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## Introduction

The Bureau of Applied Research in Anthropology at the University of Arizona has developed a preliminary workbook for professionals working in development. The purpose of this workbook is to provide AID personnel and private development practitioners with a set of guidelines for locating, generating and incorporating information on gender-related issues into development projects. The on-the-job focus of this workbook is designed to help development practitioners to:

Decide what QUESTIONS to ask and HOW to ask them. The questions in this workbook can be used to identify gaps in data collection on gender-related issues and to design new data collection formats. It can be used to analyze already collected data, and to develop questionnaires. The framework in this workbook presents a systematic way to sort through and organize this information in terms of how it relates to development planning.

This workbook was developed on the basis of an evaluation conducted at the 1985 Women in Development Workshop in Bangkok, Thailand. Participants at the workshop indicated that they would like a comprehensive and systematic workbook for field use that would include detailed questions. Toward that end, we are offering this workbook as a preliminary, partial draft which covers gender-related issues in agriculture. Questions have been drawn from the proposed "Systematic Questions Framework" section of the workbook under the topic of agriculture. Questions are provided in the areas of: Cropping Systems, Livestock Management, Credit, Marketing, Appropriate Technology, Water Management,

and Extension and Training. A professional who is developing or evaluating an irrigation project, for example, could read and answer the questions in the sections on Cropping Systems and Water Management. Topical bibliographies that list significant material that was reviewed and drawn on for the Workbook can be found at the end of the Workbook. When a question is directly derivative, the citation is listed immediately after the question.

In the future, the Workbook could be expanded to cover additional topics such as Private Enterprise, Forestry, and Education, and to include major sections on Project Analysis, overall country Program Analysis, and country-specific sources of information on women.

We would like to emphasize that the workbook presented here is not complete. We encourage input from development practitioners, including suggestions for additional questions, sections, and topics. Please forward your comments to:

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## Agricultural Production

### I. CROPPING SYSTEMS

#### A. Gender Division of Labor

1. Create a farming systems calendar detailing which agricultural tasks are done when and by whom. Specify as to crop and technology used. (See Appendix 1, pp.33 for examples of farming systems calendars.
2. What is the rate of participation of men, women and children in farm, domestic and off-farm work during the yearly production cycle? For farm, domestic and off-farm work, who does what tasks?
3. What are the tasks that only women do and the tasks that only men do? Is the division of labor rigidly or flexibly divided along gender lines?
4. During an agricultural season, what are the gender specific strategies for crop production, marketing, and investment of income?
5. How would planned change alter the division of labor? Would men or women be expected to take on more work or would their workload be reduced? If demand for labor is increased, what effects will occur during times of peak seasonal work load? (See Appendix 1, p. 35 for a table detailing the effects of change on the gender division of labor.)
6. Will improved technical production packages increase labor requirements in areas that men or women specialize in? How will proposed changes affect seasonal labor requirements for men and women?
7. Have local women been asked about how this change will affect their schedules? Do women anticipate that they will have problems in taking on additional work during peak seasons in the farm year?

#### B. Time Allocation

1. How much time do men, women and children spend on farm, domestic and off-farm tasks?
2. What specific time constraints need to be overcome to allow women to expand farm production activities? Do men or women experience time conflicts over involvement in subsistence versus cash crop production?
3. Will planned changes increase time allocation in areas that men or women specialize in? Could this cause labor bottlenecks? Could additional technical inputs alleviate this condition?

## C. Access to Land for Agricultural Production

1. What is the legal status of women regarding
  - inheritance of land?
  - purchase of land?
  - sale of land?
  - ownership of land?
  - use rights of land?
  - membership in cooperatives?
  
2. What is the risk of cash crop production leading to a loss of land for women's and household subsistence farming? What is the risk of the introduction of a money economy to transformation of farmers to laborers (low-wage) dependent on capital for existence? Would women and men be differentially affected? (Pezullo 1982)
  
3. What are the effects of agricultural policy on producers? Does it protect small farmers and their means of production (for example, in terms of land tenure, subsidies, etc.)? Does it favor large and/or commercial farmers? What do these policies imply for women as subsistence and/or cash cropping farmers, agricultural laborers, household producers?

