

Africa Rising Maize Response Study

March 2015

PART 1: HOUSEHOLD DEMOGRAPHIC DATA

Name of household head:	GPS coordinates of house:							
	S	°	'	"	E	°	'	"
Name of respondent:								
Checked by:					Entered by:			

EPA (circle one):	1=Linthipe	2=Golomoti	3=Kandeu	4=Nsipe	5=Mtakataka
Village (circle one):	4=Kalumo	8=Katsese	12=Pitala	16=Sukasuka	20=Kahowela
	1=Mkuwazi	5=Amosi	9=Chawa	13=Kakhoma	17=Gonthi
	2=Mbidzi	6=Mzililongwe	10=Kabango	14=Chikawola	18=Kampanje
	3=Msamala	7=Dauka	11=Wilson	15=Sitolo	19=Hauya
					21=Malinda
					22=Njolomole

We are here today to follow up on the high and low fertility plots you showed us in September. We would first like to ask you some additional questions about your household and then proceed to the plots.

A1. Have you (or the household head) allocated land to any of your children? If YES, how much in ACRES? If NO, write 0.	
A2. What is the education level of the father of the household head? (Codes below)	
A3. What is the education level of the mother of the household head? (Codes below)	
A4. How many brothers did the father of the household head have?	
A5. How many brothers does the household head have?	
A6. How many sisters does the household head have?	
Codes for education level 0=No education 1=Some primary school 2=Completed primary school 3=Some secondary school 4=Completed secondary school 5=Some post-secondary school 6=Completed post-secondary school 99=Other (specify)	

A7. Were you or someone in your household an Africa Rising baby farmer in the 2013/2014 season?	1=Yes 2=No
A8a. Does someone in the household currently participate in the Africa Rising mother/baby trial farmer?	1=Yes 2=No
A8b. If yes, who?	1=Household head 2=Spouse 3=Father/mother of head 4=Brother/sister of head 5=Son/daughter of head 6=Grandchild of head 7=Both head and spouse 99=Other (Specify)

HHID: _____

DEMOGRAPHIC TABLE: Please fill out the below for anyone in the household OVER THE AGE OF 12 YEARS.													
A9. Person ID	A10. Gender (1=Male, 2=Female)	A10b. Relationship to head 1=Head 2=Spouse 3=Son/daughter 4=Brother/sister 5=Grandparent 6=In-law 99=Other (specify)	A11. Age in years	A12. Did this person live elsewhere in the past 5 years? (1=Yes, 2=No)	A13. What has been their primary activity for the past 3 months (codes below)	A14. Is this person currently in school? (1=Yes, 2=No)	A15. Does this person work on the household's farm? (1=Yes, 2=No)	A16. Does this person work on another household's farm? (1=Yes, 2=No)	A17. Is this person engaged in non-farm business activities? (1=Yes, 2=No)	A18. Does this person work off farm for a wage or salary? (1=Yes, 2=No)	A19. Using the beans provided you, ask the respondent to show how this this person split their total time working between on- farm, on others' farms (ganyu), and in non-farm businesses/wage jobs in the past 12 months?		
											a. # beans in on-farm pile	b. # beans in ganyu pile	c. # beans in off-farm pile
Head 1													
Spouse 2													
3													
4													
5													
6													
7													
8													

A13 Codes 0=Neither working nor in school	1=On own farm work 2=On- farm ganyu labour	3=Off-farm ganyu labour 4=Informal business	5=Registered business 6=Salaried/wage employment	7=In school 99=Other (specify)
---	---	--	---	-----------------------------------

HHID: _____

A20. Did your household receive any coupons or fertilizer from the FISP program this past year?		1=Coupons 2=Fertilizer 3=Both 4=Neither
A21. If you received COUPONS, from whom did you receive them?		1=Directly from people administering FISP program 2=Another household 3=Both 99=Did not receive
A22. If you received FERTILIZER, from whom did you receive it?		1=Admarc 2=Other trader 3=Another household 4=Extension 99=Other (specify)
A23. How much urea did you receive through the FISP program ?(Unit codes below). Leave blank if urea not received.	a. Amount	
	b. Unit	
A24. When did you receive this urea?	a. Month (11=Nov, 12=Dec, etc.)	
	b. Week of the month (1, 2, 3, 4, 5)	
A25. How much NPK did you receive through the FISP program? (Unit codes below). Leave blank if NPK not received.	a. Amount	
	b. Unit	
A26. When did you receive this NPK?	a. Month (11=Nov, 12=Dec, etc.)	
	b. Week of the month (1, 2, 3, 4, 5)	

