

REFERENCES

- ADDIS TRUNEH; TEKLU TESFAYE; VERKUIGL, H. AND MWANGI, W. (2000). Gender differentials in agricultural productivity among small holders in Ada, Lume and Gimbich woredas of the central highlands of Ethiopia. *Ethiopian Journal of Development Research*. 22 (1). 1- 23.
- ALENE, A.; POONYTH, D. AND HASSAN, R. M. (2000). Determinants of adoption and intensity of use of improved maize varieties in the central highlands of Ethiopia: a Tobit analysis. *Agricon*, 39(3): 633-643.
- ALMAZ ESHETE. (2000). Why is gender a development issue. In the proceedings of National workshop on institutionalizing gender planning in agricultural technology generation and transfer process. EARO. Pp 37-45. Addis Ababa.
- ANTWI, M. A. (1998). An assessment of efficiency of small-scale farmers in Venda and Lebowa, Northern Province. MSc (Agric), Agricultural Economics. University of Pretoria.
- ASFAW NEGASSA; GUNJAL, K.; MUANGI, W. M. and BYENE SOBOKA. (1997). Factors affecting adoption of maize production technologies in Bako area, Ethiopia. *Ethiopian journal of Agricultural Economics* 1 (2): 52-73.
- BEMBRIDGE, T. J. (1993). Farmer characteristics and contact with information sources in a Venda village: Implications for extension. *South African Journal of Agricultural Extension* 22 19-28.
- BOGALECH ALEMU. (2000). Policy approach to mainstream gender in Ethiopia. In the proceedings of National workshop on institutionalizing gender planning in agricultural technology generation and transfer process. EARO. Pp 126-144. Addis Ababa.

BOTHA, C. A. J. 1993. The value of specific extension research for a scale to select participants in agricultural support programmes: overview, critique and evaluation. *South African Journal of Agricultural Extension* 64-76.

BOTHA, C. A. J. (1999). Human aspects of development: Towards inclusive participatory development. University of Pretoria. Pp 92-122.

Comitato Internazionale Per Lo Sviluppo Dei Popoli (CISP). (1997). The female farmer; fertile ground? A gender assessment study of agricultural inputs adoption in eight case study areas in four regions of Ethiopia. Netherlands Embassy. Addis Ababa.

CENTRAL STATISTIC AUTHORITY (CSA). (1990–2001). Agricultural sample survey reports on area, production for major crops (private peasant holdings meher season). The FDRE Statistical Bulletins (1990-2001). Addis Ababa.

CENTRAL STATISTIC AUTHORITY (CSA). (1999). Annual crop production statistics. The FDRE Statistical Bulletins (1999). Addis Ababa.

CHICHE, Y. (1997). The need for incorporating gender factor in agricultural research: The case of Nazaret / Central rift valley of Ethiopia. In Proceedings of the African Crop Science Conference. African Crop Science Society. Pp. 1385-1392.

DEMESE CHANYALEW. (2000). Overview of Ethiopia's agricultural research system. In the proceedings of National workshop on institutionalizing gender planning in agricultural technology generation and transfer process. EARO. Pp 15-36. Addis Ababa.

DOSS, C. R. (1999). Twenty-five years of research on women farmers in Africa: Lessons and implications for agricultural research institutions; with annotated bibliography. CIMMYT economics programme paper no. 99-02. Mexico D.F.: CIMMYT.

DUE, J. M. AND GLADWIN, C. H. (1991). Impacts of structural adjustments programmes on African women farmers and female-headed households. *American Journal of Agricultural Economics*, 73 (4) 1431 – 1439

DüVEL, G. H. (1975). The mediating function of perception in innovation decision-making. *South African Journal of Agricultural Extension*. 4: 25-36.

DüVEL, G. H. (1991). Towards a model for the promotion of complex innovations through programmed extension. *South African Journal of Agricultural Extension*. 70-86.

DüVEL, G. H. (1998). Monitoring extension: A cognition oriented approach towards evaluation. . *South African Journal of Agricultural Extension*. 30-43.

DüVEL, G. H. (1999). Evaluation in extension: Study guide AGV 728. University of Pretoria, Department of Agricultural Economics, Extension and Rural Development, Pretoria.

