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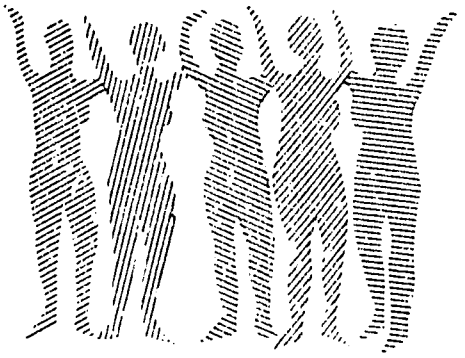
GENDER ISSUES IN INTERNATIONAL DEVELOPMENT PROGRAMS

A Three Part Training Program on Women In World Development

The Invisibility of Women in Income Generation

Gender Issues and Agricultural Development: A West African Example

Women, Natural Resources and Energy in International Development



Edited by:
Mary Hill Rojas

Prepared for The Board for International Food and Agricultural Development of the United States Agency for International Development, Washington, D.C.

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(612) 925-3632

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Mary Hill Rojas
Virginia Polytechnic Institute
and
State University
Blacksburg, Virginia

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The Invisibility of Women in Income Generation

Mary Hill Rojas, Director of the Office of Women in World Development
Department of International Agriculture
Virginia Polytechnic Institute and
State University

Gender Issues and Agricultural Development:
A West African Example

Helen Henderson, Director of the Office of Women in Development
Bureau of Applied Research in Anthropology
Department of Anthropology
University of Arizona

Women, Natural Resources and Energy in
International Development

Marilyn Hoskins, Director of the Participatory Development Program
Department of Sociology
Virginia Polytechnic Institute and
State University

For the
Board for International Food
and Agricultural Development
of the
United States Agency for
International Development

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An Introduction to the Program

I. Goals of the Program

This slide presentation is to:

A. ensure gender awareness and sensitivity in personnel working in international development programs in developing countries.

B. identify and address critical gender issues in development project design and implementation for practitioners, policy-makers and academics.

C. ensure the inclusion of gender issues in academic courses dealing with international development in disciplines including, agriculture, home economics, business and the social sciences at the university and community college level.

D. inform any group working with people and issues in the Third World (churches, international relations, hunger, etc.) about critical issues related to the impact of international development on women of limited resources.

The program has three components which deal with women in developing countries in relation to:

1. Agricultural Development
2. Energy and Natural Resources
3. Employment and Income Generation

Each component consists of a twenty to twenty-five minute cassette-narrated slide presentation and a case study based on the concepts presented in the slides. Each case study is designed to be discussed in one hour. The total time per component is, therefore, approximately 1½ hours and the total program is 4½ hours.

II. Background

1975-1985 was named by the United Nations as the Decade of the Woman. In countries around the world this Decade has been the impetus for legal, social and economic changes improving the position of women. The women in development movement now has research centers, professional associations and networks worldwide.

The concern for women in international development was recognized officially in the United States in 1972 in the Percy Amendment to the Foreign Assistance Act. The amendment mandates that United States foreign aid take into specific consideration the integration of women into development, both as agents and beneficiaries. To help in implementing this mandate, the United States Agency for International Development (AID) has established an Office of Women in Development. AID, as of 1982, has a full policy paper on Women in Development that "demonstrates how LDC* women's concerns are to be integrated into AID's program." It is this policy paper that has served as the philosophical base for the case studies and for the slide/cassette modules on women's relation to agricultural development, income generation and natural resources and energy in developing countries presented in this program.

* Lysser developed countries

The Board for International Food and Agricultural Development (BIFAD) is a United States federal agency that serves as a liaison between Title XII universities and colleges and the United States Agency for International Development. Title XII of the Foreign Assistance Act grants money to United States' universities to strengthen the capabilities of faculties to be able to deal with world hunger and famine through development projects in lesser developed countries. BIFAD is the agency responsible for the development of these materials. They were developed originally as an orientation workshop for university personnel working overseas on development projects. It has been found, however, that the materials are of use in many settings, especially at universities and community colleges. The authors of the slide/cassette training program are:

Helen Henderson, Director of the Office of Women in Development, Bureau of Applied Research in Anthropology, Department of Anthropology, University of Arizona

Marilyn Hoskins, Director of the Participatory Development Program, Department of Sociology, Virginia Polytechnic Institute and State University

Mary Hill Rojas, Director, Office of Women in World Development, Department of International Agriculture, Virginia Polytechnic Institute and State University

III. Suggestions for Use

Many international development programs in lesser developed countries have had disappointing results. One reason for these results has been the failure to take into consideration the activities women perform, their access and control over resources, the incentives seen by women for change and the support the new activities would require. Frequently this failure has resulted in women being cut out of their traditional time-honored roles in contributing to the economic development of their countries. This training program highlights the problems and solutions of third world women in development in three areas: agricultural development; income generation and employment opportunities; and energy and natural resource management. These individual slide programs can be used for various audiences including university, community college, upper level high school classes, civic and church groups, as well as with orientation programs for people working overseas. The programs can be used in various ways:

1. Suggested Agenda for a Full Day Session:

a. Slide presentation - "The Invisibility of Women in Income Generation" - 25 minutes.

b. Small groups of five-eight people - A copy of the case study is given to each participant. The groups read the case study on income generation individually and then discuss the case and do the exercise as a group - 45 minutes

c. Plenary discussion - The small groups come back together in a plenary session to discuss the results of the case study - 20 minutes

d. <u>15 minute break</u>

e. Same sequence as above for the slide presentation, "Gender Issues and Agricultural Development: A West African Example and its case study - approx. 1½ hours

f. lunch break

g. Same sequence as above for the slide presentation "Women, Natural Resources and Energy in International Development" and its case study - approx. 1½ hours

2. Shorter Session:

The slide presentations can also be used individually with or without the appropriate case study. The case study can also be used without the slide sets.

THE INVISIBILITY OF WOMEN IN INCOME GENERATION

by

Mary Hill Rojas
Virginia Polytechnic Institute
and State University

1.	Graphic Title Slide	
2.	Graphic Author Slide	
3.	Graphic Photo Credits	
4.	Graphic Sponsor Slide	
5.	Tanzania Woman with Baby (L. Kirjavainen)	In the past decade, development activities that have targeted women as beneficiaries have primarily focused on women's reproductive, health and nurturing roles, not on their productive roles.
6.	Malaysia Nutrition Charts (M. Mansoor)	For example, this project in Sabah Malaysia focuses on good nutrition and
7.	Malaysia Food (M. Mansoor)	balanced meals and
8.	Haiti Children Seated on Bench (H. Massey)	this Mothercraft Center in Haiti teaches mothers sound health practices for use with their children.
9.	Haiti Children Eating (H. Massey)	In the minds of development planners, women as homemakers and as recipients of social welfare often have been synonymous. Yet the economic work of women in developing countries belies this image.
10.	Sri Lanka Lacemakers (V. Kerns)	As a case in point, a brief tour of Sri Lanka finds women making lace and
11.	Sri Lanka Weaters (V. Kerns)	sweaters for sale;
12.	Sri Lanka Rope (V. Kerns)	spinning rope;
13.	Sri Lanka Ceramics (V. Kerns)	working in ceramics factory; women as

14.	Sri Lanka Metal (V. Kerns)	metalworkers;
15.	Sri Lanka Tea (V. Kerns)	tea pluckers;
16.	Sri Lanka Rice (V. Kerns)	cultivating rice;
17.	Sri Lanka Vegetables (V. Kerns)	and vegetables;
18.	Sri Lanka Breaking Rocks (V. Kerns)	working on road construction;
19.	Sri Lanka Excavation (V. Kerns)	excavating an archeological site and as
20.	Sri Lanka Market (V. Kerns)	market women. There are many reasons for the heightened need to provide employment opportunities for women.
21.	Kenya Water Carriers (L. Kirjavainen)	For example, migration in many lesser developed countries of men from rural and urban areas in search of wage labor has left rural women with increasing work loads, greater decision-making roles and
22.	Kenya Picking Potatoes (L. Kirjavainen)	more agricultural work. However, this migration has also promoted the economic independence of women.
23.	North Africa Riff Market (© Doranne Jacobson)	These Riffian Berber women of North Africa are known for their independence. In the 1960's and 1970's many of the Riff men migrated to France as temporary workers. The women took over at home and marketed goods.
24.	Nepal Market (H. Massey)	In parts of Nepal, women often have control over household production and resources as the men are away herding or trading almost six months of the year.
25.	Haiti Slum (G. Seitz)	This slum, Cite Simone, in the capital city of Haiti is partially a result of migration and
26.	Haiti Selling Colgate (G. Seitz)	this woman, a part of the Cite Simone informal economic sector, is a street vendor of toiletries. Women around the world, in every country, earn less, on the average, than men.

27.	Sri Lanka Coir Fiber Mill (V. Kerns)	These women, working in coir fiber mills in Sri Lanka, earn three times less than do their men counterparts and
28.	Sri Lanka Coir Fiber Mill (V. Kerns)	are often relegated to the most menial tasks.
29.	Graphic The Problems	But both the labor of women and their economic needs for the most part have been invisible to development planners for several reasons:
30.	Graphic Inadequate Data on Women	A first problem is that policy planners and program planners often do not <u>see</u> women's economic roles because of inadequate data.
31.	Kenya Man and Woman Hoeing (L. Kirjavainen)	Typically, as here in Kenya of men and women working together, the man is counted as "farming", the woman as "helping". Women are often misclassified. An example from a developed country, the United States, underscores the problems in developing countries where less resources are available for data collection.
32.	Graphic United States Census (J. Kalbacher)	The United States census asked for "one primary operator of a farm". The man most frequently was named. The result was that only 5% of women were classified as farmers.
33.	Graphic USDA Survey (Jones and Rosenfeld)	Yet, a United States Department of Agriculture survey asked for the primary operators of a farm and the result was that 55% of the women considered themselves farmers.
34.	Virginia Hay (A. Neilan)	These slides of women in southwest Virginia clearly show women as farmers. Here loading hay.
35.	Virginia Broccoli (A. Neilan)	Here packing broccoli.
36.	Virginia Tending Livestock (A. Neilan)	Here tending livestock.
37.	Togo Women's Fields (L. Kirjavainen)	In developing countries these same data errors are made. In many parts of Africa, women cultivate fields of their own as these women are doing in Togo. Development planners often do not <u>see</u> these fields with detrimental consequences for the women and the projects.