### 1. Ownership Patterns

#### a. Family Farms

1. What is the pattern of usufruct or land ownership on family farms? Does the family own all the land jointly, do the husband and the wife(-ves) retain separate access to or ownership of their own fields (from inheritance, purchase, etc.) or does one control all the land?

### 1. Joint Ownership or Land Use Rights

1. How is joint ownership recognized legally?
2. Do husbands and wives jointly purchase land? Is the wife legally recognized as a full co-owner?
3. How are decisions made about what to plant on which fields? Do husband and wife jointly decide for all fields or does one decide for all fields? Are different individuals responsible for different agricultural decisions?
4. What is the division of labor pattern on joint fields? Do men tend certain crops and women tend others? Which crops are tended by men and which by women?
5. How are the earnings from cash crops grown on joint fields distributed within the family? How are the earnings allocated and spent?

## 2. Separate Ownership or Land Use Rights

1. If husband and wife retain separate usufruct or ownership of fields, do men tend to control more land than women?
2. Do husbands and wives jointly purchase land? Is the wife legally recognized as a full co-owner?
3. How are decisions made about what to plant on which fields? Do husbands and wives jointly decide for all fields, does each decide individually for his or her fields, or does one decide for all fields?
4. Are different crops grown on men's fields than on women's fields? What are they? For example, are cash crops planted on men's fields and subsistence crops on women's?
5. How is family labor allocated for men's and women's fields? Is there an equal exchange of labor or does one work more for the other than vice versa? Estimate the amount of time men and women spend on their individual fields, on their spouse's fields and on family fields.
6. What benefits do women receive for their work on men's fields? What benefits do men receive for their work on women's fields?
7. How are the earnings men receive from their agricultural production spent? How are the earnings women receive from their agricultural production spent?

## 3. Single Ownership or Usufruct

1. Which family member tends to control all the land?
2. If all the land is controlled by a man, what are women's use rights? Are these recognized legally?
3. How are decisions made within the household regarding what crops to plant, use of inputs, marketing, etc?
4. What are the cropping and division of labor patterns under this system: for example, do women tend the subsistence crops and men the cash crops?
5. What benefits do women receive for working land that is controlled entirely by their husbands? How are earnings from the land distributed within the family?
6. Under a system of male ownership or control of all land, how can women acquire land of their own? What are women's legal rights as land owners?

## **b. Women-Headed Households**

1. What percentage (estimate) of farming households are headed by women? In what percentage (estimate) of these is there an absent husband (emigrant)?
2. Who makes the decisions regarding farming and agricultural work in these households (what to plant, when to plant, purchase of inputs, marketing, division of labor, etc.)? Are different individuals responsible for different agricultural decisions?
3. Who owns the land farmed by these households: husband, male relative, female head, community? Who has usufruct rights?
4. If the land is owned by someone other than the female head, or if someone else has usufruct rights, what are the rights of the female head to the land in terms of:
  - legal rights?
  - rights to production from land?
  - rights to earnings from production?
5. What percent (estimate) of female-headed farming households are involved in subsistence farming, and to what extent? What percent (estimate) are involved in commercial farming, and to what extent? How does this compare to farming households where a man is present?
6. How does production from farms of female headed households compare to the production from other farms?
7. How does the use of inputs (chemical fertilizer, improved seed) on farms of female-headed households compare to other farms?
8. What kind of agricultural technology is used by farms of female-headed households? How does this compare to the technology used by male farmers?

## **D. Income Generation**

### **1. Cash Cropping**

1. What is women's involvement in cash cropping? Of women involved in agriculture, estimate the level of participation in cash cropping and the level of participation in subsistence farming. How does this compare to men?
2. If men and women grow cash crops, what percentage of the wages do women receive? How does this compare to the work they do? (Compare the level of income return for men and women in relation to their labor input).