DüVEL, G. H. (2000). Program development and implementation; selected course notes for AGV 726 & 426. University of Pretoria, Department of Agricultural Economics, Extension and Rural Development, Pretoria.

DüVEL, G. H. (2002). A comparative evaluation of some participatory needs assessment methods in extension. In the proceedings of the 18th annual conference, AIAEE. Pp 81-88. Durban.

ETHIOPIAN AGRICULTURAL RESEARCH ORGANIZATION (EARO)/
AGRICULTURAL RESEARCH AND TRAINING PROJECT (ARTP). (1999).
Research-Extension-Farmer Linkage, Project implementation manual. Vol. 2. EARO,
Addis Ababa.

ETHIOPIAN AGRICULTURAL RESEARCH ORGANIZATION (EARO). (1999).
National Crop Research Strategic Plan. Crop Research Directorate. (EARO), Addis
Ababa.

ETHIOPIAN GOVERNMENT. (1993). National Policy on Ethiopian women. Addis Ababa, Ethiopia: The Transitional Government of Ethiopia: Office of the Prime Minister, Sept.

ETHIOPIAN REPORTER. (2002). Facts on Ethiopia.

<http://www.ethiopianrepoter.com/factsonethiopia.htm>, June 22, 2002.

EYILACHEW ZEWDE. (2001). Soil fertility studies of sub centers of the Melkassa Agricultural Research Centres, Arsi-Negele sub-centers. EARO. Melkassa, Addis Ababa. (Unpublished)

FOOD AND AGRICULTURE ORGANIZATION (FAO). (1998). Rural women and food security: current situation and perspectives. FAO, the United Nations, Rome.

FOOD AND AGRICULTURE ORGANIZATION (FAO). (2001). The state of food and agriculture. <http://www.fao.org/docrep/003/x9800e/x9800e00.htm>, June 22, 2002.

FEDER, G., JUST, R.E. AND ZILBERMAN, D. (1985). Adoption of agricultural innovations in developing countries: A survey. *Economic Development and Cultural Change* 33: 255-298

FRANK, EMILY. (1999). Gender, Agricultural Development, food security in Amhara: Ethiopia: The Contested Identity of women farmers in Ethiopia, USAID unpublished manuscript. Addis Ababa.

FRANZEL, S. and HOUTEN, V. H. (1992). Research with farmers: Lessons from Ethiopia. C.A.B. International, UK.

GETINET GEBEYEHU, TESFAYE ZEGEYE, ABEBE KIRUB and KIFLU BEDANE. (1996). Institute of Agricultural Research: its role in the development of Ethiopian agriculture. In the proceedings of Achieving Greater Impacts from research Investments in Africa. Pp 89-103. Sasakiwawa African Association, Mexico City.

GIRMA TAYE. (2001). Biometrician, Ethiopian Agricultural Research Organization (EARO), Addis Ababa.

HAILESILASSE KIDANE. (2001). Breeder/Agronomist and manager of the Arsi-Negele Research sub-centre.

HASSAN, R. M. (2000). Sampling procedure and survey design. Department of Agricultural Economics, Extension and Rural Development (study guide). University of Pretoria, Pretoria.

HASSAN, R. M.; MURIITH, F. AND KOMOU, G. (1998). Determinant of Fertilizer Use and the Gap Between Farmers' Maize Yield And Potential Yields in Kenya. In R.M .Hassan (eds) Maize Technology Development and Transfer: A GIS Application for Research Planning in Kenya. CAB International Wallingford.

HOPKINS, K.D.; HOPKINS, B.R. and GLASS, G.V. (1996). Basic statistics for the behavioral science (3rd ed.). A Simon and Schuster company.

ITANA AYANA. (1985). An analysis of factors affecting the adoption and diffusion patterns of packages agricultural technologies in subsistence agriculture: A case study in two extension districts of Ethiopia. M.Sc. Thesis, Addis Ababa "University.

KALINDA, T. H.; SHUTE, J.C. and FILSON, G.C. (2000). Access to agricultural extension, credits and markets among small-scale farmers in Southern Zambia. *Development Southern Africa*,17. (2) 165-175.

