

# Africa Rising Maize Response Study

March 2015

## PART 1: HOUSEHOLD DEMOGRAPHIC DATA

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

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

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.

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

<b>A7.</b> <i>Were you or someone in your household an Africa Rising baby farmer in the 2013/2014 season?</i>	1=Yes 2=No
<b>A8a.</b> <i>Does someone in the household currently participate in the Africa Rising mother/baby trial farmer?</i>	1=Yes 2=No
<b>A8b.</b> <i>If yes, who?</i>	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)

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**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													

<b>A13 Codes</b> 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)
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<b>A20.</b> Did your household receive any coupons or fertilizer from the FISP program this past year?		1=Coupons 2=Fertilizer 3=Both 4=Neither
<b>A21.</b> 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
<b>A22.</b> If you received FERTILIZER, from whom did you receive it?		1=Admarc 2=Other trader 3=Another household 4=Extension 99=Other (specify)
<b>A23.</b> How much urea did you receive through the FISP program?(Unit codes below). Leave blank if urea not received.	<b>a. Amount</b>	
	<b>b. Unit</b>	
<b>A24.</b> When did you receive this urea?	<b>a. Month</b> (11=Nov, 12=Dec, etc.)	
	<b>b. Week of the month</b> (1, 2, 3, 4, 5)	
<b>A25.</b> How much NPK did you receive through the FISP program? (Unit codes below). Leave blank if NPK not received.	<b>a. Amount</b>	
	<b>b. Unit</b>	
<b>A26.</b> When did you receive this NPK?	<b>a. Month</b> (11=Nov, 12=Dec, etc.)	
	<b>b. Week of the month</b> (1, 2, 3, 4, 5)	

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

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

<b>A29.</b> What is the relation of the household head to the village chief? (Include whether the household head is an nduna)	
<b>A30.</b> What is the relation of the household head's spouse to the village chief?(Include whether the household head is an nduna)	
<b>A29, A30 Codes:</b> 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)

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**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)

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

<b>Crop Codes:</b>	6=Pigeonpea nandolo	14=Cassava / Chinangwa	<b>Type of Variety Codes:</b>
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)

<b>B8. What soil preparation method did you use before planting this plot this season? (List all that apply; see codes below)</b>	<b>B8a.</b> _____
<b>Munagwiritsa ntchito njira zotani zokonzera munda wanu musanadzale mbeu chaka?</b>	<b>B8b.</b> _____
(Tchulani zonse zomwe munachita; Onani mayankho m'munsimo)	<b>B8c.</b> _____
	<b>B8d.</b> _____
	<b>B8e.</b> _____
<b>B8 Codes:</b>	
1=Incorporate residues early (after harvest)/ kukwilira	2=Incorporate residues late winter/ kukwilika zotsala munda
zotsala munda akatha	3=Burn residues/ kuotcha zotsala munda
kukolola	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)

<b>B9. In which month did you prepare the ridges?</b>	(January=1, February=2, etc.; 99=Not applicable)
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<i>Did you incorporate any of the following residues in the ridges?</i>						
<b>B10. Pigeon pea</b>	<b>a.</b> 1=Yes 2=No	<b>b. Amount</b>	<b>c. Unit</b>	<b>d. Source</b>	<b>e. If not, why not?</b>	<b>f. Use if did not incorporate</b>
<b>B11. Groundnut</b>	<b>a.</b> 1=Yes 2=No	<b>b. Amount</b>	<b>c. Unit</b>	<b>d. Source</b>	<b>e. If not, why not?</b>	<b>f. Use if did not incorporate</b>
<b>B12. Soya</b>	<b>a.</b> 1=Yes 2=No	<b>b. Amount</b>	<b>c. Unit</b>	<b>d. Source</b>	<b>e. If not, why not?</b>	<b>f. Use if did not incorporate</b>
<b>B13. Cowpea</b>	<b>a.</b> 1=Yes 2=No	<b>b. Amount</b>	<b>c. Unit</b>	<b>d. Source</b>	<b>e. If not, why not?</b>	<b>f. Use if did not incorporate</b>
<b>B14. Bean</b>	<b>a.</b> 1=Yes 2=No	<b>b. Amount</b>	<b>c. Unit</b>	<b>d. Source</b>	<b>e. If not, why not?</b>	<b>f. Use if did not incorporate</b>
<b>B15. Weeds</b>	<b>a.</b> 1=Yes 2=No	<b>b. Amount</b>	<b>c. Unit</b>	<b>d. Source</b>	<b>e. If not, why not?</b>	<b>f. Use if did not incorporate</b>
<b>B16. Maize</b>	<b>a.</b> 1=Yes 2=No	<b>b. Amount</b>	<b>c. Unit</b>	<b>d. Source</b>	<b>e. If not, why not?</b>	<b>f. Use if did not incorporate</b>
<b>B17a. Other (specify)</b>		<b>b. Amount</b>	<b>c. Unit</b>	<b>d. Source</b>	<b>e. If not, why not?</b>	<b>f. Use if did not incorporate</b>

