of its successful adaptation to women's seasonal time constraints and because it illustrates the importance of incentives for women to participate in project activities. The evaluation team members used a rapid reconnaissance methodology in the field, including interviews with project staff, participants, and beneficiaries. Open-ended questionnaires were used to collect the most relevant information.

6.2.1 Country Context

According to the most recent Country Development Strategy Statement, Kenya's national objectives have remained substantially unchanged since its independence in 1964. Growth, equity, and the consolidation of indigenous control are the core of the Government's policies and programs. Recently, however, economic difficulty has constrained the achievement of these objectives.

Although it is one of the most stable countries in Sub-Saharan Africa, Kenya currently faces some serious imbalances between the demands of a rapidly growing population and the abil-

ity of the system to respond to them. The 4-percent annual population growth rate means that a large part of the population is young. Financial resources are scarce, and the surge of these young people into the labor force puts pressures on education and training services, employment, social services, and land ownership.

Some 85 percent of the population is rural, and the great majority are small landholders. With the increased subdivision of holdings, per capita availability of high- and medium-potential land fell from .83 hectares in 1962 to .42 hectares in 1980. Nevertheless, the economy remains dominated by the agricultural sector, which accounts for one-third of gross domestic product (GDP), one-third of inputs into manufacturing, two-thirds of the labor force, and seven-tenths of nonpetroleum exports.

Kenya has six ecological or agroclimatic zones based on rainfall and moisture indices. The arid and semiarid zones in which the ASAL project is located receive from 200 to 800 millimeters of rain annually. In general, the arid and semiarid areas are characterized by severe natural resource limitations, rising population pressures, and inadequate management of the existing resource base.

Almost all the land in Kitui District in the Eastern Province of Kenya is of medium or low potential. The district is populated primarily by Kamba people, who combine agricultural production with livestock raising. Customary work parties are a common feature of Kamba society and provide mutual assistance in a variety of activities. The district has a high incidence of male outmigration, and agricultural production has been limited by the unavailability of sufficient labor.

6.3 Project Design and Gender Issues

6.3.1 Project Design

In 1978, a Government of Kenya interministerial task force began work on a document entitled Arid and Semi-Arid Lands Development in Kenya: The Framework for Implementation, Program Planning and Evaluation, which outlined the objectives, strategy, and organization for implementing the Government's development program in the arid and semiarid zones. The United States became involved in the planning process by funding the Pre-Investment Study, which presented the situation and prospects for the development of the people and the land. The ASAL project stemmed directly from that involvement, and its goal was to address is-

sues of low productivity due to degradation of the land base and the use of inappropriate farming practices.

As originally conceived, the ASAL project was intended to (1) address problems at the national level through planning and data collection and at the district level through pilot activities in Kitui District, (2) establish a basis for launching an accelerated development program in all the arid and semiarid zones, and (3) improve and preserve the agricultural production base in portions of Kitui District. The project was to be implemented between 1979 and 1983; life-of-project funding from A.I.D. and the Government of Kenya was $20.1 million.

Project start-up was greatly delayed, however. Actual fieldwork did not begin until 1982. An evaluation in April 1983 indicated the need to refocus several of the project's interventions. For the purposes of this assessment, the project period before 1983 is identified as Phase I, and the period after 1983 as Phase II. Some of the differences between the two phases illustrate the importance of gender analysis and the corresponding adaptation of project design; they are discussed more fully below.

Project Goals and Objectives. As was originally stated in the Project Paper, the ASAL project was to assist Kenya in its efforts to establish a basis for a national accelerated development program in arid and semiarid lands through (1) enhanced administrative planning and technical capabilities and (2) testing of an array of activities in soil and water conservation and tillage methods. The project was also meant to assist Kenya to improve the agricultural production base in portions of Kitui District. The overall goal of the project was to raise the standard of living of small farmers and pastoralists living in four divisions of Kitui District. Assistance was to be provided for the following three basic components:

1. Planning and administration: To strengthen national and district planning and administrative capacity for the arid and semiarid lands.

2. Data collection and analysis: To gather information for project planning, monitoring, and evaluation.

3. Soil and water conservation: To test new techniques of soil moisture conservation, including techniques of afforestation and tillage. Training in conservation techniques was to be provided.

Project Revision. In 1983, increasing economic and financial pressures on the Government led to the recognition that the

ambitious development plans for the arid and semiarid lands would have to be scaled down. The revised project is essentially divided into the following components: soil conservation; water conservation and development; crop development; range management and honey production; and extension, training, and adult education.

The principal changes in emphasis that were incorporated in the revised project include the following:

-- Substantially reduced assistance to the national-level ASAL project planning component

-- Expansion of the water conservation component to include water-point rehabilitation and development of new water points

-- Expansion of range conservation activities to include more direct participation in range management, livestock production, and marketing

-- Reorganization of the project's extension and education approach to provide greater outreach to farmers

-- Increased support by A.I.D. of recurrent and selected capital costs

-- Involvement of mwethya labor, which is a valuable in-kind contribution but does not actually represent a budget outlay because the groups do not receive payment

-- Identification of mwethya group members as a source of labor for project works (but not as beneficiaries)

6.3.2 Gender Issues

Women in Kitui District are the backbone of the rural economy. Approximately 40 percent of the households in the district are headed by women. It is also estimated that 60 percent of the farms are managed solely by women. At any given time, 40 percent of the men of working age are absent from the district. In times of drought, the emigration rate climbs sharply (a 1983 baseline socioeconomic survey found 60 percent of the adult males absent from a village studied).

Gender Roles in Production. According to the traditional system, women do not inherit land; they acquire land-use rights through their husbands. Adjudication of land formerly held under

customary tenure has led to registration of ownership exclusively in the husband's name.

According to custom, men clear fields, plow, tend livestock, and spread manure. Women are responsible for selecting seed, planting, hoeing, weeding, harvesting, carrying, drying, threshing, winnowing, and storing; they are also responsible for milking cows, gathering firewood, fetching water, grinding grain, and processing and preparing food. Women now participate in all farm operations, and in men's absence, they increasingly clear and plow land and tend cattle.

Of the average 15-hour workday, women spend at least 5 hours fetching water, up to 3 hours cooking, and about 45 minutes gathering firewood, in addition to their agricultural work. Even self-help activities impinge on women's time and often take them away from essential activities at home. Nevertheless, women actively participate because they need the services that self-help provides and because such activities are also social occasions.

Income Streams. Although Kitui District's economic base is agriculture, the main source of economic accumulation is outside agriculture. Farm earnings account for only 26 percent of total household income, whereas off-farm employment (regular and casual) accounts for 31 percent, nonfarm activities account for 25 percent, and remittances account for 18 percent. Seventy percent of the adult men and women in the district engage in off-farm work at some time during the year, and 30 percent of the men have full-time, off-farm work.

Women's main nonfarm and off-farm activities are beer brewing, honey production, pottery making, and basket weaving; working for wages on other farms; selling food and handicrafts; and petty trading. In the poorest households, women's sales of beer, prepared foods, and charcoal are the main source of cash for everyday food purchases. All households buy some food items, and a majority must purchase maize during the period before the main harvest.

Gender Roles in Consumption. Women generate more cash through the sale of baskets than they receive in remittances from migrant husbands and sons. This steady year-round trickle of cash is used to buy food. If a husband lives at home and has a steady job off the farm, he also contributes cash for everyday food expenditures. Otherwise, men's earnings are earmarked for big-ticket items such as school fees. Women without husbands earn cash for school fees by selling baskets and working for

wages on other households' farms. Husband and wife have separate nonpooled income streams.

Socioeconomic Characteristics of Mwethya Groups. There are approximately 3,500 active mwethya groups in Kitui District (as registered with the district office of the Ministry of Culture and Social Services). Membership in the groups is 90 percent female, although both women and men are leaders. The groups have from 15 to 50 members; all have a chairperson, a secretary, and a treasurer elected by the members. There is no particular term of leadership and little turnover of membership. Some groups were established in the 1960s, others more recently.

Although the structure of each mwethya group is basically the same, there are differences in work patterns, timing of labor inputs, monetary contributions, work quotas, and sanctioning of members. The groups usually work 1 to 2 days per week on communal activities. Where several groups have formed a larger group for a particular purpose, some time is devoted to the activities of both the smaller and the larger groups. Group members contribute regular monthly cash payments or contribute for a particular purpose, such as replastering a rock catchment. The groups often have a credit system that allows members to borrow from contributions, on a rotating basis, for a particular purpose. Some groups also have a "treasury" to help group members in need. Reportedly about half the groups have bank accounts.

Recognition of the Role of Women. A review of project documents shows that women's roles were recognized in the early stages of ASAL project identification and design. The Pre-Investment Study included 10 reports covering the current status and future prospects of the people and the land in the arid and semiarid zones. Several of the reports included information on women's roles in the farming system and on their participation in mwethya groups.

The social soundness analysis for the original Project Paper included a section on the role of women in Kitui District and on the characteristics of mwethya groups in the project area. This section recognized the high percentage of woman-managed farms due to male outmigration. It also noted that women were being forced to add to their own responsibilities tasks formerly performed by men, leaving little extra time in the day.

This recognition of women's roles did influence project design. For example, the social soundness analysis recommended several special features to improve outreach to women, including cash payment to self-help groups as an incentive for them to provide labor year-round; recruitment of women to work as project

soil conservation assistants; recruitment of women professionals for participant training abroad; and a request for a sociologist to periodically assist the project.

None of these recommendations was actually implemented; however, in the course of project implementation, other modifications were introduced in project institutions and delivery systems that did have a positive impact on women. These included the following:

-- Modification of the timing of soil conservation works to fit the mwethya groups' schedule

-- Modification of extension delivery from a contact-farmer to a group approach

-- Involvement of the Ministry of Culture and Social Services

-- Experimentation with labor-saving devices for weeding and sorghum dehulling

-- Incorporation of a domestic water supply component

It is noteworthy that none of these modifications was introduced specifically to help women; rather, they were introduced to increase efficiency.

Assumptions Concerning Women's Participation. The project design included several implicit assumptions concerning women, including the following: (1) women are relevant to the project strategy mainly as contributors of self-help labor; (2) the project is neutral concerning the gender of farmers; (3) the extension system will be equally effective in reaching male and female, poor and wealthier farmers; and (4) lack of suitable ox-drawn tillage equipment rather than male migration or women's time constraints is the major cause of late planting and consequent low yields.

One of the interesting aspects of this project is the role of mwethya groups (most of whose members are women) in project implementation. In the original project documentation, the social soundness analysis stressed that the principal actors in project activities would be self-help groups, whereas the Project Paper referred to beneficiaries of the project as smallholder farmers and pastoralists. Basically, the mwethya groups were seen as sources of labor for many of the project's activities, but not as its beneficiaries. The Project Paper originally assumed that cash remuneration would provide the incentive for the mwethya groups' participation in project activities. The social

soundness analysis stated that "while it is not desirable to disrupt the traditional system of donation of labor to such activities, a year-round labor force will not be forthcoming without a cash incentive."

In the amendment to the project, this approach was modified significantly: mwethya groups were expected to provide their labor input without cash remuneration. There was no discussion of how members would benefit or what incentives would motivate them to participate. A major concern of this study was to discover what motivates mwethya group members to supply their labor at no cost to the project, and what direct benefits accrue to them as a result.

Implications of Gender for Project Success. Eighty percent of the self-help group members expected to provide labor for the soil and water conservation component of the project are women. Because women are the principal farmers in the area of the soil and water conservation component, the success of crop development activities depends on the extension system's outreach to female farmers and the attractiveness of innovations to women.

Water development activities also rely on mwethya group labor for the construction, rehabilitation, and maintenance of water sources. Because women are responsible for fetching water, they are also the main beneficiaries of this component. In the range management and honey production component, women are prominent in apiculture and goat raising, so they contribute mwethya labor for construction of cattle dips. Women are important to the success of the community development and adult education component because mwethya groups are the main vehicle for community development and illiterate women are the main target group for adult education.

The main gender issue facing the project concerns the labor supply for self-help activities. If women are already overburdened with farming and domestic responsibilities, what incentive do they have to supply free labor for project activities?

6.3.4 Project Implementation

At the time this report was written, activities in Kitui District had begun to accelerate. The number of workdays contributed by mwethya groups to soil conservation activities had already exceeded the target, even though work is suspended for 4 months of the year to permit women to tend their own farms. In the crop development component, about two more seasons were required to complete trials before recommendations could be made for adoption and dissemination. At the time of the assessment,

small water projects were progressing well, although projects under Ministry of Water Development tutelage were lagging because of conflict over hired versus self-help labor. Implementation of the honey production component had been slower than anticipated. The number of adult education classes had increased substantially as a result of activities in the community education and training component. Overall, women's participation in project activities had far exceeded the minimum specified in the design.

Soil and Water Conservation and Water Development. A large number of projects have been undertaken in soil and water conservation. At the outset of Phase II, it was anticipated that projects begun in the first phase under the auspices of the Ministry of Agriculture and Livestock Development would be completed, but that no new projects would be initiated. It became apparent to project management, however, that there was a need for continued assistance to small water projects that would not be picked up by the Ministry of Water Development. As a result, the labor input by mwethya groups has been significantly higher than originally estimated. Through their participation in mwethya groups, women provide 80 percent of the labor for terracing and construction of catchments, dams, and wells.

Crop and Nursery Development. Tools, seeds, and training have been provided to mwethya groups. Prototypes for various ox-drawn tools and attachments for soil and water conservation techniques have been completed, and testing is currently under way. It is expected that the implements will be distributed to mwethya groups for testing. Several bulking sites (where new varieties are grown and propagated) have been set up for some locally grown and improved crop varieties. Six mwethya groups have received other assistance in the form of training, improved varieties of fruit trees, and basic tools and equipment. It is estimated that some 25,000 people have received seedlings.

Range Management and Honey Production. The project is assisting in honey production as part of the range management and bush utilization component. Approximately 100 improved beehives have been provided to six mwethya groups to serve as demonstration apiaries. More hives are to be distributed when they are available. Members of groups have also been trained in modern honey production methods.

Extension, Training, and Adult Education. Through the Community Development Office of the Ministry of Culture and Social Services, two training courses for 60 leaders of mwethya groups have been held. The training content has tended to be fairly

general, with a focus on group organizational techniques and leadership skills. The Community Development Office also assists in the organization of water-user groups for water projects of both the Ministry of Agriculture and Livestock Development and the Ministry of Water Development by holding meetings to explain the roles of water-user groups.

Literacy courses are held for mwethya groups through the Adult Education Office of the Ministry of Culture and Social Services. There appears to be an emphasis on making this training as relevant as possible to the lives of the rural women. In addition, various educational materials are being prepared for use by the mwethya groups. It is hoped that through this program the mwethya group members and others will become more aware of their important role in the implementation of the ASAL project.

6.4 Project Analysis

The principal direct beneficiaries of the ASAL project are women. The indirect beneficiaries of the project are the families of mwethya group members who benefit from the increased value of land (through soil conservation, terracing, and afforestation); the increased water supply for human and animal consumption (and possibly better health); and the increased food supply and crop yields (through terracing for better water utilization, crop trials and extension packages, and reduction of labor constraints to production).

6.4.1 Overall Project Beneficiaries

The Ministry of Agriculture and Social Services estimates that, of the 2,768 registered mwethya groups active within the project area, the project is currently reaching about 60 percent. In numerical terms, the greatest outreach is through tool distribution in connection with soil and water conservation activities of the Ministry of Agriculture and Livestock Development.

The number of mwethya groups benefiting from the Ministry of Water Development's water conservation and development and honey production activities is more difficult to estimate. During the life of the ASAL project, the Ministry expects to complete 52 water-related projects. It expects to assist approximately 200 mwethya groups. The ASAL project has received a list of 193 water projects started by mwethya groups that might be assisted. These figures suggest that the project is currently able to sat-

isfy only a fraction of the grassroots demand for water development.

Of all project components, the outreach to mwethya groups is smallest in range management and honey production. Hundreds of groups have registered for beekeeping activities, but at the time of this study the project was currently able to assist only 10 of them. As many groups are registered for goat keeping, but the project had not yet reached them.

The Ministry of Culture and Social Services has trained 120 mwethya group leaders to date. Within the life of the project, a total of 360 group leaders will be trained, representing 13 percent of the 2,768 mwethya groups active in the project area. There appears to be considerable potential for expansion to additional groups in the future.

Similarly, of 150,000 illiterate adults in the project area, the adult education program is able to reach from 9,000 to 12,000 at any one time (or 7 percent of the total). The demand is greater than the supply of teachers, and heavy reliance is currently being put on part-time teachers.

In conclusion, the ASAL project is benefiting a considerable number of mwethya groups but is unable to satisfy the grassroots demand for assistance within the short time allotted for the project.

6.4.2 Soil Conservation: Benefits and Beneficiaries

From the mwethya group members' own perspective, the main benefit they received from terracing is the better use of existing rainwater for crop production. Reduction of soil loss was less important to farmers than improved water supply and increased productivity.

Benefits accrue to the owners of land on which soil conservation works are carried out. The main beneficiaries of the terracing were women, most of whom farm with little or no male assistance. Insofar as terracing and improvement of vegetable cover improve water supply in streams and dams, women are also the main beneficiaries because they spend less time fetching water. Mwethya group members work in rotation on one another's land. All members' farms eventually receive soil conservation treatment.

Sustainability of Benefits. The prospects for sustaining benefits from soil conservation works appear good. Farmers have

a direct interest in maintaining the terraces because they can make better use of runoff water for crop production. Research trials conducted by the project showed a 20-percent increase in yield on terraced land, but farmers' own reports suggested a much greater increase.

6.4.3 Water Conservation and Development: Benefits and Beneficiaries

In Kitui District, one of the main constraints to agricultural production is the difficulty of securing water for domestic use. Site visits to water conservation and development projects revealed that during the dry season, most nearby water sources for both humans and animals dry up. For almost half of the households in the project area, the nearest dry-season water source is more than a 5-mile round trip; those fetching water often must wait an hour or more at the source to fill their jerry cans. Women are therefore forced to spend half the day making a daily trek to fetch water from the nearest dry-season water site, leaving relatively little time for farming.

At the onset of the rains, the timing of agricultural operations is critical, and late planting is the largest single cause of low yields. Just when women should be working full time on the field, they must use valuable time fetching water from distant water points. Until these labor constraints are relieved, women will not have enough time to increase production in agriculture. This alone explains why women are so willing to devote free labor to construct dams and catchments.

Benefits and Beneficiaries. Women's first priority regarding water source is proximity, because the closer the source, the less the time required to fetch the water; their second is reliability. Water quantity is valued above quality. The level of user fees has no effect on preferences.

Interviews with users at various project sites suggest that the greatest impact on labor constraints occurs when a year-round water source is constructed where previously there was none. When users can accomplish the errand in 1 hour instead of 4, time savings can be easily quantified.

The main beneficiaries have been water-user committees composed of several mwethya groups that share a common water source. The project has enabled them to develop their own water resources more efficiently by providing hand tools (for Ministry of Agriculture and Livestock Development projects), cement, and technical advice.

Only men have benefited as paid laborers for Ministry of Water Development projects. (Ministry of Agriculture and Livestock Development projects do not use paid casual labor.) The elected officials of water-user committees are invariably men, although the officials of the single mwethya groups involved in the construction work are women and 80 to 90 percent of the group members are women.

Whatever the gender distribution of water-user committees, women between the ages of 15 and 59 are the principal beneficiaries of water projects because of their responsibility for hauling water. According to the women interviewed, the time they save is used in the fields for the benefit of their family. The benefits of having more and cleaner water accrue to all household members, whereas time savings accrue mainly to women.

Even before the ASAL project, mwethya groups constructed and repaired rock catchments and dams on their own initiative. Instead of charging a regular water-user fee, they collected payments from all households using the water source when materials and labor were needed to seal a leak or to remove siltation. That they did this without project assistance argues strongly for their ability to sustain benefits after the ASAL project ends.

The project is currently testing the use of ox-drawn scoops as an alternative to bulldozers for dam desilting. Several ox-scoops have been distributed to mwethya groups. If successful, this initiative could increase the groups' self-reliance and ability to maintain earthen dams without outside assistance.

6.4.4 Crop Development: Benefits and Beneficiaries

In the original project design, the crop development component emphasized environmental protection through improved tillage and ox-drawn implements. As actually implemented, however, the project has emphasized increased production through increased reliability of yields under low-rainfall conditions. A secondary emphasis has been on reduction of labor constraints inhibiting production. Because of the time required for adaptive research, it will be several years before the benefits of this component are extended to farmers.

