

Africa RISING Machinga Mid-Season Survey

March 2018

HHID _____

PanOral Consent Form

Kuvomemeleza kutenga nawo mbali pa kafukufuku

Title of the research project: Agro-ecological Intensification and Production among smallholder farmers in Malawi

Hello! My name is _____ and I am working for Africa RISING. Researchers from Michigan State University are trying to learn about the lives of farmers in Malawi. We are asking farmers, like you, if they would like to participate in a face-to-face interview about how you farm, and it will last about an hour. You must be at least 18 years old to participate.

We are not selling anything or offering any services to you right now. We are only gathering information, but hope that by understanding the lives of farmers in Malawi, Michigan State University and other organizations may provide better services in the future.

Your participation is completely voluntary. Choosing to participate will not increase your opportunities to get services; and choosing not to participate will not decrease your opportunities to receive services. If you choose to participate, I will ask you a number of questions about your household, your farm, and your opinions about farming. You can choose not to answer any question you wish. Your answers will be completely confidential and only the research staff will see your answers. When we do our reports, your answers will be grouped with other farmers' answers to give an overall picture of the lives of farmers in this area. No one in your community will know what your answers are unless you tell them.

There's no cost or compensation offered to participate.

If you have any questions about the study you may contact Dr. Regis Chikowo at IITA by phone at 0994-859-401, or Mr. Emmanuel Jambo by phone at 0999-911-530.

Do you have any questions about this study or your participation?

Do you agree to participate in this interview?

Yes, No

[If no:] Thank you for your time today. [Indicate the respondent's indication that they do not agree to participate in the survey. Notify your supervisor at the end of the day.]

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Enumerator name:		Date of visit:									
Machinga District		EPA:									
Village:		House GPS coordinates		<i>S</i>			.				
				<i>E</i>			.				
Sample group: 1=Int.; 2=LC; 3=DC		Household code:									
Entered by:		Checked by:									
Household Information											
Enumerator (say to respondent): First, I will ask you some questions about you and your household.											
HH01. What is the <i>name</i> of the Primary Respondent?											

HH02. What is your <i>age</i>? (Write age <i>in years</i>)											
HH03. What is your <i>gender</i>? (1=Male; 2=Female)											
HH04. Are you the head of this household? (1=Yes; 2=No) If Yes, skip to HH08											
HH05. What is your relationship to the head of this household (<i>The head of this household is my _____</i>)? 2=Spouse; 3=Son/Daughter; 4 = Father/Mother; 5 = Brother/Sister 6=grandparent 99 = Other (specify)											
HH06. What is the <i>name</i> of the household head?											
HH07 What is the <i>gender</i> of the household head? ? (1=Male; 2=Female)											
HH08 Over the past 12 months, how many months has the household head <i>resided elsewhere</i>?											

Household level demographic questions

HH09 How many children aged 0-9 years are in this household?											
HH10 How many children aged 10-15 are in this household?											
HH10b How many people aged 16-69 are in this household?											
HH11 How many people aged 70 years or above are in this household?											

EPA Codes 12=Mtubwi	13=Nsanama	14=Nyambi
Village Codes 120=Tambula 121=Duwa 122=Mtonda 123=Dija 124=Mtila 512=Chilonga-Magadi 612=Chipamba	130=Nwokiwa 131=Petekula petekula 132=Muntuwa 133=Shaibu Petekula 134=Thimakera 135=Putheke 136=Mwiriya 137=Mkomola 138=Ntchema 139=Maraka	140=Msigalira 141=Mkambili 142=Sale II 143=Chapola 144=Muhiwa 145=Mang'anda 146=Msaka 147=Mwalija 514=M'bawa-Chimala 614=Chimombo

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Subsidized fertilizer acquisition