KATRINE, S. A. and DAPHNE, S. (1992). Developing Agricultural Extension for Women farmers. World Bank discussion papers 156. The World Bank, Washington D.C.

LEGESSE DADI. (1992). Analysis of factors influencing adoption and the impacts of wheat and maize technologies in Arsi-Negele, Ethiopia. MSc. Thesis Alemaya University of Agriculture. Alemaya Ethiopia.

LELE, U. (1975). The design of Rural Development Lesson from Africa. Johns Hopkins University Press, London.

LEWIN, K. (1951). Field theory in social science. Selected theoretical papers. New York: Harper & Row, New York.

LILJA, N. AND SANDERS, J. H. (1998). Welfare impacts of technological change on women in southern Mali. *Agricultural economics*, 19 73-79.

LISA, S. and JAKOB, K. (1992). Agricultural Extension in East Africa. World Bank Technical paper No. 164. The World Bank. Washington D.C.

MOSER, O. N. (1991). Gender planning in the Third World: Meeting practical and strategic needs. In Wallace, T. and March, C.,(eds).

MOSER, O. N. (1993). Gender planning and development: theory, practice, and training. London

MTSHALI , S. M. (2000). Monitoring and evaluation of women's rural development extension services in South Africa. *Development Southern Africa*.17 (1) 65-73

MUDUKUTI, A.E. and MILLER, L. (2002). Factors related to Zimbabwe women's' educational needs in agriculture. In the proceedings of the 18th annual conference, AIAEE. Pp 293-300. Durban South Africa

MWANGI, W.; VERKUIGL, H. and BISANDA, S. (2000). Gender differential in adoption of improved maize production technologies in Mbeya region of southern highlands of Tanzania. In the proceedings of National workshop on institutionalizing gender planning in agricultural technology generation and transfer process. EARO. Pp 105-125. Addis Ababa Ethiopia.

NGQALENI, M. T. and MAKHURA, M.T. (1996). An analysis of women's status in agricultural development in the Northern Province. In 2nd (ed.). Land, labour and livelihoods in South Africa. Published. Pp 335 – 356.

OSTERGAARD, L. (1992). Gender. In Ostergaard L., (ed.) Gender and development: A practical guide. Chapman and Hall, Inc, New York. Pp 1-10.

PALLANT, J. (2001). SPSS Survival manual: A step by step guide to data analysis using SPSS for Windows (Version 10). USA.

PERRET, S.; CARSTEN, J.; RANDELA, R. and MOYO, S. (2000). *Activity system and livelihoods in Eastern Cape Province Rural areas (Transkie): Household typologies as socio-economic contributions to a Landcare project*. Department of Agricultural Economics, Extension and Rural Development. University of Pretoria Working paper 99/2. CIRAD – tera num. 2000 / 28.

SIWDISH INTERNATIONAL DEVELOPMENT AGENCY (SIDA). (1999). Country gender profile; - Ethiopia. Addis Ababa, Ethiopia

SAHN, D.E. and HADDAD, L. (1991). The gendered impacts of structural adjustment programmes in Africa, Discussion. *American Journal of Agricultural Economics*, 73 (4) 1449 – 1451

SETOTAW FEREDÉ; VERKUIJL, H.; TANNER, D. G. and TAKLE GEBRE (2000). Optimizing fertilizer use in Ethiopia. EARO, CIMMYT, SG200, MoA Ethiopia, Addis Ababa

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

STARKEY, P. MWENYAE, E. and STARES, J. (1994). Improving animal traction technology. Proceedings of the workshop of animal traction network for eastern and southern Africa, 18-23 January 1992, Lusaka Zambia.

STEYN, G. J. (1988). A farming system study of two rural areas in the Peddie district of Ciskei. A DSc. Thesis. Faculty of Agriculture in the University of Fort Hare. Alice.

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

TAKELE GEBRE. (1997). The agriculture development policy of Ethiopia. In the Proceedings of Second Annual Conference of the Agronomy and Crop Physiology Society of Ethiopia. Pp 1-12. Addis Ababa Ethiopia.