A27. Did you purchase any urea this year? If YES, how much? If NO, write 0 and proceed to A28.	a. Amount	
	b. Unit	
A28. Did you purchase any NPK this year? If YES, how much? If NO, write 0 and proceed to A29.	a. Amount	
	b. Unit	

Unit codes: 1=Kilograms	2=25 kg sack	3=50 kg sack	99=Other (specify)
--------------------------------	--------------	--------------	--------------------

A29. What is the relation of the household head to the village chief? (Include whether the household head is an nduna)	
A30. What is the relation of the household head's spouse to the village chief?(Include whether the household head is an nduna)	
A29, A30 Codes: 0=No relation 1=Son/daughter of chief	2=Brother/sister of chief 3=Cousin/niece/nephew 4=Uncle/aunt 5=Deputy chief (nduna) 99=Other (specify) N/A=Not applicable (i.e., no spouse)

HHID: _____

PART 2: HIGH FERTILITY PLOT

Continue to the high fertility plot as identified by the farmer in September and take GPS readings from the center of the plot to confirm it is the correct plot. You **MUST** verify that this is the same plot that was identified as high fertility from September's survey. Do this by telling the farmer you want to visit the same plots (high and low) from last time AND check to make sure you have the same GPS coordinates. Then give the farmer the GPS and have him/her walk around the border of the area on which fertilizer was applied.

GPS coordinates from center of plot:	S	°	'	"	E	°	'	"

Are these the same coordinates from your list? Circle your response.

1=Yes

2=No

Area of plot: _____ square meters

Did you fertilize this plot? Circle your response.

1=Yes

2=No

If YES, was the whole area fertilized? Circle your response. .

1=Yes

2=No

☺ ☺ ☺

If NO, ask the farmer to walk the area that was fertilized.

Area that was fertilized: _____ acres

Name of plot: _____

Enumerators: The following questions pertain only to the part of this plot which was **FERTILIZED**. If none of it was, these questions pertain to the entire plot. When you are done, proceed to the plot identified by the farmer as being the least fertile.

Enumerators: Please ask the farmers to draw the plot and crops planted on it last year and this year

HHID: _____

SECTION B: HIGH FERTILITY SOIL PREPARATION AND PLANTING

Please list the crops planted on this plot this season, the dates planted, and their planned uses. (Codes below)

	B1. Main crop	B2. 1st intercrop	B3. 2nd intercrop	B4. 3rd intercrop	B5. 4th intercrop	B6. 5th intercrop	B7. Border crop
a. Crop code							
b. Month planted							
c. Week planted							
d. Variety name							
e. Type of variety							

Crop Codes:	6=Pigeonpea nandolo	14=Cassava / Chinangwa	Type of Variety Codes:
1=Local maize	7=Groundnut / mtedza	15=Sweet potato	1=Local
chimanga cha makolo	8=Soya bean / soya	Mbatata za kholowa	2=Newly acquired hybrid
2=Hybrid maize	9=Common bean Nyemba	16=Millet	3=Saved hybrid
chimanga cha makono	10=Velvet bean Kalongonda	17=Pumpkin	4=OPV/composite
3=OPV/Composite maize	11=Cowpea / Khobwe	18=Sugarcane	5=Unknown
4=Tobacco / fodya	12=Bambara nut Nzama	88=Local/hybrid mix	6=
5=Cotton / thonje	13=Sorghum / Mapira	99=Other (specify)	99=Other (specify)

B8. What soil preparation method did you use before planting this plot this season? (List all that apply; see codes below)

Munagwiritsa ntchito njira zotani zokonzera munda wanu musanadzale mbeu chaka?

(Tchulani zonse zomwe munachita; Onani mayankho m'munsimo)

B8a. _____

B8b. _____

B8c. _____

B8d. _____

B8e. _____

B8 Codes:	2=Incorporate residues late	5=Align ridges	8=Animal traction
1=Incorporate residues early	winter/ kukwilika zotsala	Kulima m'mizere	Kulima mogwiritsa ntchito
(after harvest)/ kukwilira	munda	6=Build mounds	ziweto
zotsala munda akatha	3=Burn residues/ kuotcha	Kulima m'milu	9=Zero tillage
kukolola	zotsala munda	7=Dig planting basins	Ulimi wa mtaya khasu
	4=Level soil / Kusalaza	Kulima m'maenje	99=Other (specify)
			Zina (tchulani)

B9. In which month did you prepare the ridges?