The World Bank/International Fund for Agricultural Development extension project has greatly increased the mobility and supervision of agricultural extension workers. However, it has no built-in mechanism for developing appropriate technical packages or multiplying planting material in areas where project research trials and bulking activities can be catalytic.

Although the training and visitation extension system has proven cost-effective in reducing the overhead cost of delivering agricultural extension to large numbers of small farmers, it has been widely criticized for focusing too many resources on the contact farmer to the detriment of other, less well-endowed, farmers. In addition to its bias against the poor, the system has been widely criticized for its bias against female farmers. Contact farmers are almost always selected from households in which the husband is a full-time farmer. Female contact farmers are rare. When extension groups are formed at the beginning of projects, female farmers tend to be left out. In many African countries, even in areas where most men are involved in off-farm work or have left to find work elsewhere, only a small percentage of the members of training and visitation groups are female farmers.

Interviews in Kitui District revealed that 15 percent of the agricultural extension workers in the district are women, but both male and female extension workers concentrate on contact farms where the man is a full-time farmer. These farms are highly anomalous, given that 60 percent of the farms in the district are managed by women, and they tend to be better endowed with land, labor, and cash than are other households, as the ASAL project's farm management survey confirmed. The survey also revealed that the classic training and visitation approach is not effective in its outreach beyond the contact farmers to the average farmers: 79 percent of the contact farmers were visited one or more times during the fortnight preceding the survey, but 52 percent of the follow-up farmers had not attended even one training and visitation demonstration.

This poor turnout led to a decision at the provincial level that, starting next season, mwethya groups will be direct beneficiaries of extension activities. They will cultivate demonstration plots on their own farms and will carry out on-farm trials. This change should greatly reduce the risk that extension recommendations will be suited only to the wealthier farmers. The divisional agricultural officer in Mwungi has already started extension contact directly with mwethya groups on his own initiative. He says that this is the most cost-effective and efficient way of reaching the largest number of farmers with the lowest overhead cost.

6.4.5 Range Management and Honey Production: Benefits and Beneficiaries

Although the income-generating potential of beekeeping appears quite attractive in relation to the low labor input required (one-half hour per day), the actual income generated dur-

ing the first season has been very low. Mwethya groups are the main beneficiaries of the project's apiculture activities. The project initially intended to set up 22 apiculture demonstrations on individual farms; however, mwethya groups were found to be more efficient receiving mechanisms because the groups were more conscientious in their care of hives and more households could be reached through groups at a lower cost per household.

Mwethya groups' willingness to invest their own money to purchase additional improved beehives suggests that project efforts to expand honey production have a strong chance of becoming sustainable. However, the groups' experience suggests that they will need much more training on how to deal with low occupancy, predators, and harvesting before these projects really become income producers.

6.4.6 Extension, Training, and Adult Education: Benefits and Beneficiaries

At the time the project was formulated, there were about 2,700 functioning mwethya groups in the project area. These groups were already involved in soil and water conservation activities entirely on their own initiative. Community development assistants of the Ministry of Culture and Social Services were supporting these activities by registering groups and organizing 1-day training sessions for group leaders. Thus, group mobilization, in itself, cannot be attributed to the project.

The principal contribution of the project has been to intensify the community development assistants' role in linking existing self-help efforts to project resources. This has been achieved by organizing a series of 3-day training courses to inform group leaders about resources available from the project and how to obtain them. Courses include technical advice on terracing and construction of rock catchments and on material inputs such as tools, cement, seedlings, and skilled labor. Leaders learn to keep records of group activities and are encouraged to share their experiences with other groups and to identify common problems.

The direct beneficiaries of leadership training are the leaders of mwethya groups. Although 90 percent of the elected officials of mwethya groups are women, only 52 percent of the participants in Ministry of Agriculture and Social Services workshops for group leaders are women. The 1- to 3-day training program, with food and lodging provided by the project, is reported to have greatly increased the amount of information that the participants are able to assimilate. However, women have difficulty leaving their families and farms for 3 days at a time.

Family responsibilities, lack of time, and lack of money for transport are the most common reasons for women's inability to participate.

Even before the project, adult education courses were organized throughout rural areas by the adult education assistants of the Ministry of Culture and Social Services. Their aim was to teach people to read. As a result of the ASAL project, adult education courses in agriculture, soil and water conservation, goat production, and beekeeping have been introduced for the first time. Mwethya groups serve as the receiving mechanism, and women's participation in the training has greatly increased as a result of the new focus. The classes are held continuously throughout the year, but enrollment fluctuates. At any given time, between 9,000 and 12,000 people are enrolled, all but about 100 of whom are women.

Registration of mwethya groups and training of group leaders should make a major contribution to the sustainability of project benefits in all areas. The training is designed to inform leaders about resources available from the various ministries throughout the ASAL project. Even when the project ends, leaders who have acquired new skills will be better able to link their groups with outside resources.

The strongest need expressed by participants at the workshop for group leaders was for more technical training in soil conservation, goat production, apiculture, crop production, and maintenance of water points. Although these topics were covered briefly in the 5-day training course, leaders still believed that they needed more practical training to be able to assist group members when problems arise. Such training would enable them to resolve minor difficulties themselves rather than to rely on someone from the extension service.

6.5 Lessons Learned

Clearly some important lessons have emerged from the study of the project regarding gender analysis as a factor in project success. Although mwethya groups did not figure prominently in the project design, particularly in Phase I of the project, they have become the centerpiece for project implementation and are vital to the success of the project. The project recognized the crucial role of the mwethya groups as both participants and beneficiaries and was able to successfully adapt many of its components to take into account the groups' incentive structure and constraints. The project provides a good example of adaptation and reorientation during project implementation.

1. Gender Analysis as a Factor in Project Success

-- Awareness of gender roles in the farming system. The original Project Paper showed a lack of awareness of the gender-based division of labor and other characteristics of the target group and the local farming system. Because of many weaknesses, the project had to be redesigned. The new design, which is better adapted to the farming system, is also more sensitive to gender issues.

-- Awareness of women's seasonal labor constraints. Because the women members of mwethya groups have many competing demands on their time, labor constraints are always a potential problem, particularly during the planting seasons. Organizing soil conservation works so that they do not interfere with women's other tasks has been a critical factor in the achievement of targets.

-- Awareness of women's time constraints. Women's involvement in project activities may be constrained by competing demands on their time. For example, it has been difficult for women to attend training courses that were not held close to their homes.

-- Awareness of gender-specific incentives. Even though women are not paid for their labor input, there are specific incentives for them to contribute their labor: they supply labor for construction of water points because of the direct benefit they realize in time savings as a result of easier access to water, and they help to build and maintain terraces because of their responsibility for growing food for their families.

-- Awareness of gender differences in access to delivery systems. The discovery that innovations were not spreading from contact farmers to follow-up farmers led to changes in extension delivery. As soon as extension workers (male and female) began contacting mwethya groups directly, extension efficiency improved. Mwethya groups are now regarded as convenient mechanisms for extension delivery, distribution of planting material, testing of farm implements, afforestation, apiculture, and organization of water-user organizations.

2. Women's Participation as a Factor in Project Success

Virtually all of the project's soil and water conservation works have been built with female self-help labor. The estimated

monetary value of women's self-help labor contribution exceeds $1.8 million.

3. Gender as a Factor in Project Impact

Women farmers plant late because they do not have time to prepare the land during the critical period at the onset of the rains, when half their productive time is occupied with fetching water from dry-season water sources. After heavy rains fill nearby streams, women have more time, but this is too late for optimal planting. Thus, water conservation and development, even for domestic use, can have a positive impact on agriculture.

-- Women's participation in extension as a factor in the spread of improved cropping systems. In a district where 60 percent of the farms are managed by women, direct involvement of mwethya groups in on-farm trials and demonstrations of moisture-conserving tillage practices and drought-resistant varieties is leading to better feedback and increasing the prospects of widespread adoption.

-- Choice of institutions as a factor in project sustainability. Using women's self-help groups as a channel for project inputs and activities has increased the prospects for sustained benefits. By delivering assistance to groups rather than to individuals, the project has reached more people at a lower cost per beneficiary. Supplying materials and technical supervision while local people supply labor has cut recurrent costs. Teaching group leaders how to lay out their own terraces has freed extension workers of the need to visit conservation sites weekly. Organizing mwethya groups into water-user committees has reduced the Government's cost of maintaining water points.

6.5 Recommendations

The assessment of the project activities suggests several concrete recommendations that could positively affect women's participation in and benefit from project activities. Since many activities implemented under the auspices of the project are sustainable and thus likely to be continued once the project itself has ended, these recommendations are targeted to the relevant ministries responsible for implementation of the activities.

1. In setting targets for mwethya labor contributions to water projects, the Ministry of Water Development, in particular, should make allowances for women's other responsibilities by postponing work during women's peak labor periods.

2. Efforts to develop water sources for human and livestock consumption should continue to be given priority. Water is a matter of productivity and not merely social welfare; it is a prerequisite for relieving seasonal labor shortages that affect agriculture.

3. Any remaining funds for training conservation assistants should be allocated to support Ministry of Agriculture and Livestock Development training of mwethya group leaders in terrace design and layout. This measure would reduce the demands on extension workers, minimize transport costs, and greatly increase the groups' autonomy and self-reliance.

4. The Ministry of Water Development should set up a plan showing how it intends to spend the monies allocated for (1) training site inspectors to organize mwethya labor and (2) training water-user committees to assist in constructing and maintaining water resources.

5. The Ministry of Agriculture and Livestock Development should collaborate with the Ministry of Culture and Social Services in designing technical training sessions for mwethya group leaders in goat management and apiculture. Given the small budget of this component, contingency funds could be earmarked for this purpose.

6. In the interest of long-term sustainability of project benefits, resources should be made available to increase the number of training courses for mwethya group leaders as part of Ministry of Culture and Social Services leadership training. Instead of a target of 360 group leaders (13 percent of the total active groups), at least 500 should be trained.

7. Because of the duration of training, many female adult education teachers were forced to bring their infants (and a maid to care for them) with them to project-supported training sessions. The salary of local women to look after the children or the cost of the children's and the maid's meals at the training center should be covered.

8. To reach as many farmers as possible at low cost, planting material from the bulking sites (agriculture, fodder, seedlings) should be distributed through mwethya groups. At a later stage, mwethya groups should be encouraged to engage in off-farm multiplication of improved planting material for distribution to group members.

9. Mwethya groups should be involved in testing ox-drawn weeding implements as early as possible.

10. As soon as the training and visitation system begins to work directly with mwethya groups, a farm management survey should be designed to compare the efficiency of the two delivery systems (i.e., the classic contact and follow-up farmer approach versus direct contact with mwethya groups).

11. After the pilot sorghum dehuller is installed, interviews should be conducted to find out whether women are using the dehuller to process grain for household consumption or for resale only and whether users are the direct producers or intermediaries in the marketing chain. Such interviews will help to determine who benefits from the value added (farmers or intermediaries) and to assess the dehuller's impact as an incentive to expand sorghum production.

12. Statistics on mwethya labor and cash contributions to soil conservation and water projects should be compiled from Ministry of Agriculture and Livestock Development and Ministry of Water Development files. (The Ministry of Water Development maintains a weekly record that also shows changes in stocks of materials.) These should be entered into the computerized reporting system.

13. The Ministry of Culture and Social Services should keep data on how many of the soil and water conservation projects within the four divisions are assisted by the ASAL project and how many are not. From current records it is impossible to assess the proportion of total mwethya activities attributable to the ASAL project.

14. For all projects using self-help labor, the computerized reporting system should record the number of mwethya groups involved and the total membership.

15. Estimates of the total number of beneficiaries should be made for each project and entered into the computerized reporting system.

16. Water-user committees, rather than site inspectors, should be responsible for selecting casual laborers on Ministry of Water Development projects.

17, In accordance with farmers' preferences, tools should continue to be distributed to each mwethya group member.

7. WOMEN-IN-DEVELOPMENT ISSUES IN THE NEPAL RESOURCE CONSERVATION AND UTILIZATION PROJECT

by

Alice A. Davenport
(China Energy Ventures, Inc.)

Tom Nickell, Environment and Energy Specialist
(Consultant)

Bina Pradhan
(President, Center for Women and Development)

7.1 Summary

This study assessed the effectiveness of the integration of gender issues into the Resource Conservation and Utilization Project (RCUP) a 5-year, $32.5 million project initiated to reverse the severe environmental degradation in two river drainage basins in western Nepal.

The history of the project has been one of commitment by the U.S. Agency for International Development (USAID) Mission to encourage women's participation in project activities. The combination of A.I.D. commitment and a national tradition of encouraging women's involvement in development provided a favorable environment for integrating women into RCUP activities. The original project design, however, contained only boilerplate acknowledgment of the needs and roles of rural Nepali women. Noticeable inclusion of women into project design and implementation did not begin until 2 years into the project. Since that time, the Mission has taken several significant steps to address gender issues. Particularly at the district and local levels, the mostly male RCUP personnel exhibit a growing awareness of the varied needs and roles of women (e.g., farmers, cooks, fuel and fodder gatherers) and their importance to RCUP activities. Nevertheless, many project personnel have only a limited awareness of the varied roles of women. They define "women in development" in terms of traditional household roles rather than in terms of roles outside the household or in the agricultural sector.

Although Nepal has a national tradition of voicing encouragement of women's involvement in development, articulated in several 5-year plans which encourage women's participation in national development efforts, there has been only sporadic, ad hoc attention to gender issues within Nepalese Government agencies.

Some implicit socioeconomic assumptions about women's roles that apparently underlay the original RCUP strategy and the evaluation team's findings include the following:

-- Farmers are primarily men. Women are viewed in terms of household roles (cooks, kitchen gardeners, and, by extension, nursery workers). [Women also farm and also leave the home in pursuit of off-farm income.]

   Efforts to involve women in project activities have sometimes been hampered by a tendency to confuse the traditional norms governing the role of women and their actual roles. A Nepalese woman's economic and social roles are often shaped by access to productive agricultural land. If the land can support her family, a woman is more likely to stay in her village and work in the fields and at home. If the land cannot support her family, a woman will look for off-farm employment, sometimes far from home. Traditional beliefs that Nepalese women are limited to village or domestic roles represent a cultural ideal, but they do not reflect reality for many Nepalese women who are economically active in the agricultural, trade, or service sectors.

-- Providing project technology or information to male heads of household will benefit women as part of the household through a trickle-down effect. [No evidence to date to verify or question this assumption.]

-- Male heads of household clearly understand and articulate women's needs for goods or services in project areas. [No evidence to verify or question this assumption.]

-- Using the village government system will enable project benefits to reach the greatest number of people, including women and the poor. [We found this assumption to be false: project benefits tend to benefit the relatively wealthy.]

-- The gender of the decision-maker is not necessarily the key factor in generating decisions that optimally benefit both men and women. For example, in Nepal the important concern is to have well-trained, technically proficient extension agents, whether male or female, who are motivated to reach out to women. It is not enough to simply put female extension agents in the field; they must also understand the importance of reaching women and, more important, try to do so. The extension organization must give both men and women extension agents specific

directives and encouragement to reach out to female beneficiaries.

-- It is very difficult for male extension agents to reach women because women are often restricted in their interaction with men outside the family. Women have less freedom of movement than do men. [These assumptions may be true in many, but not all, cases. The knowledge and personality of the extension agent are critically important, as is the size and dispersion of the target with which he or she is working.]

-- It is more effective to train married women than single women. Training single women does not benefit the area because they move away from their natal villages when they marry. [This assumption unnecessarily narrows the possibilities for involving women.]

-- RCUP capital construction projects (staff offices and housing) will enhance the project area resource base and help attract professionals to the project area. [The validity of this assumption will be proved or disproved in time.]

-- Agricultural demonstrations will have a spread effect, and the new crops introduced through demonstration plots and the distribution of agricultural minikits will increase production and lessen the pressure on the land. [This assumption will be proved or disproved in time.]

-- Residents of the project areas are aware of the need to conserve natural resources. [If they are, then adoption of project innovations will be enhanced and sustainability will be much more likely.]

Although some of the project personnel have come to recognize the importance of gender issues in RCUP agricultural activities, they do not clearly understand the importance of such issues in forestry. Local project decision-making is another area in which gender awareness has not yet been translated into effective efforts to ensure women's full participation.

A clear understanding of women's roles and the ways these roles influence project implementation is especially important for project activities involving the poorest women, who often perform many activities not prescribed by a cultural ideal.

Gender-specific data are needed to understand the roles of both men and women. Some gender-disaggregated village-level data are now available, but they have not been incorporated into the reports and

documents that percolate through the various bureaucracies. Targeting women as project beneficiaries only indirectly as members of households does not ensure that they will receive project benefits. In fact, "household" targeting may increase the likelihood that gender issues will be ignored in project implementation. Without gender-specific data, project planners often assume that men's and women's development needs are identical and that if men receive project benefits, so do women. In the RCUP project, focusing on women's household activities has led to a limited or erroneous understanding of the dynamics of resource use among men and women on a nonhousehold level (agricultural land use, management of foraging animals). For the project to fully benefit Nepalese women and for Nepal to benefit from women's contributions to efficient and sustained development efforts, there must be an understanding of women's social and economic roles and the ways in which these roles complement those of men.

7.2 Introduction

A.I.D.'s program in Nepal is oriented toward the problems of a largely rural society. According to the FY 1986 Country Development Strategy Statement for Nepal, the central theme for A.I.D.'s assistance strategy is balanced development of the fertile Terai region to the south and of the less productive hill region. Efforts to address urban problems and identify urban trends are only a small part of the total program. Specific development objectives in Nepal are to increase rural productivity and income levels, broaden access to basic social services, and improve natural resource management. There are no projects oriented specifically toward women; however, Mission policy is to consider the effects of gender-specific roles on project outcomes.

The Resource Conservation and Utilization Project (RCUP) was chosen for this field study because it offered an opportunity to examine gender issues in a variety of activities related to natural resource conservation and use. It was designed as a 5-year initiative (1980-1985) and was originally envisioned as the first phase of a 15-year project to address the severe environmental degradation found in two river drainage basins in western Nepal.

The RCUP organization and its U.S. contractor, the South-East Consortium for International Development, act as project coordinators. Project activities are carried out through a complex interorganizational management system involving 11 Nepalese Government agencies, including the Departments of Agriculture and Forestry and the Ministry of Panchayat (village councils) and Local Development.

In addition, the Government of Nepal has recently instituted a Women Development Officer program. In the project districts, the women development officers are funded through RCUP, and their responsibilities include project activities. These women development officers are assisted by women workers, who carry out field training programs. Early efforts by the project to involve women have included providing training support for women development officers, setting admission targets and providing stipends for women students at the Institute of Renewable and Natural Resources, and operating kitchen garden and cookstove information and dissemination programs. During 1985-1988, as the project expands its focus to include more village women in more project activities, data on women's participation, project impact on women, and women's impact on community activities will be gathered with the help of the women development officers.

7.2.1 Project Setting

The Kingdom of Nepal is a landlocked Asian nation of 145,391 square kilometers (56,136 square miles). The country has three distinct topographical regions, running from east to west. Within its borders, the altitude drops from the high peaks of the Himalayas to nearly sea level on the plains along the Indian border. This rapid decrease in elevation from north to south gives Nepal some of the greatest hydropower potential in the world. It also presents formidable difficulties in travel from east to west. It is estimated that 35 percent of Nepal's population must walk for 3 days to reach a motorable road.

Socioeconomic Conditions. The Nepalese are ethnically and culturally diverse. The predominantly Hindu people of the Terai area on the Indian border constitute almost one-third of the national population and are physically and culturally similar to the Indo-Aryan people of northern India. In contrast, the people on Nepal's sparsely populated northern border are closely related to Tibetans in appearance and culture.

The World Bank has classified Nepal as the fifth-poorest country in the world. In 1983, per capita income was about $150 per year, only 35 perc of the adult population was literate, and life expectancy was 44 years. Ninety-three percent of the work force is engaged primarily in agriculture, and only about 2 percent is engaged in industry.

About 95 percent of households in Nepal are rural, with an average family size of six persons per household. Small farm, marginal farm, and landless households are 74 percent of the total. The 1977 National Planning Commission Study showed that the land

farmed per household was very low, averaging 1.14 hectares for Nepal as a whole.

More than half the economy is nonmonetized. According to the 1980 A.I.D.-sponsored study, "Status of Women in Nepal," only 20 percent of rural household income is derived from the monetized market sector. Family farm activities account for 80 percent of rural household income.