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

TESFAYE ZEGEYE, BEDASSA TADESSE and SHIFERAW TEFAYE. (2001). Determinants of high yielding improved maize technologies in major maize growing regions of Ethiopia. Paper presented in the second National Maize Research workshop.

TIRUNEH, A.; TEFAYE, T.; MUANGI, W. and VERKUJIL, H. (2001). Gender Differentials in Agricultural Production and Decision-Making Among Smallholders in Ada, Lume, and Gimbich Woredas of the central highlands of Ethiopia. Mexico, D.F.: International Maize and Wheat Improvement Center (CIMMYT) and Ethiopia Agricultural Research Organization (EARO).

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

WUDNESH HAILU. (2000). Who is a farmer. In the proceedings of National workshop on institutionalizing gender planning in agricultural technology generation and transfer process. EARO. Pp 82-91. Addis Ababa Ethiopia.

YOHANNES KEBEDE, GUNJAL, K. and COFFIN, G. (1990). Adoption of new technologies in Ethiopian agriculture: the case of Tegulet-Bulga district, Shewa Province. *Agricultural Economics*, 4: 27-43.



APPENDIX

APPENDIX A: FORMAL SURVEY QUESTIONNAIRE

UNIVERSITY OF PRETORIA
DEPARTMENT OF AGRICULTURAL ECONOMICS, EXTENSION AND RURAL
DEVELOPMENT

COMPARATIVE ANALYSIS OF GENDER RELATED FARM HOUSEHOLDS
IN THE ARSI-NEGELE FARMING ZONE IN ETHIOPIA

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 Garra5= Kerssa Ellala

--	--



1.4 Enumerator

1= Hailu

2= Girma

3= Jibril

4= Belete

	V3
--	----

2 HOUSEHOLD CHARACTERISTICS

2.1 Record the sex of the respondent.

1 = male

2 = female

	V4
--	----

2.2 Age

2.2.1 How old are you (no of years)

		V5
--	--	----

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

	V6
--	----

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

	V7
--	----

2.3 Age at farming (experience in farming)

1= < 5 years

2= 5 - 10

3= 10 - 15

4= 15 - 20

5= > 25

	V8
--	----

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)

	V9
--	----

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

	V10
--	-----

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)

	V11
--	-----

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

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

	V12
--	-----

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)

	V13
--	-----



4. EDUCATION

4.1 Can you read and write

- 1= Yes
- 2= somewhat
- 3= No

	V14
--	-----

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

	V15
--	-----

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

	V16
--	-----

5.2 What is your major source of income?

- 1= Crop sale
- 2= Livestock sale
- 3= Both
- 4= Others

	V17
--	-----

5.3 What are other source of income (none farm earnings) (Proportion in %)

- 1= Trading
- 2= Crafts
- 3= Teaching
- 4= Brewing

	V18
--	-----

6. FARM SIZE

6.1 What is the total size of your farm (Exact number)

	V19
--	-----

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 (> eigt timad)

	V20
--	-----

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)

	V21
--	-----

6.4 Is the land registered in your name?

- 1= your own name
- 2= your fathers name
- 3= your wife or husbands name
- 4= both husband and wife's name
- 5= others specify

	V22
--	-----

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 not mind
- 3= No

	V23
--	-----

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

	V24
--	-----

- 6.7 Can you manage more land than what you have now
- 1= I can manage much more

	V25
--	-----
- 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

	V26
--	-----
- 2= I have to go through many process
- 3= No not at all
- 6.9 If no why? Specify the reason

	V27
--	-----
- 6.10 In what condition do you think your land is?
- 1= It is a marginal land

	V28
--	-----
- 2= It is eroded land
- 3= It is not bad
- 4= It is very good land
- 6.2 What is the total number of your family?