(January=1, February=2, etc.; 99=Not applicable)

HHID: _____

Did you incorporate any of the following residues in the ridges?						
B10. Pigeon pea	a. 1=Yes 2=No	b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate
B11. Groundnut	a. 1=Yes 2=No	b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate
B12. Soya	a. 1=Yes 2=No	b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate
B13. Cowpea	a. 1=Yes 2=No	b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate
B14. Bean	a. 1=Yes 2=No	b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate
B15. Weeds	a. 1=Yes 2=No	b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate
B16. Maize	a. 1=Yes 2=No	b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate
B17a. Other (specify)		b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate

B10c-B17c Codes: 1=Same 2=Kilograms 3=25 kg sack 4=50 kg sack (fertilizer sack)	5=90 kg sack (maize sack) 6=5L bucket 7=10L bucket 9=Ox cart 99=Other (specify)	B10d-B17d Codes: 1=Own production on THIS field 2=Own production on ANOTHER field 3=Other farmer 4=Payment for work	5=Extension agent 6=Local store 7=FIAP 8=Inputs for Assets 9=Other NGO 99=Other (specify)
B10e-B17e Codes: 0=Not applicable (i.e., did not incorporate) 1=Farmer/respondent burned 2=Were burned by someone else	3=Used for fuel 4=Used for fodder 5=Insufficient labour 80=Did not grow 100=Used in another field 99=Other (specify)	B10f-B17f Codes: 1=Sale to trader/in market 2=Sale to other household 3=Own consumption	4=Household storage 5=Fuel 6=Livestock fodder 99=Other (specify)

B18. What challenges did you face in production this year? List up to 3(codes below)	B18a. _____ B18b. _____ B18c. _____
B19. Enumerators: Please comment on soil and plant health (List as many as applicable from below)	B19a. _____ B19b. _____ B19c. _____ B19d. _____
B18, B19 Codes: 0=None 1=Insect pests 2=Weeds 3=Striga (witch weed) 4=Disease (non-striga)	5=Poor seed quality 6=Poor soil quality 7=Competition in intercropping 8=Late maturing variety 9=Not enough fertilizer 10=Poor germination 11=Waterlogging 12=Too much rain 13=Not enough rain 14=Runoff/erosion 15=Erratic rainfall 16=Too much sun 17=Winds 18=Animal attack 19=Insufficient labour 20=Planted late 99=Other (specify)

HHID: _____

B20. Was this plot FLOODED this season?		1=Yes 2=No
If YES, please fill out the following table. If NO, continue to B25. Please list the months during which the plot was flooded and, for each month, the number of days it was flooded.		
B21a. Month 1 (Jan=1, Feb=2, etc):	B21b. Number of days:	
B22a. Month 2 (Jan=1, Feb=2, etc):	B22b. Number of days:	
B23a. Month 3 (Jan=1, Feb=2, etc.)	B23b. Number of days	
B24. Any additional comments on flooding:		

Please describe the soil amendments used on THIS plot THIS SEASON. (Codes on next page.)

B25a. Amendment 1				
B25b. Date applied				
B25c. Timing of application				
B25d. Amount				
B25e. Unit				
B25f. How much of the container was used on this plot?	1 = ¼ or less	2 = ½	3 = ¾	4 = All
B25g. Source(s)				

B26a. Amendment 2				
B26b. Date applied				
B26c. Timing of application				
B26d. Amount				
B26e. Unit				
B26f. How much of the container was used on this plot?	1 = ¼ or less	2 = ½	3 = ¾	4 = All
B26g. Source(s)				

B27a. Amendment 3				
B27b. Date applied				
B27c. Timing of application				
B27d. Amount				
B27e. Unit				
B27f. How much of the container was used on this plot?	1 = ¼ or less	2 = ½	3 = ¾	4 = All
B27g. Source(s)				

HHID: _____

B28a. Amendment 4	
B28b. Date applied	
B28c. Timing of application	
B28d. Amount	
B28e. Unit	
B28f. How much of the container was used on this plot?	1 = ¼ or less 2 = ½ 3 = ¾ 4 = All
B28g. Source(s)	

B29a. Amendment 5	
B29b. Date applied	
B29c. Timing of application	
B29d. Amount	
B29e. Unit	
B29f. How much of the container was used on this plot?	1 = ¼ or less 2 = ½ 3 = ¾ 4 = All
B29g. Source(s)	