FA01 Did you receive or purchase any subsidized fertilizer for use in the 2017/18 season? (1=Yes; 2=No) If no, skip to FA06 (NEXT TABLE)					
Enumerator – Ask questions row-by row Type of fertilizer	FA02 Did you purchase or receive _____ for crops grown in the past (2017/18) growing season? (1=Yes; 2=No) If no, skip to next fertilizer type	FA03 What was the source of subsidized _____? (Codes below)	FA04 How much subsidized _____ did you receive or purchase? (See codes below)		FA05 How much did you pay per unit of subsidized _____? (MWK per unit in FA04b)
			a Quantity	b Unit	
	a. 23:21:0+4S (NPK)				
	b. Urea				
	c. CAN				
	d. D Compound				
	e. DAP				
f. Other (specify):					

Commercially purchased fertilizer acquisition

FA06 Did you make any commercial fertilizer purchases for use in the 2017/18 season? (1=Yes; 2=No) If no, skip to HH12 (NEXT TABLE)					
Enumerator – Ask questions row-by row Type of fertilizer	FA07 Did you purchase _____ for crops grown in the past (2017/18) growing season? (1=Yes; 2=No) If no, skip to next fertilizer type	FA08 How much _____ did you purchase commercially?		FA09 How much did you pay per unit of _____? (MWK per unit in FA08b)	FA10. What was the distance from farm to point of purchase (km) for _____?
		a Quantity	b Units		
	a. 23:21:0+4S (NPK)				
	b. Urea				
	c. CAN				
	d. D Compound				
	e. DAP				
f. Other (specify):					
FA11 How much did you pay in total to transport your commercially purchased fertilizer from the point of purchase to the household? (MWK)					

FA03. Codes: 1=FISP 2=Inputs for Assets 3=NGO or other aid organization 4=Farmer's group 5=Through another farmer 99=Other (specify)	Unit Codes: 1=kg 2=25 kg sacks 3=50 kg sacks 4=20L Bucket 5=5L pail 6=Ndiwo plate (about half a kg) 7=Nsimu plate (about a kg) 8=18L Bucket 9=15L Bucket 10=10L pail 99=Other (specify)
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Field level questions – Enumerator – Tell the respondent we would now like to ask about their fields during the 2017/18 planting/harvest season. For these questions, a field is defined as a continuous area of land, and a plot is defined as a section of a field that is dedicated to a specific crop (or intercrops).

HH12 What is the total area rented out during the 2017/18 growing season (acres)?	
HH13 How many fields did you plant during the 2017/18 growing season, including rented in fields?	
HH14 What is the total acres cultivated during the 2017/18 growing season, including rented in fields?	
HH15 Was any area left fallow during the 2017/18 growing season? (1=Yes; 2=No) IF NO, Skip to Map	
HH16 Why was that land left fallow? 1=to improve the soil 3=shortage of labour 2=no material inputs 4=dispute over land tenure 99=other (specify)	
HH17 What is the total area that was left fallow? (acres)	

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Name of person giving the tour: _____

Enumerator: DRAW A MAP OF THE FARM

- 1) Draw **ALL FIELDS** the farmer *owned or cultivated* (including rented in & rented out) in 2017/18
- 2) Draw each field the farmer owns that was left *fallow* in 2017/18
- 3) Name each field
- 4) Within each **cultivated** field, identify individual **plots** → see definitions to the right→
- 5) Number each field & plot.
- 6) List **ALL OF** the crops planted for the 2017/18 season for each plot,
- 7) Record the area for each **field** & then each **plot** in acres – **Use the conversion table to write in decimal form.**
- 8) Identify the **FIELDS** the farmer has identified as “High” (H) and “Low” (L) fertility.
- 9) Identify **ONE PLOT** within each H & L field that will be represented in the history/labor/weeds/SPAD data beginning on page 12. Mark this PLOT #1, and indicate it with a “R”. See selection protocol to the right and handout for examples.