38.	Graphic Vegetables, Peanuts, Rice (D. McMillan)	By not seeing these private fields, often cultivated by women, planners would miss 91% of the vegetable production, 80% of the peanuts, and half of the rice, all important crops in development.
39.	Colombia Guinea Pigs (A. Neilan)	Women are, at times, not included in data because their work is often home-based or within the informal economic sector, so less visible. This woman in Colombia South America sells the meat and pelts of her guinea pigs which are housed under her kitchen sink.
40.	Togo Street Foods (L. Kirjavainen)	This woman sells home cooked foods on the streets of a city in Togo. Both she and the Colombian women are invisible to economic indicators.
41.	Graphic Informal Economic Sector in India (AID/WID Policy Paper)	In India, for example, it is estimated that between 41% and 49% of the informal economic sector are women. 15% to 17% are men. Women's economic activities are often connected with household production of goods and services which are not sold on the open market, but which contribute directly to the family economy.
42.	Graphic Nepal-Conventional Model (Acharya & Bennett)	Using the conventional economic model for measuring daily activities in Nepal, men spend 5.81 hours on animal husbandry, agriculture, manufacturing and outside income; women spend 4.62 hours.
43.	Nepal Cooking (H. Massey)	A more realistic model in developing countries is to expand the economic model to include food processing and
44.	Nepal Fuel (H. Massey)	fuel and water collection and household construction.
45.	Graphic Nepal-Expanded Model (Acharya & Bennett)	In this expanded model, women and men spend about the same amount of time on tasks. This model, however, does not include laundering and child care, primarily done by women.
46.	Ecuador Field Work	Women often are not counted in labor statistics because of status reasons. Both men and women often deny that women "work". Although these women hoeing in Ecuador certainly work, in many parts of Latin America, it is a question of honor that a man be counted as head of a household, although the man may be absent because of death, migration, divorce or separation.
47.	Tanzania Family (L. Kirjavainen)	This man in Tanzania is pictured with his fifth and sixth wives. As head of household, his wives reflect his prominent social and economic status. The work of each of his wives increases the economic power of the family.

With an inadequate description of women's economic roles reflected in data, policymakers and program planners and development workers can not plan to meet women's economic needs. There are other obstacles in generating income for women.

48. Graphic
Lack of Access to Education

A second problem is that women often lack access to the education by which to open employment opportunities and to enhance income generation. The majority of the world's illiterates are women.

49. Graphic
Number of Literates
(AID/WID Policy Paper)

For example, in Kenya men are 64.3% of the literates, women 35.1%. In Bangladesh, men are 37.3% of the literates, women 13.2%. In Guatamala, men are 53.9% of the literates, women 38.5%. In Egypt, men are 53.6% of the literates, women 22.4%. Third World countries increasingly accept the importance of both formal and non-formal education, yet schooling for women is still impeded because of several reasons:

50. Nepal
Girl with Cow
(H. Massey)

First, there are competing household and childcare tasks for girls. This girl in Nepal tends animals and smaller siblings from a young age.

51. Gambia
School Boys
(M. Hoskins)

Second, there is a shortage of girls schools in countries where schools are segregated by sex. This Koranic school in a Gambian village teaches only boys.

52. Brazil
Girls at Farm
(M. Rojas)

Third, distance from schools, especially upper primary schools, impede girls' education - These girls from rural Brazil stop school at sixth grade because of the distance to further schooling.

53. Tanzania
Wedding
(L. Kirjavainen)

Fourth, earlier marriage age for girls forces them out of job market. Finally, parents often consider school for girls a poor investment and the shortage of female teachers to teach women, encourage them and provide a role model impedes girls' schooling and subsequent employment and income generating abilities.

54. Graphic
Lack of Access to Modern Productive Resources

A third problem for women is that they have less access to modern productive resources. When production has been emphasized for women, the focus too often has been the creation of a good or service with little attention to marketing and management skills.

55. Malyasia
Tailoring
(M. Mansoor)

These women in Malaysia learn tailoring but will not learn the small business skills that enhance possibilities for marketing their products.

56. St. Vincent, West Indies
Batiks
(A. Neilan)

This United Nations sponsored project for women in the Caribbean produces handsome batiks, but the women do none of the designs, which limits their control of the project once the European designer leaves.

57.	Kenya Woman Sewing (FAO/United Nations)	The Western stereotype that women only need training in homemaking skills rather than income generating skills, has permeated development thinking and has excluded them from a variety of modern technologies. Often, the technology available to women reflects the home economics orientation as symbolized by this woman with her sewing machine in Kenya. In Bangladesh, where women were to be trained as agricultural extension agents, the courses were changed to exclude those on machinery. In their stead was a course on home science.
58.	Kenya Woman Spraying (L. Kirjavainen)	Yet women need training in agricultural technologies as they are called upon to use them as is this woman who is a wage laborer on a Kenyan plantation spraying coffee plants.
59.	Graphic Family Responsibilities, Cultural Acceptability and Work	A fourth obstacle is that many jobs are done at times and in places which are difficult for women who have family responsibilities or which are culturally unacceptable for women.
60.	Nepal Women and Child (H. Massey)	In Nepal, a study showed 66.2% of the women said childcare and the home responsibilities kept them from seeking wage employment outside the home.
61.	Togo Woman and Child (L. J. Harper)	This market woman in Togo tends to her family while she tends to her work,
62.	Kenya Farmers (L. Kirjavainen)	as do these agricultural producers in Kenya. Similarly, many jobs are done at times and in places that are culturally unacceptable for women.
63.	Afghanistan Women and Child (© Doranne Jacobson)	The seclusion of women in many countries, or purdah, often restricts women's work, especially in limiting them to jobs with few contacts with men - seclusion also limits other opportunities such as in education.
64.	Pakistan Two Veiled Women in City (© Doranne Jacobson)	These Pakistani women go to the University, but veiled. Yet, even secluded women work.
65.	Hausa, N. Africa Child with Pot (E. Schildkrout)	This Hausa girl, not yet in purdah, sells the prepared foods her secluded mother makes. Purdah women are seen to do multiple economic tasks, such as
66.	India Purdah Women (D.& F. Keyt)	weaving

67.	India Worker (© Doranne Jacobson)	construction work and
68.	Morocco Woman in Market (© Doranne Jacobson)	marketing, as does this heavily veiled woman on the left from Morocco.
69.	Graphic The Solutions	The challenge, then, for policy makers and development agencies is to recognize these obstacles.
70.	Graphic Data Disaggregated by Sex	One solution is to disaggregate data by sex. Gender is being recognized as an essential variable in data collection.
71.	Graphic ILO Yearbook	The ILO Yearbook of Labor Statistics, for example, breaks down agricultural and non-agricultural production by sex.
72.	Graphic Questionable Data	Data should be considered questionable by planners if not disaggregated. Statistics on farmers, bakers, entrepeneurs, trainees, and tailors in the aggregate are not helpful in considering the often separate and distinct needs of men and women.
73.	Graphic Education	A second solution is to assure access to both formal and non-formal education for women is encouraged. It may be culturally unacceptable for men to train women. Therefore, women need to be recruited and trained as teachers and extension personnel.
74.	Haiti Teacher (M. Rojas)	This woman in Haiti runs a program specifically to train low income urban women in literacy and income generating skills.
75.	Kenya Masai (L. Kirjavainen)	These women extension workers in Kenya talk first with the Masai men while the women wait inside.
76.	Nepal Building (H. Massey)	In Nepal, training facilities were revamped to accommodate women to be trained in forestry.
77.	Virginia Women at Farm (A. Neilan)	Donor countries can provide training. This group of women from developing countries were in the United States for a six-week course on management and the role of women in development. Whatever training is made available, it should be relevant to mainstream economic development.
78.	Graphic Small Scale Enterprises	A third solution is the small scale enterprise, which often fits the needs of women. These enterprises provide women with flexible hours to allow for household skills the women already have or jobs they already do.

79.	St. Vincent Concrete House (A. Neilan)	This building in St. Vincent houses a project of the Partners of the Americas, that makes uniforms for school children, an essential product, and foods to sell to construction workers. The women themselves run the project as a co-operative. Control of the enterprise can rest with the women especially if care is given to assure their management and small business skills through non-formal education and supportive infrastructure.
80.	India Woman Weaving (M. Sprague)	The successful Self-Employed Women's Association in India work with those very poor, illiterate women in the informal sector, providing credit, training and a union, so that the poor have control over their means of production. A wastepaper picker, who once had to rent daily a hand-cart, now is able to own her own. This woman, spinning under an urban stairway, now has access to materials she needs.
81.	Sri Lanka Batik Makers (V. Kerns)	Small scale enterprise often considered for women by development planners is the handicraft project. Although often excellent, caution does need to be taken with these projects. Handicrafts are often geared to a limited and unreliable market, the tourist and overseas specialty markets. These batik makers in Sri Lanka work only irregularly, according to the demand of the tourist trade.
82.	Sri Lanka Batik (V. Kerns)	The crafts are essentially time consuming, as seen in the beautiful intricacy of this Sri Lankan batik, give poor return and produce non-essential, decorative goods, and help little in upgrading skills.
83.	Graphics Projects	Therefore, all projects dealing with small-scale enterprises, need to be carefully evaluated to ensure a reliable market, a fair return on women's labor, careful management and technical assistance, careful continuous evaluation and a craft compatible with the lives of the women.
84.	Graphics Women's Organizations	Traditional women's organizations can be used by development planners as a conduit to assessing needs of women, as means of access to women's participation in development, as a source of power and support for projects and as a way of providing training and education.
85.	Brazil Women's Group (M. Rojas)	This Brazilian rural extension group is common to many women in many countries.

86. Africa Woman with Flag	This woman's organization from Africa is representative of the many women's societies of Coastal Africa that have organized work teams, regulated trade and at times organized strikes against abusive or opposing groups of men.
87. Togo Women Singing (L. Kirjavainen)	These women in Togo have come together to consider appropriate technologies for women.
88. Upper Volta * Women Carriers (D. McMillan)	However, the use of these groups should not lead to a separation of women from mainstream development. The result can be as in Upper Volta where a woman's group, asking for help with cash crops and in establishing a store, were turned down because of lack of funds for "women's affairs".
89. Women with Group (L. Kirjavainen)	Finally, it is essential that donor agencies as well as the host countries, include women as agents of development, recognizing that in all cultures women often have easier access to women than do men. This Finnish woman working in Africa with the United Nations is an agronomist.
90. Nepal Woman by Stove Parts (H. Massey)	This woman from the United States works in Nepal assessing the needs of village women in order to serve as a liaison between the women and the donor agency.
91. Graphic Percy Amendment	In this sense, the mandate of the 1973 "Percy Amendment" to the Foreign Assistance Act needs full implementation. The Percy Amendment required that the U.S. Bilateral Assistance Program "be administered so as to give particular attention to those programs, projects, and activities which tend to integrate women into the national economies of foreign countries, thus improving their status and assisting the total development effort."
92. Graphic Remember	In conclusion, it is essential to remember that successful development design considers the activities and resources of men and women, the opportunities and problems perceived by both men and women, and the infrastructure needed to support change.
93. Graphic The End	

* Since production Upper Volta has become Burkina Faso.