B25a-B29a Codes: 1=23:21:0+4S (NPK) 2=Urea 3=CAN 4=Other fertilizer (specify) 5=Chicken manure 6=Cow manure 7=Chicken and cow manure	8=Goat manure 9=Swine manure 10=Goat/swine mixture 11=Goat/cow mixture 12=Goat/chicken mixture 13=Chicken/swine mixture 14=Swine goat chicken	15=Rabbit manure 16=Crop residue 17=Herbicide 18=Insecticide 19=Ash 20=Compost 99=Other (specify)
B25c-B29c Codes: 1=During ridge preparation 2=Right BEFORE planting 3=During planting 4=Right AFTER planting 99=Other (specify)	B25e-B29e Codes: 1=Kilograms 2=25 kg sack 3=50 kg sack (fertilizer sack) 4=90 kg sack (maize sack) 5=5L bucket 6=10L bucket 7=Plate 8=Sugar packet 9=Ox cart 99=Other (specify)	B25g-B29g Codes: 1=Own production 2=Other farmer 3=Payment for work 4=Extension agent 5=Local store 6=FISP 7=Inputs for Assets 8=Other NGO 9=Borrowed 99=Other (specify)

HHID: _____

B30. <i>Did you use compost on this plot? If NO, skip to B30. If YES, continue to B28.</i>				1=Yes 2=No																												
B31. <i>If YES, please list what was in the compost? (Use codes below)</i>				a. _____ b. _____ c. _____ d. _____ e. _____																												
B31 Codes: <table border="0" style="width: 100%;"> <tr> <td>1=23:21:0+4S (NPK)</td> <td>7=Chicken and cow manure</td> <td>14=Swine goat chicken</td> <td>21=Kitchen scraps</td> </tr> <tr> <td>2=Urea</td> <td>8=Goat manure</td> <td>15=Rabbit manure</td> <td>22=Maize residue</td> </tr> <tr> <td>3=CAN</td> <td>9=Swine manure</td> <td>16=Crop residue</td> <td>23=Groundnut residue</td> </tr> <tr> <td>4=Other fertilizer (specify)</td> <td>10=Goat/swine mixture</td> <td>17=Herbicide</td> <td>24=Soya residue</td> </tr> <tr> <td>5=Chicken manure</td> <td>11=Goat/cow mixture</td> <td>18=Insecticide</td> <td>25=Weeds</td> </tr> <tr> <td>6=Cow manure</td> <td>12=Goat/chicken mixture</td> <td>19=Ash</td> <td>99=Other (specify)</td> </tr> <tr> <td></td> <td>13=Chicken/swine mixture</td> <td>20=Compost</td> <td></td> </tr> </table>					1=23:21:0+4S (NPK)	7=Chicken and cow manure	14=Swine goat chicken	21=Kitchen scraps	2=Urea	8=Goat manure	15=Rabbit manure	22=Maize residue	3=CAN	9=Swine manure	16=Crop residue	23=Groundnut residue	4=Other fertilizer (specify)	10=Goat/swine mixture	17=Herbicide	24=Soya residue	5=Chicken manure	11=Goat/cow mixture	18=Insecticide	25=Weeds	6=Cow manure	12=Goat/chicken mixture	19=Ash	99=Other (specify)		13=Chicken/swine mixture	20=Compost	
1=23:21:0+4S (NPK)	7=Chicken and cow manure	14=Swine goat chicken	21=Kitchen scraps																													
2=Urea	8=Goat manure	15=Rabbit manure	22=Maize residue																													
3=CAN	9=Swine manure	16=Crop residue	23=Groundnut residue																													
4=Other fertilizer (specify)	10=Goat/swine mixture	17=Herbicide	24=Soya residue																													
5=Chicken manure	11=Goat/cow mixture	18=Insecticide	25=Weeds																													
6=Cow manure	12=Goat/chicken mixture	19=Ash	99=Other (specify)																													
	13=Chicken/swine mixture	20=Compost																														

B32. <i>If compost was applied, was it fully decomposed when you applied it?</i>	1=Yes 2=No
---	---------------

B33. <i>Does this plot have a problem with striga?</i>	1=Yes 2=No
B34. <i>Have you seen striga on this plot this year?</i>	1=Yes 2=No

B35. <i>Who controls the planting decisions made on this plot?</i>	1=Head 2=Spouse 3=Both head and spouse 99=Other (specify)
B36. <i>Who controls the proceeds from this plot?</i>	1=Head 2=Spouse 3=Both head and spouse 99=Other (specify)

B37a. <i>In which month do you expect to harvest?(4=April, 5=May, etc.)</i>	
B37b. <i>In which week of the month do you expect to harvest ? (1, 2, 3, 4, 5)</i>	

HHID: _____

SECTION C: HIGH FERTILITY PLOT WEEDING

Enumerators: The following questions pertain only to the part of this plot which was FERTILIZED. If none of it was, ask these questions for the entire plot.