Political Setting. Nepal is a monarchy, and its system of government, the panchayat, is based on the traditional Nepalese village council. The panchayat is the channel through which Government policy is implemented.

Women's participation in public life in Nepal dates from 1913, when women began to take an active role to bring about social and political change. In the decades that followed, several organizations represented women's interests and functioned as offshoots of different political parties. In 1961, women organized the Nepal Women's Organization, which absorbed these various women's organizations.

Women's Training Centers and the Women's Development Section. As early as the 1950s, the Government of Nepal made efforts to improve the living conditions of the rural people. The Women's Development Section of the Ministry of Panchayat and Local Development was established in 1979 during the Decade of Women, when the Ministry realized that building an infrastructure for rural development required integrating women's needs into the overall planning and implementation activities of the Ministry. Since its inception, the Women's Development Section has initiated and carried out numerous programs for women, such as production credit programs for rural women supported by UNICEF, a vegetable-growing and pickle-making project through the Panchayat Development Training Institute, a hosiery project in cooperation with the Women's Training Center, and a goat-raising project initiated through local committees.

?PCRW,? implemented in 1982 under the Women's Development Section of the Ministry of Panchayat and Local Development and supported by RCUP, is the largest program for women and aims to increase the number of Women Development Officers in the districts. The goal is to recruit one women development officer for each of the 75 districts, where they will be assisted by women workers. The women development officers are to work in teams with branch bank managers, bank field assistants, and volunteers from the Peace Corps, Dutch Volunteers, and the British Voluntary Student Organization to implement project activities that will help rural women identify and plan income-generation projects, secure the necessary

credit and inputs, assess basic community needs related to women and children, and organize women into community development groups.

7.3 Project Design, Implementation, and Gender Issues

7.3.1 Project Design

Project activities are intended to assist the Government of Nepal to reverse environmental degradation and to restore the soil, water, and plant resource base for Nepal's predominantly rural population. These activities are expected to help Nepal's rural residents achieve an improved standard of living through increased agricultural production, enhanced nutrition, and increased employment opportunities. Project activities currently include resource inventory and monitoring; watershed management and soil conservation; forest management; range/pasture management; livestock stall-feeding programs; extension work in priority fields (forestry, range/pasture, soil conservation); technical field support; construction of project offices and staff housing; and professional training at the Institute of Renewable and Natural Resources.

Progress to date has been slowest in forestry activities. The team observed substantial activities in the RCUP building construction projects and in soil conservation (gully control and trail improvements). Government agencies have been active in such activities as distributing cookstoves and agricultural minikits, constructing fishponds and water schemes, and setting up a biogas generator.

The team observed many local people engaged in project-related activities. Much of this work was paid labor (building construction, trail improvement); other activities, such as water projects, fishpond construction, or agricultural minikit distribution, were, in effect, Government handouts. As a result, local people often view RCUP as a source of temporary (although valued) opportunities for wage labor and as a provider of capital projects or technology for the maintenance or repair of which the villagers bear no responsibility. For example, residents of one village in the Myagdi District had not assumed responsibility for repair and maintenance of water project equipment. In Gorkha, a project fishpond had dried up because the villagers chose to use the available water for crop irrigation rather than to maintain the fishpond.

7.3.2 Gender Issues

The social and economic roles of Nepalese men and women are extremely varied, reflecting the ethnic and cultural diversity of Nepal's population. For example, the Thakali women on the Tibetan border are traditional businesswomen who run lodges and invest the family money, and they have acquired a reputation as superior money managers. In contrast, Hindu women--particularly of the conservative Brahmin and Chetri castes--are not as free in their actions. The Hindu cultural ideal calls for women to stay in the protected home environment. Where it is economically possible, Hindu women tend to follow this pattern.

However, recent research indicates that among all ethnic groups and castes throughout Nepal, the agricultural productivity of the land most strongly determines women's economic roles. That is, if the land can support her family, the woman is more likely to stay in her village to work in the fields and at home. If the land cannot support her family, the woman looks for off-farm employment, sometimes far from home.

The Role of Women in Production. Because the average landholding is so small (1.14 hectares per household), many men and women must seek off-farm employment to survive. Nepalese men from the hill and mountain regions migrate to the southern Terai area seeking work. Other men leave Nepal to work in India as domestics, guards, or traders. Women may accompany their husbands to India, but it is very uncommon for a woman to go alone outside Nepal to seek work.

Within Nepal, however, the situation is markedly different. The 1981 census showed that 53 percent of all internal migrants in Nepal are women. Some of this movement is probably due to brides moving to their husbands' villages. But from the evaluation team's observations, it seems likely that many of these female migrants are seeking work away from their homes. In the Gorkha District, for example, the team spoke with a woman of the untouchable caste whose land was insufficient to support her family. To supplement the family income, she and her 13-year-old daughter regularly did portering work, which sometimes took them away from home for days at a time. In the more remote Myagdi District, the team was told that at least half of the lower caste women in the area seek employment outside the home--usually portering or construction work. Some of these women travel as far as 45 miles over difficult mountain trails to find work. Also in the Myagdi District, the evaluation team talked with some young women who were part of a work group from a village located several days' walk from the RCUP construction site. The women said they had come for the same reason as the men and boys--to earn money.

Land titles are held by men, but because women do much of the agricultural work in Nepal, men and women often share in decision-making on farm operations. Animals are considered household property, and women share in the decisions regarding livestock. In areas along the Tibetan border, some Nepalese women are active in such commercial enterprises as running lodges and hotels; other women sell fruits or vegetables where markets exist.

Generally, men do construction work and heavier agricultural labor, such as building and maintaining terraces, herding large animals, plowing, and milking. Women typically perform the agricultural tasks of planting, seeding, weeding, harvesting, and storing; this is in addition to their household work of caring for children, cooking, cleaning, and gathering fuel, fodder, and water.

Gender Patterns of Consumption. Gender-related economic consumption patterns are less obvious than production patterns. In general, Nepalese women are likely to be responsible for children's food, clothing, and educational needs, and for funds for capital investments (buying additional land). However, the lines of responsibility in Nepal are not drawn as clearly by gender as they are, for instance, in some African countries. Furthermore, the patterns of gender-based household economic consumption vary among ethnic groups. Thakali women, for example, have considerable control over household finances.

It cannot be assumed, however, that Nepalese women share equally with men in the consumption of resources. In Nepalese households, it is common practice for women to eat after the men and children. This widespread practice is based on the Hindu tradition that a woman's most important duty is to serve her family, placing its well-being above her own. As a day-to-day practice, this could negatively affect women's nutritional intake, particularly that of women belonging to poor households with inadequate daily food supplies.

7.4 Project Analysis

7.4.1 Recognition of Gender Issues and the Role of Women

After a review of project documents, direct observations, and interviews with personnel from USAID/Nepal, the South-East Consortium for International Development, and the Government of Nepal, the evaluation team believes that there has been considerable progress over the past 5 years in the recognition of gender issues in the project. But much remains to be done.

Although the original 1980 RCUP Project Paper did recognize the relationship between women's various roles and project success, it did not discuss these roles in much detail nor did it define clear strategies or mechanisms to ensure that women's activities would be recognized and incorporated into implementation efforts. By sponsoring publication of the Status of Women in Nepal series in 1979 and 1981, A.I.D. demonstrated an awareness of the need for gender-disaggregated data. This series made available detailed data on the status of women. However, there is little evidence in the Project Paper that this information was used during the planning process.

Five years after commencemnt of project activities, many RCUP personnel still had only limited awareness of the varied roles of women and defined "women in development" in terms of traditional household roles (cooks and kitchen gardeners) or of highly visible nontraditional roles (female students at the Institute or female social scientists working for the project). If project personnel were aware of the broader scope of women's activities, they did not indicate this awareness, despite the evaluation team's efforts to include women's other roles in their discussions.

The evaluation team was more encouraged, however, in discussions with male district- and local-level Government agency officials, such as district agricultural development officers and local junior technicians. Several of these men had come to recognize the major role that Nepalese women play in agriculture and had concluded that to do their job properly they must reach women. Furthermore, they believed that focusing on men in agricultural extension efforts is often not as efficient or effective as focusing on women. One officer commented, "With the men I cannot guarantee [results]. Of 100 men trained maybe 50 will keep trying project techniques." He added, "Women are very disciplined and have more sincerity [in learning and applying new technologies]." In his experience, the success of demonstration plots was much greater for women trainees than for men.

There was a continued lack of understanding of women's roles outside the agricultural sector or the household (in commerce or portering work), or of the ways these roles might influence project implementation. Such understanding is especially important for project activities with the poorest women, who often seek employment off the farm and who thus perform many additional activities not prescribed by a cultural ideal that calls for women to stay in a protected home environment.

7.4.2 Accommodating Project Design to Women

Project Delivery Systems and Institutions. Since their inception, the project training programs have made decided efforts to include women. The Institute of Renewable and Natural Resources instituted a minimum 10-percent quota for female enrollment to ensure that women are actively recruited. Because families traditionally use their limited funds to subsidize boys' education, the project has provided special funds to sponsor female students. Also, it has taken special care to provide female students with separate living quarters and a female dormitory supervisor.

However, female applicants have not been allowed to compete equally with male applicants for admission, thus keeping some qualified women from attending the Institute. The quota has been valuable in countering male resistance to the training of female resource managers, but unfortunately, it has been viewed more as an upper limit for female admissions than as the minimum acceptable level.

A significant and innovative program that may have profound effects on the project delivery system is the Women Development Officer program, the goal of which is to place one women development officer in each of Nepal's 75 districts by 1995. These officers will help village women assess their needs and organize self-help efforts (e.g., production credit programs) to address them. The development target for this program is the village household, which will be approached through efforts directed at the women of the household. Project activities will be only one part of the wider Women Development Officer program.

This program is based on the belief that female officers will have a better understanding of village women's needs and will be better advocates for the development process. These officers are college-educated women, over half of whom have postgraduate training. At the time of this study, three had already been placed in the districts. Initially, Women Development Officers will work at the village level, familiarizing themselves with the area and building rapport with the people. In the RCUP project areas, they will move to district-level responsibilities as a cadre of women workers and chief women workers will have been trained and available to work at the village level. The Women Worker program, begun 25 years ago to help educate villagers about the new panchayat political system and to facilitate development activities, now has 210 women workers. Plans call for a total of 2,000 by 1990. If implemented as planned, these cadres of trained, dedicated workers can make a substantial contribution to the RCUP project and to other development efforts in Nepal.

Provisions for Participation by Village Women. The women on the Panchayat Conservation Committee are usually the heads of local committees of the national Nepal Women's Organization. The RCUP is now encouraging the addition of at least one more woman member to each Panchayat Committee in the belief that two women would encourage each other to speak out and that an additional woman would provide broader village representation.

There have been other efforts to ensure women's participation at the local level. In one project area in the Myagdi District, a Women's Services Coordination Committee was formed to publicize and explain project activities to female villagers. This group included at least one woman from each of the nine wards (panchayat subdivisions). Efforts also are being made in RCUP areas to include more women in agricultural training sessions. To date such sessions have consisted primarily of women-only kitchen garden training, but there is a growing awareness that women would benefit from a broad range of agricultural training.

7.4.3 Project Constraints

One major problem with the project's delivery system is its heavy reliance on the panchayat as a conduit for delivery of information and services to villagers. Because the panchayats are controlled by the local elite, project benefits frequently go to wealthier villagers with political influence within the panchayat. In addition, the pervasive influence of the local elite in the panchayat structure means that women active in project extension work and female members of Panchayat Conservation Committees are often close relatives of male village leaders. Although these women may be better educated and more articulate than other women in the village, and thus probably well-qualified as well, their strong ties to the local power structure contribute to the politicization of project activities at the local level and do little to ensure that village women as a whole are considered in project decisions.

Project user groups were designed to ensure broad village involvement (including women's involvement) in project activities and were intended to be sustainable, self-reliant organizations. It is not clear that existing groups have reached these goals. In fact, a woman member of a water-user group in the Myagdi District told the team that the user group met regularly but did nothing. When asked why she took part in such a group, the woman member said, "The pradhan panch [village leader] told me to."

7.4.4 Impact on the Status of Women

The major contribution of the project to the status of women has been an increased awareness and acceptance of professional women. The Institute of Renewable and Natural Resources has made a strong effort to include women as students. The female students have done well, and although problems remain, the all-male teaching and administrative staff now seems more prepared to accept women as professional foresters.

Another profession opening up to Nepalese women is that of local agricultural assistant. However, the evaluation team found progress in this area to be uneven. Furthermore, women agricultural assistants tended to be from the more privileged classes.

The newly hired women development officers and their women worker assistants offer the greatest promise for raising the status of women at the village level. They will provide role models as involved, educated women. In addition, they will identify women villagers with leadership potential to be trained as women workers and to serve as role models for other village women.

The evaluation team found that married and unmarried women are affected differently by the project activities (although, given the nature of Nepalese society, most women eventually marry). Government officers were resistant to training unmarried women. One agricultural development officer said he had trained a group of unmarried women who then all moved out of the district when they married.

7.4.5 Sensitizing Project Staff to Gender Issues

Although the Institute of Renewable and Natural Resources has made efforts to recruit female students, and although these women are changing the traditional views of women's roles by their very presence at the school, a continuing effort, such as that made by the RCUP social scientists in the past 2 years, is needed to sensitize the Institute's male teachers and students to gender issues. Producing a quota of female foresters is useful, but it is even more valuable to produce a cadre of male and female foresters with a sensitivity to and appreciation of gender roles in the interrelated areas of agriculture, animal care, and forestry.

As was mentioned earlier in this report, the evaluation team spoke with several experienced district- and local-level officials who had independently concluded that reaching women was vitally important to fulfilling their professional responsibilities. Other

officials, however, continued to define women's issues in the project solely in terms of traditional household roles or highly visible nontraditional roles.

7.4.6 Project Effects on the Workload and Income of Women

The evaluation team found little indication of positive changes in women's work load, income, or returns to labor as a direct result of project activities at this time. Women work as paid laborers on project activities, but their wages are almost invariably lower than those of male laborers. Because female laborers continue to be responsible for many traditional household tasks, their work load remains the same. They have merely substituted construction work for traditional work in the fields. Both men and women find it difficult to save money while doing such work and may return home as poor as when they set out.

Women as well as men benefit from the project by receiving free plants from project nurseries (e.g., vegetables, fodder, and fruit tree saplings). Because women do most of the agricultural work, having access to superior drought- or pest-resistant plant varieties is of special benefit to them and helps increase their returns.

The evaluation team was told that the project biogas plant in Gorkha substantially reduced the time needed for seed grinding, hulling, and oil extraction, which is done by women. But the district also had a water mill that provided the same time-saving services for far less cost. Because women preferred to use the water mill, the biogas plant had difficulty meeting its operating expenses during the wet season, when the water mill was in operation.

Other project activities may have improved women's nutrition and health. When women actually use the improved cookstoves, they inhale less smoke and may suffer fewer respiratory problems. However, women do not find the stoves convenient enough to use for all their cooking needs. The kitchen garden training in the Gorkha District included lessons in cooking chapatis (wheat pancakes); because wheat had been introduced into this area only 4 or 5 years previously, many women did not know how to cook with it.

7.5 Lessons Learned

1. The team found that although a Nepalese cultural ideal, particularly in Hindu households, is for women to lead a protected life within the confines of the family, economic necessity pulls many women away from home in search of work. This has

implications for the project, because although project planners often assume that women cannot leave home for training or other project activities, many women are, in fact, quite mobile.

2. It has been assumed that male extension agents cannot talk with women villagers because of social sanctions against women talking to men outside their families. It is, however, mainly one-on-one male-female conversations that might engender gossip. There are few restrictions on male agents addressing groups of women.

3. Because Nepalese women have traditionally performed the majority of farming activities, they are vitally concerned with project soil conservation schemes for agricultural land. District agricultural development officers have already begun to recognize women's important contributions here.

   However, because women have not traditionally been involved actively in forest regeneration efforts, the forestry projects do not fit as well into women's traditional behavior patterns. They have not traditionally engaged in planting forest trees or protecting forest seedlings, although they have a larger role than men in fuelwood and fodder collection. Thus, awareness of women's role is important to the project's forestry component.

   Because so many RCUP forestry regeneration efforts involve wage labor (to transport seedlings, plant trees, and so on), the evaluation team is concerned that the incentives for both men and women to participate in project activities may rely too heavily on the immediate benefits of receiving cash for labor, at the expense of other necessary, but lower paying, activities and of long-term, sustainable forest management.

4. The basic project implementation strategy is to target information and project inputs (seed minikits) to the male heads of household. In theory, women and children will benefit in a trickle-down effect. But women are not targeted in this implementation strategy, despite the fact that they do most of the farm work and will be the actual implementers of many agriculture projects.

7.6 Recommendations

7.6.1 Gender Issue Recognition

1. Define more clearly village women's role in RCUP forestry activities. In charting the relationship between reforestation and

village women, RCUP has no traditional model to follow, because women's forestry activities have traditionally been exploitative rather than regenerative.

2. Advise RCUP government agencies how to incorporate gender issues into realistic, achievable goals. Evidence of gender-related activities could be assessed during performance and promotion reviews for male and female workers to encourage more involvement in and dedication to reaching women in the villages.

3. Formulate specific provisions for reaching female heads of household in RCUP areas.

4. Women Development Offices and Women Workers should help gather data on female heads of household as they conduct their socio-economic surveys.

5. Continue active RCUP support of the Women Development Officer program in RCUP project areas and efforts to coordinate this program with Women Workers programs and with other development programs in the project area.

6. Encourage institutionalization of RCUP project activities and project processes at the local level and encourage the participation of women at this level. Make use of traditional organizations (women's labor exchange groups) that could give women a greater voice in local level project planning. Make use of existing models, including Women Development Officers, as "facilitators," or have one expatriate woman and one Nepali woman working together in a village as role models.

7. Provide child care at training sites to facilitate women's attendance at training sessions.

9. Coordinate RCUP efforts with local population control and literacy programs.

7.6.2 Ensuring Equitable Project Benefits

1. Make use of more effective extension techniques to deliver project benefits to women, emphasizing local demonstration plots. Build on women's enthusiasm with follow-up classes to draw additional women into project activities.

2. Include gender issues in project training programs for men and women.

3. Design project technical packages and dissemination activities to reach both genders. Kitchen garden projects should be followed up. Consider charging a nominal fee for agricultural minikit distribution in RCUP areas. To do so might improve the quality of the seeds included in the kits, and more important, might promote more interest among farmers in the success of demonstration plots.

4. Continue to support the South-East Consortium for International Development's Women-in-Development Internship program. In this program, U.S. graduate students are placed in villages for 6 months to work with women on specific RCUP projects. Consider expanding this to a 1-year internship program that would include language training.

8. APPROPRIATE TECHNOLOGY FOR RURAL WOMEN PROJECT INTER-AMERICAN COMMISSION OF WOMEN, ORGANIZATION OF AMERICAN STATES

by

Cornelia Butler Flora
Kansas State University

8.1 Summary

The Appropriate Technology for Rural Women Project (PTAMC) of the Inter-American Commission of Women (CIM) of the Organization of American States was designed to create women's organizations that would introduce to rural Andean communities appropriate technologies for agriculture and animal husbandry, cottage industries, and performance of home tasks. Through those technologies, community women and men could better perform their daily production and domestic tasks and thus improve the quality of their lives. Regional and national staff refined and disseminated the community organization methodology and worked to institutionalize it within existing agencies and programs. In each participating country, the institutional base was the Ministry of Agriculture. The project was implemented first in Bolivia and Ecuador and then extended to other Latin American countries.

Women in Bolivia and Ecuador have always been active in agricultural production, but in recent decades their decision-making responsibility has increased because of periodic male migration for wage labor. The indigenous cultures are relatively egalitarian compared with Hispanic cultures, although contact with Hispanic culture has tended to increase men's greater access to education, wage labor, and production resources, including land, credit, and technology. In both countries, rural poverty necessitates that women perform heavy domestic chores and absorb much of the family shock from the economic instability and natural disasters endemic in the Andean region.

During its 3-year first stage, the project formed organizations in six communities in highland and subtropic settings in each country. The most successful projects integrated agricultural improvement with income-generation and local marketing opportunities, although marketing was a consistent bottleneck. Difficulties in acquiring purchased inputs during a period of high inflation and recurring scarcity also limited project success. At the end of PTAMC's first stage, the community organization process was codified into two manuals, one on organization and the second on appropriate technologies that had proved effective.