3. How are the wages for cash cropping distributed, if at all, within the family or kin group? (Charlton 1984)
4. How does cash cropping seasonally affect the amount of income available to men and women? Do women receive large or small amounts of income? How is it distributed throughout the year?
5. Are women given equal access to cash crop resources, especially regarding:
  - training?
  - cooperatives?
  - credit?
  - markets?
6. What constraints do women face which prevent them from growing and marketing cash crops?
7. If planned policy changes include the introduction or support of cash cropping, how will these changes affect women's involvement in cash cropping or subsistence cropping?
8. In what ways will women become beneficiaries of commercial agricultural policy changes? I. e., which of the following benefits will be made available to women:
  - new crops or other resource input?
  - agricultural extension training?
  - labor-saving appropriate technology?
  - new income earning opportunities?
9. What assumptions are made that current commercial agricultural policy and inputs will benefit women? Have the women in the target area had previous experience with development input? What happened and why?
10. How might the promotion of commercial agriculture affect women's access to land and availability of land for subsistence cropping? (Pezullo 1982)
11. Will increases in the labor needed for cash cropping affect women's access to labor from other household members?
12. How does the move into cash cropping affect the decision-making power of women
  - in terms of farming (Which crops to plant, inputs, expansion, etc.)?
  - in terms of how household money is spent and used?
13. How do expenditure patterns differ for income generated by major cash crop production and minor cash crop production?

14. Will an increase in land allotted to cash cropping affect the family diet? Could changes in work load affect the nutritional requirements of family members? Do families have the cash and subsistence resources to cope with this? (Pezullo 1982)

15. Could the expansion of cash cropping and the introduction of a money economy displace women farmers and force them into wage labor? (Pezullo 1982)

#### E. Out-Migration

1. What work-related migration opportunities exist for men and women? How do these opportunities compare to opportunities that exist in agriculture?

2. What effect has female out-migration had on agriculture and the rural division of labor?

3. What effect has male out-migration had on agriculture and the rural division of labor? How has it affected the participation of women in commercial and subsistence agriculture?

4. How does out-migration affect the decision-making power of women:

-in terms of farming (which crops to plant, inputs, expansion, etc.)

-in terms of how household money is spent and used?

5. How will planned changes affect the workload of women in areas where extensive male out-migration has already resulted in increased involvement of women in agricultural production?

#### F. Community Planning

1. Are women involved in the local planning of agricultural projects? Have women expressed interest in cooperating in a community agricultural project?

2. Can planners organize a women's agricultural cooperative? Have women community leaders been identified to serve on such a committee?

3. Have the women in the project area had any previous experience with agricultural development projects? What happened and why?

## II. LIVESTOCK MANAGEMENT

1. Estimate what percentage of women and men own livestock. If women do not have ownership of animals, estimate what percentage of women have use rights.

2. Have women been asked if they see livestock production as an area in which they would like to expand activities?

### A. Gender Division of Labor

1. Estimate the percentage of women that care for livestock. What types of animals do they take care of?

2. What aspects of animal care are women primarily responsible for? E. g., which of the following activities are women involved with on a daily basis:

- feeding?
- watering?
- herding?
- care of sick animals?

3. Is large livestock care thought to be primarily a male activity? Do women actually do a portion of this work?

4. What proportion of the labor for processing products produced from animals is contributed by women? E. g., are men or women primarily responsible for the following tasks-

- meat production?
- wool production?
- egg production?
- milking and dairy production?

5. How would planned changes alter the amount of labor that men and women expend on livestock care? Will men and women be expected to do more work or less? If labor demands are increased, what effects will occur during times of peak activity during the farm cycle?

6. Will planned changes affect the current division of labor for livestock care? Have local women been asked about how this change will affect their schedules? Do women anticipate that they will have problems with taking on additional work during peak seasons in the farm year?

### B. Time Allocation

1. Compare the time expenditure of men and women on livestock production activities? Do women primarily structure their time around farming or household activities rather than livestock production? What time priority do women assign to livestock activities?

2. Estimate the percentage of time that men and women spend on animal product processing activities. How do they schedule time for dairying and other activities?
3. What specific time constraints need to be overcome to allow women to expand livestock production activities?
4. Will planned changes cause increased time allocation in areas that men or women specialize in? Could this cause labor bottlenecks? Could additional technical inputs alleviate this condition?

## C. Access to Livestock Production Resources

### 1. Ownership Patterns

1. What rights do women have to livestock and how are these related to the livestock rights of other family members? How do these interrelated rights to livestock affect the purchase, sale or care of livestock?
2. Are men or women reluctant to talk about ownership of cattle? Have women been interviewed in the presence of others or in private? Can women interviewers be employed to obtain accurate data on women's livestock holdings?
3. Do women obtain animals through self purchase or inheritance?