C1. 4-5 weeks after planting, how many weeds did this plot have in it as compared to your other plots?	0=Same amount 1=A little less 2=Much less 3=Some more 4=Much more 5=Unsure 99=Other (specify)	
---	---	--

How many times did you weed or plan weeding this plot THIS SEASON? Please list the dates and types of weeding you have already done or plan to do on this plot this season. (Section C applies only to **THIS PLOT AND SEASON**.)

C2. First weeding	a. 1=Completed 2=Planned	b. Date	c. Type of weeding
C3. Second weeding	a. 1=Completed 2=Planned	b. Date	c. Type of weeding
C4. Third weeding	a. 1=Completed 2=Planned	b. Date	c. Type of weeding
C5. What did you do with the weeds? List up to 3 uses (codes below).			a. _____ b. _____ c. _____
C6. If you have not yet weeded, what prevented you from weeding?			
C7. If you plan on weeding, what would prevent you from weeding?			
C8. If you already weeded, why did you weed?			
C9. If you plan to weed, why will you weed?			
C10. How do you make your decisions about weeding time/frequency?			
C11. How do you make your decisions about weeding type?			
C2c-C4c Codes: 1=Kupalira 2=Kuzulira 3=Kusenda/Kuojekera 4=Kukwazira/Kulapa 5=Kukwezera 6=Kubandira 99=Other (specify)	C5 Codes: 0=Nothing 1=Burn 2=Incorporate into ridge 3=Put in furrow 4=Remove from field 5=Fed to livestock 6=Used for food 99=Other (specify)	C6, C7 Codes: 0=Nothing 1=No time 2=No money to hire outside labour 3=Illness or death in the family 4=Flooding 5=Erratic rains 99=other (specify)	C8, C9 Codes: 1=Increase yield 2=Decrease pests 3=Keep a clean field 99=Other (specify) C10, C11 Codes: 1=Tradition 2=Other farmers 3=Intuition 4=Extension 99=Other (specify)

HHID: _____

LOCATION AND SAMPLE NUMBER WITHIN HIGH FERTILITY PLOT								
	1	2	3	4	5	6	7	8
RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE
D1. RIDGE WEED RANKING (INCLUDE WITCH WEED)	Ranking: 0: No weeds 1: soil>weeds 2: soil=weeds 3: soil<weeds							
D2. RIDGE WITCH WEED RANKING (WITCH WEED ONLY)	0: no striga 1: striga<weed 2: striga=weed 3: striga>weed							
FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW
D3. FURROW WEED RANKING (INCLUDE WITCH WEED)								
D4. FURROW WITCH WEED RANKING (WITCH WEED ONLY)								

HHID: _____

HIGH FERTILITY PLOT	METER ID	atLEAF CHLOROPHYLL READINGS <i>(4 PLANTS PER LOCATION & 3 READING REPS PER PLANT ON SAME LEAF AREA)</i>															
	<div></div>	1		2		3		4		5		6		7		8	
		GROW STAGE	SPAD	GROW STAGE	SPAD	GROW STAGE	SPAD	GROW STAGE	SPAD	GROW STAGE	SPAD	GROW STAGE	SPAD	GROW STAGE	SPAD	GROW STAGE	SPAD
1	a. PLANT 1 REP 1																
	b. PLANT 1 REP 2	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	
	c. PLANT 1 REP 3																
2	a. PLANT 2 REP1																
	b. PLANT 2 REP 3	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	
	c. PLANT 2 REP 3																
3	a. PLANT 3 REP 1																
	b. PLANT 3 PER 2	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	
	c. PLANT 3 REP 3																
4	a. PLANT 4 REP 1																
	b. PLANT 4 REP 2	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	
	c. PLANT 4 REP 3																

HHID: _____

PART 3: LOW FERTILITY PLOT

Enumerators: Now proceed to the plot the farmer identified as the least fertile and take a GPS reading from the center of the plot to confirm it is the plots visited in September. Then give the farmer the GPS and have him/her walk around the border of the area which was fertilized..

GPS coordinates from center of plot:	S	°	'	"	E	°	'	"

Are these the same coordinates from your list? Circle your response. 1=Yes 2=No

Area of plot: _____ acres

Did you fertilize this plot? Circle your response. 1=Yes 2=No

If YES, was the whole area fertilized? Circle your response. . 1=Yes 2=No

If NO, ask the farmer to walk the area that was fertilized.