During PTAMC's second stage, the project's methodology was disseminated in both countries and new communities were included, often through collaboration with other institutions. By May 1985, at the time of this evaluation, PTAMC had directly reached 55 communities. The importance of a women-inclusive, community-based methodology of agricultural development has been demonstrated to counterpart institutions, and these have incorporated all or part of the PTAMC methodology into their technology delivery systems in rural areas.

The income-generation projects that resulted from PTAMC organizational efforts generally yielded only a small surplus. The most remunerative projects were those that were designed to incorporate the findings from the gender analysis of the agriculture cycle and to avoid competition with the many other activities that women were involved in throughout the year.

PTAMC has had a positive impact on community development and on implementing institutions. The projects implemented, the organizations formed, and the methodology developed have (1) served broad developmental goals, (2) met the production and domestic needs of rural women, (3) generated effective organizations, and (4) proven replicable in other areas.

Rough estimates of PTAMC cost-effectiveness, taking into account the benefits resulting from community organization and improved agricultural practices, indicate that the returns to the communities exceed the amount of PTAMC's investment. Most communities have experienced positive returns on their own investments as well.

The project demonstrated that the transfer of appropriate technology works best when the technology is introduced through strong organizations with broad community development goals. Women's groups are an appropriate vehicle for technology introduction, as men are easily integrated into them. Projects that work best offer a diversity of technologies and focus on risk reduction as well as on income enhancement. Finally, in evaluating such projects, in-kind as well as cash income must be included.

8.2 Introduction

8.2.1 Background

The Appropriate Technology for Rural Women Project (PTAMC) was chosen for field study because it is a "women-only" project that illustrates some interesting issues raised in the 1982 A.I.D. Women

in Development Policy Paper. Through a community organization strategy, this project sought to provide poor rural women with collective and individual access to appropriate technology and to improve their quality of life. The project originated as an unsolicited proposal involving very small amounts of money (less than $50,000 a year in each participating country), and was centrally funded by A.I.D.'s Latin American and Caribbean Bureau.

This evaluation of PTAMC community organizations and their projects in Bolivia and Ecuador is based on a review of the analyses conducted by PTAMC at project initiation; PTAMC promoters' monthly reports covering the 3-year first stage of the project; PTAMC country director reports; internal PTAMC evaluations of the first stage of the project; extensive interviews with promoters, country directors, and the regional director; and field visits to 19 communities. During the field visits, carried out in May 1985, meetings were held with community organizations. Members described the plans, activities, and problems of their organizations. Account books were analyzed to assess accounting methods and to calculate returns to members and the costs and benefits of each specific project, which could only be approximated given the high rates of inflation. The organizations' minutes were reviewed, projects were visited, and to the degree that time permitted, individual men and women were informally interviewed.

The institutionalization stage was analyzed by reading USAID Mission and host government documentation; interviewing A.I.D. personnel, government officials in Bolivia and Ecuador, and representatives of the Inter-American Commission of Women of the Organization of American States in Washington D.C.; and reviewing the manuals. There was no documentation on the institutionalization stage of the project in the files of A.I.D.'s Bureau for Latin America and the Caribbean. Observation of interactions, consultation of formal agreements with private and public government entities, and interviews with representatives of other organizations with similar projects contributed to the analysis.

8.2.2 Project Setting

In Bolivia and Ecuador, PTAMC was undertaken amidst rapid political and economic change and resultant shifts in host government policy and USAID Mission approach.

Both Bolivia and Ecuador are Andean countries with widely varying terrain and potential for sustained agricultural production. Both countries have little rural infrastructure and high rates of rural-to-urban migration.

Ecuador has developed a more stable government structure than has Bolivia, which historically has been the most politically unstable country in Latin America. Some sectors in Ecuador have greatly benefited from an oil bonanza that has allowed the Government to increase its legitimacy by investing oil revenue in public works projects. Ecuador also exports a variety of traditional and nontraditional agricultural products, including bananas and shrimp. Bolivia's main export, however, is coca, the major ingredient in cocaine. Because coca is illegal and cannot be taxed or controlled, the public sector is further weakened and delegitimized.

The economic situation in each country is difficult. Ecuador, although economically the more stable, has devalued its currency extensively during the PTAMC implementation period; and inflation and currency devaluation have been much worse in Bolivia. In both countries, peasant agricultural production is highly unstable. In addition, both countries suffered floods and droughts in project areas during the life of the project.

When the project began in 1979, the incumbent Bolivian Government sought to integrate women into development at all levels, but succeeding military governments showed little concern for women in their programs. The civilian government headed by Siles Suazo (1982-1985) named a feminist to the Inter-American Commission of Women, but had no specific policies regarding women. In the face of appalling economic conditions, the Government took a reactive rather than active stance on policy development and implementation.

Since 1980, USAID/Bolivia assistance has been oriented to fighting coca and cocaine production, strengthening the private sector through policy dialogue and direct investment, and providing disaster relief. Although none of these programs is targeted specifically to women, Mission personnel state firmly that none discriminates against women. Nevertheless, neither agricultural credit nor private enterprise development sponsored by the Mission explicitly recognizes women's economic contributions or integrates them into project design or implementation. Because Bolivian women participate actively in agricultural production, USAID/Bolivia incorrectly assumes that they automatically have some control over production methods and the disposition of the product. That women are socially and linguistically separate and rarely assume leadership in male or community organizations are not seen as problems. Mission staff regard PTAMC positively but do not see it as an integral part of other development activities.

In Ecuador, there have been four governments and abrupt shifts in policy since initial PTAMC approval. After a change in government from military dictatorship to democracy, the death of the president and his wife in a plane accident in 1981 ended a strongly populist, almost feminist-oriented interest in PTAMC. The incumbent

Social Christian government, elected in 1983, shows less concern for equity than did previous administrations.

Ecuadorean governments have been consistently concerned about agricultural productivity. Temporary male migration, common in rural Ecuador, often leaves women in charge of producing major food crops (except rice, which is raised in the lowlands on large estates). Despite women's increasing role in agricultural production, little has been done to increase their agricultural productivity. The Ministry of Agriculture and Livestock has done away with home economics extension, seeing it as irrelevant to the needs of rural women. No new production-related programs have been introduced.

In both countries, PTAMC staff are headed by women with extensive grassroots experience. The PTAMC director in Bolivia was college trained and had directed the Bolivian Girl Scouts. The director in Ecuador had experience with grassroots organizing through a series of nonformal education projects, including the USAID-funded University of Massachusetts project, and a distinguished career in the Ministry of Education.

In Bolivia, the Bolivian Institute of Agricultural Technology (IBTA), the extension arm of the Ministry of Agriculture, served as PTAMC's counterpart institution. In Ecuador, the Ministry of Agriculture and Livestock provided counterpart support.

8.2.3 Project Methodology

PTAMC's nine-step methodology was one of the major products of the first-stage project funding. It begins with the selection and training of promoters. The women chosen as promoters must have previous experience in grassroots organizing in rural areas; be willing to live and travel in those areas; and, when necessary, speak the indigenous language as well as Spanish. In Ecuador, the promoters had college training, had experience in nonformal education, and spoke Quechua, which they learned at the university. The three Bolivian promoters had from grade-school educations up to postsecondary vocational training, spoke indigenous languages, and had extensive organizing experience.

The second step in the methodology is to select work zones and tentatively identify participating communities. PTAMC deliberately sought project sites in different ecological zones to test the replicability of its organizational methodology. In Bolivia, six communities were initially identified in the highlands, subtropics, and mountain valley regions. When PTAMC had to leave the two communities in the mountain valley region because of the military occupation in 1981, it selected two replacement communities in a different

area of the highlands. In Ecuador, PTAMC initially selected six communities in the highlands and subtropics, based on their regional representativeness and ease of access.

Community activities in step three are designed to motivate the community to participate in an organization and to work toward meeting realistic community goals. All activities are conducted in the women's first language--Aymara, Quechua, or Spanish. In this step, promoters use dialogue in community meetings, house-to-house visits, small group meetings, short courses, and implementation of small, discrete projects to clarify what PTAMC can (and cannot) deliver and what is expected of the community. The motivation phase is designed to train community members in specific areas that may later become projects of the community organization. Training during the motivation phase includes strengthening skills in agriculture, animal husbandry, home industries, and handicrafts and developing community services, such as vaccination campaigns or literacy classes.

After completion of the project-oriented motivation and training phase, the organizational stage (step four) seeks to establish links with existing community structures. Based on the social action theory of community organization, the PTAMC methodology stresses a community consensus approach rather than a conflict model, which sets segments of the community against each other. PTAMC and community members who are still interested after completing the motivation and training phase then collaborate to develop the structure and functions of the organization, which is to include participation by all the members. The organizations facilitate women's access to appropriate technology, including techniques for group management.

Although organizations focus on women, membership is not exclusively female. In the most successful organizations, men are quite active and the organizations are viewed as working for the community through women, rather than just for women.

Step five in the methodology is community-based research and analysis of existing needs and possibilities in order to identify potential projects. In Bolivia, the analysis of each community was conducted jointly by a social scientist and an agronomist, who produced an excellent description of women's and men's work in domestic and agricultural production. With its systematic development of agricultural calendars by activity and gender, this diagnostic analysis has proved to be an excellent basis for determining which women's activities should be improved and during which time periods group activity should not be undertaken. The specificity of the study, based on observation and interaction with community members as coinvestigators rather than on quantification, has made it an important tool for the implementation of projects.

In Ecuador, the diagnostic study was rich in details of cultural activities and beliefs critical for the organizational stage of the PTAMC methodology but weak in agronomic analysis of who does what and when in each community. At the insistence of the Ministry of Agriculture and Livestock, a highly quantitative methodology was used, which limited the participation of organization members in the study. The methodology yielded strange data, and the conclusions were general, finding that women must be capable of doing everything, because of periodic male migration. Although the analysis revealed the importance of women in production and emphasized their time-consuming domestic activities, it offered little information on the precise timing and distribution of those activities. Without the benefit of such data, some of the PTAMC-sponsored projects, particularly in the subtropics, demanded high inputs of female labor just when it was needed for agricultural production.

Step six is the selection of appropriate technologies. Early PTAMC-sponsored projects in Bolivia failed to examine the selected technologies for their appropriateness to the communities. Technologies based on technician-generated, low-input construction such as windmills and greenhouses were selected. Simply constructed windmills and greenhouses were introduced into all highland projects in Bolivia early in the development of PTAMC, but they did not work or yielded only marginal returns to the communities. Besides the high initial investments in the windmills and greenhouses, frequent costly repairs and redesign were necessary, making these early project attempts the least successful and most mechanistic of PTAMC's efforts. In Ecuador, the technologies for knitting and weaving that were introduced into each community were more varied and flexible and thus more successful.

Step seven involves the elaboration of projects based on selected technologies. During steps six and seven, technical expertise from a variety of sources is provided, and the women's organizations learn how to identify and approach other organizations that provide information and technical assistance. A professional conducted market analyses for PTAMC in Bolivia and Ecuador. There is no documentation of her methodology, but her recommendations are recorded.

Unfortunately, market analyses for income-generation projects were primitive and were generally conducted after a project had been selected (at the completion of step seven) rather than before. There is little evidence that members of the women's organizations were taught market analysis. The members generally discussed what they would like to or could produce, where and for how much they could sell it, and where they could get needed inputs.

Step eight is implementation of the projects. Project financing has become an important part of PTAMC methodology for step

eight. The community organization generally puts up about half the initial project investment in the form of labor, materials, and members' weekly fees. An initial cash investment by PTAMC, generally matched by the community, has proven easier to administer and more effective than credit in ensuring participation. It is also more acceptable to the women's organizations, as Latin American peasants have long distrusted credit because of its usurious nature. In the PTAMC methodology, the community inputs can be viewed as interest paid in advance. PTAMC provides capital in the form of materials rather than cash. Use of those materials is closely supervised by the promoters and the technical assistants PTAMC has provided from the Bolivian Institute of Agricultural Technology, the Ministry of Agriculture and Livestock, and other agencies with which PTAMC has agreements. As a result, a very high percentage of the money destined for community projects actually has been invested in those projects.

Step nine involves evaluation and follow-up of PTAMC-sponsored projects. By building in mechanisms to continuously assess project success, PTAMC was able to reevaluate the meaning of "appropriate technology" and concluded that it must be defined by community needs and input.

Overcoming technological determinism in project selection resulted partly from evaluation and follow-up and partly from expanding the network of technicians PTAMC could call on to provide assistance to community organizations. In Bolivia, PTAMC became part of the Appropriate Technology Network; and in Ecuador it established links with an appropriate technology institute, which gave projects access to a wider range of potential technologies. At the same time, PTAMC shifted to a multifaceted, problem-responsive approach that, while emphasizing quality of life in all the communities, imposed no single "off-the-shelf" technology. This shift reflected recognition of the limits of technology-driven projects in peasant circumstances. Ongoing reanalysis allowed each community organization to identify technology projects that truly addressed major developmental constraints and were consistent with community capacity to overcome them.

8.3 Gender Issues at the Implementation Stage

8.3.1 Bolivia

The Highlands

The highlands of Bolivia is one of the most tradition-bound areas in Latin America. Indigenous women of the area exhibit their Aymara cultural identity through monolingualism and dress--the customary full skirt and derby hat. Men are more culturally integrated, speak Spanish, and dress like mestizos (Bolivians of Spanish heritage).

Although most women ultimately marry, marriage is often delayed among traditional Aymara women because of their important economic contributions to the parental family. It is not uncommon for a man to marry a woman older than himself, once she has proved to be a good worker. Although males are the recognized decision-makers, many decisions among the Aymara are made jointly, based on community and household considerations.

Financial responsibility is shared. Besides contributing to family production activities, women seek their own sources of income for food, education, and purchases of small production-increasing inputs. Men's income, considerably larger because of their employment as agricultural and construction workers in the wage labor market, is invested in agricultural production and male leisure activities.

Women's sociocultural isolation limits their access to resources. The universal male military draft system sends young men to other regions of Bolivia and requires them to learn basic Spanish, a skill advantage that complements the Bolivian tendency to send boys to school for longer periods than girls.

Men are more likely than women to work as wage laborers. They migrate in times of economic difficulty to the Amazon region or to urban areas, leaving women in charge of agriculture and livestock production--principally broad beans, quinoa (a type of millet), barley, potatoes and other root crops, cattle, sheep, and, in some areas, llamas, as well as any handicrafts based on these products. Women market locally the items they produce or buy for resale, whereas men more often sell in larger regional markets--another arrangement that gives them more access to cash than women have.

Although land reform instituted after the 1952 peasant- and miner-led revolution was far-reaching, men received the land. Even

widows with dependent children usually did not receive the land promised them. It is not clear whether single female heads of household have access to land, but married women clearly have no rights to land on their own merit (Deere 1985).

Credit systems are linked to land title and thus favor men. In a current A.I.D.-funded credit scheme with repayment in kind, credit goes almost exclusively to men. If women benefit from this credit, it is more as unpaid family laborers than as managers.

Men and women both own livestock, individually and as a household, but even when men own livestock, women often sell and retain profits from products such as milk or wool. Although women process the products in home industries and sell them in local markets, they often feel at a disadvantage when interacting with intermediaries.

Nonformal education also bypasses highland women. Previously available home economics extension services did not meet the needs of peasant women active in agricultural production. Current agricultural technical services and training available in villages are delivered almost exclusively to men. All agricultural agents are male, and when groups are organized for informal instruction, almost all participants are male. Even when agricultural agents speak Aymara--and only about half the agents in the area do--women are unlikely to participate in extension activities.

Smallholder agriculture is predominant in PTAMC project areas. Some production activities are carried out through labor exchanges, but most are family based. Child care is not a constraint to women's productive activities, because Aymara women take their children with them to fields and meetings.

Chawirapampa: A Case Study

This cohesive farming community of about 120 families in the rich farming area near Lake Titicaca asked to participate in PTAMC after hearing of it from other communities. After building a greenhouse and windmills, it, too, experienced problems with these technologies. Although the greenhouse no longer functions, the windmill, now operated by hand, does help the community take advantage of the area's high water table to provide water for cheese-making, the main income-generating activity.

Milk and cheese are traditional products, with cheese-making an arduous task performed daily by women. PTAMC invested heavily in equipment to industrialize the procedure and hired a Swiss technician to train the women. The technician had worked many years in Andean countries, but this was his first experience with training

women in industrialized cheese-making. (Although the process is always a female activity when performed domestically, it has almost universally been taken over by men when industrialized.) The technician was surprised by the women's learning speed and reported that they taught him several helpful techniques. However, men have been appointed managers of the cheese factory because of their facility with Spanish. Although the first manager was very able, the current one is less skilled. The community organization feels strongly that the post should rotate (but only among the men) in order to maintain its participatory character.

Currently each of the 30 community organization members (all women) works twice a month making cheese in 2-day shifts. At the end of the 2 days, one of the members or her husband takes the cheese to La Paz to be sold at the Ministry of Agriculture and Livestock, UNICEF, and PTAMC offices that organization members learned of during project development. This marketing strategy is limited by dependence on the good will of a few key bureaucrats, but in an economy that is primarily informal, such direct marketing has the advantage of avoiding intermediaries. Cheese curds are sold locally to schoolchildren and members of the community.

Women are not paid for making cheese, nor does the male manager receive a salary. Rather, the proceeds from the sale of cheese are used for capitalizing the community organization; the peso proceeds are exchanged for dollars to avoid the impact of rapid currency devaluation. Members make money from the sale of milk to the cheese factory. All members' families own cows, although unmarried women sometimes get only a small portion of the family product to sell to the factory. Those who sell milk to the factory are usually, but not necessarily, organization members.

Cheese-making has opportunity costs. Women still like to control their own production, despite the hard daily work cheese-making at home entails. Many women enter and leave the organization, going from individual to collective cheese-making according to their own wishes and those of their husbands.

Thus far, the quantity of cheese produced has been limited only by the availability of milk. Because available pastures can support only a certain number of cows, pasture and herd improvement were introduced as complementary activities.

A 1983 PTAMC-commissioned evaluation estimated a profit from the cheese-making project of 43,500 Bolivian pesos a month, even when labor was paid, and estimated that at this rate, the organization could repay the costs of cheese-making equipment and installation in 6 months (Meyers 1983). (Equipment and installation costs had been shared by PTAMC and the community.) Radical changes in the

financial situation have decreased the level of profits, but the enterprise remained profitable at the time of this study.

The Subtropics

The subtropics are areas that have recently been colonized, largely by immigrants from the highlands. The men often return to the highlands during that region's planting and harvesting seasons. Women in the subtropical region are more culturally integrated than those in the highlands, and the younger women speak Spanish. Men and women are active in almost all aspects of agricultural production, including citrus, coffee, and cacao crops. The introduction of coca as a cash crop has involved women in preparing coca leaves for market in the ever-spreading area where it is grown. The men migrate in times of economic difficulty because there are few wage labor jobs in the immediate area. Male migrants work in seasonal crop harvesting in rural areas and do marketing and day work in urban areas.

As families have become more Hispanicized, women's decision-making power regarding production has declined. Men have financial responsibility for investing in and expanding production, and they pursue separate leisure activities. In the colonized areas, land has been titled to men. Credit and training by the extension agents have been oriented to men.

Chacopata: A Case Study

Chacopata, a community of 30 families, is located across a wide river some 5 hours from La Paz. When the river is high, as it is most of the year, the only access to the community is by a steel cable. A pulley and hook are bolted to the cable, and people and goods are attached to it and pulled across the river. Community members are first- and second-generation colonizers from the highland areas. The older women speak only Aymara; younger women speak Spanish but are more fluent in Aymara. Major crops are citrus, coffee, and cacao; minor crops include root crops, corn, and rice. Citrus and coffee are seasonal, but cacao is produced year-round.

PTAMC activities in Chacopata include improving and diversifying fruit varieties, introducing gardens, building a community center, and establishing a marmalade factory with a rudimentary water system. PTAMC has worked with the newly formed community organization to get materials to build a footbridge across the river.

Marmalade has been relatively profitable for the community, although wide variations in the price of sugar make production somewhat risky. Different kinds of packaging and marketing strategies have been tried. Plastic jars with printed labels allow for better transportation and storage than do the cartons that were previously used. Women members market directly to the county seat about 1-1/2 hours away, and male members or relatives take the product to La Paz. Customers generally are middle class. The organization has formed linkages with poor urban women's groups and has taught them marmalade-making skills.