### 2. Resource-Related Access Problems

1. Evaluate the amount of land and labor that a household needs to support large livestock or small ruminants. Are there any areas in which women do not have access to sufficient resources for the maintenance of larger animals?
2. What problems do women face in large livestock raising?

## D. Income Generation

### 1. Livestock Sales

1. Who makes the decision about the sale of livestock: husband, wife, female head? Do women have the right to sell large animals without the consent of their husband or the individual in whose herd the animal is kept? Can the husband sell his wife's livestock? With or without her permission?
2. In households where the male head controls the sale of livestock, who makes decisions about the sale of animals when the husband is away? E. g.,
  - the wife?
  - the wife with help of male relatives?
  - does the wife need to contact the husband?

3. Do women have the right to utilize income from the sale of livestock without discussing it's use with their husband?

4. On what occasions do women sell cattle? E. g., do women sell cattle for:

- purchase of personal jewelry?
- purchase of medicines for illness?
- purchase of grain in time of famine?
- other (Specify)?

5. Do women see livestock as a form of savings investment? How is the cash from women's animal sales used? E.g., estimate what portion is spent on:

- school fees
- health care costs
- general family expense
- farm investments

6. How will planned changes in commercial livestock policy affect women's involvement in livestock raising?

7. In what ways will women become beneficiaries of commercial livestock policy changes? Which of the following benefits will be made available to women:

- extension training?
- new animals or other input?
- labor-saving appropriate technology?
- new income earning opportunities?

8. What assumptions are made that current commercial livestock policy and inputs will benefit women? Have the women in the target area had any previous experience with development input? What happened and why?

## 2. Dairy Product Sales

1. Estimate what level of output of the following dairy products are kept for household use or sold by women:

- milk
- butter
- cheese
- yogurt

2. How does the amount of dairy products consumed at home and offered for sale vary, in relation to each other, throughout the year?

3. Do women control the use of dairy production income? What items do women use dairy income for? Do women ever use dairy income to purchase animals?.

### 3. Dairy Marketing

1. Is the sale of milk or other dairy products regarded as improper? How will this affect attempts to form dairy cooperatives?
2. What problems do women face in dairy production for marketing? E. g., do they face:
  - production fluctuation?
  - poor hygiene during milking, separating, churning or cheese-making?
3. What problems do women face in marketing dairy products? E.g., do women have problems with:
  - transportation?
  - lack of capital?
  - price fluctuation?
  - unhygienic dairy products?
  - uncooled storage?
4. Are women's dairy production activities limited by the need to use livestock for work (ploughing, etc.)?
5. Where can women obtain the best prices for their dairy products? Village markets? Dairy Traders?
6. Are women concerned about the market prices for dairy products?
7. If national agricultural policies favor centralized modern dairies will women's traditional income-generating activities be affected? Will household nutrition be affected by women's loss of income?

### E. Extension and Training

1. Estimate the percentage of men and women who have received training in the following areas:
  - livestock husbandry
  - poultry care
  - dairy production
2. Is it possible to locate and train women livestock extension workers?
3. Will men and women receive training in:
  - genetic upgrading?                      -credit opportunities?
  - veterinary practices?
  - animal health control?
  - vaccination?
  - livestock management?
  - nutrition and disease prevention?
  - 'up to date' butter and cheese making methods?
  - cold storage facilities?
  - cleaning equipment?
  - marketing facilities?

## 1. Veterinary Care

1. Estimate the percentage of animals that men and women lose to disease. To what causes do men and women attribute these deaths?
2. Estimate the frequency of contact that men and women have with representatives of local veterinary units or agricultural societies. What types of information do men and women receive in the area of livestock management, nutrition, disease prevention, etc.?
3. Who pays for animal medicine and vaccination? Are women able to afford to treat their animals?

## E. Community Planning

1. Are women involved in the local planning of community livestock projects? Have women expressed interest in cooperating in a community livestock project?
2. If animals are traditionally controlled by men, will a woman's livestock project need the explicit or implicit support of men?
3. If a project is planning to introduce a new animal, will assignment of care-taking to women be acceptable in cultures where men traditionally care for animals? Will women be able to derive benefits in such a situation?
4. Can planners organize a cooperative women's livestock committee? Have community women leaders been identified to serve on such a committee?
5. Will women participate in defining dairy policy? Can a village-level dairy cooperative be started?