Definitions:

FIELD is as a continuous area of land, and a

PLOT is a continuous section within a field that is dedicated to a specific crop or intercrops **managed the same way (e.g., fertilizer applications)**

Designating **REPRESENTED PLOT** protocol in order of priority

- 1) Maize > Legume > Other crops
- 2) Fertilized > Unfertilized
- 3) Monocrop > Intercrop with few crops > Intercrop with many crops
- 4) Hybrid > Local
- 5) Larger > Smaller

Conversion table:

1/2 = 0.50
1/3 = 0.33
1/4 = 0.25
1/5 = 0.20
1/6 = 0.17
1/7 = 0.14
1/8 = 0.13
1/9 = 0.11

2/3 = 0.67
2/4 = 0.50
2/5 = 0.40
2/6 = 0.33
2/7 = 0.29
2/8 = 0.25
2/9 = 0.22

3/4 = 0.75
3/5 = 0.60
3/6 = 0.50
3/7 = 0.43
3/8 = 0.38
3/9 = 0.33

4/5 = 0.80
4/6 = 0.67
4/7 = 0.57
4/8 = 0.50
4/9 = 0.44



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Field History

Enumerator: Please **FIRST** transcribe the **Field numbers** from the previous page, **INCLUDING FALLOW AND RENTED OUT** fields. Then, ask questions row-by-row for each field.

Transcribe field numbers here	F01 Do you own this land? 1=Yes 2=No	F02 Is this a dimba/dambo/wetland? 1=Yes 2=No	F03 What is the _____ you plan to plant in the 2018/19 season? (See codes)			F04 What was the _____ you planted in the 2016/17 season? (See codes)					
			Main crop	Primary inter-crop	Second inter-crop	Main crop		Primary inter-crop		Second inter-crop	
						Crop code	Share of field	Crop code	Share of field	Crop code	Share of field
Field			a	b	c	a	b	c	d	e	f

Crop codes:

0 = None	9=common bean	18=rice
1=local maize	10=velvet bean	19=pumpkin
2=hybrid maize	11=cowpea	20=Fallow
3=OPV/Composite maize	12=bambara nut	87=Virgin land
4=tobacco	13=sorghum	88=Rented out
5=cotton	14=cassava	89=Used/owned by
6=pigeonpea	15=sweet potato	another farmer
7=groundnut	16=Irish potato	99=Other
8=soya bean	17=millet	(Specify)

Conversion table:

1/2 = 0.50		
1/3 = 0.33	2/3 = 0.67	
1/4 = 0.25	2/4 = 0.50	3/4 = 0.75
1/5 = 0.20	2/5 = 0.40	3/5 = 0.60 4/5 = 0.80
1/6 = 0.17	2/6 = 0.33	3/6 = 0.50 4/6 = 0.67
1/7 = 0.14	2/7 = 0.29	3/7 = 0.43 4/7 = 0.57
1/8 = 0.125	2/8 = 0.25	3/8 = 0.38 4/8 = 0.50
1/9 = 0.11	2/9 = 0.22	3/9 = 0.33 4/9 = 0.44

Legume Utilization – Enumerator, these questions pertain to households that grew Pigeon pea (F04=6), Groundnut (F04=7), Soyabean (F04=8), Common bean (F04=9) or Cowpea (F04=11) in the 2016/2017 planting/harvest season

NOTE- Even if the farmer planted one of these legumes in a field they do not currently cultivate, it can be included here

