REFERENCES


SQUIRE, P. J. (2002). Strategies for enhancing women’s full participation in sustainable agricultural development and environmental preservation in Sub-Saharan Africa. In the proceedings of the 18th annual conference, AIAEE. pp 413-420. Durban South Africa


SUUIRD, P. J. (2002). Strategies for enhancing women’s full participation in sustainable agricultural development and environmental reservation in Sub-Saharan African. In the proceedings of the 18th annual conference, AIAEE. Pp 413-420. Durban South Africa


TESFAYE DERIBE. (1999). Gender considerations in the farmers research project of Farm Africa. FRP technical pamphlet No. 20. Addis Ababa Ethiopia.


WOLDAY AMEHA. (1999). Improved seed marketing and adoption in Ethiopia. Ethiopian Journal of Agricultural Economics 1 (3) 41-81


APPENDIX

APPENDIX A: FORMAL SURVEY QUESTIONNAIRE
**REMINDER TO THE EVALUATORS (ENUMERATORS)**

1. Make brief introduction to each farmer before starting any questions, get introduced to the farmers, (greet them the local way) get his name; tell him yours, the institutions you are working for, and make clear the purpose and objective of your questions.

2. Please ask each question so clearly and patiently until the farmer understands (gets your point).

3. Please fill up the questionnaire according to the farmers reply (do not put your own opinion).

4. Please try not to use technical terms while discussing with farmer and do not forget the local unit.

1. **GENERAL INFORMATION**

1.1 Farmers name

1.2 Respondent number

1.3 Village (Peasant association)

1= Edo Jigessa

2= Gorbi Dererra

3= Rafu Hargessa

4= Kerssa Garra

5= Kerssa Ellala
1.4 Enumerator
1 = Hailu
2 = Girma
3 = Jibril
4 = Belete

2. HOUSEHOLD CHARACTERISTICS

2.1 Record the sex of the respondent.
1 = male
2 = female

2.2 Age

2.2.1 How old are you (no of years)

2.2.2 If not certain indicate age in category below
1 = 20 - 30
2 = 30 - 40
3 = 40 - 50
4 = 50 - 60
5 = > 60

2.2.3 The above number of years is indicated using
1 = farmer knows his age
2 = uncertain
3 = does not know
4 = estimated by the enumerator

2.3 Age at farming (experience in farming)
1 = < 5 years
2 = 5 - 10
3 = 10 - 15
4 = 15 - 20
5 = > 25
3. HOUSEHOLD TYPE

3.1 Household type:

1 = Single man (unmarried)
2 = Male headed, one wife
3 = Male headed, two wives
4 = Male headed, more than two wives
5 = Female headed, absentee husband
6 = Female headed, no husband
7 = Single women (unmarried)
8 = Others (Specify)

3.2 If male headed, with more than two wives how many wives does the head of the household have? Exact number

3.3 If male headed with one or more wives, what is the arrangement between husband and wife for sharing land?

1 = each wife has her own plot to control
2 = All plots controlled by husband
3 = each wife has little input
4 = the older wife has more input
5 = others (specify)

3.3 If male headed, what is your marital status? (if single man)

1 = Divorced
2 = Widower
3 = Single (unmarried)

3.3 If female HH, why no husband

1 = Left for temporary job
2 = Left for permanent job
3 = Not alive
4 = Military service
5 = Divorced
6 = Deserted
7 = Others (specify)
4. EDUCATION

4.1 Can you read and write
1= Yes
2= somewhat
3= No

4.2 How many years of formal education have you completed
1= none
2= < grade 3
3= grade 4 - 6
4= grade 7 - 9
5= > grade 9

5. OCCUPATION

5.1 What is your main occupation (household head)?
1= Farming only
2= Farmer + other <25%
3= Farmer + other <50%
4= Farmer + other > 50%
5= Others specify

5.2 What is your major source of income?
1= Crop sale
2= Livestock sale
3= Both
4= Others

5.3 What are other source of income (none farm earnings) (Proportion in %)
1= Trading
2= Crafts
3= Teaching
4= Brewing

6. FARM SIZE

6.1 What is the total size of your farm (Exact number)
6.2 If not certain indicate the range
1= 0.5 hectare (two timad)  
2= < 0.5 hectare (<two timad)  
3= 0.75 hectare (three timad)  
4= 1.0 hectare (four timad)  
5= 1.5 (five timad)  
6= 2.0 hectare (> eight timad)