### III. CREDIT

#### A. Local Credit Programs

1. How has the design of local credit programs (size and time of repayment, hours of operation or location) affected women?
2. Is there a traditional credit association in the area? Do women have such an association?
3. Is there interest in new types of credit associations? Which groups would join?

#### B. Access to Credit

1. What is the current status of women regarding access to credit?
  - How can women draw credit?
  - Which women can draw credit - widows, large landowners, etc.?
  - Do husbands and wives use credit separately? If so, do women help their husbands pay back the husband's loans, and do men help their wives pay back the wives' loans?
2. Are there social customs that restrict women's access to credit officials? What are they? How should this be addressed in the project design?

#### C. Investment

1. How does women's access to collateral affect women's ability to invest in agriculture and technology?

#### D. Community Planning

1. Are women involved in planning for community credit opportunities?
2. How will planned changes affect women's access to credit?
3. Have planned changes included targeting women as the beneficiaries of credit opportunities? What assumptions have been made in believing that planning inputs will lead to benefits for women?

#### IV. MARKETING

##### A. Gender Division of Labor

1. What is the rate of participation of men and women in marketing? Is marketing primarily a woman's occupation? What types of items do men and women specialize in selling?
2. During the yearly farm cycle, what are the gender specific strategies for crop and livestock-related production activities, marketing and investment of income?
3. How would planned changes affect women's marketing activities? Would men and women have more or less access to marketing opportunities?

##### B. Time Allocation

1. How much time do men, women and children spend on marketing activities? Do women trade in small quantities throughout the year while men trade larger quantities at selected times or vice versa?
2. Do women indicate that there are time limitations on the amount of trading that they can schedule due to other household labor needs? How could planned change free up more time for women's trading activities?

##### C. Access to Marketing Resources

###### 1. Marketing Cooperatives

1. What types of cooperatives are there in the area targeted by the project?
2. Are women legally entitled to join these cooperatives? What are the criteria for joining a cooperative? Who are currently members of the cooperatives? Who are in positions of authority?
3. What kinds of services are provided by the cooperatives? What kind of access do women have to these services?
4. Are the existing cooperatives involved primarily with cash crops? Are there cooperatives for crops for home consumption?
5. Are there existing cooperatives that meet needs women may have
  - livestock
  - subsistence crops
  - cash crops?
10. What is the feasibility and/or the need for separate women's cooperatives? What would be the benefits and disadvantages of a separate women's cooperative?

## 2. Transportation

1. To what degree do men or women have access to animal or motor transport to get their produce or goods to market? Does lack of transportation limit the distance that women can travel to trade?

## 1. Community Planning

1. Are women involved in local community planning of marketing opportunities?

2. How will planned changes affect women's access to and involvement in cooperatives?

3. If the project is to start a new cooperative, how have local women been included in the planning process?

-Have they been asked what their needs are?

-Have they been asked to participate in designing the project?

-How is their participation assured?

## D. Income Generation

1. Who receives the payment for marketed goods: the husband, the wife, either, or both?

2. Estimate at what rate men and women are able to accumulate capital for further investment in marketing activities.

2. What is the impact of imported goods or locally produced modern products on women's traditional marketing patterns and income?

## E. Community Planning

1. Are women involved in local planning for expansion of community marketing opportunities? Have women expressed interest in expanding their trading opportunities?

2. If planned change efforts include the introduction of a new product, will it be acceptable for women to sell this type of product if it is similar to items traditionally sold by men?

3. Will women participate in defining marketing policy?

## V. APPROPRIATE TECHNOLOGY

1. What types of local agricultural technology do women use? What kinds of new agricultural tools do they say they would like to see introduced?

### A. Gender Division of Labor

1. Which tasks that men or women do will necessitate appropriate technological aids?

2. Will the new technology complement or interfere with women's traditional organization of work? Is the new technology for use by individual women or does it necessitate the formation of cooperatives? If women's group cooperation is needed, are existing groups cohesive enough to provide it?

### B. Time Allocation

1. How much time do women spend on activities utilizing traditional technology? Could the introduction of appropriate technology shorten the amount of time that a woman spends on these activities?