Case Study on

"THE INVISIBILITY OF WOMEN IN INCOME GENERATION

Mary Hill Rojas
Director of the Office of Women in World Development
Department of International Agriculture
Virginia Polytechnic Institute and
State University

CASE STUDY ON THE INVISIBILITY OF WOMEN IN INCOME GENERATION *

Mary Hill Rojas
Virginia Polytechnic Institute and State University

INTRODUCTION

This case study is based on an actual development project. The purpose of the case study is to show that careful attention to gender in the design and implementation phases of a development project is crucial to the project's success. The case involves a project to augment the income of the very poor, urban women. The project initially was designed without careful attention to the activities, problems, and access to resources of these women.

Part I is a description of the daily activities of the women and the constraints they face. There is also a description of the project as originally designed. The descriptions should be read carefully by those doing the exercise. Chart A provides a summary of the reading and a list of questions to guide the readers. Part II asks questions for small group discussion based on the project description. Those doing the exercise also are asked to suggest ways in which the project might better have met the needs of the women. Part III lists some of the actual project modifications and improvements made.

It is suggested that Part I be done in individual study and Part II be done in small group discussion. After the small group study there should be a final plenary session to discuss the small group results and

*This case study is a part of a training project, "Gender Issues in International Development Programs" which was developed under the sponsorship of the Board for International Food and Agricultural Development and funded by the Agency for International Development. The views are those of the authors and should not be attributed to the Agency for International Development. 1984.

to consider Part III, the actual project modifications. It is recommended that the slide-cassette module by Mary Hill Rojas, "The Invisibility of Women in Income Generation," be shown before the case study. The module and the case study can both be completed in one hour and thirty minutes: slide-cassette module 25 minutes; Part I Reading 15 minutes; Part II and Part III 30 minutes; Plenary discussion 20 minutes. It is possible, if necessary, however, to use only the case study without the slide-cassette module.

Part I: ACTIVITIES AND CONSTRAINTS

The target population of this project are the women of the more than 80,000 people who live in the slum neighborhood called "Pueblo Nublado" in the capital city of Sabadica on the Island of Martes.* "Pueblo Nublado" covers less than two square kilometers. Environmental conditions in "Pueblo Nublado" are harsh. The houses, consisting primarily of one to three room concrete dwellings with tin roofs and cement or dirt floors, often house large, extended families or more than one family. Few houses have latrines and none have running water. Sanitation and drainage are very serious problems. Health concerns are numerous. Diarrhea remains one of the major problems of "Pueblo Nublado" and, combined with malnourishment, accounts for the majority of childhood deaths. The infant mortality rate for the country as a whole is 123/1000 compared to the United States of 12/1000. Malaria, tuberculosis, tetanus and parasites are also continuing problems.

*fictitious names

Only 13% of the adult population of "Pueblo Nublado" report a regular salaried job. Twenty-two percent report no source of income. For women, trade constitutes the primary means of earning cash (44%). Six percent of the women work in factories and 4% work in cottage industries, primarily as seamstresses. Seventy-eight percent of the women in "Pueblo Nublado" have no schooling whatsoever. Fifty-two percent of the residents are women and many of these are heads of households with children.

The women of "Pueblo Nublado," for the most part, are market women, selling trays of chiclets, toothpaste, peanuts, or other small items on the streets of Sabadica. They often walk long distances transporting these goods on their heads. Women also sell homemade foods on the streets, frying dough or breadfruit over small charcoal stoves. Some women own a simple sewing machine and make clothes for sale. The country is known for its colorful local art and wooden carvings sometimes made in "Pueblo Nublado." However, tourism, the primary market for this art, has been slowed because of the island's poverty and the central market is filled with unsold paintings and handicrafts.

Aside from their attempts to make a living through trade and other work, women do household chores such as carrying water from the community fountains to their homes, transporting charcoal for cooking, shopping, cooking meals for the family and caring for children. These daily rounds of household tasks are made difficult by the lack of access to adequate resources.

The Project

In the center of "Pueblo Nublado" is a non-profit medical complex

funded by private and government funds. Two centers within this complex are dedicated to preventive health services which are combined with remedial education and job training activities. One of the centers provides some 150 mothers of severely malnourished children the chance to learn marketable skills in small scale enterprises while their children receive treatment in a "headstart" program. It is this project on which this case study focuses.

The "Pueblo Nublado" medical complex supports the "headstart," all day program for severely malnourished preschool children. The school bathes the children, dresses them for the day in uniforms, provides preschool skills and play, feeds them and monitors their nourishment. The mothers help feed their children and assist the teacher throughout the day. The criteria for entrance to the program is severe malnourishment of the child. The children "graduate" when nourished. The school is highly thought of by the mothers and they try very hard to live up to the standards set by the school for cleanliness by bringing their children each morning washed and scrubbed.

At the same time the children are in school the mothers of the children are taught income generating skills. They are taught to embroider and to make handicrafts, including wood carvings. The medical complex buys the goods the women make. The profits from these sales are shared by the women. When their children are well nourished the women leave the project to use on the open market the skills they have learned.

PART II

Small group discussion: Use Chart A as the center of your discussion in

answering the following questions:

1. What positive aspects of the project can you identify in relation to the realities of the mothers' lives?
2. What negative aspects of the project can you identify in relation to the realities of the mothers' lives?
3. What suggestions do you have to improve the project?

Chart A

A CASE STUDY ON INCOME GENERATION FOR WOMEN

"Pueblo Nublado," An Urban Slum

ACTIVITIES

Water carriers

Transporting goods

Cooking

Street Vending

Tourist Trade

Sewing

Childcare

CONSTRAINTS

Housing
- One-three rooms
- Lack of water, latrines, electricity

High illiteracy (78% for women)

High number female-headed households

Health concerns
- Malaria
- Tuberculosis
- Parasites
- Malnourishment
- High infant mortality rate

Unemployment - only 6% women have salaried positions

PROJECT

"Pueblo Nublado" medical-complex

A. "Headstart" project
   a. bathe children
   b. uniform children
   c. feed mothers and children
   d. provide schooling
   e. criteria for entrance: Malnourishment - children "graduate" when nourished

B. Income Generation project
   a. Mothers of "Headstart" children taught to embroider and carve wood
   b. Project buys goods and sells them
   c. Profits shared by mothers

QUESTIONS TO ASK

1. What do women do in their daily lives?
2. What might the women see as their needs?
3. What are the incentives and rewards of the project?
4. What is the plan for the project?
   a. Are the products produced compatible with lives of women?
   b. Is there careful management and technical assistance?
   c. Is there a reliable market?
   d. Is there a fair return on labor?
   e. Is there an evaluation planned?
5. Is there the needed infrastructure to support the project?

PART III: PROJECT MODIFICATIONS, IMPROVEMENTS AND COMMENTS

1. The skills taught, embroidery and handicrafts, given the poor tourist trade and the non-essential products, were changed. Job skills more relevant to the existing market were introduced: production of baked goods, poultry-raising, and welding. These products were compatible with the women's lives and the realities of the marketplace.

2. Co-operatives were set up to ensure the infrastructure support needed by the women when they left the program. The women were trained in the management skills needed for successful cooperatives and provided with a long term management consultant housed at the medical complex.

3. The time (all day) that the women had to be at the school to help with the children and participate in their own training was a burden and meant giving up their street jobs and substituting the income with the sale of the goods they produced at the center. The time the program demanded, therefore, was shortened and made more flexible.

4. The daily bathing of the children at the school set a standard difficult for the mother to achieve on their own given the lack of access to water.

5. The project provided a disincentive for sound nutrition by "graduating" the children from the coveted school once nourished. Any suggestions?

Script for Slide
Presentation on

"GENDER ISSUES AND AGRICULTURAL DEVELOPMENT: A WEST AFRICAN EXAMPLE"

Helen Henderson
Director of the Office of Women in Development
Bureau of Applied Research in Anthropology
Department of Anthropology
University of Arizona

GENDER ISSUES AND AGRICULTURAL DEVELOPMENT: A WEST AFRICAN EXAMPLE

Helen Henderson
University of Arizona

1.	Graphic Title Slide	
2.	Graphic Author Slide	
3.	Graphic Photo Credits	
4.	Graphic Sponsor Slide	
5.	Nigeria Kofyar Hill Farm (R. Netting)	In order to undertake effective development planning, policy makers need to understand the conditions of agricultural production in developing nations. These conditions include
6.	Upper Volta * Mossi Farmer (R. Henderson)	gender-related agricultural activities in both cropping and livestock systems and gender-related access and control
7.	Upper Volta Woman with Baby (R. Henderson)	of both physical resources, land and capital and human resources such as labor, skills and information.
8.	Graphic Females as Percent of the Agricultural Labor Force (R. Dixon, 1982)	Women are important in agricultural production. Estimates of 82 countries show that women comprise 46% of the agricultural labor force in Africa; 45% in Asia; 31% in North Africa and the Middle East.
9.	Graphic Females as Percent of the Agricultural Labor Force: West Africa (R. Dixon, 1982)	For West Africa, alone, there is high variation: Central African Republic with slightly over 55%; Upper Volta with slightly under 55%; Nigeria with over 45% and Niger with approximately 30%.
10.	Graphic Women, Men and Cropping Systems	Throughout the world, both sexes are often involved in a number of agricultural activities dealing with cropping systems.
11.	Nigeria Kofyar Women Transplanting Millet (R. Netting)	These activities include planting, weeding, and transplanting such as these women are doing in Nigeria, harvesting.

* Since production, Upper Volta has been renamed Burkina Faso.

12.	Nigeria Kofyar Men and Women Placing Harvest on Storage Racks (R. Netting)	These Nigerians store their harvest on racks high off the ground.
13.	Nigeria Women and Men with Late Millet Sheaves (R. Netting)	Women and men often work together in these activities.
14.	Nigeria Kofyar Cooperative Work Group (R. Netting)	They also take part in cooperative work groups, particularly at times of labor bottlenecks such as happen during planting season.
15.	Nigeria Firing the Bush (R. Netting)	But gender-differentiated task specialization also occurs. Almost everywhere, men specialize in the cutting of trees and clearing of the forest through burning.
16.	Graphic	As we see in this United Nations chart, women may have special responsibility for weeding and hoeing, harvesting and transporting crops from the fields.
17.	Nigeria Kofyar Girl Carrying Harvest to Granary (R. Netting)	This Nigerian girl transports her harvest from the fields to the granaries.
18.	Nigeria Man with Palm Nuts (R. Netting)	And men and women may specialize in different phases of production, for example, here in Nigeria the men pick the palm nuts.
19.	Nigeria Processing Nuts into Oil (R. Netting)	And both women and men work in processing the nuts into oil.
20.	Nigeria Woman Digging Sweet Potato (R. Netting)	Or, women have the job of digging up sweet potatoes prior to food preparation.
21.	Nigeria Sorting Tubers (R. Netting)	And for sorting tubers.