Conclusions From the Bolivia Case Studies

In each community where PTAMC has instituted the complete methodology, there are visible signs of progress, such as the building or improvement of a community structure. In some of the communities, new agricultural techniques, including animal vaccination, pasture improvement, and improved crop varieties, have been introduced to men and women. Improved preventive health care for animals is particularly important in the highlands.

The period of PTAMC project initiation and institutionalization was a time of massive national economic disruption and wide fluctuation in conditions for agricultural production. Several poor agricultural years were followed by an excellent year in 1985. Without the existence of baseline data or control communities, these intervening variables make it difficult to judge the economic impact of the wide variety of technologies that were introduced and applied at the level of the family farm enterprise. However, the new collective enterprises that were successfully introduced have provided income options for men and women that do not conflict with their other responsibilities. The most successful projects are those that do not need Government-rationed or -subsidized inputs and that meet the immediate survival needs of local populations, such as food or building materials. The riskiest projects depend on exports or tourist markets.

Of particular importance is the chance for women to work with machinery. In most development projects, men assume the mechanized tasks, furthering the gender differentiation of skills; however, with the exception of the windmills, technology has not been male oriented in most of the PTAMC communities.

Has PTAMC proved cost-effective in the 12 communities in which it was still active at the time of this evaluation? Counting approximately 30 organization members per community and 6 persons per member family, about $100 per beneficiary has been invested over the life of the project in Bolivia, or $20 per beneficiary per year. If

community organization and improved agricultural practices are factored in, the returns to the communities would probably exceed PTAMC's investment. Already most communities have experienced positive returns on their own investments as well.

Institutionalization. Project effectiveness must be evaluated in terms of replicability beyond the 12 communities in which all steps of the methodology were carried out. Taking replicability into account makes PTAMC even more cost-effective.

The project has served as a demonstration in the following ways:

-- Motivating the agricultural extension service to restructure its delivery system to serve women as users of agricultural technology

-- Inspiring a number of IBTA's all male-extension staff to organize women's groups (because women do not attend men's groups, but men do attend women's groups) and to request seminars on applying the PTAMC methodology on a regional basis

-- Providing the PL 480 Title III committee with logistical support to continue working with IBTA, particularly in the cacao-growing areas

-- Bringing together organizations and individuals, both governmental and private, to meet regularly to consider such issues as the impact of free food on recipients and ways to organize women's microenterprises

-- Obtaining funds from the United Nations Voluntary Fund to organize an artificial insemination project for a herd improvement program based on the involvement of multifaceted women's groups

Sustainability: The Community and National Levels. PTAMC continues to provide capital at critical points of project implementation and for further mechanization and streamlining of production processes. However, PTAMC's greatest contribution is the provision of information, advice, and linkages to public and private entities. In particular, PTAMC marketing assistance is important, as is the legal recognition PTAMC helps to secure for the women's organizations.

PTAMC methodology and promoters are having an impact on official Government structures (e.g., IBTA), on international entities, particularly the International Labor Organization, and on a variety of nongovernmental organizations in Bolivia. PTAMC handbooks and courses on its methodology are being requested with increasing fre-

quency, and there seems to be a growing recognition that women are important in rural development and can be mobilized effectively within their communities.

8.3.2 Ecuador

The Highlands

Indigenous traditions are strong in highland Ecuador. Quechua is the primary language, and women are monolingual more often than men. Integration of women into the national culture is greater than in Bolivia, but still less than that of men.

Men have more access than do women to formal schooling. While in military service, men learn Spanish, which facilitates their integration into the larger society. Women maintain traditional dress, but men's dress is not culturally distinctive, except for the use of ponchos.

Women perform the labor-intensive aspects of production for potatoes and other root crops, beans, corn, and barley. They also engage in processing and some marketing of agricultural products (Haney 1985), tend and manage family livestock (generally a few cattle and sheep), and raise poultry and guinea pigs for home consumption.

Male dominance in production decisions is more common than it is in Bolivia, particularly regarding the use of communal lands, although in general men and women make decisions jointly. Finances are primarily a male responsibility because men have access to cash as wage laborers in agriculture and construction and as marketers of major agricultural products. Yet men are viewed as somewhat irresponsible in handling money and a "good" wife should be able to manage the family's finances. In fact, long-term male migration leaves women in charge of day-to-day financial transactions, and women are responsible for feeding the family through subsistence production supplemented by cash purchases of food. Because men often "squander" cash for ritual drinking on social occasions, women prefer income in goods rather than in cash, which can more easily be appropriated by men.

Land reforms in 1964 and 1973 gave land titles to individuals and to collectives (comunas). In both cases, men were the formal beneficiaries, as land owners or members of the comunas. Women have benefited from agrarian reform only through their male family members, although widows can inherit their husband's rights in comunas. Women typically provide labor for cooperative crop and livestock

production but have no direct role in cooperative production decisions and policies. Further, Ecuadorean law explicitly states that husbands and wives cannot both be members of the same cooperative, a law that results in women's exclusion from these important economic groups (Philipps 1985). Land is passed on intergenerationally to sons.

Extension agents and agricultural researchers are technically well prepared but tend to speak only Spanish, a fact that limits women's access to technical assistance. In 1980, Ecuador abolished its home economics extension service, the only technical assistance that had been aimed at women.

Historically, agricultural technical assistance in Ecuador has been oriented to large farmers and export crops. The type of technical assistance small farmers often receive is from pesticide and fertilizer salespeople who encourage overuse of their products. Because women are highly involved in agricultural production, they have adopted many input-specific techniques, such as use of fertilizers and insecticides. Women depend on men for access to machinery. Credit programs serve men as titular land holders.

Men and women both engage in handicraft production of useful and ornamental household objects woven from local fibers, such as wool and henequen, as well as from synthetic fibers. Men tend to dominate in decision-making for and manufacture of these crafts, which are sold in local markets. Men also tend to control the semi-industrialized processing of agricultural products for the market.

Chingazo Bajo: A Case Study

When PTAMC entered this highland community, the primary agricultural product was henequen, which male and female community members processed into hammocks through a complex, laborious procedure. Most of the men also migrated periodically to earn cash income. Soil quality is good, but lack of water limits agricultural production and is a source of friction with neighboring communities.

PTAMC formed an organization with young women in the community. Older women were already organized into a mothers club to receive food supplements and health care from a visiting nurse. After a year, most of the young women married and moved away; the two groups combined when older women saw the advantages in the production activities begun by the PTAMC organization.

PTAMC-sponsored projects include (1) gardens, the products from which are both sold and distributed; (2) guinea pigs, which are distributed and sold to community members to improve their domestic

stock; (3) beehives, the honey from which is sold or distributed to community members, who view it as a nourishing food to give to their children; and (4) handicrafts made of henequen in addition to the hammocks that were already being made.

During the diagnostic analysis of this area, diseased henequen plants were discovered. One of PTAMC's first activities involved working with the local agricultural technician to eradicate the disease. However, the remedy involved destroying the diseased plants, an expense the peasants were unwilling to assume. (In such cases, Government intervention is usually necessary to pay for the destroyed plants and subsidize a replacement project.) By mid-1985, all the henequen plants were severely infected and were yielding inferior henequen fiber. The henequen handicraft project, aimed at processing a local product, now relies on purchased henequen.

After the costs of materials and transportation have been deducted, each woman receives one-quarter of the selling price of her product, with three-quarters going to capitalize the organization, a decision made by the women after their intensive analysis of the situation. The women meet regularly to macrame bags, which require less henequen than do hammocks; however, hammock production remains a family-based income-generating activity. But, according to the women, the market for bags is considerably smaller than that for hammocks, despite access to a handicraft distribution center run by the Catholic Church and to stalls at the Riobamba bus station.

The vegetable garden and the guinea pig projects were intended to increase members' nutritional level and generate income for the organization. Given the community's water shortage, some members have begun domestic gardens using waste water from their household tasks. Some members who had received improved guinea pig stock said they thought their children were less malnourished than other children in the community as a result of consuming better quality food. Nonetheless, many members still had malnourished children who received food supplements. The rudimentary bookkeeping system for the guinea pig project shows that the guinea pig project made money.

The real money-maker for the organization is the beekeeping project, which requires minimal time and capital inputs. The women have learned a new skill of which they are proud, and there is a strong and diverse market, both local and regional, for their product.

The Chingazo Bajo group has maintained its organization and enthusiasm. Few men participate because of their frequent migration for wage labor. Opportunity costs for women's time are low, with meetings requiring only half a day per week. Earnings from the project have offset the direct investment by the community and PTAMC, but as yet there is little return to labor. The organization

continues to explore options but believes that expansion of hives is the most feasible alternative.

Interestingly, women are not anxious to receive cash for their labor. Instead, they prefer an annual disbursement of profits in goods, such as cookware. This way, they say, they have something they can keep and remember. This may also be a way for women to maintain control of their own earnings.

The Subtropics

Subtropical Ecuador is a densely grown, hot, humid area occupied by large agricultural enterprises nearer the coast and by small and medium-size farms further inland, where PTAMC is active. It is an area of spontaneous colonization from the Chimborazo highlands. Many farmers do not have clear title to the land and are thus distrustful of outsiders. The area was badly hit by the 1983 flood, which washed out roads and bridges in the already rather isolated area.

Subtropical Ecuador is more Hispanicized than are any of the other regions visited during the evaluation. Men dominate family decision-making, and they use their income outside the home for male recreation and expansion of land holdings. Women's income is used for children's education and domestic needs. Men may use extra income to form a second family, resulting in many de facto female-headed households. When there is a male head of household, production decision-making is a male domain.

Sexual jealousy is high. Because women are viewed as sexually vulnerable (although virginity itself is not stressed), marketing and other activities that might require women to travel without their husbands are curtailed, and many husbands do not let their wives work outside the home. These restrictions, rather than the demands of child care, limit women's economic activities. Group solidarity among women is diminished by their competition for men's attention and support.

During the harvest season, women are employed on a daily basis and men and women receive the same pay. Men work seasonally as day laborers and are more likely to migrate longer distances for extensive periods, leaving women to do field work.

San Pedro Pita: A Case Study

This community of wage laborers in the province of Bolivar produces coffee, cacao, citrus, and other fruits. Although cacao can be harvested throughout the year, citrus is seasonal.

Processing citrus, the major product of the area, seemed a natural basis for an income-generation project. Marmalade production was chosen, and after careful identification of appropriate technologies, PTAMC provided the tools and developed a cooking procedure that made good use of the available firewood. The citrus had to be processed before it rotted, but the period for processing coincided with the time when many women and men in the community worked as day laborers gathering fruit for local landowners. As a result, it was difficult for women who worked in the fields to also work in the factory, where members had to spend most of one day each week at difficult unpaid labor. To participate in project activities, organization members had to give up a day's wages, which, for the 1985 harvest, was 400 sucres. Thus, membership in the organization was limited to the upper strata of the community. In previous years, profits from marmalade had resulted in two disbursements of about 1500 sucres per member, suggesting that the opportunity cost of participation was high, especially for the poorest women and men in town. Understandably, the number of organization members has decreased substantially. Membership is about equally male and female, but men did most of the traveling, a fact that the women resented.

Oranges for marmalade production were purchased locally; other inputs, such as sugar and jars, were purchased on the open market in small quantities and involved long trips by male organization members. PTAMC arranged for marketing through state stores, in addition to selling to local residents and stores and to development workers in the area. There was little awareness of cash flow or planning of purchases. The organization occasionally increased prices because "everything is getting more expensive," rather than as a result of systematic calculations of production costs.

Conclusions From the Ecuador Case Studies

Sustainability: The Community Level. Of the six original projects visited in which the complete methodology had been applied, two are diversified and well organized enough to continue unaided, although only one can clearly continue to make a profit. In the henequen-growing area, the organizations could continue with beekeeping activities if PTAMC were to withdraw. At present, these organizations are struggling to overcome a paternalistic dependence

on PTAMC, despite continuous attempts by PTAMC to increase their self-reliance. There are indications, however, that the women are beginning to grasp the importance of the organization in developing projects that go beyond the scale of household production. The sustainable projects enjoy both sufficient levels of capital investment to make them more efficient than individual activity and solid organizational bases to provide flexibility and continuity to the various technologies chosen.

Sustainability: The Institutional Level. During the institutionalization phase (1984-1985), PTAMC greatly expanded its area of operation, consulting on and participating in projects from the province of Esmeraldas in the north to the province of Loja in the south. PTAMC's participation with FODERUMA in the integrated rural development project in Central Loja has been especially important. Created by the Ecuadorean Government to work with marginal populations, FODERUMA has a special arrangement to make credit available to organizations through the Central Bank. FODERUMA has a women's section, which implements field projects with the assistance of PTAMC.

PTAMC has trained and placed four promoters to work with FODERUMA in 24 communities in Loja, located over 20 hours from Quito along the Peruvian border. The promoters form women's groups to coordinate with major development efforts, from road-building to agricultural production and processing, and to carry out women-specific projects related to health and water. FODERUMA is pleased with this cooperative effort with PTAMC, in part because of the extra staffing it provides, but even more for the increased project effectiveness that has resulted from the use of the PTAMC methodology.

The Ministry of Agriculture and Livestock tolerates PTAMC and welcomes the extra field workers that promoters represent, but it makes little attempt to emulate PTAMC methodology. Good cooperation has been achieved at the local level. Technicians see that male migration makes it important for them to deal with women, and they appreciate PTAMC-organized groups for providing a base for doing so. However, some tension resulte from Ministry-appointed counterpart staff being assigned to the PTAMC office.

The Ministry has recently established an office for Appropriate Technology for Rural Women, although it is as yet unclear how the office will be structured. Other national institutions, particularly FODERUMA, have found the PTAMC methodology and trained promoters useful and are incorporating them into their integrated rural development projects. In addition, a church-related organization in Esmeraldas and several municipalities around the country are attempting to implement the PTAMC methodology.

PTAMC is attempting to disseminate its methodology by publishing it in small sections in an inexpensive format. It has prepared pamphlets on organizational techniques and on some of the technologies it has experimented with.

8.4 Project Analysis

8.4.1 Project Strengths

Staffing. Unlike many women's projects, PTAMC is staffed by paid professionals rather than by volunteers. Thus PTAMC staff have been able to go beyond teaching traditional female skills and to interact as equals with male change agents in other development projects.

In Bolivia, the shift of staff responsibility from the Inter-American Commission of Women functionaries to development professionals, both as project and country directors, was key to project success. These professionals, all women, drew on their extensive experience in participatory community organization to select and train the promoters on whom project responsibility rested.

PTAMC chose female promoters who had the following characteristics:

-- A good mix of formal training and applied experience.

-- Enough maturity to feel comfortable asserting themselves with male community leaders and technicians.

-- Willingness either to live in the project communities or to spend extended periods of time there. PTAMC did not assume that women promoters were limited by family responsibilities.

-- Command of the local languages.

Extraordinary stability in promoters' job tenure is the result of careful selection and systematic training in the use of the PTAMC methodology. Enthusiasm for PTAMC was expressed by all five promoters interviewed. The methodological step of selection and training has been developed to the point that newly hired promoters are easily integrated into the system.

Management Structure and Project Flexibility. Flexibility, in both project design and implementation, has been key to project

success. One purpose of this centrally funded project was to develop an effective project design and test it.

PTAMC projects have characteristics that have often resulted in difficulties for women's projects: they are small, are situation-specific, and use limited financial and technical resources (Buvinic 1985). Yet, in the highly unstable contexts of the PTAMC projects, the risk-reduction strategies employed have proved effective. Successful community projects keep a strong focus on economic goals. But at the same time, organizational aspects are crucial to keeping profits in the community, with the women and their families. Multiple interventions with long-term, multiple objectives contradict some of the conditions for successful project implementation identified by Cleaves (1980). For PTAMC, flexibility within a broad structure of concern for both social welfare and economic goals accounts for project success in some communities and failure in others.

Flexible provision of capital to enterprises that also use community capital has been important in acquiring inputs and infrastructure. By using mechanisms other than credit, which is usually highly subsidized in development projects, PTAMC has been able to rapidly process projects' funding requests and effectively monitor project implementation. This fact undoubtedly reduced PTAMC's costs of administering capital. That targeting capital to organized groups has an important equity effect (Hunt 1985) is illustrated by this project.

The intermittent labor demands of the PTAMC income-generation projects fit the needs of peasant women better than would projects with higher profit margins but more regular demands on their time.

Project flexibility has been important in allowing PTAMC to survive military and civilian governments and protectionist and free market ideologies in both countries. Abrupt shifts in exchange rates, tariff policies, and import rules and regulations occurred in both countries, providing a difficult setting for all business ventures and often disproportionately affecting the poor. PTAMC's ability to remain viable and nonpolitical in the midst of such change is remarkable.

Creation, Rather Than Redistribution, of Resources. In some project situations, men assume that women will achieve gains only at men's expense. By focusing on community efforts and including men in its organizations, PTAMC has usually avoided this zero-sum situation. Neither has PTAMC addressed structural problems of resource redistribution, which in either country would probably have politicized the project. Only intermediaries, typically villains in peasant societies, have lost as a result of PTAMC efforts.

Two national institutions have chosen to institutionalize the PTAMC methodology. IBTA in Bolivia and FODERUMA in Ecuador are incorporating women and women's groups into ongoing institutional programs to make better use of limited Government resources without adding a new program or redirecting scarce resources to new goals.

Good National and International Linkages. Unlike many women's projects, PTAMC has successfully built linkages with other grass-roots development efforts and with institutions that have resources to offer women's groups. The prestige of being connected with the Organization of American States has undoubtedly helped. These linkages, which PTAMC country directors have systematically cultivated, have enabled PTAMC to mediate effectively between women's groups and available resources. Linkages to mainstream development projects may ultimately extend PTAMC's influence beyond that of a discrete project by institutionalizing PTAMC as an approach to integrated rural development. Another important result of these linkages is PTAMC's increasing role as a trainer of other development workers.

Community Participation. PTAMC has worked to avoid the paternalism common in community development projects by ensuring that communities also provide inputs. In a memorandum of agreement with PTAMC, each community organization agrees to provide (1) monthly contributions (quotas) from each member of the organization at a rate decided by the membership; (2) local construction materials; (3) labor for community construction projects; and (4) time to participate in training activities. These inputs have been necessary to project success, but avoiding paternalism requires that community organization participation go beyond provision of labor and materials to include decision-making in project activities. Here, the record is mixed. In some cases, distribution of profits and approval of projects include community organization input. In others, particularly in Ecuador, PTAMC tends to present projects to community organizations for their ratification, rather than systematically analyzing costs, benefits, and alternatives with community organization members.

8.4.2 Project Weaknesses

Too Much Diversification. Lack of secure funding has led PTAMC in both countries to try to diversify so that it can be incorporated into funded projects. This response is understandable, but it tends to dilute PTAMC efforts. Moreover, new applications of PTAMC methodology in urban areas, (e.g., among landless workers) may be premature unless they are preceded by careful analysis of how the methodology should be altered to fit different social and economic conditions.

Lack of Appropriate Accounting Procedures. In both countries, only cash flow is recorded. There is no accounting for assets or evaluation of profitability for PTAMC-sponsored projects within communities. Substantial attention should be given to developing more complete capital accounting procedures, understandable by semi-literate women, as aids in organizational management and decision-making. Adequate indicators of social progress, such as child nutritional status, need to be monitored using simple quantitative measurements.

Lack of Business Training of Staff. The PTAMC staff originally hired were strong in educational and organizational techniques and, in Ecuador, had extensive training in handicrafts. Their rural backgrounds also helped them teach agricultural technology effectively. However, promoters lack skills in appropriate market survey and business techniques. PTAMC has not compensated for this lack through additional training or by drawing on outside expertise, as they did in agricultural technology, appropriate technology for home and farm use, and development of processing industries.

Limited Financial Resources. In both countries, PTAMC was underfunded during the institutionalization period. In earlier stages, during which the PTAMC methodology was developed and its manuals written, a low supervisor-to-staff ratio was important. However, during the institutionalization period, PTAMC country directors could have handled three or four times as many promoters if there had been adequate funding.

8.5 Conclusions

Creating full-time work was never a goal of PTAMC, which focuses less on productive activities that provide women with their own income than on promoting women's active participation in efforts to raise the overall development level of the community.

When communities have been selected according to PTAMC criteria and have completed the nine-step methodology, and when a cross-section of women and men participate in the PTAMC-developed organizations, these organizations have been effective in (1) transferring agricultural technology to women and men; (2) decreasing expenses and providing income for the organization; (3) increasing women's income, less through payment for labor than through helping to establish a stable local market for raw materials; and (4) improving the status of women in the community, at least according to the women and men involved.