2. Could the introduction of appropriate technology have an impact on women's time allocation for other agricultural or household activities? Will it increase time spent because of the introduction of new, related tasks?

### C. Access to Appropriate Technology

#### 1. Ownership Patterns

1. Will there be private or communal ownership of new technology? If men control it, will women be given continual access? If the new technology is communally owned, will a new community infrastructure need to be established? (Hoskins:n.d.)

#### 2. Distribution of New Tools and Equipment

1. Estimate the degree to which both men and women have access to new agricultural technology. To what extent are women utilizing improved tools and equipment for:

- ground preparation (improved ploughs, tractors)?
- planting?
- weeding?
- harvesting?

2. At present, to what degree do women have access to tools and techniques for the manufacture of this appropriate technology?

3. If women do not have access to the means for creating or repairing these items, will they be able to afford or locate people to repair them?

4. If appropriate technology has been introduced, did it replace a traditional technology controlled by women with one that is now controlled by men? If so, what benefits do women continue to derive?

### 3. Affordability

1. Will women be able to pay for this new technology or obtain credit to purchase it? Will the overall benefits of this new technology be greater than the cost? Can women use this technology long enough to pay back any investment? (Hoskins n.d.)

2. Does the new technology require locally available resources (sun, water, land, animal labor, etc.) to run it? Do women have access to these resources?

3. If the new technology requires fuel, will women be able to afford owner or operator costs? (Hoskins No Date)

### 4. Durability

1. Will the new technology be functional under women's local working conditions? Is the new technology durable enough to withstand women's daily usage? (Hoskins: No Date)

2. If the new items or tools need to be replaced, will women be able to make a replacement from local materials? Can women use local knowledge or be taught how to replace new items or tools? (Hoskins: no date)

### D. Income Generation

1. Will the new items or tools result in a marketable agricultural surplus or other product that women can sell?

2. Will the new technology have a negative impact on women's income-generating activities?

3. Will the new products be compatible with the traditional marketing and distribution system? (Hoskins: No Date)

### E. Extension and Training

1. Is the new technology simple and easily mastered by men and women?

2. Have women in the area been previously exposed to new technology? What happened? Why? How can this information be used to modify current educational efforts?

3. If women will be using the new technology, will the techniques for using it be taught to them directly? Can women get information and technical help from extension workers, agency personnel, Peace Corps volunteers, or private voluntary groups?

#### F. Community Planning.

1. How are women involved in local planning for the introduction of appropriate technology?

2. In what areas do women perceive the introduction of appropriate technology to be essential? E. g.,

- agricultural production?
- planting?
- weeding?
- harvesting?
- hauling?
- storing and harvesting of foods?

3. What major problems could appropriate technology help women to solve? Can women be motivated to see appropriate technology as a solution to their problems?

4. Will new appropriate technology have a positive impact on women or a large cost-benefit ratio?

5. How will the introduction of new technology change traditional patterns of women's access to resources? Positively? Negatively? (Hoskins: no date)

## **VI. WATER MANAGEMENT**

1. What are women's water needs? Have women been questioned about the availability of water and water use practices? Do women say that they would like to see water system improvements?

### **A. Gender Division of Labor**

#### **1. Household Water Use**

1. Do men and women have different roles or areas of user specialty in water system use?

2. Estimate the proportion of water that women supply through portage or irrigation for the following activities:

- watering food crops
- watering domestic animals or poultry
- watering kitchen gardens
- watering tree crops

#### **2. Irrigation Water Use**

1. Have surveys of women's water use been taken? What questions were asked? What do surveys show in each of the following areas?

- volume of water usage
- distance to water source
- preferred sites of water use
- water use beliefs and practices

2. Have irrigation system improvements increased cropping intensity and created a greater demand for women's labor?

### **B. Time Allocation**

1. What proportion of a woman's time is taken up by activities involving water use? How much time is spent on agricultural water use activities?

2. What specific agricultural water use time constraints can be relieved by water system improvement activities?

### **C. Access to Water**

1. Do men and women have problems in gaining and retaining access to water? At present, do women receive sufficient irrigation water?