22.	Nigeria Cassava Field (R. Henderson)	In many areas, men and women have special responsibilities for different crops. Among the Onitsha Ibo of Nigeria, women concentrate on growing cassava, here pictured,
23.	Nigeria Yam Barn (R. Henderson)	and men on yam production.
24.	Niger Garden (H. Henderson)	Women are often associated with the planting and upkeep of household kitchen gardens such as these
25.	Girl Harvesting Wild Plants (R. Netting)	and with gathering of wild fruits and leaves for family meals.
26.	Senegal Man Hoeing Peanuts (V. Marcarian)	There may also be critical differences between male and female work patterns, with men concentrating on cash crops, as seen here in Senegal,
27.	Upper Volta Workers in Cotton Field (H. Henderson)	and women concentrating on subsistence crops, as well as on cash crops, as here with cotton in Upper Volta.
28.	Upper Volta Irrigation (R. Henderson)	New techniques, such as irrigation, may bring about different tasks for both men and women
29.	Niger Woman Pounding Grain (E. Arnould)	and increased crop yield may create new labor constraints in farm work and food processing. Similarly, new varieties of crops with higher productivity, may lead to increased labor inputs in weeding, often a female task.
30.	Upper Volta Men Threshing Grain (R. Henderson)	Food processing and household maintenance are an integral part of the farming system. While men are often active in threshing grain, as here in Upper V^' a,
31.	Upper Volta Women Winnowing (H. Henderson)	women and children do most of the winnowing
32.	Upper Volta Women Grinding Grain	and almost all of the grinding and pounding of grains and tubers into edible form.
33.	Upper Volta Woman Cooking (H. Henderson)	Women are engaged in transforming agricultural produce into traditional dishes through cooking.

34.	Nigeria Kofyar Women Drying Yams (R. Netting)	The need to preserve food also creates tasks for women, as with these Nigerian women cutting yams for sun drying.
35.	Upper Volta Men and Women in Cotton Field (R. Henderson)	Time allocation studies in Upper Volta have shown that while both men and women work very hard during the rainy season
36.	Upper Volta Man Weaving (R. Henderson)	and continue to work in the dry season,
37.	Upper Volta Fulani Men at Rest (R. Henderson)	men have more leisure during the dry season than do women.
38.	Upper Volta Mossi Women at Well (S. Evett)	Women continue to perform at moderate activity levels in household maintenance tasks such as food preparation, marketing and collecting wood and water.
39.	Graphic Women, Men and Livestock Systems	As with cropping systems, throughout the rural world both sexes also are involved with livestock systems.
40.	Nigeria Goat Corral (R. Netting)	In West Africa, women are active in livestock production, usually being concerned with the care of goats, sheep and chickens.
41.	Upper Volta Boy with Fodder (H. Henderson)	Herding of small stock, not left within the compound, is usually left to children who, with women, may also be responsible for collecting fodder.
42.	Nigeria Fulani with Herd (R. Netting)	In many societies, adult men are seen as the managers of large animal herds. Yet women who accompany men on transhumance, take up the tasks of absent men, and also engage in herd management.
43.	Niger Fulani Woman in Niger Market (H. Henderson)	Women are involved in dairy production and are milk vendors, as this Fulani woman from Niger, who sells her milk from gourds.
44.	Upper Volta Fulani Corral (R. Henderson)	Among the Fulani, each wife is allocated a number of cows and it is her responsibility to decide how to use the milk.

45.	Nigeria Fulani Woman (R. Netting)	Among the Fulani, when women own cattle they often keep the animals in their fathers' or brothers' herds to protect their interests in case of divorce.
46.	Niger Three Wives of Tuareg Chief (H. Henderson)	Findings from a survey in Niger show that in a particular village, 64% of a woman's total property was in livestock and only 8% in cultivated fields. Moveable property such as small stock makes a better investment in an area of high divorce. These women are the three wives of a Tuareg chief in Niger.
47.	Niger Livestock Market (H. Henderson)	Small stock play an important role in a woman's financial stability. In areas of Niger, data indicate that women sometimes own more small stock than men and that since small stock is easier to market than large stock, women have considerable financial flexibility. Nevertheless, men predominate in this Niger livestock market.
48.	Women in Niger Market with Pots (H. Henderson)	Women may use the income from the sale of small agricultural products to buy household goods such as these pots in a Niger market or to invest in more animals.
49.	Nigeria Fulani Woman with Milk to Sell (R. Netting)	Money from the sale of milk products is highly important to certain ethnic groups. When Fulani women sell milk, they may use the proceeds for their families and themselves to supplement family diet, often through barter of milk for millet.
50.	Nigeria Fulani Woman Pounding Food (R. Netting)	The small sums women gain through marketing, in aggregate, substantially contribute to total household income.
51.	Upper Volta Woman Inside Her House (H. Henderson)	Items purchased from the sale of milk products may be part of stored capital, as with this woman from Upper Volta, who keeps her property in these calabashes in her home,
52.	Upper Volta Fulani Woman with Child (H. Henderson)	or capital may be worn as jewelry. When a project emphasizes beef production, women may find that though total household income increases from the point of view of the income of the male "head of household" who controls the cattle, women's income may decline, due to loss of control over dairy sales.
53.	Niger Penned Cattle (V. Marcarian)	Therefore, with livestock projects, it is apparent that planners understand the current patterns of control over earnings and expenditures within and between households.

54.	Graphic Women, Men and Household Systems	Household is a concept which sometimes masks women's independent needs for income and independent sources of support.
55.	Traditional Nigerian House in Onitsha (R. Henderson)	The classic assumption that household is an undifferentiated decision-making unit applies poorly to many African kinship systems.
56.	Interior of House in Onitsha (R. Henderson)	For example, among the Onitsha Ibo of Nigeria while the husband and his wives lived under the same roof
57.	Husband's Quarters (R. Henderson)	the husband had his own quarters and
58.	Wife's Bedroom (R. Henderson)	each wife had her own bedroom
59.	Wife's Kitchen (R. Henderson)	and separate kitchen. Each person contributes to the meeting of both familial and personal needs.
60.	Nigerian Women and Children (H. Henderson)	The need for independent resources may also be present even when women live in relative seclusion
61.	Niger Market Scene (H. Henderson)	as in certain areas of Niger where secluded women trade sending out their children to the market as their agents.
62.	Nigeria Kofyar Children with Chickens (R. Netting)	Recent studies indicate that aggregate household income is not always a good predictor of household well being. For example, it may fail to predict child nutrition, as the woman's access to and control over the resources with which to help feed their families is important to children's nutrition.
63.	Upper Volta Family (H. Henderson)	Obviously there is important interdependence among men, women and children. But the nature of this interdependence should not be assumed a priori. We need to look at the basic economic interests of both men and women, both within and outside of households.
64.	Graphic Gender-Related Access and Control of Resources: Land, Capital and Labor	While there are gender-related agricultural activities associated with cropping and livestock systems, also gender plays a role in the access and control of the resources of land, capital and labor.

65. Nigeria Homestead (R. Henderson)	While women appear to have greater access to and control of land in areas where land and fixed resources are inherited through women,
66. Nigeria Farmland (R. Henderson)	in many agricultural groups, women and men are granted use rights. That is, they may grow crops on the land and use the produce,
67. Nigeria Elders (R. Henderson)	but ultimate control over the land, including the right to reallocate it, lies with the elders of the kin group, like this council of elders, who collectively have responsiblity for the land.
68. Nigeria Kofyar Male Farmer (R. Netting)	In other traditional societies, such as with this Kofyar man of Nigeria, where land is intensively cultivated, rights to land are mainly held by individual men; but women are not entitled to own land.
69. Nigeria Kofyar Women Farmers (R. Netting)	Women do, however, obtain use rights on a yearly basis and plant a variety of crops.
70. Graphic Percentage of Crops Planted by Mossi Women (D. McMillan)	Among the Mossi of Upper Volta, a study showed the importance of women's use rights in land to overall agricultural productivity. In one village, women planted 19% of the total area in sorghum and millet, and 66% of the area in peanuts.
71. Upper Volta Cotton Granary (R. Henderson)	However, no women cultivated separate or private plots of cotton, though they worked on men's plots.
72. Upper Volta Man Farming Irrigated Plot (R. Henderson)	When land is irrigated, it rises in value and changes in land tenure arrangements often follow with the result that women may lose their traditional use rights. New changes in land systems need to take into account the fact that women's fields may be their major source of independent income.
73. Upper Volta Fenced Land (H. Henderson)	As symbolized by these fenced lands in Upper Volta, particular difficulties occur when government laws permit land registration only in the name of the husband or puts land up for sale, since women often lack the capital to buy it.
74. Nigeria Kofyar Women and Men Hoeing (R. Netting)	Also, women generally have very limited access to credit since they often lack education, land ownership
75. Nigeria Women with Seedlings (R. Netting)	and have limited cash resources.

76. Upper Volta
Women Standing
by Granary
(R. Henderson)

However, women often do have some control of their crops. In Upper Volta, women may have their own granaries, as here, for the crops raised on their [usufruct or] "use" plots

77. Upper Volta
Man by His Granary
(R. Henderson)

as do men.

78. Upper Volta
Woman with Basket
of Beans
(H. Henderson)

And women have control over the disposition of crops they have produced on the land allocated to them. Some of the produce is used for family as this woman's beans;

79. Upper Volta
Market Women
(H. Henderson)

but, depending on the yearly harvest, a considerable portion may be sold in the form of raw or processed food, as these market women are doing.

80. Upper Volta
Woman with Twins
(R. Henderson)

This woman is processing red sorghum to make beer for sale while tending her twins.

81. Upper Volta
Woman at Market
Stall
(H. Henderson)

Proceeds from thse market sales are used to buy a variety of items such as food

82. Upper Volta
Clothing for Sale
(H. Henderson)

and clothing.

83. Upper Volta
Men and Women at
Cotton Harvest
(H. Henderson)

It is critically important that development practitioners understand the investment in and control over crops and land resources. These men and women harvest cotton. Since cotton is a crop grown on communal fields, an increase in cotton production can draw women away from work on their privately worked fields

84. Niger
Market Woman
(R. Henderson)

and decrease their disposable income from market sales derived from agricultural production.