<b>B10c-B17c Codes:</b> 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)	<b>B10d-B17d Codes:</b> 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)
<b>B10e-B17e Codes:</b> 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)	<b>B10f-B17f Codes:</b> 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)

<b>B18. What challenges did you face in production this year? List up to 3(codes below)</b>	<b>B18a.</b> _____ <b>B18b.</b> _____ <b>B18c.</b> _____
<b>B19. Enumerators: Please comment on soil and plant health (List as many as applicable from below)</b>	<b>B19a.</b> _____ <b>B19b.</b> _____ <b>B19c.</b> _____ <b>B19d.</b> _____
<b>B18, B19 Codes:</b> 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: \_\_\_\_\_

<b>B20.</b> 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.		
<b>B21a.</b> Month 1 (Jan=1, Feb=2, etc):	<b>B21b.</b> Number of days:	
<b>B22a.</b> Month 2 (Jan=1, Feb=2, etc):	<b>B22b.</b> Number of days:	
<b>B23a.</b> Month 3 (Jan=1, Feb=2, etc.)	<b>B23b.</b> Number of days	
<b>B24.</b> Any additional comments on flooding:		

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

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

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

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

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

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

<b>B25a-B29a Codes:</b> 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)
<b>B25c-B29c Codes:</b> 1=During ridge preparation 2=Right BEFORE planting 3=During planting 4=Right AFTER planting 99=Other (specify)	<b>B25e-B29e Codes:</b> 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)	<b>B25g-B29g Codes:</b> 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: \_\_\_\_\_

<b>B30.</b> <i>Did you use compost on this plot? If NO, skip to B30. If YES, continue to B28.</i>	1=Yes 2=No																												
<b>B31.</b> <i>If YES, please list what was in the compost? (Use codes below)</i>	a. _____ b. _____ c. _____ d. _____ e. _____																												
<b>B31 Codes:</b> <table style="width:100%; border:none;"> <tr> <td style="width:25%;">1=23:21:0+4S (NPK)</td> <td style="width:25%;">7=Chicken and cow manure</td> <td style="width:25%;">14=Swine goat chicken</td> <td style="width:25%;">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																										
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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																											

<b>B32.</b> <i>If compost was applied, was it fully decomposed when you applied it?</i>	1=Yes 2=No
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<b>B33.</b> <i>Does this plot have a problem with striga?</i>	1=Yes 2=No
<b>B34.</b> <i>Have you seen striga on this plot this year?</i>	1=Yes 2=No

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

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

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**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.*

<b>C1.</b> <i>4-5 weeks after planting, how many weeds did this plot have in it as compared to your other plots?</i>	0=Same amount 1=A little less 2=Much less 3=Some more 4=Much more 5=Unsure 99=Other (specify)	
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*How many times did you weed or plan weeding this plot THIS SEASON? Please list the dates and types of weedings you have already done or plan to do on this plot this season. (Section C applies only to THIS PLOT AND SEASON.)*