Enter crop code if crops 6, 7, 8, 9 or 11 appear above in F04	How much _____ was harvested in 2017? If there was no harvest, enter "0" in LU01 and skip to LU06 – You should still ask the remaining questions (See unit codes below) For LU03: 1=Shelled 2=Unshelled	Did you consume _____ (seed) that was harvested in 2017? 1=Yes 2=No	Groundnut and Soya only Did you consume _____ flour from your 2017 harvest? 1=Yes 2=No	Did you consume _____ greens that were harvested in 2017? 1=Yes 2=No	How much _____ was sold in total from the 2017 harvest? Enter "0" for Qty if none (See unit codes above)	Was _____ planted in 2017/18 using seed saved from 2016/17? 1=Yes 2=No	Did you use _____ from the 2017 harvest for fuel wood? 1=Yes 2=No	Did you incorporate _____ leaves from the 2017 harvest into ridges for the 2017 planting? 1=Yes 2=No	What was the main other use for _____ during 2016/17 season? See codes	Did you purchase _____ (seed) for consumption during the 2016/17 season? 1=Yes 2=No	Groundnut and Soya only Did you purchase _____ flour for consumption during the 2016/17 season? 1=Yes 2=No														
												LU01 Qty	LU02 Unit	LU03 Shell	LU04	LU05	LU06	LU07 Qty	LU08 Unit	LU09	LU10	LU11	LU12	LU13	LU14

Unit codes

1=kg	8=18L Bucket
2=25 kg sacks	9=15L Bucket
3=50 kg sacks	10=10L pail
4=20L Bucket	11=Ox cart
5=5L pail	12=Bunches
6=Ndiwo plate (about half a kg)	13=Heads/In total
7=Nsimu plate (about a kg)	99=Other (specify)

Codes for LU12

0=None
1=Livestock feed
2=Medicine
3=Soda Bicarbonate
4=Soil fertility (Nitrogen fixing)
99=Other (Specify)

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Field Table 2 – Tillage and ammendments – Reference Period is the 2017/18 Season

[illegible]

	FP01 Codes: 0=None 1=mulching 5=green manure 6=terracing 7=grass strips 12=drainage 13=Contour bunds 14=Stone lines 15=Tied ridges 16=Contour ridges 99= Other (Specify)	Months 1=Jan 2=Feb 3=Mar 4=Apr 5=May 6=Jun 7=Jul 8=Aug 9=Sep 10=Oct 11=Nov 12=Dec	Weeks 1= 1 st Week 2= 2 nd Week 3= 3 rd Week 4= 4 th Week	FP02 Codes: 4=level soil 5=Ridges 6=Mounds 7=Planting basins 9=Zero/No tillage 99=Other (Specify)	Unit codes 1=kg 2=25 kg sacks 3=50 kg sacks 4=20L Bucket 5=5L pail 6=Ndiwo plate (about half a kg) 7=Nsima plate (about a kg) 8=18L Bucket 9=15L Bucket 10=10L pail 11=Ox cart 12=Bunches 13=Heads/In total 99=Other (specify)	FP15; FP18 Ammendment application Codes: 1=Spread evenly (broadcasting) before/during planting 2= Broadcasting within 2 weeks after planting 3= Broadcasting more than 2 weeks after planting 4=Near the seed, on soil surface before/during planting 5=Near the plant, on soil surface within 2 weeks after planting 6=Near the plant, on soil surface more than 2 weeks after planting 7=Near the seed, beneath soil surface before/during planting 8=Near the plant, beneath soil surface within 2 weeks after planting 9=Near the plant, beneath soil surface more than 2 weeks after planting
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Field Table 2.b – Fertilizer – Reference Period is the 2017/18 Season

[illegible]

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Field Table 2.c – Weeding – Reference Period is the 2017/18 Season

[illegible]

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Field Table 3 – Crops – seed variety/sources – Harvest quantities – Reference period is the 2017/18 Season

[illegible]

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Dietary Diversity- Enumerator, for the following questions, 1=Yes and 2=No. Advise the respondent:

"I would like to ask about the types of food you or anyone else in the household ate YESTERDAY during the day and at night. When answering the questions, please do not include foods prepared and eaten outside the home."