85. Upper Volta
Male Migrants
(H. Henderson)

Besides land and crops, changes in the nature of the extended family, often associated with male migrations to seek off-farm employment, may also leave women with increased agricultural work. This is especially true when male labor groups are needed for clearing fields or herding cattle. These men are migrants from Upper Volta.

86.	Upper Volta Woman Picking Cotton with Child on Back (H. Henderson)	Since women generally have lower income then men, they find it hard to pay for wage laborers at times of agricultural bottlenecks.
87.	Graphic Gender-Related Access and Control of Resources: Information	The access and control of women over other resources, such as new information, may be limited.
88.	Upper Volta Extension Agent (H. Henderson)	For example, extension agents, as this man in Upper Volta, are usually men who may be reluctant to deal with women.
89.	Upper Volta Man Farming (R. Henderson)	Also, when women's farming is focused on subsistence crops and extension activities are focused on cash crops, women do not receive much attention from extension agents.
90.	Upper Volta Penned Goats (H. Henderson)	In addition, approximately one-third of 63 women interviewed during a livestock project in Upper Volta said that they had lost goats and sheep during the past year; however, only 5% of those interviewed said they had vaccinated their small ruminants. Most said they had never been informed directly about vaccination.
91.	Upper Volta Women's Meeting (R. Henderson)	Women are, however, eager for technical advice to increase new productivity as here in a livestock women's meeting in Upper Volta.
92.	Upper Volta Women Giving Children Weaning Food (H. Henderson)	They want to improve their children's nutrition;
93.	Upper Volta Woman and Improved Stove (S. Evett)	and ease their work burdens in farm work and home work. This woman in Upper Volta stands behind her improved stove which alleviates her cooking burden.
94.	Mossi Women (H. Henderson)	To reach the people who do agricultural work, international development programs must work with women as well as men - women as individuals and in groups.
95.	Upper Volta Woman Extension Agent (R. Henderson)	Extension agents - especially female extension agents - are a good link, and can work effectively with women without gender constraints. Since most extension agents are male, however, the men can also be trained to work with women through women's groups.

96.	Upper Volta Fulani Woman (R. Henderson	In conclusion, development agents must be aware of regional differences in gender-related work patterns and in household economic patterns.
97.	Upper Volta Mossi Women (R. Henderson)	But mainly, planners must talk to the women about their perceived opportunities and constraints and ensure that their work, subsistence as well as market-oriented, household-based as well as field-based, paid as well as unpaid, is counted in development plans to increase agricultural productivity.
98.	Graphic Remember	Remember, successful development design considers the activities and resources of men and women, the opportunities and problems perceived by both men and women, and the infrastructure needed to support change.
99.	Graphic The End	

Case Study on

"GENDER ISSUES AND AGRICULTURAL DEVELOPMENT
A WEST AFRICAN EXAMPLE"

Helen Henderson
Director of the Office of Women in Development
Bureau of Applied Research in Anthropology
Department of Anthropology
University of Arizona

CASE STUDY IN GENDER ISSUES AND AGRICULTURAL DEVELOPMENT: A WEST AFRICAN EXAMPLE

Helen Henderson
University of Arizona

Introduction

The following case study is based on an actual livestock project in West Africa. The purpose of the case study is to show that careful attention to gender in the design and implementation phases of a development project is crucial to the project's success.

Part I is a description of the daily activities of the Bot village women, their relation to livestock and the constraints they face. There is also a description of the project as originally designed. The descriptions should be read carefully by those doing the exercise. Part II asks questions for small group discussion based on the project description. Those doing the exercise also are asked to suggest ways in which the project might better meet the needs of the women. Part III lists some of the actual project improvements suggested by a consultant.

It is suggested that Part I be done in individual study and Part II be done in small group discussion. After the small group study there should be a final plenary session to discuss the small group results and to consider Part III, the actual project modifications. It is recommended that the slide-cassette module by Helen Henderson, "Gender Issues and Agricultural Development: A West African Example," be shown before

*This case study is a part of a training project, "Gender Issues in International Development Programs" which was developed under the sponsorship of the Board for International Food and Agricultural Development and funded by the Agency for International Development. The views are those of the authors and should not be attributed to the Agency for International Development.

the case study. The module and the case study can both be completed in one hour and thirty minutes: slide-cassette module 25 minutes; Part I Reading 15 minutes; Part II and Part III 30 minutes; Plenary discussion 20 munutes. It is possible, if necessary, however, to use only the case study without the slide-cassette module

PART I A DESCRIPTION OF THE VILLAGE

The village of Bot*, population 504, has no school other than Koranic, open only to boys, and no dispensary. It has a weekly market. Government agents visit the village with some regularity. Within the village, dispersed household settlement is based on patrilineal affiliation. Although it was not uncommon for men to leave the village to find more lucrative work, most of the women have not resided outside the village.

The people of Bot consider themselves to be primarily cattle-herders, but they are becoming more sedentarized, farming their own fields, yet keeping cattle as an important element in their economy. Bot women, however, do little agricultural work.

The Bot are known for the independence of the women and the individualism of the men. Just as a man's authority is based mainly on his personal characteristics, the influence of a woman on the community i not dependent on her position in the social structure, birth order or family prestige. Within the loosely structured Bot extended families, few everyday activities bring the larger group together, through individual visiting is common.

The Bot men own cattle. Over one third of the Bot women sampled reported having received cattle as gifts, for example at Muslim baptism. None of the women said they had purchased cattle, though some expressed an interest in doing so if they had sufficient funds. The women do not sell cattle often and, when they do, major reasons are to buy jewelry prior to marriage, or to pay for medical expenses. Before selling cattle, a woman asks the permission

* Fictitious name

of the man in whose herd her cattle are kept and she sells only through a man, not directly. All of the Bot women interviewed who said they owned cattle, kept their animals in their husbands's herds or those of male relatives. They did not appear as well informed about modern veterinary practices as did the men although they routinely fed calves and cared for sick animals.

Bot women's major interest in cattle lies in the milk which they routinely sell from cows allocated to them by their husband. The milk is sold to neighboring agricultural peoples with few cattle. Part of the Bot herd is kept near the compound for milking purposes. Milk is used both for family and personal needs. With milk by-products, women also make soap, butter and yogurt. Proceeds from the sale of milk are used to buy jewelry, condiments, cloth and millet. Jewelry is both an important status symbol to a married woman and a form of easily moveable property in case of divorce.

Bot women also own small ruminants, especially those women between the ages of 40-50. They purchase these animals mainly by money gained from the sale of milk. As with cattle, Bot women need their husband's permission to sell small ruminants. Major items purchased by the sale of animals are clothing, condiments and millet. All women regard small ruminants as an investment. They emphasize that these animals are a hedge against famine during the beginning of the rainy season.

Almost half of the women interviewed say they own chickens, and the majority of the women have purchased the animals themselves. Most women keep poultry around the compound and sell it themselves, when they wish. Chickens are considered good investments and easily affordable. Although chickens are useful for women to own, most women do not eat chicken eggs, fearing consumption would cause difficult childbirth. None of the Bot women sell eggs.

The Project

The overall goal of the project was to improve the quality of life for people in the area by managing range resources and other feed supplies through improved animal health and selection. Specific goals of the project were 1) to organize local groups of livestock producers to initiate changes in animal health, livestock production and range management practices; 2) to secure quantitative baseline data for range and livestock management practices from which to design program interventions; 3) to test a number of animal health, livestock production and range management innovations; and 4) to train host country nationals for roles in future livestock projects.

After the project had been underway for one year, the social scientist on the development team decided that phase one would be more effective and comprehensive if it also established baseline data on women's livestock practices and built women's livestock needs into project training. A female anthropologist was brought onto the team for a three month period, and assigned to one of the six project sites. Her job was to survey women's roles in livestock production, their problems with livestock, and their livestock needs.

Village livestock committees, consisting entirely of men, had already been established at each site before the end of the first year on the project. At the site discussed in this module, village men representing both livestock-holding and farming interests, periodically met to exchange information with technical specialists from the project and the government

livestock service.

A young man was already in the village serving as a livestock extension agent for the project. The closest female extension agent was associated with a garden project over 20 kilometers away.

There are very few female extension agents attached to the country's livestock service; most female agents are associated with crop production or health programs. Overall, male extension agents outnumber female agents by 10 to 1.

When women were questioned concerning what they would like to see develop from the livestock project, they gave a variety of opinions:

1. Women said that though government agents visited the village from time to time, they did not talk to them, neither did the project's livestock extension agent.

2. Women expressed concern that so many of their small ruminants and their chickens die of disease. Women said they did not know about possible preventive measures and were confused about different modern remedies they had heard about.

3. Most women who had small ruminants said that their husbands paid for the vaccine. Several, however, said they would pay for the vaccine themselves. All said they would pay the required amount for poultry vaccinations to keep their chickens from dying.

4. Some women said they would be interested in undertaking a poultry project and thought that they would get a better share of such a project if women were in charge.

5. Women pointed out that if there were going to be additional animals, there would be a need for a well near to the village.

6. Women argued that if they were in better health they would have more strength to develop livestock activities.

7. Many women expressed concern for their children's health and asked why the project was planning to vaccinate small ruminants and chickens when the village children had received no vaccinations.

PART II: SMALL GROUP DISCUSSION

After reading the brief description of village women's economic activities, access to resources, and expressed needs for village improvements in Part I, take the role of project personnel and attempt to design interventions that would meet some of the women's needs in relation to the goals of the project. Before making your suggestions on the chart below, discuss the following questions:

What limitations are inherent in the original project design?

What differences exist between women's and men's economic activities and access to resources?

What are constraints to women's participation in the project?

What infrastructure is needed to continue the project?

Listed on the following page are the project's objectives. As a group, consider activities for each objective that would meet the needs of the Bot women.

PROJECT OBJECTIVES AND THE NEEDS OF WOMEN

Project Objectives	Activities to Insure the Inclusion of Women
1. Organize local groups of livestock producers to initiate changes in animal health, livestock production, and range management.	
2. Establish quantitative baseline data for range and livestock management practices from which to design program interventions	
3. Test a number of animal health, livestock production and range management innovations.	
4. Train host country nationals for roles in future livestock projects.	

When you have finished listing your suggested activities, turn to Part III to see what the consultant anthropologist suggested.