Area that was fertilized: _____ acres

Name of plot: _____

Enumerators: The following questions pertain only to the part of this plot which was FERTILIZED. If none of it was, these questions pertain to the entire plot. When you are done, proceed to the plot identified by the farmer as being the least fertile.

Enumerators: Please ask the farmers
to draw the plot and crops planted on it
last year and this year

HHID: _____

SECTION E: HIGH FERTILITY SOIL PREPARATION AND PLANTING

Please list the crops planted on this plot this season, the dates planted, and their planned uses. (Codes below)

	E1. Main crop	E2. 1st intercrop	E3. 2nd intercrop	E4. 3rd intercrop	E5. 4th intercrop	E6. 5th intercrop	E7. Border crop
a. Crop code							
b. Date planted							
c. Variety name							
d. Type of variety							

Crop Codes:

1=Local maize

chimanga cha makolo

2=Hybrid maize

chimanga cha makono

3=OPV/Composite maize

4=Tobacco / fodya

5=Cotton / thonje

6=Pigeonpea nandolo

7=Groundnut / mtedza

8=Soya bean / soya

9=Common bean Nyemba

10=Velvet bean Kalongonda

11=Cowpea / Khobwe

12=Bambara nut Nzama

13=Sorghum / Mapira

14=Cassava / Chinangwa

15=Sweet potato

Mbatata za kholowa

16=Millet

17=Pumpkin

18=Sugarcane

99=Other (specify)

E1d-E7d Codes:

1=Local

2=Newly acquired hybrid

3=Saved hybrid

4=OPV/composite

5=Unknown

99=Other (specify)

E8. What soil preparation method did you use before planting this plot this season? (List all that apply; see codes below)

Munagwiritsa ntchito njira zotani zokonzera munda wanu musanadzale mbeu chaka?

(Tchulani zonse zomwe munachita; Onani mayankho m'munsimo)

E8a. _____

E8b. _____

E8c. _____

E8d. _____

E8e. _____

E8 Codes:

1=Incorporate residues early

(after harvest)/ kukwilira

zotsala munda akatha

kukolola

2=Incorporate residues late

winter/ kukwilika zotsala

munda

3=Burn residues/ kuotcha

zotsala munda

4=Level soil / Kusalaza

5=Align ridges

Kulima m'mizere

6=Build mounds

Kulima m'milu

7=Dig planting basins

Kulima m'maenje

8=Animal traction

Kulima mogwiritsa ntchito

ziweto

9=Zero tillage

Ulimi wa mtaya khasu

99=Other (specify)

Zina (tchulani)

E9. In which month did you prepare the ridges?

(January=1, February=2, etc.)

HHID: _____

Did you incorporate any of the following residues in the ridges?						
E10. Pigeon pea	a. 1=Yes 2=No	b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate
E11. Groundnut	a. 1=Yes 2=No	b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate
E12. Soya	a. 1=Yes 2=No	b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate
E13. Cowpea	a. 1=Yes 2=No	b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate
E14. Bean	a. 1=Yes 2=No	b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate
E15. Weeds	a. 1=Yes 2=No	b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate
E16. Maize	a. 1=Yes 2=No	b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate
E17a. Other (specify)		b. Amount	c. Unit	d. Source	e. If not, why not?	f. Use if did not incorporate

E10c-E17c Codes: 1=Same 2=Kilograms 3=25 kg sack 4=50 kg sack (fertilizer sack)	5=90 kg sack (maize sack) 6=5L bucket 7=10L bucket 9=Ox cart 99=Other (specify)	E10d-E17d Codes: 1=Own production on THIS field 2=Own production on ANOTHER field 3=Other farmer 4=Payment for work	5=Extension agent 6=Local store 7=FISP 8=Inputs for Assets 9=Other NGO 99=Other (specify)
E10e-E17e Codes: 0=Not applicable (i.e., did not incorporate) 1=Farmer/respondent burned	2=Were burned by someone else 3=Used for fuel 4=Used for fodder 99=Other (specify)	E10f-E17f Codes: 1=Sale to trader/in market 2=Sale to other household 3=Own consumption	4=Household storage 5=Fuel 6=Livestock fodder 99=Other (specify)