DD01 Are you responsible for household food preparation OR were you present and eating in household for the entirety of yesterday?	If NO, skip to HH21
DD02 Was yesterday a typical day for your household ("typical" means most members present, no special events - e.g., wedding, funeral, holiday)?	If NO, skip to HH21
DD03 Did you or anyone eat maize or maize-based foods (e.g., nsima, porridge, green maize, or maize flour)?	
DD04 Did you or anyone eat grains other than maize (e.g., millet, sorghum, rice, wheat, or finger millet), OR foods made from other grains (e.g., rolls, mandasi fritters, or banana cakes)?	
DD05 Did you or anyone eat roots or tubers (e.g., sweet potato, cassava, Irish potato) or food made from roots or tubers?	
DD06 Did you or anyone eat any vegetables (e.g., greens, tomato, pumpkin, okra, chinese cabbage, mipombe, mphonda, or indigenous vegetables)?	
DD07 Did you or anyone eat any fruits (e.g., mango, pawpaw, sweet apple, guava, banana, or indigenous fruit)?	
DD08 Did you or anyone eat meat (e.g., chicken, goat, beef, pork, lamb, rabbit, wild game, duck, pigeon, dove, mice, or flying ants)?	
DD09 Did you or anyone eat eggs?	
DD10 Did you or anyone eat any fresh or dried fish or shellfish?	
DD11 Did you or anyone eat foods made from beans, peas, lentils, or nuts (e.g., pigeonpea, groundnut, groundnut flour, cowpea, common bean, velvet bean, Bambara nuts, kabaifa, and nkhangudzu)?	
DD12 Did you or anyone eat any foods made with oil, fat or butter (e.g., mandasi, African cake, banana cake, fried eggs, or chips)?	
DD13 Did you or anyone consume dairy products (e.g., cheese, yogurt, milk or other milk products)?	
DD14 Did you or anyone eat any other foods (e.g., condiments, coffee, or tea)?	

Sources of agricultural advice and information; Land & labor costs

HH21 Have you ever received advice about crop selection ? (1=Yes; 2=No) (If No, skip to HH24)		
HH22 Did you receive advice about crop selection for the 2017/18 season ? (1=Yes; 2=No)		
HH23 What is the main source of advice you received about crop selection ? (See codes below)		
HH24 Have you ever received advice about residue management ? (1=Yes; 2=No) (If No, skip to HH28)		
HH25 Did you receive advice about residue management for the 2017/18 season ? (1=Yes; 2=No)		
HH26 What is the main source of advice you received about residue management ? (See codes below)		
HH27 What types of advice are you getting related to residue management ? (See Codes)	a	
	b	
	c	
	d	
HH28 Have you ever received advice about fertilizer ? (1=Yes; 2=No) (If No, skip to HH31)		
HH29 Did you receive advice about fertilizer for the 2017/18 season ? (1=Yes; 2=No)		
HH30 What was the main source of advice about fertilizer ? (See codes below)		
HH31 Have you ever received advice about land preparation or spacing ? (1=Yes; 2=No) (If No, skip to HH34)		
HH32 Did you receive advice about land preparation or spacing for the 2017/18 season ? (1=Yes; 2=No)		
HH33 What was the main source of advice about land preparation or spacing ? (See codes below)		
HH34 During the past growing season, what was the wage rate if, you, the respondent were to provide ganyu labour for ridge making (land preparation)?	HH34a Amount:	
	HH34b Unit: 1=MWK; 2=kg maize	
	HH34c Per: 1=acre; 2=day; 3=rows/ridges; 4=plant	
HH35 Over the past 12 months, how much would it cost to rent 1 acre of good quality land in this area for one season? (Indicate price in MWK per acre)		
HH23, HH26, HH30, HH33 Source Codes: 1=family member 2=lead farmer 3=other farmer 4=extension agent 5=Africa RISING 6=other NGO 7=private distributor 8=groups 9=Television 10=Radio 11=Newspaper 99=Other (Specify) _____	HH27: Advice codes 1=Stand residue in field 2=Lay residue in field 3=Mound residue in field 4=Mound residue off field 5=Burn residue in field 6=Burn residue off field 7=Remove residue for fodder 8=Remove residue for fire fuel 9=Remove residue for compost 11=Graze residue by livestock/animals 14=Bury residue before tillage 15=Incorporate residue during tillage 99=Other (Specify) _____	