PART III: CONSULTANT'S RECOMMENDATIONS

Original	Modified
1. Organize local groups of livestock producers to initiate changes in animal health, livestock production and range management.	A. 1. Encourage formation of village women's livestock committees with representatives from different patrilineal groupings.
	2. Encourage middle-aged women and traditional and innovative community leaders to participate in committees.
	3. Form committee to work with project planners on types of programs suggested by consultant and on other programs women may initiate.
	B. Increase contacts of government officials (specifically project livestock agent) with women, using committees as mechanism.
2. Establish quantitative baseline data for range and livestock management practices from which to design program interventions.	A. Conduct survey to get more detailed information (comparable to that already collected from men) on women's livestock holdings.
	B. Gather more detailed data on women's household incomes as related to livestock holdings.
3. Test a number of animal health, livestock production and range management innovations.	A. Caution to be exercised on any program emphasizing calf nutrition at the expense of dairy production for sale or exchange. Such a program will negatively affect Bot women's income.

3. continued

B. Any program advocating increased sale of cattle must be undertaken in conjunction with opening up credit opportunities for women to purchase cattle. In general, profits from sale of male-owned cattle may not reach women.

C. Experimental efforts to improve breeds of cattle for dairy purposes.

1. If increased milk production, look into cheese making and improved soap production.

2. Closely examine market outlets and consumer interest

D. Undertake more intensive information and demonstration program on small ruminant disease. Program will be conducted in various neighborhoods using male and female livestock committees to create links between government agencies and local peoples.

E. Nutritional education program will be part of all vaccination programs.

F. Develop decentralized, low-cost chicken project if sufficient local cooperation. Project will be co-ordinated by female livestock committee, as interest develops.

1. Female livestock committee to coordinate poultry vaccination program.

2. Nutritional program to accompany poultry program.

3. If chickens or other items are to be purchased, credit will be made available to the women's committee.

4. Consumer market study to survey attitudes on increased poultry and egg consumption and marketing possibilities.

4. Train host country nationals for roles in future livestock projects.

A. Recruit and train female extension personnel to help local women handle own economic affairs and thereafter to serve as resource personnel.

B. Stress importance of female livestock personnel recruitment at national, district and local levels.

C. Integrate women into already existing programs. Seek assistance from already trained female extension workers and female government officials in recruiting women as agents.

D. Utilize female extension agents to further animal health campaign, livestock production for consumption and sale programs and hygenic milking practices.

Script for Slide
Presentation on

"WOMEN, NATURAL RESOURCES AND ENERGY IN INTERNATIONAL DEVELOPMENT"

Marilyn Hoskins
Director of the Participatory Development Program
Department of Sociology
Virginia Polytechnic Institute and
State University

WOMEN, NATURAL RESOURCES AND ENERGY IN INTERNATIONAL DEVELOPMENT

Marilyn Hoskins
Virginia Polytechnic Institute
and State University

1.	Graphic Title Slide	
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5.	Graphics Activities	
6.	Nepal Village Street (M. Hoskins)	In rural, non-commercialized areas, women make major decisions concerning natural resources.
7.	Nepal Woman Carrying Wood (H. Massey)	They often provide wood
8.	Niger Woman Cooking (M. Hoskins)	as well as use it.
9.	Upper Volta * Woman Carrying Water (M. Hoskins)	They provide water
10.	Nepal Woman Washing Pot (M. Hoskins)	as well as use it.
11.	Niger Woman Carrying Fodder (M. Hoskins)	They collect natural vegetation for fodder and
12.	Upper Volta Shea Nut Butter Making (M. Hoskins)	for food. Here women in Upper Volta process Shea or Karite tree seeds for cooking oil.

* Since production, Upper Volta has been renamed Burkina Faso.

13.	Upper Volta Women Weaving Baskets (M. Hoskins)	Women collect and use ingredients for medicines and crafts, as these women weaving baskets,
14.	Kenya Basket Market (M. Hoskins)	both for household use and for sale.
15.	Niger Woman Gardening (M. Hukill)	Women frequently garden as well as help in family fields in areas where they have access to land.
16.	Niger Pottery Market (K. Arceneaux)	They may also build houses, roads and use soil for pottery jugs, pans and stoves.
17.	Nepal Vegetable Stand (H. Massey)	Menus, housing, life styles and family income are dictated by what resources women can find close to their homes,
18.	Upper Volta Woman Carrying Building Supplies (S. Hoskins)	to their children and to their other household tasks.
19.	Niger Woman Making Roof (M. Hoskins)	The woman making a new roof here in Niger is dependent on availability of materials as well as time and skill.
20.	Niger Herds at Well (M. Hukill)	While men may have access to resources far from home,
21.	Niger Woman with Animals (M. Hoskins)	women such as this Nigerian must remain and must give up raising animals when there is no more fodder locally available.
22.	Nepal Woman in Tree (F. Carson)	This Nepali woman has climbed to the top of the tree to obtain the last available leaves for fodder.
23.	Upper Volta Woman's Garden (M. Hoskins)	How will these women provide for their families when no natural vegetation is left around their households? A woman's garden in Africa is usually in sight of her home, as the garden here in the forefront in Upper Volta.

24.	Niger Women and Children at Lake (K. Arceneaux)	Men, women and children are all dependent upon the sustainable use of natural resources. But because of women's dual economic and nurturing roles and the specific tasks they perform, they have separate interests from men in resource use and management.
25.	Graphic Interest in Natural Resources	A summary of a number of case studies, mainly from Africa, shows differences in women's and men's interests in the use of natural resources. Women's interests tend to be domestic; men's tend to be commercial - planning successful activities requires that the differences between men's and women's interests in species preferred, the location of a project and even in project goals be identified and considered. It is inconceivable that projects dealing with natural resources which do not include women can succeed in areas where women make so many of the resource-use decisions.
26.	Graphic Access	
27.	Haiti Eroded Landscape (M. Hoskins)	As natural resources become less available as here in Haiti's denuded hills
28.	Niger Bare Field (M. Hoskins)	and here in Niger with bare fields, a cycle of pressure on human and physical resources develops.
29.	Nepal Woman with Basket (H. Massey)	First, women spend more time and energy walking further to collect products.
30.	Nepal Eroded River (H. Massey)	Women must cultivate larger areas because less ground cover leads to erosion, high soil temperatures and other factors resulting in poorer soil and smaller yields.
31.	Upper Volta Woman with Son in Garden (M. Hoskins)	Second, when time and energy restraints become too great, many ask daughters and other family members for help. Daughters may quit school or family size may increase when more labor is needed.
32.	Nepal Women Bearers (H. Massey)	Third, life styles or the use of basic resources begin to change. Substitute foods appear and others are seen less often. Formerly cooked foods are eaten raw or fewer meals are served.

33. India Dung Piles (V. Kerns)	Dung is substituted for fuel wood. Women give up raising ruminants, have less money, but must buy more essentials. Some family members leave home to seek off-season employment. Fourth, families break up as women may have to leave in search of food or money and men may migrate permanently. Seed and breeding stock are consumed.
34. Graphic Decreased Resources	Decreased resources, then, result in: Increased time and energy spent by women, increased demands for family labor, negative changes in the family life style and disintegration of family bonds.
35. Graphic Briscoe Energy System (J. Briscoe)	This is an illustration suggested by the early work of John Briscoe in Bangladesh. Humans, animals and vegetation are shown interlinked in an energy cycle. Human energy includes both energy consumed in the form of calories and calories expended. Human energy can be supplemented with animal energy when animals work for people or provide food. Even animal dung provides energy when used as fuel for cooking or as fertilizer to increase production. Both animals and humans consume resources. Besides human and animal energy a third type of energy is provided by the sun for the production of crops or natural growth. Limits on land often require a choice between these two types of vegetation. All of these forms of energy are important, and within limits some may be substituted for others, but this is not always true. There is a limit on how much energy a woman may substitute for scarce vegetation.
36. Niger Granary (K. Arceneaux)	This granary in Senegal symbolizes the remark a Senegalese woman made about a problem common in the Sahel, "A family can starve with a full granary if there is no fuel with which to cook."
37. Niger Women Collectors (M. Hoskins)	The Nigerian women shown here formerly processed and sold surplus items collected from natural vegetation. They must now buy raw materials even for their own use.

38.	Niger Women Searching for Tree Pods (M. Hoskins)	In times of scarcity, familes fall back on natural vegetation. These Nigerian women have no food in their village. They left home and walked many days in search of trees which have tannin-rich pods they can sell.
39.	India Woman Environmentalist (M. Hoskins)	A Himalayan woman reads a petition asking foresters for help. In this region of India, girls sing about loss of natural resources. "Father, please do not marry me to a boy from this area where resources are so bad. I could work all day and night and never provide for my family." Here girls are said to be committing suicide in increasing numbers as they give in to despair.
40.	Graphic Control	Not only is physical presence of resources an issue, but so is legal, political and social control.
41.	Kenya "Useless Bush" (M. Hoskins)	The natural vegetation upon which women may rely for food, fuel, herbs and fibers is sometimes seen as "useless bush" by developers and its value ignored in project planning.
42.	Niger Women Talking Outside Fence (M. Hoskins)	When projects introduce technology to the powerful people who also control use of resources, traditional use-rights may be ignored and the poor become resource poorer. Projects such as here in Niger may focus on protection of resources and put up fences to keep the traditional users off the land.
43.	Haiti Fence (M. Hoskins)	Suddenly women become outlaws if they continue the custom of collecting firewood and other supplies beyond these fences for home, sale, or local forestry industries.
44.	Niger Bare Field with Trees (M. Hoskins)	A forest project in Niger has cleared, planted and fenced a former bushland and farming area for a large fuelwood plantation. But the resulting benefits will no longer go to the villagers who once farmed or collected supplies from this land.
45.	Niger Irrigation Tree Plantation (M. Hoskins)	Neither women nor men can be expected to keep animals away from development projects or refrain from collecting activities or contribute labor or their own resources to projects if they do not have control or at least receive benefit from project outcomes.

46. India
Chipco Leader
(M. Hoskins)

Indian women have been actively challenging forestry service regulations which permit corporations to over-exploit their forest areas. This CHIPCO or "Hug a Tree" group leader is famous for organizing women to literally hug trees in an effort to save them from being harvested. This effort, since the women were organized, was successful. The publicity drawn to this movement attracted the attention of the government and the harvesting permit regulations were modified.

47. Niger
Dead Area with Fence
(M. Hoskins)

Another type of control is political, both local and national. For instance, in West Africa women who garden must protect their gardens, especially from animals in the dry season after fields have been harvested when they come to the village to obtain water from the wells. The first political issue is whether the women are allowed to fence their gardens. The second is whether they will have access to any fencing material. This garden area in Niger has been fenced, but there is no material growing nearby to keep the fence repaired.

48. Niger
Rubber Sheet Fence
(K. Arceneaux)

The woman in this more urban area of Niger has found scrap rubber sheets from a rubber sandal factory to use as fencing.