<b>C2.</b> <i>First weeding</i>	<b>a.</b> 1=Completed 2=Planned	<b>b.</b> <i>Date</i>	<b>c.</b> <i>Type of weeding</i>
<b>C3.</b> <i>Second weeding</i>	<b>a.</b> 1=Completed 2=Planned	<b>b.</b> <i>Date</i>	<b>c.</b> <i>Type of weeding</i>
<b>C4.</b> <i>Third weeding</i>	<b>a.</b> 1=Completed 2=Planned	<b>b.</b> <i>Date</i>	<b>c.</b> <i>Type of weeding</i>
<b>C5.</b> <i>What did you do with the weeds? List up to 3 uses (codes below).</i>			<b>a.</b> _____ <b>b.</b> _____ <b>c.</b> _____
<b>C6.</b> <i>If you have not yet weeded, what prevented you from weeding?</i>			
<b>C7.</b> <i>If you plan on weeding, what would prevent you from weeding?</i>			
<b>C8.</b> <i>If you already weeded, why did you weed?</i>			
<b>C9.</b> <i>If you plan to weed, why will you weed?</i>			
<b>C10.</b> <i>How do you make your decisions about weeding time/frequency?</i>			
<b>C11.</b> <i>How do you make your decisions about weeding type?</i>			
<b>C2c-C4c Codes:</b> 1=Kupalira 2=Kuzulira 3=Kusenda/Kuojekera 4=Kukwazira/Kulapa 5=Kukwezera 6=Kubandira 99=Other (specify)	<b>C5 Codes:</b> 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)	<b>C6, C7 Codes:</b> 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)	<b>C8, C9 Codes:</b> 1=Increase yield 2=Decrease pests 3=Keep a clean field 99=Other (specify)
<b>C10, C11 Codes:</b> 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
<b>D1. RIDGE WEED RANKING</b> <i>(INCLUDE WITCH WEED)</i>	Ranking: 0: No weeds 1: soil>weeds 2: soil=weeds 3: soil<weeds							
<b>D2. RIDGE WITCH WEED RANKING</b> <i>(WITCH WEED ONLY)</i>	0: no striga 1: striga<weed 2: striga=weed 3: striga>weed							
FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW
<b>D3. FURROW WEED RANKING</b> <i>(INCLUDE WITCH WEED)</i>								
<b>D4. FURROW WITCH WEED RANKING</b> <i>(WITCH WEED ONLY)</i>								

HHID: \_\_\_\_\_

HIGH FERTILITY PLOT	METER ID	atLEAF CHLOROPHYLL READINGS (4 PLANTS PER LOCATION & 3 READING REPS PER PLANT ON SAME LEAF AREA)															
	<div style="border: 1px solid black; width: 80px; height: 40px;"></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)

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

<b>Crop Codes:</b>	5=Cotton / thonje	13=Sorghum / Mapira	<b>E1d-E7d Codes:</b>
1=Local maize	6=Pigeonpea nandolo	14=Cassava / Chinangwa	1=Local
chimanga cha makolo	7=Groundnut / mtedza	15=Sweet potato	2=Newly acquired hybrid
2=Hybrid maize	8=Soya bean / soya	Mbatata za kholowa	3=Saved hybrid
chimanga cha makono	9=Common bean Nyemba	16=Millet	4=OPV/composite
3=OPV/Composite maize	10=Velvet bean Kalongonda	17=Pumpkin	5=Unknown
4=Tobacco / fodya	11=Cowpea / Khobwe	18=Sugarcane	99=Other (specify)
	12=Bambara nut Nzama	99=Other (specify)	

<b>E8. What soil preparation method did you use before planting this plot this season? (List all that apply; see codes below)</b>	<b>E8a.</b> _____
<b>Munagwiritsa ntchito njira zotani zokonzera munda wanu musanadzale mbeu chaka?</b>	<b>E8b.</b> _____
(Tchulani zonse zomwe munachita; Onani mayankho m'munsimo)	<b>E8c.</b> _____
	<b>E8d.</b> _____
	<b>E8e.</b> _____
<b>E8 Codes:</b>	
1=Incorporate residues early (after harvest)/ kukwilira	2=Incorporate residues late winter/ kukwilika zotsala munda
zotsala munda akatha	3=Burn residues/ kuotcha zotsala munda
kukolola	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)

<b>E9. In which month did you prepare the ridges?</b>	(January=1, February=2, etc.)
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HHID: \_\_\_\_\_

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

<b>E10c-E17c Codes:</b> 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)	<b>E10d-E17d Codes:</b> 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)
<b>E10e-E17e Codes:</b> 0=Not applicable (i.e., did incorporate) 1=Farmer/respondent burned	2=Were burned by someone else 3=Used for fuel 4=Used for fodder 99=Other (specify)	<b>E10f-E17f Codes:</b> 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)

<b>E18. What challenges did you face in production this year? List up to 3(codes below)</b>	<b>E18a.</b> _____ <b>E18b.</b> _____ <b>E18c.</b> _____
<b>E19. Enumerators: Please comment on soil and plant health (List as many as applicable from below)</b>	<b>E19a.</b> _____ <b>E19b.</b> _____ <b>E19c.</b> _____ <b>E19d.</b> _____
<b>E18, E19 Codes:</b> 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: \_\_\_\_\_