## 1. System Management Access Problems

1. Are there gender specific operational problems with irrigation systems? E. g., do women have problems with:
  - timing of water delivery?
  - water quantity?
  - water canal disrepair?
  - lack of water for some fields?
2. What do women perceive as the most significant problems in irrigating their fields?

## 2. Ownership-Related Access Problems

1. Is it possible to assign water rights to women for their food crops?
2. If titling of irrigated land is introduced, will both men and women be eligible for ownership of irrigated property?
3. If irrigation system improvements raise the value of land, will efforts be made to see that women still have access?

## D. Water Management

1. Do women have community leadership roles in water management?
2. Are women involved in water management as:
  - acceptors of new technologies?
  - users of improved facilities?
  - managers of water supply and sanitation programs?
  - agents of behavioral change in the use of facilities?
3. In what aspects of local water management are women involved? E. g., do women:
  - obtain water and see that it is available for local use?
  - select water sources?
  - provide labor and funds for water system maintenance?
4. What are women's formal and informal roles in water user associations? Are women eligible for formal membership? If not, do women have any informal roles in water management disputes?

## E. Income Generation

1. How will women's income-generating activities be affected by changes in the irrigation water supply?

**F. Extension and Training.**

1. Will women be trained in activities associated with the management and maintenance of the community water supply?
2. What specific time constraints will need to be faced before women can be trained to participate in water system improvement activities?

**G. Community Planning.**

1. Are both men and women involved in the local planning of community water system projects?
2. How high a priority do women place on water system improvements? What is the relative need for water system improvements in relation to other needs?
3. Will existing women's groups be identified for incorporation into the program as recipients of inputs?
4. Can local community groups be mobilized to support women's participation in water system planning?
5. What types of improvements would women recommend for redesigning irrigated agricultural systems?

## VII. EXTENSION AND TRAINING

### A. Extension Services

1. What extension services are available for women in the targeted area?
2. Are training and extension services for women located in areas accessible to the people who would most want them?
3. What is the goal of extension services for women and how does it differ from the extension services for men? (Dinnerstein, n.d.)
4. How are extension workers accepted by villagers? Are extension workers currently contacting women? What is an estimate of the frequency of contact?
5. What differences, if any, exist in the kind of training and education that male and female extension agents receive? (Dinnerstein n.d.)

### B. Training Programs

1. What is the general information level of women concerning agricultural methods and are they aware of and interested in possibilities for improving their level of competence? (Dinnerstein, n.d.)
2. How does women's training correspond to their contribution to the economy - particularly their contribution to the agricultural sector? (Dinnerstein n.d.)
3. What kind of agricultural training, if any, do women want?
4. What are the constraints in the culture or religion which would make it difficult for women to receive training from male extension agents? How can this be dealt with within the project?
5. What is the attitude of men and women toward women who seek agricultural training and receive it? After women receive the training, are they regarded as acceptable sources of information or not? (Dinnerstein n.d.)
6. What are women's time constraints for attending training sessions? How are sessions planned so as to minimize the effects of these constraints?
7. What are the requirements for attending training programs? Are women excluded because of these requirements?

**C. Community Planning.**

1. Are women involved in local planning of extension outreach? Have women expressed interest in receiving extension training?
2. Can planners organize classes of women for training? Have women community leaders been identified to help in organizing such classes?
3. Have the women in the project area had any previous experience with extension outreach programs? What happened and why?

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Appendix 1

Sample Farming System Calenders  
and  
Gender Division of Labor Charts

This section contains sample tables which present farming system calendars and or gender division of labor charts. First, you will find an example of a table as the author reported the data. Second, you will find a sample worksheet which you can use to organize field data and/or organize data that has already been collected.

SAMPLE

TABLE 5 THE MOSSI DIVISION OF LABOR DURING THE WET SEASON AND THE DRY SEASON  
(Percentage of total hours spent on a given task attributable to each labor category)