The effectiveness of the PTAMC methodology and its appeal to women and men in highland and subtropical communities rest on

(1) self-help and community participation; (2) a definition of appropriate technology in terms of the environmental, social, and economic context, including a recognition that economic shifts can make one technology more appropriate than another at certain times; (3) focusing on women, but including men; (4) focusing on both social and economic goals to provide maximum organizational flexibility and maximum effectiveness.

On balance, PTAMC projects, organizations, and methodology have (1) served broad development goals, (2) met the productive and household needs of women, (3) generated effective organizations, and (4) proven replicable in other areas with similar characteristics.

For relatively little cost, gains in community well-being have been made in a majority of the 55 communities where PTAMC has operated in Bolivia and Ecuador.

8.6 Lessons Learned

PTAMC has succeeded in achieving the integrative development goals of A.I.D.'s Women in Development Policy Paper (1982) through the following mechanisms suggested in that document:

1. The community analysis carried out to identify potential projects use sex-disaggregated data collection. Gender differences in tasks and timing of tasks were analyzed, and the findings were often successfully integrated into projects.

2. To overcome the cultural conditions that isolated women (particularly the women's lack of fluency in Spanish), special efforts were used to reach women.

3. Resources, including training, capital, and technical assistance, were delivered directly to women.

4. Technologies that were introduced were aimed specifically at increasing women's productivity and were modified to be appropriate to the specific community situation.

5. Although initially a women-only project, in each community where PTAMC was successful men were integrated into "women's" organizations.

6. Women were given a stake in most of the projects and generally responded to the material incentives provided for increasing productivity. Often, those incentives were in the form of goods provided by their organization rather than wages.

PTAMC provided some excellent lessons for gender-integrated projects:

1. Women promoters can be used successfully.

2. Separate women's groups are often necessary at the beginning of a project to ensure women's participation at later stages.

3. Mechanisms to ensure women control of the resources they generate can be developed as an incentive to productivity.

4. Development can be achieved more efficiently if women are included in the process.

9. THE MOROCCO INDUSTRIAL AND COMMERCIAL JOB TRAINING FOR WOMEN PROJECT

by

Margaret Lycette
International Center for Research on Women

9.1 Summary

The purpose of the Morocco Industrial and Commercial Job Training for Women project, which was active between 1979 and 1984, was to provide increased opportunity for Moroccan women to secure employment as skilled workers in the industrial and commercial sectors of the economy. To accomplish this, young Moroccan women with at least 9 years of education were recruited for training in existing Government industrial and commercial skills training centers operated by the Office of Technical Training and Job Development (OFPPT) of the Ministry of Labor. Special efforts were made to inform women of the examination required of training candidates and to encourage them to apply. OFPPT announcements were rewritten to specifically state that women could apply and were published in the French and Arabic newspapers.

It was anticipated that these young women generally would be from lower-middle-income families, 18 to 25 years old, facing employment difficulties, and thus willing to undertake vocational training oriented to nontraditional areas of employment for women. The initial areas of specialized industrial training offered to women with 9 years of formal education were drafting, electricity, and electronics. Commercial courses in accounting and secretarial skills were offered to women who had completed 12 years of education.

The goals of the project reflected the urban Moroccan context it which it was developed: young men and women contribute to their families' incomes until they marry and, increasingly, women continue to work after marriage and contribute to household income. It was acknowledged that even though many of the female graduates might drop out of the labor force to raise families, they were likely to reenter the labor force later because of divorce, widowhood, or the need to contribute to the family income.

The project was seen as a way to improve women's employment opportunities, and thus their economic condition, and to contribute to the development of Morocco's economy by increasing the pool of skilled labor. Thus, both equity and efficiency goals motivated the project design.

Although evaluations of the project noted that the overall impact of the project was positive and that all the major objectives had been met, several aspects of the project were considered less than successful. Evaluators found, for example, that by the end of the project the special entrance requirements for women had been dropped and that women were being given the same set of classical entrance exams as were men--mathematics, French, and Arabic. In addition, planned dormitory space for women at one of the centers had never been provided. Further, the evaluators noted that OFPPT had not developed formal job placement and follow-up mechanisms, although informal placement efforts were quite successful. Finally, the evaluators found the two technical reports to be inadequate.

The project accomplished what a pilot project should achieve: the initiation of beneficial changes that continue and even expand after the completion of the pilot effort. During the course of the project, 660 women were enrolled in industrial, construction, and commercial courses.

More revealing is the number of females enrolled in all OFPPT training courses (not only those supported by the project) since the initiation of the project. The overall proportion of women enrolled in industrial and construction courses doubled between the academic years 1979-1980 and 1980-1981, and nearly doubled again between 1981-1982 and 1982-1983. Steady increases have continued in all skills training areas. Instructors at the centers believe the drop-out rates are similar for men and women and that trainees can cope with course requirements given the appropriate entrance requirements and orientation procedures.

Staff at all OFPPT training centers visited for this evaluation were enthusiastic about the participation of women in their training programs. In some centers, priority is given to females who apply for certain specialties because, although all training fields are open to women, OFPPT believes they will not easily find employment as auto mechanics and therefore should be given more opportunities in the fields of electronics, electricity, and drafting.

At the time of the final project evaluation in 1983, 70 percent of the female graduates from pilot centers had been placed in jobs. The employment rate for OFPPT graduates is much higher than that for women with the same levels of formal education but with no vocational skills training.

The female graduates interviewed for this evaluation were comfortable in their positions and had good working relationships with fellow employees. They all earned substantially more than they might have in the public sector, given Morocco's strict system of paying salaries keyed to the employee's level of formal education

and baccalaureate status. Although none of the interviewees had passed their secondary school exam, they were earning nearly as much as or more than their colleagues who had done so. They felt their training was relevant to their jobs and they were confident of their skills. Their families respected them as contributors to the household income, but none felt compelled to contribute to household support. Like their siblings, male and female, they contributed according to their particular family context.

The cost of training each of the 562 women who participated in the project was low--$3,138 if the calculation is based on a 20-year amortization of the cost of training equipment, or $4,367 if equipment is amortized over the life of the project. In reality, every woman trained in industrial skills at OFPPT centers since the inception of the project is a beneficiary because previously no women had been trained in those areas.

The lack of reliable data on dropout rates, job placement, and salaries of graduates indicates a shortcoming in project monitoring and evaluation. Funds dedicated to technical reports that were not critical to project success might better have paid for competent technical assistance in designing, equipping, and staffing a project monitoring system.

In general, the Morocco Industrial and Commercial Job Training for Women project has been successful. It has significantly improved women's access to skills training, improved their labor productivity and employment opportunities, and ensured them well-paying jobs. Future projects might consider a tailored version of this design as a prototype to achieve a significant development impact by making a relatively simple change in the system.

9.2 Introduction

The Morocco Industrial and Commercial Job Training for Women project was chosen for field study because it has received much publicity as an innovative attempt to train women in nontraditional industrial skills within a fairly traditional society. However, since the project's inception, there have been conflicting informal reports of its effectiveness. The purpose of this field study was to examine the project's general effect on women rather than looking at the narrower context of whether or not immediate project goals had been met. Lessons learned would be drawn from the study to improve future training efforts directed at nontraditional employment and income-generation activities for women.

The Morocco Industrial and Commercial Job Training for Women project was a women-specific effort that focused solely on includ-

ing women in the type of skills training from which they had previously been excluded. Since the training programs were open to men and women, both would benefit from the appropriate instructional equipment and well-trained instructors provided by the project.

The project was a result of efforts at the U.S. Agency for International Development (USAID)/Morocco between 1976 and 1978 to establish a basis for incorporating women-in-development features into its project portfolio. These efforts included a review of nonformal education programs for women in Morocco and a broader study of women's training needs and resources (Youssef 1978, Youssef and Murphy 1976). Both studies noted women's lack of participation in postsecondary school vocational training. They further found that training available to women was limited to commercial skills: typing, shorthand, bookkeeping, and accounting. Participation in these commercial training courses, with the exception of accounting, which was dominated by men, was exclusively female.

The Industrial and Commercial Job Training project was a pilot effort to offer women opportunities in nontraditional skills training and thus to improve their situation in the labor market. Several other women-in-development projects initiated during the same period reflected USAID/Morocco's growing awareness that women's issues were important for equitable and efficient development.

In principle, the Government of Morocco supported integration of the sexes in its existing training programs and in the labor market. Although the Ministry of Labor stated that these training programs had not purposely excluded women but women had been reluctant to seek admission to industrial training courses, it recognized problems in the recruitment and training of women. By request from the Ministry of Labor, the Agency for International Development (A.I.D.) collaborated with their Office of Technical Training and Job Development (OFPPT) to establish a pilot program to train women in industry-related areas and to serve as a model in the promotion of industrial training and employment of women. The pilot project was intended for replication throughout the OFPPT system. The Government of Morocco was fairly receptive to the project concept, notwithstanding some reservations about people's reactions to the project in the more traditional regions of Morocco.

9.2.1 Project Setting

The purpose of the Industrial and Commercial Job Training for Women project was to increase Moroccan women's opportunities to secure employment as skilled workers in the industrial and commercial sectors of the economy. This was to be accomplished through a program of targeted skills training and concentrated job development

activities by OFPPT. This office already provided high-level vocational training for men in areas related to the industrial and commercial sectors. Technical and vocational training had been, and still is, accorded high priority by the Moroccan Government. It was given highest priority in the third Five-Year Plan (1977-1983), which was in effect when the project was initiated.

In 1976 there were 38 OFPPT training centers in Morocco, coordinated by the Ministry of Equipment. Curriculum content and areas of specialization are consonant with labor market demands and with the structure of production in the public and private sectors.

In the industrial field, specialized training is provided in 25 areas. Admission is competitive, and the equivalent of 4 years of secondary schooling is a prerequisite. The training period varies from 6 to 22 months. Semiskilled workers graduate after 1 year. About one-third of the best trainees are retained for a second year, after which they become fully qualified workers.

In construction, the training period varies between 1 and 2 years depending on the area of specialization. The minimum requirement for admission is 4 years of secondary education. Tailoring skills are taught in a variety of courses; the minimum educational requirement for admission is a primary school education.

Typing and bookkeeping are taught under a 1-year commercial curriculum. To qualify, candidates must have completed a minimum of 4 years of secondary education. A higher level of commercial specialization is provided in a 2-year training course in shorthand, typing, and accounting. A minimum of 7 years of secondary education is required for this level of training. In addition, OFPPT conducts short courses and seminars for workshop supervisory and technical staff, upgrading courses for semiskilled workers, special pedagogical courses for industrial instructors, and evening courses for apprentices. Instructor training includes both skills training and teaching techniques and lasts 2 years.

During 1975-1976, the number of students enrolled in these centers totaled 3,979; their distribution by training area is shown in Table 1.

Until 1979, OFPPT had restricted women to commercial skills training--typing, shorthand, bookkeeping, and accounting. The trainees were exclusively women in these courses, except in accounting. Although accounting was open to both sexes, it was heavily dominated by men.

Table 1. Student Enrollment and Number of OFPPT Training Centers, by Training Area, 1975-1976

Training Area	Number of Centers	Number of Students
Industrial	19	2,400
Commercial	7	470
Construction	2	250
Clothing, Tailoring	10	859
Total	38	3,979

Source: OFPPT, Ministry of Labor

Limiting women's access to certain training courses was particularly disadvantageous under the socioeconomic conditions prevailing at the time of project development. According to the 1971 census, for example, the literacy rate for Moroccan women was only 13 percent, compared with 25 percent for the total population; literacy rates for rural women were estimated to be as low as 2 percent. Thirty-seven percent of school-aged boys were attending school, whereas only 19 percent of school-aged girls were in the educational system.

Several factors contributed to these educational discrepancies. The education of sons is seen as an economic investment by the family, but has not traditionally been viewed as such for girls. Because the opportunity costs of educating children from low-income rural families are high, as are the monetary costs of books and clothing, male members of a family benefit first from the educational system.

However, women in Morocco were increasingly being called on to provide economic support for themselves and their families, despite their limited preparation for participation in the labor force. Between 1960 and 1971, the number of economically active women rose by a phenomenal 75 percent, and in urban areas, the number of women in the labor force approximately doubled.

In 1978, Moroccan women constituted 30 percent of new entrants into the urban labor force, and the proportion of female workers was

continuing to rise. The majority of new female laborers were under 25 or over 45 years of age and typically divorced or widowed. Given a very high divorce rate (approximately 50 percent), considerable male unemployment, and male emigration for employment abroad, the proportion of households headed by women in 1978 was estimated to be between 25 and 33 percent. Because households headed by women tend to be larger than those headed by men, the economic burden on women who are supporting their families is usually greater. Sixty percent of working women are members of households in which total income for five or six people is less than $45 per month.

Thus women's increasing participation in the Moroccan labor force is primarily a result of economic necessity; more women work than ever before because more women are now responsible to some degree for the economic support of the household. However, unemployment rates for women were and still are quite high, especially in the age groups in which new labor force entrants are concentrated. In 1971, 18.8 percent of women aged 40 to 64 who wanted to work were unemployed; 20.2 percent of economically active women aged 20 to 24 were unable to find employment. In urban areas, women who do manage to find employment in the private sector are concentrated in service jobs (maids) and textile and ready-made cloth industries where wages are low and mobility is limited. Since 1960 there has been a 13-percent increase in employment in these areas and a decrease in wages.

Along with high unemployment rates for both men and women, Morocco, like many other developing countries, has a history of shortages of trained technicians and skilled industrial workers. This is largely a result of the traditional and highly formal French education system, which accords more prestige to academically oriented education than it does to vocational skills training. Yet only 24 percent of girls and 37 percent of boys who begin secondary school complete the final year. Of these, only about half pass the grueling exams necessary for the baccalaureate diploma. Those who complete secondary school but do not achieve the diploma (the bachot level) face a difficult employment situation. Although these students have completed up to 12 years of formal education, their employment in the public sector is limited to typist and chauffeur positions because of inflexible rules that tie salary and job responsibilities to educational attainment. This group's upward mobility, even after long years of service, is extremely limited.

In the private sector, promotion depends more upon work performance, but hiring practices commonly reflect the same correspondence between educational attainment and occupational category. Thus, lacking technical or vocational skills, the young men and women of the bachot level have very limited employment possibilities despite the fact that, in a country with only a 25-percent literacy rate, the resources devoted to their education have been substantial.

By 1978, Moroccan Government officials and educators agreed that this very vulnerable group should be given priority in receiving specialized training to enhance their employment opportunities and to "salvage" from the educational system workers who could provide the technical skills that Morocco required to compete in an increasingly industrialized world economy. Moreover, given women's increasing economic responsibilities, especially in urban areas, the Government was willing to provide training to young women in order to develop a previously underutilized human resource.

The Industrial and Commercial Job Training for Women project was designed to provide vocational skills training for young women (ages 18 to 25). Typically, these women were from lower-middle-income families in urban areas, had 12 years of formal education, and were facing employment difficulties. Thus, they were interested in vocational training oriented to nontraditional areas of employment for women, including industrial drafting and electronics. Improving individual women's access to and control over economic resources was not, per se, a goal of the project. Rather, the project reflected the urban Moroccan context, wherein both young men and women contribute to their families' incomes until they marry and, increasingly, women continue to work after marriage to contribute to household income. Trainers and other project staff involved in the early stages of the project recognized that even though many female trainees would probably drop out of the labor force to raise families, they would be likely to reenter the labor force later because of divorce, widowhood, or the need to contribute to the family income.

Because the project was seen as a way both to improve the employment of women, and thus their economic condition, and to contribute to the development of Morocco's economy through the provision of skilled labor, both equity and efficiency goals motivated project design.

9.3 Project Design and Implementation

9.3.1 Project Design

The design of the Industrial and Commercial Job Training project was based on three important assumptions.

1. Young Moroccan women, their families, and employers would accept the culturally innovative concept that young women could and should be trained as industrial technicians and would make good employees in these fields.

2. Only limited special efforts would have to be made to recruit and retain female trainees; that is, a simple change in advertising language, coupled with word-of-mouth dissemination of information, would yield significant interest in the OFPPT training opportunities for women.

3. A project designed to achieve both equity and efficiency goals would be successful; that is, improving young women's access to training would lead to the development of human resources important for the Moroccan economy.

Subsequent analysis substantiated the validity of each of these assumptions.

Recruitment. The OFPPT training center at Casablanca was selected as one of the sites for the pilot program because 70 percent of Moroccan industry is located near Casablanca, as are the major architectural and construction firms. Fes, a newly industrializing province, was the second site of pilot activity.

Each center was to have both male and female students, although a separate dormitory was planned for women students at Fes (a development which never occurred). The selection criteria for women students were to be the same as those for men, including competition on a national examination given each July. Special efforts were made to inform women of the examination and encourage them to apply. For example, the usual OFPPT announcements were altered to state specifically that women could apply. This notification was published in French and Arabic newspapers, and all secondary schools with female students were informed of this training opportunity. The OFPPT continued to use the state-owned radio and television to announce the entrance examination, but the announcement was revised to clearly state the eligibility of women. However, channels of information distribution specific to women, such as women's organizations, were not used.

In addition to being given the national exam, women who applied were given a battery of five to seven performance, language, and aptitude tests, depending on their entry level and the training (commercial or industrial) for which they applied. Women whose scores fell below a minimum level were eliminated. The profile of each woman at or above the minimum score was then examined for aptitude in her stated preference for skill training. If the aptitude profile matched her preference, she would be admitted to the skill program of her choice. If not, she would be advised about the discrepancy and encouraged to join the program that best fit her perceived abilities.

Training Strategy. The areas of specialized industrial training for women with 9 years of formal education were drafting,

electricity, and electronics. Commercial courses in accounting and secretarial skills were offered to women who had completed 12 years of education.

Between September 1979 and September 1984, the project provided three expatriate trainers who had practical experience and professional expertise in, respectively, electricity and electronics, drafting, and accounting and secretarial skills. These technicians were to introduce a more practical, hands-on approach into the training program and transmit these methods to the Moroccan teaching staff. In collaboration with the staff of the two pilot centers in Casablanca and Fes and the teacher training institutes, these technicians were to demonstrate appropriate teaching techniques; teach model units by using such techniques; assist in the preparation of teaching plans and instructional materials; review curricula; supplement curriculum contents, where necessary, to match the skills required for employment; and devise and implement plans for in-service training in the new methods and concepts aimed at improving the quality of instruction at the pilot centers. The contractor (AMIDEAST) was also to provide training equipment needed in the three fields of specialization.

In addition to the three training experts, AMIDEAST provided a team of three advisers with expertise in educational administration (team leader), student counseling (social psychologist), and job development (human resources economist). This team eventually prepared two technical reports: "Investigation of the Vocational Training Needs of Female Personnel," (referred to as the Economic Report) and "An Analysis of the Status of Employed Women in the Commercial and Industrial Sectors in Casablanca: Vocational Training to Meet the Demands of Market Employment Needs," (referred to as the Sociocultural Report).

The project also provided long-term university training in the United States for six Moroccan women who would supervise staff activities once the project had been completed. Two of these candidates, who had B.S. degrees in economics, were to study human resource economics in U.S. graduate programs. Upon their return to Morocco, they would work closely with the councils in the various regions to analyze how the labor market affects female workers, to promote job opportunities for women, and to assist in their job placement. Two women, after pursuing M.S. degrees in counseling in the United States, were to replace the project social psychologist in counseling female trainees and workers. Two other candidates, after completing M.S. degrees in vocational education (specifically, industrial skills training and business skills training, respectively) would later serve on the central staff of OFPPT.

These six participants were to spend 3 years in the United States, including 5 months of language training, and were to return

to Morocco in time to allow a 6-month overlap with the project team. Later in the project, three additional M.S.-level participants were sent for training in civil engineering and computer sciences, new subject areas in which OFPPT plans to offer training.

Ten 1-year technical trainees were given junior college or undergraduate-level technical training in the United States and were to return to OFPPT training centers to serve as instructors. In addition, four OFPPT administrative staff trainees were given short-term training in performance-based teacher education and evaluation methodologies at Ohio State University.

Under the project grant agreement, OFPPT was to include female professionals on its headquarters staff, provide industrial and commercial skills training for women at two pilot centers, and develop a system of job placement and performance evaluation.

9.3.2 Implementation

In September 1979, A.I.D. provided a $2.25 million grant to the Government of Morocco to undertake the Industrial and Commercial Job Training for Women project through the OFPPT within the Ministry of Labor.