6.3 How did you obtain your cropland
1= inherited from the wife’s father  
2= inherited from own family  
3= inherited from husband’s father  
4= allocated by local chief (kebele)  
5= others (specify)

6.4 Is the land registered in your name?
1= your own name  
2= your father’s name  
3= your wife or husband’s name  
4= both husband and wife’s name  
5= others specify

6.5 If not registered in your name do you think it is important to be registered in your name.
1= Yes  
2= I don’t mind  
3= No

6.6 Among the community members who do you think gets better chance of obtaining land use right?
1= Married man  
2= Unmarried man  
3= Married woman  
4= Unmarried woman  
5= Others
6.7 Can you manage more land than what you have now
1= I can manage much more
2= Only a little bit more
3= I can't manage more than what I have now

6.8 Can you get more land if you want to (from the PA)
1= Yes
2= I have to go through many process
3= No not at all

6.9 If no why? Specify the reason

6.10 In what condition do you think your land is?
1= It is a marginal land
2= It is eroded land
3= It is not bad
4= It is very good land

6.11 What is the total number of your family?

6.12 how many oxen do you have

7 MAJOR ENTERPRISES
7.1 What types of farming are you involved in
1= crop production only
2= crop and livestock production
3= livestock production only

7.2 What are the three most important crops among these? Rank them in order
1= Maize
2= Wheat
3= Barely
4= Tef
5= Sorghum
6= shallot

7.3 Why are they very important to you?
1= source of income
2= food
3= both food and cash
4= others specify

7.4 Proportion of consumption
1= 100 %
2= 75 %
3= 50 %
4= 25 %
5= <25 %

1= Maize
2= Wheat
3= Barely
4= Tef
5= Sorghum
6= shallot
7.5 Do you produce enough food for the family for the whole year?
   1= Yes my produce is enough for year round
   2= It is only enough for three quarter of the year
   3= I manage only half of the year
   4= I produce only for few months less than half a year

8. INFORMATION ON MAIZE PRODUCTION

Following the questions below please fill in the table under each respective variable

8.1 What is the total area that you planted maize in 2000? (Exact number)

8.2 What type of maize variety have you used?
   1= Yes
   2= No
   1= A-511
   2= BH-660
   3= BH-140
   4= PBH325
   5= Local

8.3 From where did you get the maize variety
   1= MOA
   2= Own seed
   (kept from previous year)
   3= Local (open) market
   4= Share cropper

8.4 What amount of seed rate have you used? (exact number)
8.5 What type of fertilizer have you used?
1 = UREA
2 = DAP
3 = both
4 = none

8.6 Where did you get the fertilizer
1 = MoA
2 = Local market
3 = share cropper

8.7 What amount of fertilizer have you used (exact number)
1 = for UREA
2 = for DAP

<table>
<thead>
<tr>
<th>Variety</th>
<th>A-511</th>
<th>BH-660</th>
<th>BH-140</th>
<th>PBH 325</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.3</td>
<td>Source</td>
<td>V52</td>
<td>V53</td>
<td>V54</td>
<td>V55</td>
</tr>
<tr>
<td>8.4</td>
<td>Amount of seed</td>
<td>V57</td>
<td>V58</td>
<td>V59</td>
<td>V60</td>
</tr>
<tr>
<td>8.5</td>
<td>Amount of DAP</td>
<td>V62</td>
<td>V63</td>
<td>V64</td>
<td>V65</td>
</tr>
<tr>
<td>8.6</td>
<td>Source Of DAP</td>
<td>V67</td>
<td>V68</td>
<td>V69</td>
<td>V70</td>
</tr>
<tr>
<td>8.7</td>
<td>Amount of UREA</td>
<td>V72</td>
<td>V73</td>
<td>V74</td>
<td>V75</td>
</tr>
<tr>
<td>8.8</td>
<td>Source of UREA</td>
<td>V77</td>
<td>V78</td>
<td>V79</td>
<td>V80</td>
</tr>
</tbody>
</table>