49. Niger
Lake Garden Area
(M. Hukill)

But this third area of Niger where both men and women have gardens along a lake's edge in an otherwise limited resource area, has a problem with resources. A new local conservation regulation prohibits residents from cutting branches from the little remaining vegetation. However, without these sticker branches or some other source of fencing, residents have to give up gardening. Outside programmers and evaluation consultants brought the problem to the governmental service concerned and the regulation was modified, allowing gardeners to cut branches when needed for protecting gardens from hungry animals.

50. Kenya
Bee Hive
(M. Hoskins)

Social access or control is also an issue, especially for women. In Kenya, a bee-raising project attracted no women until a programmer discovered the problem. Hives had been placed in trees and polite local women did not climb. When these new tree hives were introduced, women gladly joined the project and it became a success.

51.	Graphic Project Implications	Severe resource shortages must be overcome through increased production, access, control, or conservation and more effective use of existing supplies. Energy and resources are the basis for all production. Whenever a new activity is introduced, especially one to increase production, it will require investment of resources and energy. In a resource-poor area the chances are that a new production activity will advance the well being of some at the expense of others. Especially vulnerable are those who have little access to and control over resources and those already time and energy poor, often the case for women.
52.	Graphic Fuelwood	What can be done to increase availability of fuelwood?
53.	Kenya Women Marching for Tree Planting (M. Hoskins)	Women in Kenya march carrying tree seedlings to call attention to their need for more tree planting for family use and for soil conservation. Such women can be a great resource and support for development programs.
54.	Senegal Stamp of Tree Planting (M. Hoskins)	The government in Senegal encourages women's involvement in tree planting or production programs as seen here in the national stamps.
55.	The Gambia Piles of Fuelwood (M. Hoskins)	A conservation approach is to improve drying of wood and to devise protected storage areas for wood to increase its heat efficiency, instead of leaving wood open to the rains such as this woodpile in the Gambia.
56.	Niger Cooking Fires (M. Hoskins)	Another conservation approach is to offer women information on more fuel efficient ways to use fires and to process and cook food, including such simple things as soaking beans before cooking.
57.	Niger Portable Stoves (M. Hoskins)	Programs can introduce fuel efficient cook stoves.
58.	Niger Massive Stoves (M. Hoskins)	Some stoves with chimneys also have advantages such as taking smoke out of closed rooms. Recent tests indicate that in some cooking situations women get much of the same pollutants while cooking one meal as they would by smoking as many as 20 packages of cigarettes.

59.	Kenya Charcoal Stoves (M. Hoskins)	Women are involved in building stoves and introducing them to other women in India, Guatemala, Niger, Senegal, Mali, Upper Volta and other countries. Training and support for such extension workers is important. In some urban centers, like Nairobi, Kenya, charcoal is used for cooking. More fuel efficient charcoal stoves are being developed and disseminated through small local factories.
60.	Kenya Pot Market (M. Hoskins)	Improved pans are also being designed. Women could be employed or offered training and credit to become involved in such new enterprises.
61.	Niger Meat Grilling (M. Hoskins)	Planners must know limitations of current efforts. Some foods cannot be cooked in enclosed stoves, such as this meat being grilled over an open fire. Stoves may cut out needed light by which children study and women cook, which means that in conjunction with the stove program lamps must be introduced. Some stoves require wood to be chopped into small pieces which may be a serious added labor demand for women.
62.	Kenya Hay Box Cooker (M. Hoskins)	Technology has limited success when it does not reflect local use and requirements. This hay box cooker is insulated for cooking with retained heat after a hot pot is inserted. Where large quantities of grain are regularly served, however, it is less effective.
63.	Kenya Men Designing Stove (M. Hoskins)	When men who have never had the opportunity to cook daily meals design stoves, they may not know what cooks need. Women need to be included on the design teams.
64.	Kenya Men Looking at Stoves (M. Hoskins)	If local men control money, women may have little choice in deciding what kind of improved stove to buy or if a stove is to be purchased at all. Energy programs need to be integrated with income generating activities to allow women to purchase the new item.
65.	Graphic Animal Power	In what ways can animal power be used to help women?
66.	India Dung Piles (V. Kerns)	In many areas of the world, women tend animals and collect dung for fuel or fertilizer.
67.	Niger Man on Camel (M. Hoskins)	But animals for transport are often available only to men.

68.	Kenya Cart with Family (M. Hoskins)	One project introduced animal drawn carts for carrying fuel and water, expecting to alleviate women's workload.
69.	Upper Volta Cart with Grain (M. Hoskins)	But instead, in some villages, men who traditionally controlled animals, used the carts for their own use. Perhaps organizing women into groups such as cooperatives would strengthen women's control in such cases.
70.	Nepal Animal Traction (H. Massey)	When both men and women perform complementary tasks in farming, care must be taken to identify labor bottlenecks before introducing labor saving techniques such as animal traction.
71.	Nigeria Woman Hoeing (R. Netting)	Introducing animal-drawn plows for plowing larger areas will not increase production if essential complementary women's tasks, such as this woman weeding, are left to technology so labor intensive that planted land can not be well tended.
72.	Graphic Water	What can be done in water activities?
73.	Nepal Water Source	Women-related projects often include improving traditional water sources.
74.	Nepal Water Pump (M. Hoskins)	Women are often interested in water delivery to convenient locations.
75.	Nepal Woman Bathing (M. Hoskins)	This Nepalese woman enjoys a water storage facility designed by a sensitive engineer. It not only makes water permanently available close to the settlement, but was designed for women's convenient use.
76.	Nepal Woman Bathing (M. Hoskins)	The wash area has a stone floor and shelves are located at the right height for sitting or resting baskets and faucets are at several heights for washing and filling buckets.
77.	Kenya Water Jug (M. Hoskins)	A water jug in Kenya collects water when it rains. This will mean fewer trips to the well for women.
78.	Niger Traditional Well (M. Hukill)	Well improvement is sometimes an important water project. Traditional wells in this part of Niger need to be redug frequently and often collapse.

79. Niger Improved Well (M. Hukill)	A Lutheran World Relief project introduced simple cement lined wells for drinking water, gardening or for cattle which prevent collapse.
80. Niger Men Planning Well (M. Hukill)	Women should be involved in planning sites for new wells as they may be the most directly affected by location. Yet often, as here, men do the planning.
81. Niger Crowd at Well (M. Hoskins)	Issues for programmers also include the number of wells to introduce, as competition over water at a central village well, as here in Niger, may cause delays for everyone.
82. Niger Man with Lettuce (M. Hukill)	Competition over garden space is another issue especially where women may have had access but not control over land. Men in this project started vegetable gardening for the first time after improved wells were introduced. Since men entered commercial gardening they needed large land areas and some women lost theirs.
83. Niger Man with Potatoes (M. Hukill)	Potatoes, a new crop, were introduced in Niger by men extension agents only to men. It is essential to train women extension agents also and to specifically focus on helping women retain their economic contribution through traditional activities such as gardening.
84. Niger Man Watering Garden (M. Hukill)	With good planning men,
85. Niger Woman Watering Garden (M. Hukill)	women,
86. Niger School Children Watering Garden (M. Hukill)	and school children can all garden. These students in Niger are watering plants while learning a new way to contribute food and income to the family.
87. Kenya Water Pump (M. Hoskins)	Water lifting is the subject of some projects. This new style pump is being demonstrated at a fair in Kenya.
88. Kenya Water Wheel Lift (M. Hoskins)	Women who see these new devices must consider if they would take more or less effort and would take more or less time to lift water.

89.	Niger Barrel Water Lift (M. Hoskins)	One type of water lifting introduced an unexpected health issue. Women who use this barrel method have been reported to have more frequent miscarriages when exerting the straining circular motion required. This type of information needs to get back to technical designers, especially where technicians are men and users are women.
90.	Graphic Food and Fiber	What can be done to ease the work involved in food processing and thereby save women's energy?
91.	Zambia Stamp of Stone Grinding (M. Hoskins)	Food preparation, such as grinding grain as shown on this stamp from Zambia,
92.	Niger Girl with Mortar (K. Arceneaux)	or being pounded by this girl in Niger, is reported to take up to four hours from many women's working days.
93.	Nepal Women Threshing on Street (H. Massey)	Preparation tasks, such as these women threshing on a street in Nepal, can be shortened by new technology.
94.	Kenya Mill Demonstration (M. Hoskins)	Men in the foreground are being shown a new mill, but curious women in the background are trying to learn about its use, too. They should be right up front; they will be the main users.
95.	Nepal Mill (M. Hoskins)	In one Nepali community, women selected a mill from a variety of proposed energy saving activities. The men agreed and helped organize and run it. Village children now sing extemporaneous songs about their village having a mill.
96.	Kenya Biogas at Fair (M. Hoskins)	There are other time and energy saving technologies. Biogas is being demonstrated at a fair,
97.	Kenya Solar Demonstration (M. Hoskins)	as is solar energy.
98.	Kenya Corn Sheller (M. Hoskins)	Many labor saving devices such as this corn sheller in Kenya, are suggested, but can women afford them?

99. Niger Oil Press and Plows (M. Hoskins)	Will the product prove to be desirable? In Upper Volta an oil press, such as this one, produced more oil but the families neither liked the flavor of the new oil nor the residue which had lost its use as a high protein food for children.
100. Upper Volta Karite Oil Press (M. Hoskins)	Will this Karite oil press save the women time and make a good product? Who will control, coordinate and maintain new technology? Who will repair it when it breaks? Will the intended beneficiary profit from its use?
101. Upper Volta Cotton (H. Henderson)	Cotton, as here stored in Upper Volta, for example, is often spun by women as they walk. In Peru, the introduction of a spinning wheel for women was a failure as women had no time to just sit and spin. In that case, the men adopted it and took over the market, displacing women.
102. Niger Planners and Local Men (M. Hoskins)	There are many questions programmers and the local men are asking and should ask before selecting a new labor saving device or a new product.
103. Nepal Women Coming to Meeting (H. Massey)	Women also need to be part of the decision making and will need to be if the project is to succeed. Nepali women in this slide have been elected to represent their communities at local planning meetings where resource and energy conservation and use decisions are made.
104. Kenya Women Demonstrating (M. Hoskins)	Kenyan women demonstrate here for energy projects to help ease their workload. These women may also want to contribute to decision making and activity management.
105. Graphic Remember	In conclusion, it is essential to remember that successful development design considers the activities and resources of men and women, the opportunities and problems perceived by both men and women and the infrastructure needed to support change.
106. Graphic The End	

Case Study on

"WOMEN, NATURAL RESOURCES AND ENERGY IN INTERNATIONAL DEVELOPMENT

Marilyn Hoskins
Director of the Participatory Development Program
Department of Sociology
Virginia Polytechnic Institute and
State University

CASE STUDY IN WOMEN, NATURAL RESOURCES AND ENERGY IN INTERNATIONAL DEVELOPMENT*

Marilyn W. Hoskins

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This is a real case where need for a development project was identified and a project design was requested by the host country government's forestry department. During the design process local women's and men's activities, their access to and control over resources and the benefits they desired were studied. It turned out that the activities originally suggested to the design team by the local forestry service would not have solved local problems to the satisfaction of the residents. A revised project was suggested.