E18. What challenges did you face in production this year? List up to 3(codes below)	E18a. _____ E18b. _____ E18c. _____
E19. Enumerators: Please comment on soil and plant health (List as many as applicable from below)	E19a. _____ E19b. _____ E19c. _____ E19d. _____
E18, E19 Codes: 0=None 1=Insect pests 2=Weeds 3=Striga (witch weed) 4=Disease (non-striga)	5=Poor seed quality 6=Poor soil quality 7=Competition in intercropping 8=Late maturing variety 9=Not enough fertilizer 10=Poor germination 11=Waterlogging 12=Too much rain 13=Not enough rain 14=Runoff/erosion 15=Erratic rainfall 16=Too much sun 17=Winds 18=Animal attack 19=Insufficient labour 20=Planted late 99=Other (specify)

HHID: _____

E20. Was this plot FLOODED this season?	1=Yes 2=No
If YES, please fill out the following table. If NO, continue to E25. Please list the months during which the field was flooded and, for each month, the number of days it was flooded.	
E21a. Month 1 (Jan=1, Feb=2, etc):	E21b. Number of days:
E22a. Month 2 (Jan=1, Feb=2, etc):	E22b. Number of days:
E23a. Month 3 (Jan=1, Feb=2, etc.)	E23b. Number of days
E24. Any additional comments on flooding:	

Please describe the soil amendments used on THIS plot THIS SEASON. (Codes on next page.)

E25a. Amendment 1	
E25b. Date applied	
E25c. Timing of application	
E25d. Amount	
E25e. Unit	
E25f. How much of the container was used on this plot?	1 = ¼ or less 2 = ½ 3 = ¾ 4 = All
E25g. Source(s)	

E26a. Amendment 2	
E26b. Date applied	
E26c. Timing of application	
E26d. Amount	
E26e. Unit	
E26f. How much of the container was used on this plot?	1 = ¼ or less 2 = ½ 3 = ¾ 4 = All
E26g. Source(s)	

E27a. Amendment 3	
E27b. Date applied	
E27c. Timing of application	
E27d. Amount	
E27e. Unit	
E27f. How much of the container was used on this plot?	1 = ¼ or less 2 = ½ 3 = ¾ 4 = All
E27g. Source(s)	

HHID: _____

E28a. Amendment 4	
E28b. Date applied	
E28c. Timing of application	
E28d. Amount	
E28e. Unit	
E28f. How much of the container was used on this plot?	1 = ¼ or less 2 = ½ 3 = ¾ 4 = All
E28g. Source(s)	

E29a. Amendment 5	
E29b.. Date applied	
E29c. Timing of application	
E29d. Amount	
E29e. Unit	
E29f. How much of the container was used on this plot?	1 = ¼ or less 2 = ½ 3 = ¾ 4 = All
E29g. Source(s)	

E25a-E29a Codes: 1=23:21:0+4S (NPK) 2=Urea 3=CAN 4=Other fertilizer (specify) 5=Chicken manure 6=Cow manure 7=Chicken and cow manure	8=Goat manure 9=Swine manure 10=Goat/swine mixture 11=Goat/cow mixture 12=Goat/chicken mixture 13=Chicken/swine mixture 14=Swine goat chicken	15=Rabbit manure 16=Crop residue 17=Herbicide 18=Insecticide 19=Ash 20=Compost 99=Other (specify)
E25c-E29c Codes: 1=During ridge preparation 2=Right BEFORE planting 3=During planting 4=Right AFTER planting 99=Other (specify)	E25e-E29e Codes: 1=Kilograms 2=25 kg sack 3=50 kg sack (fertilizer sack) 4=90 kg sack (maize sack) 5=5L bucket 6=10L bucket 7=Plate 8=Sugar packet 9=Ox cart 99=Other (specify)	E25g-E29g Codes: 1=Own production 2=Other farmer 3=Payment for work 4=Extension agent 5=Local store 6=FISP 7=Inputs for Assets 8=Other NGO 9=Borrowed 99=Other (specify)

HHID: _____

E30. <i>Did you use compost on this plot? If NO, skip to B30. If YES, continue to B28.</i>				1=Yes 2=No
E31. <i>If YES, please list what was in the compost? (Use codes below)</i>				a. _____ b. _____ c. _____ d. _____ e. _____
E31 Codes:				
1=23:21:0+4S (NPK)	7=Chicken and cow manure	14=Swine goat chicken	21=Kitchen scraps	
2=Urea	8=Goat manure	15=Rabbit manure	22=Maize residue	
3=CAN	9=Swine manure	16=Crop residue	23=Groundnut residue	
4=Other fertilizer (specify)	10=Goat/swine mixture	17=Herbicide	24=Soya residue	
5=Chicken manure	11=Goat/cow mixture	18=Insecticide	25=Weeds	
6=Cow manure	12=Goat/chicken mixture	19=Ash	99=Other (specify)	
	13=Chicken/swine mixture	20=Compost		