	V29
--	-----
- 6.3 how many oxen do you have

	V30
--	-----
- 7 MAJOR ENTERPRISES**
- 7.1 What types of farming are you involved in
- 1= crop production only

	V31
--	-----
- 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 _____

	V32
--	-----
- 2= Wheat _____

	V33
--	-----



3= Barely

	V34
--	-----

4= Tef

	V35
--	-----

5= Sorghum

	V36
--	-----

6= shallot

	V37
--	-----

7.3 Why are they very important to you?

1= source of income

2= food

3= both food and cash

4= others specify

	V38
--	-----

7.4 Proportion of consumption

1= 100 %

2= 75 %

3= 50 %

4= 25 %

5= <25 %

1= Maize

	V39
--	-----

2= Wheat

	V40
--	-----

3= Barely

	V41
--	-----

4= Tef

	V42
--	-----

5= Sorghum

	V43
--	-----

6= shallot

	V44
--	-----

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

	V45
--	-----

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)

	V46
--	-----

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

	V47
--	-----

	V48
--	-----

	V49
--	-----

	V50
--	-----

	V51
--	-----

8.3 From where did you get the maize variety

1= M0A

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

	Variety	A-511	BH-660	BH-140	PBH 325	Local
8.3	Source	V52	V53	V54	V55	V56
8.4	Amount of seed	V57	V58	V59	V60	V61
8.5	Amount of DAP	V62	V63	V64	V65	V66
8.6	Source Of DAP	V67	V68	V69	V70	V71
8.7	Amount of UREA	V72	V73	V74	V75	V76
8.8	Source of UREA	V77	V78	V79	V80	V81

8.8 Time of fertilizer (DAP) application

1= at planting

2= at knee height

	V82
--	-----

8.9 Time of fertilizer (UREA) application

1= at planting

2= at knee height

	V83
--	-----



8.10 Total maize yield obtained

	V84
--	-----

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

	V85
--	-----

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)

	V86
--	-----

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

	V87
--	-----

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

	V88
--	-----

10.1.2 Allocating household income

	V89
--	-----

10.1.3 Livestock sale

	V90
--	-----

10.1.4 Crop sale

	V91
--	-----

11. ACCESS TO EXTENSION SERVICES

11.1 Do you have an extension office in your village?

1= Yes 2= No

	V92
--	-----

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

	V93
--	-----

11.3 Does he/ she speak your local language?

1= perfect 2= a little bit 3= not at all

	V94
--	-----

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

	V95
--	-----

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

	V96
--	-----

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 | V97 |
| 11.6.2 Demonstration | V98 |
| 11.6.3 Agricultural training | V99 |
| 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 | V100 |
| 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 | V101 |
| 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 | V102 |
| 11.9.2 about horticultural crops production | V103 |
| 11.9.2 about post harvest management | V104 |
| 11.9.4 about livestock production | V105 |
| 11.9.5 how to use fuel saving stove | V106 |
| 11.9.6 sanitation | V107 |
| 11.9.7 knitting | V108 |



- 11.9.8 child care

	V109
--	------
- 11.9.9 food preparation

	V110
--	------
- 11.9.10 personal hygiene

	V111
--	------
- 11.9 What else do you like to learn? 1=yes 2=No

- 11.9.1 Seed rate

	V112
--	------
- 11.9.2 Fertilizer use

	V113
--	------
- 11.9.3 Pesticide use

	V114
--	------
- 11.9.4 Others

	V115
--	------

- 11.11 Development agent making usual visits

	V116
--	------

1= Male 2= Female

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

	V117
--	------

1= Male
2= No preference
3= Female

- 11.13 Why? (Specify the reasons)

	V118
--	------

12 ACCESS TO CREDIT

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

	V119
--	------

1= Yes
2= No

- 12.2 If yes what are the sources of credit?

	V120
--	------

1= Local money lenders
2= NGO

- 3= Ministry of Agriculture
- 4= Development Bank
- 5= Others specify

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

	V121
--	------

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

	V122
--	------

12.5 If discontinued what is the major cause for discontinuing?

	V123
--	------

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

	V124
--	------

13.2 How would you rate your knowledge of maize production

- 1= very poor
- 2- poor
- 3- average
- 4- good
- 5- very good

	V125
--	------



13.3 What is the advantage of growing improved maize

- 1= high yield
- 2= disease resistant
- 3= high market value
- 4= no advantage

	V126
--	------

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

	V127
--	------

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

	V128
--	------

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

	V129
--	------

14.2 what additional skill or help you need to acquire to improve your life

	V130
--	------



15. PRODUCTION PROBLEMS

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

	V131
--	------

16. Time line

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

ACTIVITIES	Time spent																				
	AM						PM														
	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Getting up																					
Perform household duties																					
Take cattle to the grazing																					
Feeding oxen																					
Collect firewood																					
Collect water for domestic use																					
Plough (field work)																					
Prepare food and take to the farm																					
Wash clothes																					
Prepare and eat dinner																					
Going to bed																					