The following is a description which distills the activities and the problems relating to natural resources in the project area, and focuses basically on those which involve women residents. (The design team also considered the activities and needs of local men and included their interests in the actual design.) After individually reading about the activities of women, their problems and the proposed project, consider in small groups what activities you feel might be appropriate to suggest as options to residents and how they might address locally identified problems. Then in a combined group session look at the list of modified project suggestions to see if they also address local problems and share the results of the small group discussions. It is recommended that the slide-cassette module by Marilyn Hoskins, "Gender Issues in Natural Resources and Energy Programming" be

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shown before the case study. The module and the case study can both be completed in one hour and thirty minutes: Part I Reading 15 minutes; Part II and Part III in small groups 30 minutes and combined groups discussion 20 minutes. It is possible, if necessary, however, to use only the case study without the slide/cassette module.

PART I: ACTIVITIES

In Elamé*, in a little town near Ker* on a typical day, women go fishing before sunrise. They carry fish home and pick up firewood along the way. They light fires and hurry to the nearby stream to get water. They heat the water, clean and dress babies and small children while cooking breakfast. Their husbands bathe in warmed water, dress, eat and go to start the daily work in the fields. After washing dishes and straightening the house, women put the babies on their backs, and with toddlers at their sides, they also go to work in the family fields. At noon they pick up wood from the piles made when the fields were cleared and carry it home along with selected bark, fruit and leaves collected along the path. They prepare lunch and may process food for dinner while lunch is cooking. After lunch they clean up the dishes. Women often smoke fish as well as a type of edible rodent which the men catch.

In the afternoon women work in gardens near the house, fetch more water, prepare rice and cook a sauce for the evening meal. At no time do women make trips on which either they or their accompanying children old enough to carry, come home empty handed. After dinner women sit and chat with women friends as they mend fishnets, shell beans, or do other similar tasks. At about 11:00 PM they retire.

*fictitious names

ACCESS TO RESOURCES

Even though their day is long, women of this village say that things are changing in a way that will make working days even longer and provide fewer returns. Cutting trees on the hillsides and around water sources has led to erosion which affects water and soil quality. Because of silt in ponds it is more difficult to catch enough fish. Because the garden soils are not rich, women are already working longer hours and producing less than they did three or four years ago. The same holds true for both women and men working in the family fields.

Because the high forest habitat for predators of the rodents has been destroyed, there are many more rodents eating grain and other food stuffs. Families must plant more in order to have enough food. Fields have thus been enlarged, encroaching on forest and the fallow cycles have been shortened. When some item previously growing in these forest or fallow lands is no longer found in its accustomed place, extra trips are necessary and it becomes difficult to combine tasks. The same is true when locations must be changed. For instance, raw materials for fish nets are no longer collected en route to the new location for purer drinking water. The women must make separate trips in different directions.

Firewood supplies from dead trees cut when fallow fields are cleared are still adequate. However, some of the choice species are no longer so easily available and to locate them may require long searches. Sometimes substitutes must be used. A number of necessary ingredients for medicine, craft and household products are becoming scarce and some women fear they will disappear. Diminishing natural vegetation not only threatens the availability of needed items for household use but also threatens women's crafts and processing for sale, which is a major source of income for women.

(See Summary - Following Page)

KER VILLAGE IN ELAME

ACTIVITIES RELATED TO NATURAL RESOURCES	SEX*	PROBLEM	RESULT
SOIL			
VEGETABLE GARDENS	F	LAND PRESSURE POORER SOIL	LESS LAND FOR GARDENS DIMINISHED PRODUCTION
GRAIN FIELDS	M/F	LACK OF REGENERATION, OVERUSE	INCREASED LABOR LESS INCOME
WATER			
WATER	F	DIMINISHED QUALITY IN CONVENIENT LOCATION EROSION CAUSING SILTING IN PONDS	WALK FURTHER UNABLE TO COMBINE TASKS
NATURAL VEGETATION			
FUEL	F	SELECT SPECIES GONE FROM OVERCUTTING AND AGRICULTURAL INTRUSION	MORE TIME FOR SEARCHING UNABLE TO COMBINE TASKS
SECONDARY PRODUCTS (FOOD)	F		
TERTIARY PRODUCTS (CRAFTS, MEDICINE, ETC.)	M/F		
WILDLIFE			
FISH	F	FEWER FISH FROM EROSION SILTING PONDS	MORE TIME FEWER FISH
RODENTS	M/F	MORE RODENTS (HABITAT FOR PREDATORS GONE)	MUCH LOSS OF GRAIN MORE MEAT AVAILABLE

*Male = M
Female = F

THE PROPOSED PROJECT

The women were somewhat puzzled by the ideas suggested for their areas by the Forestry Service. Three of the suggested activities were especially related to their interests. 1) Some garden land close to the homes was to be planted in trees so that the women would have more access to fast growing fuel. 2) Fodder plants were to be introduced so that women would have a chance to begin raising goats and sheep. 3) A consciousness raising program was to be designed to make the local residents, especially women, aware of forest growth and its value and the reasons that trees should not be cut or badly used.

In the first place, the women could not understand why valuable garden land should be used for fast growing species of fuel wood trees which they considered less than choice for cooking fuels. Land pressure was high and women already had access to fuel wood. The specific species they needed were not among those suggested by the Forestry Service. Women preferred more of an agroforestry approach of planting selected species around garden plots or in fallow lands to enrich production and improve soils. Instead of woodlots they wanted species which were becoming scarce or could offer economic benefits to be planted along the river's edge and on the hillside to reduce the erosion.

Another thing that did not seem to make sense to them was the idea of introducing fodder plants. They were not interested in raising goats and sheep. Why should they be? They had seen those animals die when introduced in earlier programs and the women were afraid of the risk. Also they had an example from one of the wealthier men in town who had goats and sheep. Because none of their gardens were fenced, his animals caused a lot of destruction. Fencing in the animals would mean carrying water and fodder

and increasing the number of hours they worked in the day. Fencing in the garden plots would also require a great deal of labor and reduce flexibility in land use. For meat they had fish and edible rodents, which were prized. In the neighboring capitol the latter sold for $10.00 a kg when smoked. Besides, residents needed to control the growing number of these rodents which were consuming increasing quantities of grain.

Women were cautious about taking on new project activities. They had the example of another project that had failed. It was a men's cooperative which planted palm oil trees. Neither the planners nor the members had considered how busy women were in the harvest season when the seeds were ripe. Since women process palm oil, much of the fruit spoiled for lack of available labor. As to the campaign stressing the importance of trees, women already considered trees important. What they wanted was concrete information on options for saving energy and time and for increasing production or decreasing loss without undue risks.

PART II: SMALL GROUP DISCUSSION

As a development planner how would you modify the proposed project to address the concerns of the village women? Complete the exercise on page 58.

Directions: Column one lists the three objectives of the original proposed project. Column two lists the four problem categories identified by the villagers. Column three allows for alternatives to the original proposal. First, list the specific problems within each of the four categories, soil, water, natural vegetation and wildlife, and indicate with a + or - whether the original proposal adequately addressed those problems. Second, suggest alternative ways the identified problems could be addressed and list these in the third column, always taking into consideration the impact of the alternatives on women.

PROJECT OBJECTIVES

Original Approach	Problems Identified	Alternative Approaches
1. Plant Woodlots of Exotic Fast Growing Trees	Soils	
2. Plant Fodder Species and Combine with Raising Ruminants	Water	
3. Consciousness Raising Information Campaign to tell Residents Importance of Trees	Natural Vegetation	
	Wildlife	

PART III: THE SUGGESTED SOLUTIONS

Elame is a relatively blessed area, as far as natural resources are concerned. Residents in Ker have adequate rains and soil quality and still have eight to eleven year fallow periods. Residents are only recently feeling the effects of diminishing availability of natural vegetation. What the women here want is not the same as what women want in all communities. Every community, in fact, is unique. In each community both men and women make different contributions to fulfilling basic family needs and have different potential options for participating in development activities.

In each community men and women, 1) perform different activities with different timing and location (when and where they work), 2) have access and control over different physical and human resources including skills and knowledge, and 3) have access and controll over different benefits. Once development planners know this information as well as what residents perceive as their problems and constraints to addressing those problems they are in a better position to both suggest options for meaningful activities and to understand what supports will be required to make the selected project successful.

The project here under study was successfully modified. The chart that follows shows the suggested solutions.

The Suggested Solutions

PROJECT OBJECTIVES

ORIGINAL	PROBLEMS *	MODIFIED
1. PLANT WOODLOTS OF EXOTIC FAST GROWING TREES	SOILS ORIG – MOD +	1. MARKET STUDY TO IDENTIFY VIABLE PRODUCTS. OFFER RISK GUARANTEE TO FARMERS PLANTING TREES WHERE THE ECONOMIC VALUE OR GROWTH POTENTIAL NOT YET KNOWN.
	WATER ORIG – MOD +	2. ENLARGE NURSERIES TO INCLUDE LOCALLY DESIRED SPECIES PLUS TREES OF ECONOMIC VALUE.
2. PLANT FODDER SPECIES AND COMBINE WITH RAISING RUMINANTS	NATURAL VEGETATION ORIG – MOD +	3. ENCOURAGE PLANTING OF LOCALLY SELECTED SPECIES IN AGROFORESTRY APPROACH; PLANT ECONOMICALLY VALUABLE TREES AND PLANTS ON FALLOW CYCLE LAND TO ENRICH SOIL.
		4. INTRODUCE IMPROVED METHODS TO CAPTURE RODENTS. OFFER TRAINING FOR BETTER PROCESSING OF RODENTS FOR SALE IN NEIGHBORING TOWNS AND COUNTRIES WHERE MARKET IS KNOWN TO BE EXCELLENT.
3. CONSCIOUSNESS RAISING INFORMATION CAMPAIGN TO TELL RESIDENTS IMPORTANCE OF TREES	WILDLIFE ORIG – MOD +	5. INSTEAD OF CONSCIOUSNESS RAISING, FOCUS CAMPAIGNS ON INFORMATION ON AGROFORESTRY TECHNIQUES AND ON POTENTIAL FOR ECONOMICALLY VALUABLE TREES.

* Address Issue:

+ Yes
– No

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