Discussions with AMIDEAST and OFPPT indicated that project implementation proceeded fairly smoothly. AMIDEAST staff reported that despite some problems finding appropriate training experts and advisers, the project had been generally successful and had had a positive impact. OFPPT staff were enthusiastic about most aspects of project implementation and believed that there had been minimal difficulty in incorporating women's training into existing Government programs. Over the life of the project, 660 women were enrolled in project-sponsored classes.

Both mid-term and final project evaluations noted that all the major goals of the project had been met and that overall impact was positive. Several aspects of the project were considered less than successful, however. For example, by the end of the project, the special aptitude testing for women had been dropped and women were being given the same set of classical entrance exams as were men (i.e., mathematics, French, and Arabic). OFPPT explained that this shift was compatible with what the project ultimately sought to achieve: the integration of women into all training phases following the completion of the pilot stage. Moreover, OFPPT had concluded that applying more intensive testing procedures annually to approximately 15,000 female candidates was too burdensome. Despite these changes in candidate testing, evaluators concluded that selection procedures were adequate.

Evaluators were also concerned about the failure to provide dormitory space for women at the Fes center; however, they did not specify whether lack of a dormitory inhibited women's participation in the project. In addition, they noted that OFPPT had not developed any formal job placement and follow-up mechanisms and that only one of the six original M.S. degree candidates had returned from the United States to work at OFPPT, despite their pledges to work for OFPPT for 8 years after their return.

Finally, the evaluators found the two technical reports prepared by the project advisers to be inadequate. The Economic Report, which was to constitute an important database on employment opportunities for women, took 37 months to complete. When it was finally produced in October 1982 its usefulness was extremely limited because much of its data was no longer timely. The Sociocultural Report, which was to investigate social, cultural, and economic constraints affecting the employment of female graduates from OFPPT centers, was based on an inappropriate target population and an inadequate sample size. Because the results could not be generalized to women trained at OFPPT centers, this report also was of little use in helping to integrate female graduates into the industrial and commercial sectors.

The project was completed in September 1984. Since that time, OFPPT has continued to train women in industrial skills areas.

9.4 Project Analysis

When the project was initiated in September 1979, no women were being trained in the OFPPT's industrial job skills courses; further, women's participation in commercial skills training was limited to typist and secretarial training, while accounting courses were dominated by men. The purpose of the project was to integrate women into three industrial skills areas--electricity, electronics, and drafting--and to improve their training in commercial skills. Thus, recruitment and orientation of women focused on these specialties, as did the provision of training equipment and assistance with curriculum development and teaching techniques.

9.4.1 Training Results

Table 2 shows, by training area and academic year, the enrollment of women in project-sponsored classes over the life of the project.

Table 2. Female Enrollments in Project-Sponsored Classes, 1979-80 to 1982-83

Training Area	1979-80	1980-81	1981-82	1982-83	Total
Industrial	-	80	68	99	247
Construction	20	36	47	51	154
Commercial	30	30	55	144	259
Total	50	146	170	294	660

Source: OFPPT, Ministry of Labor

More revealing, however, are some general observations about female enrollment in all OFPPT training areas since the initiation of the project. The proportion of women enrolled in industrial and construction skills courses is still much lower than that of men, mostly because courses in auto mechanics, heavy machinery, masonry, and plumbing still do not attract large numbers of women. Substantial numbers of women do enroll, however, in courses in electronics and electricity, industrial drafting, construction drafting, automation, office machinery repair, and refrigeration and cooling. The relative increases in women's participation in vocational skills training have been quite impressive since the first year of the project, 1979, through 1984, the year of project completion (see Table 3).

OFPPT has attracted female trainees by specifically advertising that its programs are for both young men and women, a simple but extremely effective device introduced through the project and continued since its completion. In addition, OFPPT maintains a counseling program based on a two-pronged strategy of working with female applicants to encourage them to choose industrial skills training and working with employers to encourage them to hire women trainees.

Table 3. Rate of Increase in Proportion of Female Enrollments in OFPPT Training Courses, 1979-80 to 1983-84

Sector	1979-80-1980-81	1980-81-1981-82	1981-82-1982-83	1982-83-1983-84
Industrial	106.0	94.0	6.9	4.6
Construction	47.6	9.0	98.9	14.0
Commercial	10.9	4.9	7.8	13.8
Tailoring	-1.4	25.0	14.0	-5.3

Source: OFPPT data

It was difficult to determine female dropout rates in the OFPPT programs. Figures had been compiled at only one of the four training centers visited for this study and covered only the 1981 and 1982 graduating classes. However, these data reveal that 18 percent of women recruited in 1979-1980 failed to graduate in 1981, and 27 percent of those recruited in 1980-1981 failed to graduate in 1982. Nevertheless, instructors at all the centers were convinced that dropout rates are similar for men and women and that because entrance requirements and orientation procedures are well suited to training curricula, trainees do not usually drop out because they are unable to cope with course requirements.

Without exception, staff at each OFPPT center visited were enthusiastic about women's participation in their training programs. In fact, in some centers female applicants are given priority for training in certain specialties. Although all training fields are open to women, OFPPT recognizes that they will not easily find employment in fields such as auto mechanics, and therefore should be favored for training in fields with a greater likelihood of employment, such as electronics.

The project, therefore, has had a great impact on the participation of women in Morocco's overall vocational training programs. Moreover, women's increased and expanded participation can be directly attributed to the pilot project since, before the project, OFPPT did not solicit female trainees and accepted women only for commercial skills training.

Women's access to resources (skills training) has then been directly and significantly improved through this project. Since

OFPPT intends to continue and expand its recruitment of women, the number of women benefiting from this pilot project is expected to increase with each class of trainees.

9.4.2 Employment Outcomes

At the time of the final project evaluation in 1983, 70 percent of female graduates of the pilot centers had been placed in jobs. Given Morocco's recent economic deterioration, the figure has probably dropped; however, because OFPPT has not monitored job placement, no new data are available. There is a consensus among graduates, trainers, and employers, however, that the employment rate for OFPPT graduates is much higher than that for women with the same levels of formal education but with no vocational skills training. Staff make consistent efforts to recommend female trainees to employers. Sometimes they even favor women in their placement efforts because of the positive feedback they receive from the employers of female graduates.

The informal OFPPT placement strategy is usually to persuade an employer to accept a woman during her mandatory 2-month apprenticeship, which costs the employer nothing. Typically, employers are so pleased with trainees during this period--because trainees are well trained and responsible--that they offer them permanent jobs and often ask the training centers for more apprentices the following year.

Fifteen employed female graduates were interviewed for this evaluation, five of them in depth. Several of these graduates were the only women in their firms; they are industrial drafters for heavy machinery produced by male factory workers. They all said, however, they were quite comfortable in their positions and had good working relationships with fellow employees. They all earn substantially more than they might have earned in the public sector, which pays salaries strictly according to an employee's level of formal education and baccalaureate status. None of the interviewees had passed the baccalaureate exams, but they were earning salaries equal to and sometimes greater than those of colleagues who had received their diplomas. All said their training was fully relevant to their jobs and they were confident of their skills. Most said they were not planning to aggressively pursue better jobs because of the difficult employment situation in Morocco. They were all pleased with their training and their current employment.

Judging from female graduates' employment rate and wages, the project has improved the labor productivity of women, increased their employment, and ensured them good remuneration for their labor.

Employed female graduates were also questioned about how much control they had over their salary and its distribution. Although they were respected within their families as contributors to household income, none felt compelled to contribute to household support. Like their siblings, they contributed what they believed was an appropriate amount, given their particular family context. Several young women said they would be pleased to contribute more to the household, but their parents wanted them to save or spend their earnings as they wished. In Morocco, parents commonly support both sons and daughters until they marry. Most of the young women interviewed were spending part of their salaries on clothing and recreational activities and were saving the remainder.

9.4.3 Cost-Effectiveness

The final evaluation of the project details the costs of the project. They are summarized in the Table 4.

Given the success of the 1-year technical training program, its cost per trainee seems reasonable. Costs for M.S. candidates were high, but given U.S. costs for such items as travel, room and board, tuition, and books, there may have been no way to lower them. The cost does make it imperative, however, that M.S. trainees be given the opportunity to fully apply their training, whether in OFPPT or elsewhere in the Moroccan Government or private sector. All of the technical trainees are currently teaching and developing curricula in OFPPT training centers; their training seems to have been well suited to their present positions, and they are readily able to pass on their skills to their students. All the M.S. trainees have returned and are fulfilling their obligation to work for the Moroccan Government for 8 years. They are working in program and policy areas in OFPPT or its parent ministry (now the Ministry of Equipment), and thus not all of their assignments are directly related to vocational education. Their credentials, however, will be quite useful in the Government, where responsibility and promotion are based almost exclusively on the attainment of formal education.

The cost per local trainee at OFPPT centers varies according to whether the calculation is based on a 20-year or life-of-project amortization of the cost of the training equipment provided by the project. Given that 562 women benefited from local training, the cost is relatively low when calculated by either method ($3,138 and $4,367, respectively). However, it might be said that every woman trained in industrial skills at OFPPT centers is a beneficiary, given that no women were trained in those areas prior to the inception of this project. Thus, the cost per local trainee would diminish with every graduating class. This approach is not useful

for financial analysis, but it clearly points to the broader benefits stemming from this one pilot project.

Table 4. Costs of the Morocco Industrial and Commercial Job Training for Women Project

Project Item	Cost per Participant or Item (U.S.$)	Number of Participants	Total Cost (U.S.$)
Initial M.S. Candidates (travel cost included)	73,996	6	443,976
Later M.S. Candidates	75,691	3	227,073
One-Year Technical Trainees	25,465	10	254,650
Five-Week Administrative Staff	4,167	4	16,668
Local Trainees--Project-Life Amortization of Equipment Cost (OFPPT cost included)	4,367	562	2,454,254
Local Trainees--20-year Amortization of Equipment Cost (OFPPT cost included)	3,138	562	1,763,556
Economic Report	178,617		178,617
Sociocultural Report	68,571		68,571
Computer	67,500		67,500

The cost of the two technical reports is high, particularly that of the Economic Report, which is generally regarded as having been poorly prepared and of little use to the project.

9.4.4 Overall Impact

This project clearly accomplished precisely what a pilot project should accomplish--that is, the initiation of beneficial changes that continue and even deepen after the completion of the pilot effort--notwithstanding its failure to attain some shorter term objectives.

Since the evaluation, four of the six long-term participant trainees (the M.S. candidates) have returned to Morocco to work for OFPPT or its parent ministry (now the Ministry of Equipment). All of the shorter term trainees are working in OFPPT training centers, and both they and their students have benefited substantially from the trainees' work in the United States. The failure to establish a formal placement system, due in part to OFPPT's hesitance to assume functions that are within the specific mandate of the Ministry of Labor, has been offset by OFPPT's informal placement efforts, which appear to be quite successful within the Moroccan economic context. As was noted in the final evaluation, little benefit was derived from the technical reports prepared by the team of advisers under the project. Finally, although the elaborate admission procedures for female candidates have been discontinued, screening and orientation efforts continue. The growth in the number of female trainees and their low dropout rates indicate a fairly successful approach to admissions and student counseling. The present system is, in fact, based firmly on integrating women into employment areas traditionally dominated by men.

More important, as can be seen from the discussion of project outcomes and impact, this project significantly and positively affected the economic situation of Moroccan women and the development efforts of the Government of Morocco.

9.5 Lessons Learned

1. The unavailability of specific, reliable data on dropout rates, job placement, and graduates' salaries indicates that the project has fallen short in its monitoring and evaluation activities. Funds devoted to technical reports, which were not critical to project success, might better have been used to provide competent technical assistance to design, equip, and staff a monitoring system for tracking the integration of women into vocational skills training in Morocco.

2. As the final evaluation noted, OFPPT has no formal job placement mechanism. Although such a mechanism might be beneficial for both male and female graduates given the increasingly

difficult economic situation in Morocco, it might make job placement overly bureaucratic. As it is now, the OFPPT training centers establish good relationships with employers and place women (and men) without any requirement for tedious paperwork, which might discourage prospective employers. It may be more cost-effective to continue to provide good training and informal placement assistance and then let the market forces take over.

3. Giving priority to women in certain specialty areas, such as electronics or drafting, is done with good intentions. However, if all electricians were women, would their wages fall or fail to increase as rapidly as when men dominated the profession? This kind of wage depression has occurred in the United States when women have moved into previously all-male fields. Although there is no present danger of this in Morocco because the percentage of women in technical occupations is still low, it may be a long-term consideration to be monitored by OFPPT.

4. The Government of Morocco is giving new priority to vocational training and is almost doubling the number of trainees in all its skills training programs. This will increase the supply of skilled workers and may result in lower wages and greater difficulty for those seeking employment. It will be important, therefore, to adapt training to real employment needs.

9.6 Recommendations

The Morocco Industrial and Commercial Job Training for Women project has been quite successful. It has significantly improved Moroccan women's access to a productive resource (skills training), improved their labor productivity, enhanced their employment opportunities, and ensured them good remuneration for their labor. Some general observations that can be drawn from this project include:

1. This project design might be referred to in the future as a project prototype for achieving significant development impact through relatively simple change.

2. Future projects might put more emphasis on the job placement component and provide the requisite technical assistance, equipment, and staff to ensure that a simple and effective system is developed.

3. Projects of this type might be designed on the basis of short-term participant training and the provision of equipment in

return for relatively cost-free efforts to recruit women trainees. This project's short-term, specifically focused participant training delivered major benefits at a low cost. Longer term training may contribute to the development of a country's human resources but may not be necessary when reasonably well-staffed host country institutions are operating prior to project implementation.

4. Since preproject studies indicated a general demand for skilled workers, there was no need for the technical reports commissioned under the project, which in any case were completed too late to be useful. In the future, it might be more cost-effective to forgo such studies.

5. Monitoring mechanisms should not be overlooked in future projects. These mechanisms allow for fine-tuning of project components during implementation and provide the basis for making accurate evaluations of project success and the desirability of replication.

10. THE CARIBBEAN AGRICULTURAL EXTENSION PROJECT

by

Marianne Schmink
Center for Latin American Studies
University of Florida

and

Paula O. Goddard
Center for Development Information and Evaluation
Agency for International Development

10.1 Summary

The Caribbean Agricultural Extension Project (CAEP) was selected for the study of the Agency for International Development's (A.I.D.) women-in-development experience as an example of a large regional project that focused on a sector in which women's activities were known to be important. Furthermore, at the outset, women were explicitly integrated into the project design, and involvement of women was specified as one of the project's three purposes. This purpose was dropped in the second phase of the project. One of the objectives of the study of CAEP was to analyze how this change in the stated purpose affected the project in later phases.

A comprehensive gender analysis carried out during the project's planning phase revealed

-- High levels of participation by women in agriculture, especially in small-farm households that were the focus of the project

-- Gender-differentiated income streams within farm households, which implied different stakes in agricultural improvements for men and for women farmers

-- More constraints on women than on men in the use of productive resources, although in the Caribbean, compared to other regions of the world, overall access to such resources was not differentiated by gender.

An effective agricultural extension system would have to take these factors into account.

The project was designed in phases. Phases I and II (1979 to 1985) concentrated on developing the institutional base for the agricultural extension systems in the islands. An extension of Phase II, begun in 1986, would see the direct delivery of services to farmers. Fieldwork for the present field study took place in 1985, when the institution building was nearly complete.

The findings of the study suggest that, paradoxically, the project has been successful in institution building but, nevertheless, had not yet achieved its original goal of involving women "actively and more fully in extension policies and programs." The study sought to analyze both the reasons for this paradox and its implications for the project. Once the extension services were fully operative, would this lack of involvement of women affect the achievement of the project's development goals?

One of the reasons for this result was the project's strong focus on institution building. Both phases of the project concentrated on achieving more effective institutions and, therefore, success was evaluated exclusively on progress toward this goal. Realistically, it was too early to assess the relationship of achievements at the institutional level to reaching the project's broader goals of improving the economic and social well-being of small-farm households.

Furthermore, the project fell prey to three common failings of development projects for women:

1. There was a general belief that taking "a farm family approach" would automatically address gender issues appropriately, when it often obscures the reality of women's economic participation in small farm households.

2. The women-in-development "component" of the project emphasized general awareness and sensitivity to women's needs without sufficiently linking them to the project's specific activities.

3. The criteria put forth for evaluating the success of the project failed to address the relationship of gender issues to project goals.

10.2 Introduction

In most Caribbean countries, official agricultural policy aims at both increasing export crop output and reducing the food import bill. Agriculture is an important export-earning sector in all Caribbean countries except Antigua, and especially in the

Windward Islands. Furthermore, it is generally believed that enhancing the agricultural sector will help these countries address their growing unemployment problems.

However, several significant constraints to increasing agricultural productivity in the Caribbean have been identified. Among them is the historical orientation of agricultural research to plantation and export crops, an orientation that leaves large gaps in the knowledge required to raise the productivity of small farmers. On many islands, ill-defined land ownership and use rights constitute another constraint to long-term investments and to access to credit. Deficient market infrastructures, especially for food crops, constitute a severe problem. Open economies subject Eastern Caribbean farmers to competition from outside producers in both price and quality of produce. Individual island agricultural extension systems are deficient in organizational structure and capacity to deliver services. In fact, one island official described the extension service prior to the CAEP as being "a couple of guys going around with shotguns shooting stray animals."

10.2.1 Project Setting

The 1979 Country Development Strategy Statement for the A.I.D. Regional Office for the Caribbean presented a 5-year strategy to overcome the constraints to agricultural development through activities in research, credit, extension, marketing, and infrastructure, including agroindustrial development, training and technical assistance, and agricultural planning. The strategy aimed to increase the effectiveness of institutions that support or provide services to Ministries of Agriculture, and ultimately to small farmers, as a key to increasing the well-being of the small-farm families in the Eastern Caribbean. The small farmers' main link to knowledge or more efficient practices, Government incentive programs, credit and marketing opportunities, new products, and agricultural development in general is the village-level or frontline extension worker. Accordingly, the CAEP was planned as a "major effort to ensure that local extension programs and personnel are organized, trained, and equipped to carry out...agricultural development efforts in the region and to ensure that an effective regional institution is strengthened to provide sufficient backstopping to local extension agencies after the project has been completed."

The considerable attention to gender issues in the initial design of CAEP resulted from project planners' recognition that women played a major role in agriculture in the Caribbean region. Data from 1979 cited in the CAEP Phase I Project Paper showed the

following proportions of women in the agricultural labor force in the Eastern Caribbean: Antigua, 50 percent; Barbados, 40 percent; Grenada, 20 percent; Montserrat, over 50 percent; St. Kitts/Nevis/Anguilla, 45 percent; St. Lucia, 47 percent; St. Vincent, 30 percent.

Research carried out in 1981 on St. Lucia and St. Vincent provided more detail on these trends ( ). On St. Lucia, women were the principal farmers in 43 percent of all small-farm households. On St. Vincent, they were the sole farmers in 24 percent and the principal farmer along with a male partner in 40 percent of small farms. In addition to their role as food producers, women in the Eastern Caribbean had major responsibility for child support. In St. Lucia, 80 percent of all live births took place out of wedlock. In such cases, the mother is the main provider.

Separate income streams were the norm even in households with a male present. While men typically controlled the income earned from bananas and cattle, for example, women often had an independent income through their vegetable crops. Women were solely responsible for paying for family food in 37 percent of the households surveyed (food represented 40 percent of household expenditures), support of children in 31 percent, transport in 22 percent, medical needs in 29 percent, and farm supplies in 22 percent.

A clear gender division of labor in agriculture was noted. Men's contribution to farming was primarily in land preparation, planting, and pest control. Women participated most in weeding, fertilizing, harvesting, storage, and marketing. Men were likely to control production of bananas and other export crops. Women worked with vegetable and root crops, and, in households with animals, women also cared for livestock. On St. Lucia, women spent an average of 5 hours a day in farm work and an additional 8 to 10 hours a day on housework, child care, and marketing trips to town. Women alone did the marketing in 37 percent of the households. They were the sole decision-makers on 12 percent of the farms in St. Lucia and 23 percent in St. Vincent; they made decisions jointly with the male partner in 50 percent of the farms on St. Lucia and 80 percent on St. Vincent.

However, women's access to agricultural services was found to be disproportionate to their heavy involvement in agriculture. In St. Lucia, women received only 8 percent of the agricultural loans and less than 1 percent of the total amount disbursed. Only 15 percent of the women had received information from an extension worker. Women's relatives were cited as their main source of agricultural advice (51 percent.)