<u>Activities</u>	<u>Time Range</u>
16.1.1 Getting up	V132
16.1.2 Perform household duties	
Lit fire	
Take out the animals (calves)	V133
Clean the floor	
Feed chicken	
Prepare and eat break fast	
16.1.3 Take cattle to the grazing	
16.1.4 Feeding oxen	V134
16.1.5 Collect firewood	V135
	V136
16.1.5 Fetch water	V137
	V138
16.1.7 Plough (field work)	V139
	V140
16.1.8 Prepare food and take to the farm	V141
	V142
16.1.9 Wash clothes	
16.1.10 Prepare and eat dinner	
16.1.11 Going to bed	

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.

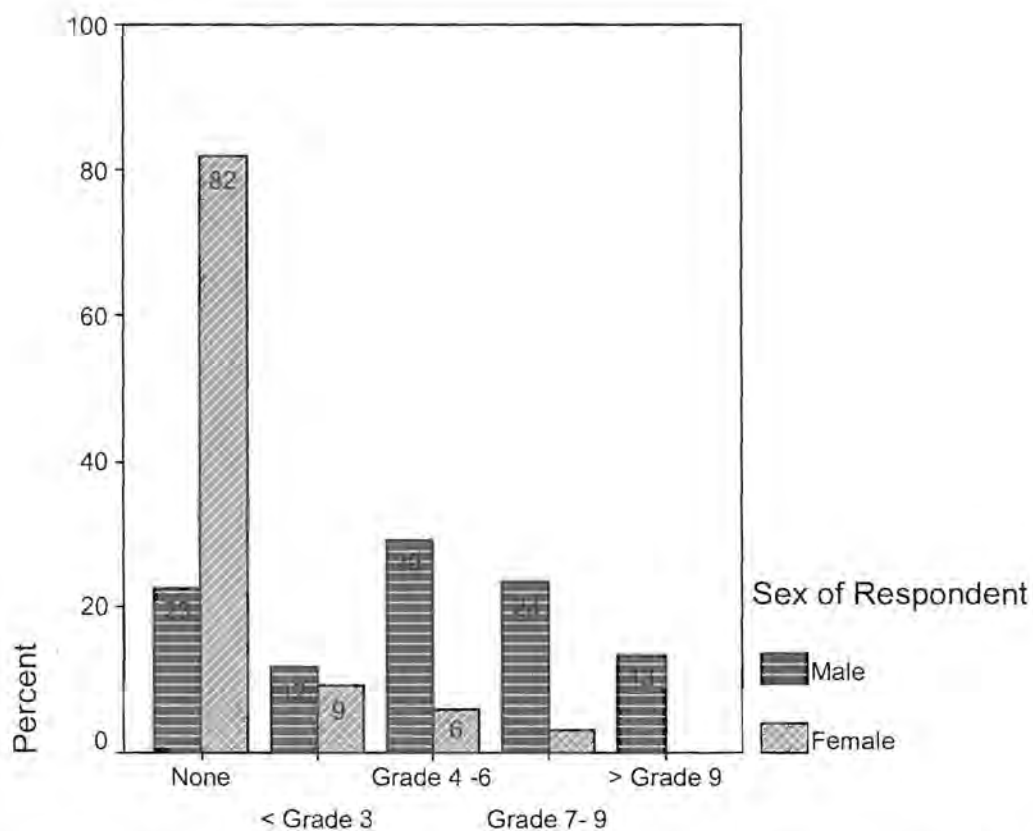


Figure 7.1 Level of formal education for male and female respondents in Arsi-Negele, 2001

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