	WET SEASON						DRY SEASON					
	MALES			FEMALES			MALES			FEMALES		
	8-14	15-60	61+	8-14	15-60	61+	8-14	15-60	61+	8-14	15-60	61+
I. AGRICULTURAL PRODUCTION												
A. Predominately male activities												
Water crops	3	86	0	0	18	0	5	90	2	0	0	0
Construct fences	3	86	3	0	10	0	2	88	8	0	0	0
Guard fields	15	65	0	0	20	0	5	94	0	0	0	0
Go to agricultural work invitation	2	77	3	0	16	0	3	81	1	0	11	0
B. Activities undertaken by both men and women												
Prepare fields	5	47	2	1	40	1	3	68	6	0	21	0
Sow seeds	3	39	0	1	52	1	-	-	-	-	-	-
Travel between fields	6	43	0	2	47	0	-	-	-	-	-	-
Harvest crops	4	45	0	1	47	0	3	49	1	1	41	0
C. Activities undertaken by both men and women in different proportion by season												
Weed	4	51	1	1	39	1	2	94	2	0	0	0
Spread fertilizer	5	64	7	0	18	0	6	34	0	0	57	0
Transport of harvest	0	50	0	0	50	0	8	21	0	2	61	0
Gathering wild crops	2	9	0	0	87	0	27	27	0	1	44	0
II. LIVESTOCK PRODUCTION												
A. Predominately male activities												
Small stock work	57	15	0	11	12	0	76	12	0	10	0	0
Large stock work	14	71	0	0	14	0	31	68	0	0	0	0
B. Activities undertaken by both men and women in different proportion by season												
Poultry work	0	100	0	0	0	0	0	0	0	0	100	0

Source: Delgado 1978

Table 1. The Division of Labor During the Wet Season and the Dry Season. (Percentage of total hours spent on a given task attributable to each category)

	Wet Season				Dry Season			
	Males		Females		Males		Females	
	8-14	15-60+	8-14	15-60+	8-14	15-60+	8-14	15-60+
I. Agricultural Production								
Prepare fields	---	---	---	---	---	---	---	---
Sow seeds	---	---	---	---	---	---	---	---
Weed	---	---	---	---	---	---	---	---
Spread fertilizer	---	---	---	---	---	---	---	---
Travel between fields	---	---	---	---	---	---	---	---
Water crops	---	---	---	---	---	---	---	---
Construct fences	---	---	---	---	---	---	---	---
Guard fields	---	---	---	---	---	---	---	---
Harvest crops	---	---	---	---	---	---	---	---
B. Livestock Production								
Large Stock Work	---	---	---	---	---	---	---	---
Small Stock	---	---	---	---	---	---	---	---
Poultry Work	---	---	---	---	---	---	---	---

Source: Delgado, Christopher L. The Southern Fulani farming System in Upper Volta: A New Model For Integrating of Crop and Livestock Production in the West African Savannah. Center for Research on Economic Development. Ann Arbor, Michigan: University of Michigan.

SAMPLE

Table 2--Changes in labor requirements by activity for men, women, and the total farm

Activity	: Change in labor : : requirement for : : women	: Change in labor : : requirement for : : men	: Change in labor : : requirement for : : total farm
Preparation	11	-4	0
Planting	5	0	4
Weeding	2	N.A.	2
Harvesting	37	6	26
Post-harvest	11	-35	22
Storage	41	-12	37
Fertilizing	N.A.	<u>2/</u>	<u>2/</u>
Staking	<u>1/</u>	N.A.	<u>1/</u>
Spraying	N.A.	<u>3/</u>	<u>3/</u>
Total	17	6	14

N.A. = not applicable

1/ Staking is a new activity, accounting for one percent of women's total labor, post-project.

2/ Fertilizing is a new activity, accounting for seven percent of men's total labor, post-project. We make the assumption that this new activity will be undertaken by men.

3/ Spraying is a new activity, accounting for one percent of men's total labor, post-project. We make the assumption that spraying will be undertaken by men.

Source: Based on Bohannan and Bohannan, Vermeer and project documents.

Source: Burfisher and Horenstein 1983: 35

Table 2. Changes in Labor Requirements by Activity for Men, Women and the Total Farm

Activity	Change in Labor Requirement for Women	Change in Labor Requirement for Men	Change in Labor Requirement for Total Farm
Preparation	-----	-----	-----
Planting	-----	-----	-----
Weeding	-----	-----	-----
Harvesting	-----	-----	-----
Post Harvest	-----	-----	-----
Storage	-----	-----	-----
Fertilizing	-----	-----	-----
Staking	-----	-----	-----
Spraying	-----	-----	-----

Source: Burfisher and Horenstein: 1983