8.8 Time of fertilizer (DAP) application
1 = at planting
2 = at knee height

8.9 Time of fertilizer (UREA) application
1 = at planting
2 = at knee height
9. Labor
9.1. Do you think you have a labor problem for your farming activities?
1= yes
2= some times (during the pick period only)
3= No
9.1.1 If yes, what is the nature of your labor problem?
1= Not enough family labor
2= hired labor not available
3= Hired labor is expensive
4= Exchange labor not available
5= Other (specify)
9.2 How do you overcome labour shortage??
1= Use hired labor
2= use exchange labor
3= use both hired and exchange
4= Involve share cropper
5= Others

10. DECISION MAKING
10.1 To what extent can you make the following decisions?
1= no right no influence
2= some influence
3= influence no decision
4= share decision
5= full decision
10.1.1 Type of crop to grow
10.1.2 Allocating household income
10.1.3 Livestock sale
10.1.4 Crop sale

11. ACCESS TO EXTENSION SERVICES

11.1 Do you have an extension office in your village?
   1= Yes 2= No

11.2 If yes what is the name of the representative TA?
   1= I do not know his name
   2= I only know him by face
   3= I know his name

11.3 Does he/she speak your local language?
   1= perfect 2= a little bit 3= not at all

11.4 How often did you have contact with extension officer (DA) for the last six month
   1= none
   2= once only
   3= twice
   4= three times
   5= four times
   6= more than four times

11.5 How do you get information about farming?
   1= neighboring farm
   2= extension agents (DA)
   3= during demonstration
   4= during field day
   5= others

11.6 Have you ever been participated in the following activities for the last three years?
   1= Yes
   2= No
11.6.1 Field days

11.6.2 Demonstration

11.6.3 Agricultural training

11.7 Have you ever been a contact farmer?
1= Yes I am a contact farmer just now
2= Once I was a contact farmer
3= I have never been a contact farmer

11.8 How often do you listen to the agricultural program in the radio?
1= I have no radio
2= I have a radio but I have no time to listen to the radio
3= I attend some times
4= I attend regularly
5= other means

11.9 What are the major extension services provided to you in the last two years?
1= Yes
2= No
11.9.1 about cereal production
11.9.2 about horticultural crops production
11.9.3 about post harvest management
11.9.4 about livestock production
11.9.5 how to use fuel saving stove
11.9.6 sanitation
11.9.7 knitting
11.9.8 child care

11.9.9 food preparation

11.9.10 personal hygiene

11.9 What else do you like to learn? 1=yes 2=No

11.9.1 Seed rate

11.9.2 Fertilizer use

11.9.3 Pesticide use

11.9.4 Others

11.11 Development agent making usual visits

1= Male 2= Female

11.12 In general, according to your personal feelings what kinds of extension agent do you prefer?

1= Male
2= No preference
3= Female

11.13 Why? (Specify the reasons)

12 ACCESS TO CREDIT

12.1 Is there any source of formal source of credit in cash within the woreda?

1= Yes
2= No

12.2 If yes what are the sources of credit?

1= Local money lenders
2= NGO
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Ministry of Agriculture</td>
</tr>
<tr>
<td>4</td>
<td>Development Bank</td>
</tr>
<tr>
<td>5</td>
<td>Others specify</td>
</tr>
</tbody>
</table>

12.3 Have you ever had access to any credit facilities (from MoA) in the last three years?
- 1= Yes I am using fertilizer and seed credit for the last three years
- 2= I only get once and discontinued
- 3= I used twice
- 4= I never used the credit

12.4 If never used why
- 1= I was not aware about it
- 2= It was very expensive
- 3= I was not having the collateral

12.5 If discontinued what is the major cause for discontinuing?

13. **EFFICIENCY PERCEPTION**

13.1 How do you rate your efficiency as a farmer?
- 1= Very poor
- 2= poor
- 3= average
- 4= good
- 5= very good

13.2 How would you rate your knowledge of maize production
- 1= very poor
- 2= poor
- 3= average
- 4= good
- 5= very good
13.3 What is the advantage of growing improved maize
1= high yield
2= disease resistant
3= high market value
4= no advantage