Another independent study initiated and carried out during the planning phase by the local CAEP director and codirector examined male and female roles in farm planning decisions on three islands: Dominica, St. Lucia, and St. Vincent ( ). This study, too, found that family members were highly significant sources of advice and opinions on farm planning and on the adoption of innovation. The study recommended that the whole family be more directly involved in the extension educational process. Also, the study suggested that extension workers neglect female farmers in their contacts.

There was early input from both local and United States-based groups that actively promoted the incorporation of gender issues into CAEP's design. The Women and Development Unit (WAND) of the Extra-Mural Department of the University of the West Indies was already working with the Department of Agricultural Extension, providing sessions describing women's role in agriculture in the training courses for extension agents. At the same time, the Midwest Universities Consortium for International Agriculture/Women in Development group was working from the U.S. side to ensure attention to gender issues in the project by the U.S. team. A member of the Consortium group was on the project's Phase I design team. Building on contacts made during a prior conference on the Caribbean, members of the Consortium group met with WAND and collaborated on strategies to achieve representation by WAND on the project's advisory committee. WAND and the Consortium group both received funding from A.I.D.'s Women in Development office and the A.I.D. Caribbean Regional office to carry out the baseline studies of St. Lucia and St. Vincent referred to earlier.

10.3 Project Design and Gender Issues

10.3.1 Project Design

The project aims to improve the welfare of small farmers by increasing the effectiveness of national extension services in the participating countries and of selected regional institutions that backstop and support the extension services. The project was designed in two phases, the first to emphasize planning and to begin the process of institution building, and the second to support implementation of improved extension services.

Phase I (1979 to 1981) encompassed four activities: (1) establishing a Regional Agricultural Extension Coordination Committee; (2) conducting an institutional analysis and developing national committees and a National Extension Improvement Plan for

each territory; (3) implementing the National Extension Improvement Plans, and (4) strengthening the University of the West Indies' backstopping and outreach program and agricultural information unit for the region.

Phase II (1982 to 1985, then extended to 1989) included three activities: (1) continued support for implementation of National Extension Improvement Plans; (2) establishing formal linkages between extension and research; and (3) establishing effective extension communications capability. Specific outputs that would contribute to Phase II's goals included uniform job descriptions and increased supervision for extension staff; increased training of frontline agents; increased farmer contacts; improved communication capabilities; recognition for outstanding extension agents; and, finally, "skilled and knowledgeable farmers making wise decisions, using resources efficiently and farming profitably."

10.3.2 Phase I: Gender Issues

The CAEP Phase I Project Paper was a model of sophisticated gender analysis and included thoughtful proposals for adaptations. A stated purpose of Phase I was to involve "...women actively and more fully in extension policies and programs." WAND and other women's organizations would be represented on the Regional Agricultural Extension Coordination Committee and on National Extension Planning Committees. Project staff, with the assistance of short-term experts on gender issues, would carry out the institutional analysis and provide recommendations for the National Extension Improvement Plans in each country. Each plan was to be informed by baseline data on women in agriculture that would be collected during the project's first year.

Training for Extensionists. The Phase I Project Paper also suggested other specific adaptations to address gender issues. The problem of women's relative lack of contact with extension agents was attributed to lack of gender awareness by frontline agents, the existence of gender-differentiated communications networks, and the scarcity or ineffective use of women in the extension services. Specific recommendations to correct these problems included training programs to increase the agents' sensitivity and effectiveness in working with small farmers, especially women, and to broaden the base of extension's clientele, especially among part-time farmers and women farm operators. Appropriate models for transmission of technology to women farmers would be developed and tested on at least three islands. Three paraprofessionals would help to develop and implement an intensified "training and visit" system to include women farmers.

Evaluations after 48 months and 60 months would access the impact of the project on small farmers, with special emphasis on women farmers.

Directing Support to Female Farmers. A 13-page annex discussed in detail women's role in agriculture in the Caribbean. It called for better measurements of women's participation in agriculture and for micro-level data on the division of agricultural tasks among household members and on control of income used for various purposes. Such data would be useful for the type of planning that would help deliver agricultural technologies to the appropriate audiences. The annex also warned against the tendency of Western technical assistance specialists and island administrators to propose "home economics" assistance to women agriculturalists, ignoring their need for cash income as well as for food for home consumption. The annex pointed out the need for special strategies to make policymakers and extension agents aware that to underuse or misuse women's productive capacity was counterproductive to the achievement of overall economic goals. With respect to agricultural extension, the annex specified that services be delivered directly to women farmers and farm operators, and that women be trained as extension officers because there was some evidence to indicate that female extension workers visited female farmers more frequently. The annex concluded that unless women farmers and farm operators received more technical help in crop production, they would probably fall behind in production efficiency, and Government and donor agency targets for increased food production would not be met.

10.3.3 Implementing Gender Activities

Some of the proposed activities were implemented during Phase I and some were not. The Regional Agricultural Extension Coordinating Committee and all National Extension Planning Committees had at least one woman member. Several of the National Extension Improvement Plans produced by these committees reflected the emergent emphasis on the "whole farm family." Yet suggestions for short-term technical assistance and for gender-disaggregated data collection to support the plans were not implemented.

A workshop held in June 1981 discussed the results of the background study carried out on St. Lucia and St. Vincent. At that meeting, representatives of Ministries of Agriculture and of regional and international agencies urged that national extension service programs be aimed at the household, not just the male farmer. In particular, extension personnel should be taught not to make several common assumptions: that the man is usually or

always the principal farmer; that the man alone controls decision-making on the farm; that there is a ready or easy transfer of knowledge or practices between family members; and that because a woman says she is a "housewife" she is not also a principal farmer and farm decision-maker. The emphasis was on looking at the dynamics within the farm household and avoiding mistaken assumptions about unified family preference systems, communications patterns, and allocation of resources.

The workshop produced a set of detailed recommendations for training, service delivery, improving the database on women's productive activities, and improving women's access to productive activities. The following are some of the recommendations:

-- Use of existing women's organizations to convey agricultural information

-- Training of rural women as paraprofessionals

-- Greater use of patois radio broadcasting, especially at times when farm women are able to listen

-- Tailoring improved technologies to women's time and income constraints

-- Appointment of more women agricultural extension officers

-- Development of improved methods for measuring productivity gains and improvements in household well-being

The workshop report was circulated to all liaison staff and national planning committees, and future collaboration on these issues was to be pursued through WAND and the Consortium group in Phase II.

10.3.4 Phase II: Gender Issues

By early 1982, however, these recommended activities were put on hold pending the outcome of A.I.D./Consortium negotiations on funding of Phase II of CAEP. Significant changes in Mission management of the agriculture sector and shifts in Mission program priorities took place at that time, resulting in a reorientation of the approach to gender issues in CAEP. The Phase II Project Paper, approved in August 1982, represented a departure from what was outlined in Phase I. The project's first two purposes (improving extension and backstopping) remained in place, but the third, explicitly focusing on women, was eliminated.

Losing the Gender Focus. The recommendations from the 1981 workshop, which had been included as an appendix to early versions of the Phase II Project Paper, did not appear in the final version. In its place was a one-page section entitled "Women and Agricultural Development," which outlined a shift in strategy vis-à-vis women-in-development issues. Instead of the explicit attention paid to women as a target group in the Phase I Project Paper, the Phase II paper identifies as a target group the aggregate "small-farm household." The Phase II paper states that one of the project's original goals had been to involve women actively and fully in extension policies and programs, and "reflecting this concern, a new focus on farm families or households has emerged as a target group in national extension system....This new focus will be reflected in training inputs at all levels."

The project's original guidelines on how to avoid mistaken assumptions about gender roles in farm households were reiterated but in the context of this new "farm family" approach. The focus was on awareness training for staff. Extension workers would be advised not to assume that males are the principal farmers or decision-makers or that information is easily transferred from one household member to another. The women-in-development component was significantly reduced in scope, calling for (1) a 2-week segment of the University of the West Indies Extension Diploma Course to be conducted by WAND; (2) WAND participation in subregional workshops and in-service training courses; (3) WAND and Consortium group contributions to extension materials and to the proposed manual on extension in the Caribbean; and (4) continued WAND participation in the Regional Agricultural Extension Coordination Committee.

Plans for data collection, testing of delivery methods, and evaluation procedures to address gender issues, proposed in Phase I, were dropped. A focus on women no longer appeared at crucial places in the document where its presence would seem to be indicated. For example, the brief profile of present and future extension agents did not reflect the possibility that extension agents might be female. Country-specific programs that focused on activities in which women played a prominent role, such as livestock and vegetable production, weed and pest control, farm management, and marketing, did not mention women as participants or potential beneficiaries. The proposed WAND input did not appear in the in-depth discussions of overall training activities.

Despite this diminished emphasis on women in development in the Project Paper, CAEP's key project staff remained cognizant of gender issues during implementation of Phase II. One of the senior project staff, for example, was actively engaged in a

personal research project on intrahousehold time and resource allocation and decision-making, seeking to bring consideration of the gender division of labor into the formulation of target audiences in extension officers' annual work plans. In-service training with extension workers at the supervisory level addressed gender issues. Staff monthly and quarterly reports frequently devoted attention to achievements and problems in a special "Women and Agriculture" section. These reports focused both on the integration of women in overall project activities at different levels and on the special women-in-development component activities.

In November 1983, two subregional training workshops on women and agriculture were held in St. Lucia and Montserrat in collaboration with WAND. As a workshop exercise, each country team of extension officers was to develop a strategy to "improve the position of women in rural areas" after their return to their islands. The CAEP staff circulated participants' reports, but after the workshops, none of the strategies progressed to implementation. WAND performed the training component on Women in Agriculture in the University of the West Indies Extension Diploma course for nine extension workers (two of them women) in 1984. The 2-week training period proposed in the Project Paper was reduced to 2 days of lectures. Later diploma courses addressed gender issues during rural sociology sessions and during a WAND seminar on participatory community development, but none had an explicit women-in-agriculture component.

10.4 Project Analysis

The CAEP project provides an interesting opportunity to examine the relevance of gender to agricultural extension. The project is in a setting where the participation of women in agriculture is known to be significant. In the initial design, the importance of gender was recognized and the project was to be adapted accordingly. In the Phase II Project Paper, the substantial attention to gender was eliminated and the conceptual approach to this issue was reoriented. The study team sought to determine what, if any, effect this shift had on two levels: the success of the institution-building effort and the achievement of overall project goals.

In 1984, independent evaluators carried out an interim evaluation of the CAEP. They found that the CAEP had successfully established planning committees, defined and focused extension work plans, significantly increased the amount of extension training available, and demonstrated the potential for improving farm practices, among other achievements ( ). A 1985

audit of the CAEP similarly found that the project "appeared to be achieving its purpose of increasing the effectiveness of selected regional institutions that support the national extension services" ( ).

The ultimate challenge of a project to improve extension services is at the lower levels of the institutional hierarchy where direct contact is made with farmers. It is only at this point that the project's stated goals to improve farmers' well-being can be assessed. Although the interim evaluation report stated that CAEP had increased the number of farmer contacts and the quality of extension assistance to farmers, the data presented in that report failed to adequately support this assertion. The later audit and this study found it premature to reach any conclusions about increases or qualitative improvement in farmer contact by frontline extension workers. These are to be the focus of future phases of the project.

It was also too early for this field study to draw conclusions about the direct impact of improved extension systems on women in Caribbean agriculture. The study team did, however, derive some insights about the changing nature of the project approach to gender analysis and about the implications of these changes for the future delivery of extension services. Three issues emerged from this analysis.

10.4.1 The Problem of the "Farm Family Approach"

Between Phase I and Phase II, A.I.D. project designers reinterpreted the project's original purpose of involving women in the extension program. Rather than focusing on women as a separate target group, as in Phase I, they determined that the purpose could be better served by focusing on the "small farm household" in the aggregate. On the one hand, this shift reflected an understanding of family-based Caribbean agriculture and a commitment to going beyond the stereotype of individual male farmers as the only relevant target group for extension. The Phase II Project Paper reiterated the caution against assuming either male dominance of farming and decision-making or ready transfer of knowledge between family members.

But, on the other hand, this shift in focus failed to recognize that the "farm family approach" is subject to significant conceptual and practical weaknesses. There are intrahousehold factors, many of them gender-based, that are not explicitly dealt with when the household as a whole is targeted. Men and women who are involved in different aspects of agricultural enterprise have different--sometimes even competing--needs and priorities.

To the extent that the household is assumed to be an undifferentiated unit, these differences may be overlooked. Competing demands on individual household members' time and resources may in turn undermine the economic efficiency of the farm enterprise. For example, improved practices that require increased female labor, while the income from them is controlled by men, may not work because the women have no direct incentives to participate.

In order to be effective, agricultural extension services must be responsive to such intrahousehold factors. What the farm family approach lacks is a specific analytical approach to gender that focuses attention on individual household members' roles, responsibilities, stakes in outcomes, and likely response to incentives. Gender analysis enables a better identification of appropriate extension audiences and forms of delivery. The findings of the CAEP field study suggest that the key gender issue in extension is the need to target communications directly to specific implementers according to the nature of the task.

10.4.2 Gender-Differentiated Stakes and Incentives

The existing literature shows clearly that women in the Eastern Caribbean make important decision-making and labor contributions for virtually all farm activities, yet their access to and control over productive resources may be more constrained than men's. This suggests that research and extension programs should be responsive to the constraints faced by women farming without a male partner.

Second, different stakes and incentives often apply to men and women even within the same household. Extension agents sometimes commented, for example, that men farmers tend to focus their attention and resources on one major export crop, such as bananas, while women deal with multiple aspects of the farm enterprise and are more concerned with balancing the whole system. This characterization would suggest women as an ideal target group for crop diversification programs.

Specific technological or management interventions in agriculture must address the realities of gender-differentiated households where there may be different, even competing, constraints and priorities. A good example is the shift of banana packing from the packing plant to the field. Apparently there has been no assessment of the impact of that shift on women's labor, even though women usually do the banana packing in both packing plant and field. What happened to the women who lost their jobs in the packing plants? How many are now working in

the fields and under what conditions? How has the increased demand for unpaid family labor to pack bananas in the field affected women's other activities? Extension agents commented that women did not like the tedious job of removing the flowers from the bananas and resented the new demand on their time for an activity that generated income that was not under their direct control. Some were encouraging their husbands to move out of banana production altogether. While these women could be considered "participants" in improved banana production--by virtue of the labor they contributed--they were not direct beneficiaries and, therefore, lacked the incentive to make the program work.

The banana-packing example shows the direct relevance of applying gender analysis within the family or household unit to understand the different stakes and incentives associated with technological change. Gender analysis, therefore, goes beyond a focus on the whole farm or household unit. Unless intrahousehold factors are well understood, the "farm family" approach may assume that (1) household members share a homogeneous set of goals and incentives instead of different, sometimes competing priorities; (2) information is communicated perfectly among household members (e.g., the "trickle across" of extension advice instead of delivery directly to implementers); and (3) women are primarily involved in consumption and domestic work rather than farm production. Gender analysis within specific household production systems allows project adaptation to permit more efficient targeting of project resources to appropriate audiences.

10.4.3 The Linkage of the Women-in-Development Component to Project Activities

As has been discussed, the first CAEP Project Paper envisioned a comprehensive treatment of women and development, and the second Project Paper reduced the scope of women-in-development activities to an emphasis on sensitivity training and a continued attempt to increase female representation. This shift severely weakened the linkage between the women-in-development component and the project's primary objective: building effective extension institutions. On the one hand, the women-in-development workshops emphasized raising staff awareness of women's roles in agricultural production. On the other hand, the separate training programs addressing the technical and organizational aspects of extension agents' work did not systematically address the issue of gender. An integrated approach that linked gender to the technical training would have more effectively stimulated the process of developing institutional responses to

gender differences in the client population of the extension service.

10.4.4 The Relevance of Evaluation Criteria to Project Goals

The CAEP placed a strong emphasis on evaluation and stressed the need for collaboration in the design of evaluation criteria. The criteria for the first interim evaluation in 1984 were developed jointly by project staff, the A.I.D. Regional Office for the Caribbean, the Regional Agricultural Extension Coordinating Committee, and representatives of the eight Caribbean countries in which the project was then operating. The evaluation plan included a special section to assess "increased recognition of women in agriculture" by answering three questions: Are increased numbers of women represented as extension agents? Do extension materials reflect women's roles in the farm partnership? Have extension agents made efforts to address their programs to "farm families?" Other indicators were the numbers of women enrolled in CAEP training programs and hired as project staff. These questions reflect the project's concern to increase women's representation in the institutional framework and to improve the content of extension materials through increased awareness of gender issues.

Focusing evaluation questions on the numbers of women represented in administrative bodies provides one insight into the increasing involvement of women in extension. What lies behind this "affirmative action" approach is the assumption that increased numbers of females on planning bodies and as staff will necessarily and automatically lead to increased responsiveness to extension agents' female clients. In other words, there is an assumed link between the female gender of the planner or extension agent and the quality of the outreach to women farmers. Yet the evaluation report found little change in the number of female extension officers and presented no systematic data on women's participation in training. Therefore, the relevance of increased presence of women in the institution to improved extension practices could not be assessed.

The evaluators' focus on the content of extension materials was based on a different set of assumptions. It assumed that the sensitivity training on women's agricultural participation provided to extension workers, regardless of their gender, would be translated into a more gender-sensitive extension performance. Yet the evaluation report indicated that most extension work was not gender-focused, and insufficient attention was given to women farmers as partners in the farm operation and to specific aspects of agriculture controlled by women. At the institutional level, then, the project had made little progress according to the established criteria.

While the evaluation focused principally on institutional change, it also included an extensive section to assess farmer impact. However, the evaluation team's interviews with farm families were governed by mistaken assumptions about gender--the very assumptions the Project Paper had said extension staff should be warned against making. Evaluation questions were based on the assumption that men were principal farmers and decision-makers while women were engaged solely in domestic tasks. The St. Vincent report was the only one that mentioned the need for extension support for women in their productive activities in farm crops, field packing, huckstering, and marketing. All other reports implied women were active only in backyard gardening.

Furthermore, the evaluators assumed that information is transferred easily from one household member to another. The report on Montserrat, for example, stated that "agents make a practice of speaking to whichever member of the family seems most receptive--in some cases this means a young person--thereby reaching the whole family." The report concluded that "development of women's role in farming was one of seven major effects of farmer extension contact" but described this effect solely in terms of nutrition and gardening for family consumption.

In summary, the evaluation failed to address ways in which gender issues may be related to the project's overall goals of improving agricultural productivity and farm family well-being.

10.5 Recommendations

The CAEP is a mainstream, regional development project that has been successful in improving agricultural extension institutions in the Eastern Caribbean and can have a significant future impact on farm-level agricultural production systems. At the outset, the project design was exemplary in its incorporation of gender concerns, and a sensitive project staff maintained attention to gender issues throughout project implementation. Problems with conceptualizing and operationalizing the relationship between gender and specific project goals and purposes, however, made it difficult to gauge the impact of the project on women, or to assess how attention to gender might affect the likelihood of achieving the project's overall purposes and goals.

The paradox of the CAEP project demonstrates the importance of examining the relationship between gender variables and immediate institution-building objectives on the one hand, and the achievement of longer term socioeconomic goals on the other. It is less clear how gender sensitivity affects institutional devel-

opment in the Eastern Caribbean than it is that gender must be a key consideration in farm-level strategies where women are recognized to be important economic actors. Attention to gender will be increasingly important as CAEP shifts its emphasis to directly improving farming systems for both men and women farmers via an improved agricultural extension service.

Some recommendations to strengthen the CAEP project include:

1. Developing stronger linkages with local women-in-development experts, particularly at the regional institutions such as WAND. All have extensive experience in development work in agriculture, and several are involved in community participation, training, and research activities.

2. Sponsoring training sessions for the University of the West Indies Extension and local women-in-development groups to undertake jointly, applying the case studies method to gender analysis of farming systems.

3. Experimenting with gender-sensitive delivery mechanisms for agricultural technology such as gender-specific information channels; women's organizations; changes in timing, duration, or location of extension meetings; training in gender analysis for frontline agricultural agents.

4. Monitoring and evaluating the gender aspects of project activities. Activities could include (1) collecting disaggregated data on participants, beneficiaries, and pools of "eligibles"; (2) specifying target audiences by gender in project work plans; and (3) designing an evaluation strategy to measure both the impact of gender analysis on the advancement of project goals and the overall impact of the project on women farmers in the region.

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