E32. <i>If compost was applied, was it fully decomposed when you applied it?</i>	1=Yes 2=No
---	---------------

E33. <i>Does this plot have a problem with striga?</i>	1=Yes 2=No
E34. <i>Have you seen striga on this plot this year?</i>	1=Yes 2=No

E35. <i>Who controls the planting decisions made on this plot?</i>	1=Head 2=Spouse 3=Both head and spouse 99=Other (specify)
E36. <i>Who controls the proceeds from this plot?</i>	1=Head 2=Spouse 3=Both head and spouse 99=Other (specify)

HHID: _____

SECTION F: LOW FERTILITY PLOT WEEDING

Enumerators: The following questions pertain only to the part of this plot which was **FERTILIZED**. If none of it was, ask these questions for the entire plot.

F1. 4-5 weeks after planting, how many weeds did this plot have in it as compared to your other plots?

0=Same amount
1=A little less
2=Much less
3=Some more
4=Much more
5=Unsure
99=Other (specify)

How many times did you weed or plan weeding this plot **THIS SEASON**? Please list the dates and types of weeding you have already done or plan to do on this plot this season. (Section F applies only to **THIS PLOT AND SEASON**.)

F2. First weeding	a. 1=Completed 2=Planned	b. Date	c. Type of weeding	
F3. Second weeding	a. 1=Completed 2=Planned	b. Date	c. Type of weeding	
F4. Third weeding	a. 1=Completed 2=Planned	b. Date	c. Type of weeding	
F5. What did you do with the weeds? List up to 3 uses (codes below).				a. _____ b. _____ c. _____
F6. If you have not yet weeded, what prevented you from weeding?				
F7. If you plan on weeding, what would prevent you from weeding?				
F8. If you already weeded, why did you weed?				
F9. If you plan to weed, why will you weed?				
F10. How do you make your decisions about weeding time/frequency?				
F11. How do you make your decisions about weeding type?				
F2c-F4c Codes: 1=Kupalira 2=Kuzulira 3=Kusenda/Kuojekera 4=Kukwazira/Kulapa 5=Kukwezera 6=Kubandira 99=Other (specify)	F5 Codes: 0=Nothing 1=Burn 2=Incorporate into ridge 3=Put in furrow 4=Remove from field 5=Fed to livestock 6=Used for food 99=Other (specify)	F6, F7 Codes: 0=Nothing 1=No time 2=No money to hire outside labour 3=Illness or death in the family 4=Flooding 5=Erratic rains 99=Other (specify)	F8, F9 Codes: 1=Increase yield 2=Decrease pests 3=Keep a clean field 99=Other (specify)	F10, F11 Codes: 1=Tradition 2=Other farmers 3=Intuition 4=Extension 99=Other (specify)

H

LOCATION AND SAMPLE NUMBER WITHIN LOW FERTILITY PLOT								
	1	2	3	4	5	6	7	8
RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE
G1. RIDGE WEED RANKING (INCLUDE WITCH WEED)								
G2. RIDGE WITCH WEED RANKING (WITCH WEED ONLY)								
FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW
G3. FURROW WEED RANKING (INCLUDE WITCH WEED)								
G4. FURROW WITCH WEED RANKING (WITCH WEED ONLY)								

HHID: _____

LOW FERTILITY PLOT	METER ID	atLEAF CHLOROPHYLL READINGS (4 PLANTS PER LOCATION & 3 READING REPS PER PLANT ON SAME LEAF AREA)															
	<div></div>	1		2		3		4		5		6		7		8	
		GROW STAGE	SPAD	GROW STAGE	SPAD	GROW STAGE	SPAD	GROW STAGE	SPAD	GROW STAGE	SPAD	GROW STAGE	SPAD	GROW STAGE	SPAD	GROW STAGE	SPAD
1	D5. PLANT 1 REP 1																
	D6. PLANT 1 REP 2	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	
	D7. PLANT 1 REP 3																
2	D8. PLANT 2 REP1																
	D9. PLANT 2 REP 3	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	
	D10. PLANT 2 REP 3																
3	D11. PLANT 3 REP 1																
	D12. PLANT 3 PER 2	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	
	D13. PLANT 3 REP 3																
4	D14. PLANT 4 REP 1																
	D15. PLANT 4 REP 2	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	
	D16. PLANT 4 REP 3																

HHID: _____