<b>E20.</b> 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.	
<b>E21a.</b> Month 1 (Jan=1, Feb=2, etc):	<b>E21b.</b> Number of days:
<b>E22a.</b> Month 2 (Jan=1, Feb=2, etc):	<b>E22b.</b> Number of days:
<b>E23a.</b> Month 3 (Jan=1, Feb=2, etc.)	<b>E23b.</b> Number of days
<b>E24.</b> Any additional comments on flooding:	

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

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

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

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

HHID: \_\_\_\_\_

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

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

<b>E25a-E29a Codes:</b> 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)
<b>E25c-E29c Codes:</b> 1=During ridge preparation 2=Right BEFORE planting 3=During planting 4=Right AFTER planting 99=Other (specify)	<b>E25e-E29e Codes:</b> 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)	<b>E25g-E29g Codes:</b> 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: \_\_\_\_\_

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

<b>E32.</b> <i>If compost was applied, was it fully decomposed when you applied it?</i>	1=Yes 2=No
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<b>E33.</b> <i>Does this plot have a problem with striga?</i>	1=Yes 2=No
<b>E34.</b> <i>Have you seen striga on this plot this year?</i>	1=Yes 2=No

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

<b>F1.</b> <i>4-5 weeks after planting, how many weeds did this plot have in it as compared to your other plots?</i>	0=Same amount 1=A little less 2=Much less 3=Some more 4=Much more 5=Unsure 99=Other (specify)	
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*How many times did you weed or plan weeding this plot THIS SEASON? Please list the dates and types of weedings you have already done or plan to do on this plot this season. (Section F applies only to THIS PLOT AND SEASON.)*

<b>F2.</b> <i>First weeding</i>	<b>a.</b> 1=Completed 2=Planned	<b>b.</b> <i>Date</i>	<b>c.</b> <i>Type of weeding</i>	
<b>F3.</b> <i>Second weeding</i>	<b>a.</b> 1=Completed 2=Planned	<b>b.</b> <i>Date</i>	<b>c.</b> <i>Type of weeding</i>	
<b>F4.</b> <i>Third weeding</i>	<b>a.</b> 1=Completed 2=Planned	<b>b.</b> <i>Date</i>	<b>c.</b> <i>Type of weeding</i>	
<b>F5.</b> <i>What did you do with the weeds? List up to 3 uses (codes below).</i>				<b>a.</b> _____ <b>b.</b> _____ <b>c.</b> _____
<b>F6.</b> <i>If you have not yet weeded, what prevented you from weeding?</i>				
<b>F7.</b> <i>If you plan on weeding, what would prevent you from weeding?</i>				
<b>F8.</b> <i>If you already weeded, why did you weed?</i>				
<b>F9.</b> <i>If you plan to weed, why will you weed?</i>				
<b>F10.</b> <i>How do you make your decisions about weeding time/frequency?</i>				
<b>F11.</b> <i>How do you make your decisions about weeding type?</i>				
<b>F2c-F4c Codes:</b> 1=Kupalira 2=Kuzulira 3=Kusenda/Kuojekera 4=Kukwazira/Kulapa 5=Kukwezera 6=Kubandira 99=Other (specify)	<b>F5 Codes:</b> 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)	<b>F6, F7 Codes:</b> 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)	<b>F8, F9 Codes:</b> 1=Increase yield 2=Decrease pests 3=Keep a clean field 99=Other (specify)	<b>F10, F11 Codes:</b> 1=Tradition 2=Other farmers 3=Intuition 4=Extension 99=Other (specify)

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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
<b>G1. RIDGE WEED RANKING</b> <i>(INCLUDE WITCH WEED)</i>								
<b>G2. RIDGE WITCH WEED RANKING</b> <i>(WITCH WEED ONLY)</i>								
FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW
<b>G3. FURROW WEED RANKING</b> <i>(INCLUDE WITCH WEED)</i>								
<b>G4. FURROW WITCH WEED RANKING</b> <i>(WITCH WEED ONLY)</i>								

HHID: \_\_\_\_\_

LOW FERTILITY PLOT	METER ID	atLEAF CHLOROPHYLL READINGS (4 PLANTS PER LOCATION & 3 READING REPS PER PLANT ON SAME LEAF AREA)															
		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: \_\_\_\_\_