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Asset holdings – Enumerator, these questions refer to the current time period (February 2018)

Asset	AH01 Does this household own a _____? 1=Yes; 2=No If no, SKIP to next Asset	AH02 How many _____ does this household own? (Number)	AH03 About how much would you receive if you were to sell one of your _____ in this area? (MWK)
1. Sprayer			
2. Treadle pump			
3. Ox cart			
4. Plough			
5. Cell phone			
6. Bicycle			
7. Radio			
8. Television			
9. Sofa set			
10. Improved wood/coal stove			
11. Kerosene or gas stove			
12. Motorbike			
14. Solar panel			

Livestock holdings – Enumerator, these questions refer to the current time period (February 2018)

Livestock	LS01 Does this household own a _____? 1=Yes 2=No If no, SKIP to next Livestock	LS02 How many _____ does this household own? (Number)	LS03 How are these animals kept/fed/confined during the _____? (What is your animal production practice)? 1=Free range/communal grazing 2=Kept in Dambo 3=Herded outside 4=Both free range and herded outside 5=Fully confined		LS04 About how much would you receive if you were to sell ONE _____ in this area? (MWK)
			a Wet season	b Dry season	
1. Bulls/Oxen					
2. Cows					
3. Calves					
4. Goats					
5. Sheep					
6. Chickens					
7. Ducks or Geese					
8. Guinea fowl					
9. Donkeys					
10. Pigs					
11. Doves/pigeons					
12. Rabbits					
13. Guinea pigs					
14. Other (Specify _____)					

Other income sources

Indicate the estimated household income between February 2017 and January 2018 (include in-kind receipts to the household)
(Enumerators: fill out EITHER columns b & c OR column d)

Income source	OI01 Code	OI02a Did the household earn income from _____? 1=Yes; 2=No If No, Skip to next income source	OI02b Number of months income received	OI02c Average monthly income during these months (MWK)	OI02d Annual income (MWK)
Agricultural labour on another farm (ganyu)	1				
Non-agricultural labour	2				
Remittances (including domestic/foreign migrants)	3				
Informal business (e.g. selling firewood)	4				
Formal business (e.g. tailor)	5				
Selling animal products (eggs/milk/meat/animals)	6				
Donations/gifts	7				
Other non-farm income (specify)	99				

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Field _____ Represented Plot _____ Fertility High

GPS informations

FGPS – Record the GPS coordinates from the center of the REPRESENTED PLOT	S			.					
	E			.					
FGPS00 – Area of the ENTIRE FIELD as measured using GPS (Square meters)									
FGPS01 – Area of REPRESENTED PLOT (#1) as measured using GPS (Square meters)									
FGPS02 – Area of PLOT #2 (if applicable) as measured using GPS (Square meters)									
FGPS03 – Area of PLOT #3 (if applicable) as measured using GPS (Square meters)									
FGPS04 – Area of PLOT #4 (if applicable) as measured using GPS (Square meters)									
FGPS05 – Area of PLOT #5 (if applicable) as measured using GPS (Square meters)									

REPRESENTED PLOT history

Enumerator – Please indicate to the farmer, the next 5 questions are referring to the 2016/17 agricultural season			
FH01 What was done with the crop/fallow residue after the harvest in 2016? (See codes)			
-----→Only ask FH02 if FH01 is 1,2,3 or 5			
FH02 What happened to the crop/fallow residue remaining in the plot between the 2016 harvest and land preparation for the following planting season? (See codes)			
CULTIVATE16 - Enumerator, was this field cultivated during the 2016/17 season? 1=Yes, 2=No (If fallow, enter "NO")		If NO, skip to FH06	
-----→Only ask FH03 if FH02 is 14 or 15			
FH03 When did you finish incorporating/burying residue from the 2016 harvest			a. Month
			a2. Week
FH04 When was land preparation finished for the 2016/17 season (2017 harvest)?			a. Month
			a2. Week
			b. Year
FH05 When was planting finished for the 2016/17 season (2017 harvest)?			a. Month
			a2. Week
			b. Year