13.4 What is the advantage of fertilizer
1= increase crop yield
2= improve vegetative growth
3= enhance crop maturity
4= improve soil fertility
5= I don't know
6= others

13.5 What would you need to get higher crop yield

13.6 Do you think female farmers are more knowledgeable than male farmers about agricultural activities?
1= they don't even know about farming
2= they only know little
3= yes they are better
4= personal opinion

14. NEED
14.1 Are you satisfied with your situation and standard of living at present
1= very unsatisfied
2= unsatisfied
3= neutral
4= satisfied
5= very satisfied

14.2 what additional skill or help you need to acquire to improve your life
15. PRODUCTION PROBLEMS

15.1 What are major constraints for your crop production in the area?

16. Time line

16.1 During the time of planting (peak season), what is your usual daily schedule in terms of time allocation?

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
<th>Time spent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AM</td>
</tr>
<tr>
<td></td>
<td>4 5 6 7 8 9 10 11 12</td>
</tr>
<tr>
<td>Getting up</td>
<td></td>
</tr>
<tr>
<td>Perform household duties</td>
<td></td>
</tr>
<tr>
<td>Take cattle to the grazing</td>
<td></td>
</tr>
<tr>
<td>Feeding oxen</td>
<td></td>
</tr>
<tr>
<td>Collect firewood</td>
<td></td>
</tr>
<tr>
<td>Collect water for domestic use</td>
<td></td>
</tr>
<tr>
<td>Plough (field work)</td>
<td></td>
</tr>
<tr>
<td>Prepare food and take to the farm</td>
<td></td>
</tr>
<tr>
<td>Wash clothes</td>
<td></td>
</tr>
<tr>
<td>Prepare and eat dinner</td>
<td></td>
</tr>
<tr>
<td>Going to bed</td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td>Time Range</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>16.1.1 Getting up</td>
<td>V132</td>
</tr>
<tr>
<td>16.1.2 Perform household duties</td>
<td>V133</td>
</tr>
<tr>
<td>Lit fire</td>
<td></td>
</tr>
<tr>
<td>Take out the animals (calves)</td>
<td></td>
</tr>
<tr>
<td>Clean the floor</td>
<td></td>
</tr>
<tr>
<td>Feed chicken</td>
<td></td>
</tr>
<tr>
<td>Prepare and eat breakfast</td>
<td></td>
</tr>
<tr>
<td>16.1.3 Take cattle to the grazing</td>
<td>V134</td>
</tr>
<tr>
<td>16.1.4 Feeding oxen</td>
<td>V135</td>
</tr>
<tr>
<td>16.1.5 Collect firewood</td>
<td>V136</td>
</tr>
<tr>
<td>16.1.5 Fetch water</td>
<td>V137</td>
</tr>
<tr>
<td>16.1.7 Plough (field work)</td>
<td>V138</td>
</tr>
<tr>
<td>16.1.8 Prepare food and take to the farm</td>
<td>V139</td>
</tr>
<tr>
<td>16.1.9 Wash clothes</td>
<td>V140</td>
</tr>
<tr>
<td>16.1.10 Prepare and eat dinner</td>
<td>V141</td>
</tr>
<tr>
<td>16.1.11 Going to bed</td>
<td>V142</td>
</tr>
</tbody>
</table>
Itana (1985); and Tesfaye et al. (2001), the better the education the better the ability of the farmers to make optimal adoption decisions. However, Legesse (1992) reported that education does not influence farmers' adoption decisions; but that the probability of adoption of improved varieties increases with increased farming experiences. Mwangi et al. (2000) reported that in Mbeya, Tanzania, the level of education had a significant influence only for male respondents. Similar to Mwangi's finding, this study also reflects that education had a significant influence only for male respondents but at 10% probability.

The level of education for the respondent is shown in Fig 7.1. Eighty two percent of the female respondents had no formal education. Only one out of the 33 respondents had a formal education up to grade 8.

![Figure 7.1](image_url)

**Figure 7.1** Level of formal education for male and female respondents in Arsi-Negele, 2001

According to the results shown in Table 7.5, there was no significant yield difference among the different level of education for both male and female respondents. In the