Enumerator – Please indicate to the farmer, the next 5 questions are referring to the 2017/18 agricultural season			
FH06 What was done with the crop/fallow residue after the harvest in 2017? (See codes)			
-----→Only ask FH07 if FH06 is 1,2,3 or 5			
FH07 What happened to the crop/fallow residue remaining in the field between the 2017 harvest and land preparation for the following planting season? (See codes)			
CULTIVATE17 - Enumerator, was this field cultivated during the 2017/18 season? 1=Yes, 2=No (If fallow, enter "NO")		If NO, skip to next page	
-----→Only ask FH08 if FH07 is 14 or 15			
FH08 When did you finish incorporating/burying residue from the 2017 harvest?			a. Month
			a2. Week
FH11 - How many seeds from the main crop are sown per planting station in this field?			

FH01 & FH06 Codes 1=Standing in field 2=Laying in field 3=Mounds in field 4=Mounds off field 5=Burned in field 6=Burned off field 7=Removed for fodder 8=Removed for fire fuel 9=Removed for compost 10=Other (specify)	FH02 & FH07 Codes: 11=Grazed by livestock/animals 12=Burned 13=Collected for fuel, compost, etc. 14= Buried residues before tillage 15=incorporate residues during tillage 99=Other (Specify) _____
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Field _____ Represented plot _____ Fertility High

Agricultural Labor (Household and Hired) for the HIGH FERTILITY PLOT

CULTIVATE17- Enumerator, was the represented plot cultivated during the 2017/18 season?

(If fallow, enter "NO") 1=Yes, 2=No

If NO, skip to next page, Otherwise ask all questions regarding the represented plot

(Even ask these questions if there was no maize)

	<i>How many hh members younger than 16 provide labor for _____? If none, enter "0" and skip to LAB03</i>	<i>How many days did hh members younger than 16 provide labor for _____?</i>	<i>How many household MEN 16 - 70 years provide labor for _____? If none, enter "0" and skip to LAB05</i>	<i>How many days did household MEN 16 - 70 years provide labor for _____?</i>	<i>How many household WOMEN 16 -70 years provide labor for _____? If none, enter "0" and skip to LAB07</i>	<i>How many days did household WOMEN 16 -70 years provide labor for _____?</i>	<i>How many household members over 70 years provide labor for _____? If none, enter "0" and skip to LAB09</i>	<i>How many days did household members over 70 years provide labor for _____?</i>	<i>How many MEN were hired to provide labor for _____? If none, enter "0" and skip to LAB11</i>	<i>How many days did hired MEN provide labor for _____? If none, enter "0" and skip to next activity</i>	<i>How many WOMEN were hired to provide labor for _____? If none, enter "0" and skip to next activity</i>	<i>How many days did hired WOMEN provide labor for _____?</i>
LAB_Activity	LAB01	LAB02	LAB03	LAB04	LAB05	LAB06	LAB07	LAB08	LAB09	LAB10	LAB11	LAB12
1=Land preparation												
2=Planting												
3=Basal (NPK) application												
4=Top dress (urea) application												
5=Weeding												
6=Banking (second weeding)												

Enumerator – Use this space to ask, “Which household members provided labor for _____?” This is to assist with answering the questions above

<i>Land preparation</i>	<i>Planting</i>	<i>Basal application</i>	<i>Top dress application</i>	<i>Weeding</i>	<i>Banking (2nd weeding)</i>

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Field _____ Represented plot _____ Fertility High

CULTIVATE17- Enumerator, was the represented plot cultivated during the 2017/18 season? (If fallow, enter "NO") 1=Yes, 2=No								
<i>If NO, skip to next page, Otherwise ask all questions regarding the represented plot</i>								<i>(Even ask these questions if there was no maize)</i>
LOCATION								
	1	2	3	4	5	6	7	8
RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE
WEED RANKING (INCLUDE WITCH WEED)								
WITCH WEED RANKING (WITCH WEED ONLY)								
FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW
WEED RANKING (INCLUDE WITCH WEED)								
WITCH WEED RANKING (WITCH WEED ONLY)								

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Field _____ Represented plot _____ Fertility High

MAIZE17- Enumerator, is there any maize in the represented plot? 1=Yes; 2=No **(IF NO, SKIP TO NEXT PAGE)**

atLEAF CHLOROPHYLL READINGS (4 PLANTS PER LOCATION & 3 READING REPS PER PLANT ON SAME LEAF AREA)

	Location 1		Location 2		Location 3		Location 4		Location 5		Location 6		Location 7		Location 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
Plant No. 1																
	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	
Plant No. 2																
	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	
Plant No. 3																
	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	
Plant No. 4																
	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	

March 2018

Field _____ Represented Plot _____ Fertility Low**GPS informations**

FGPS – Record the GPS coordinates from the center of the REPRESENTED PLOT	S			.					
	E			.					
FGPS00 – Area of the ENTIRE FIELD as measured using GPS (Square meters)									
FGPS01 – Area of REPRESENTED PLOT (#1) as measured using GPS (Square meters)									
FGPS02 – Area of PLOT #2 (if applicable) as measured using GPS (Square meters)									
FGPS03 – Area of PLOT #3 (if applicable) as measured using GPS (Square meters)									
FGPS04 – Area of PLOT #4 (if applicable) as measured using GPS (Square meters)									
FGPS05 – Area of PLOT #5 (if applicable) as measured using GPS (Square meters)									

REPRESENTED PLOT history

Enumerator – Please indicate to the farmer, the next 5 questions are referring to the 2016/17 agricultural season	
FH01 What was done with the crop/fallow residue after the harvest in 2016? (See codes)	
-----→ Only ask FH02 if FH01 is 1,2,3 or 5	
FH02 What happened to the crop/fallow residue remaining in the plot between the 2016 harvest and land preparation for the following planting season? (See codes)	
CULTIVATE16 - Enumerator, was this field cultivated during the 2016/17 season? 1=Yes, 2=No (If fallow, enter "NO")	If NO, skip to FH06
-----→ Only ask FH03 if FH02 is 14 or 15	
FH03 When did you finish incorporating/burying residue from the 2016 harvest	a. Month
FH04 When was land preparation finished for the 2016/17 season (2017 harvest)?	a2. Week
	a. Month
	a2. Week
	b. Year
FH05 When was planting finished for the 2016/17 season (2017 harvest)?	a. Month
	a2. Week
	b. Year

Enumerator – Please indicate to the farmer, the next 5 questions are referring to the 2017/18 agricultural season	
FH06 What was done with the crop/fallow residue after the harvest in 2017? (See codes)	
-----→ Only ask FH07 if FH06 is 1,2,3 or 5	
FH07 What happened to the crop/fallow residue remaining in the field between the 2017 harvest and land preparation for the following planting season? (See codes)	
CULTIVATE17 - Enumerator, was this field cultivated during the 2017/18 season? 1=Yes, 2=No (If fallow, enter "NO")	If NO, skip to next page
-----→ Only ask FH08 if FH07 is 14 or 15	
FH08 When did you finish incorporating/burying residue from the 2017 harvest?	a. Month
	a2. Week
FH11 - How many seeds from the main crop are sown per planting station in this field?	

FH01 & FH06 Codes 1=Standing in field 2=Laying in field 3=Mounds in field 4=Mounds off field 5=Burned in field 6=Burned off field 7=Removed for fodder 8=Removed for fire fuel 9=Removed for compost 10=Other (specify) _____	FH02 & FH07 Codes: 11=Grazed by livestock/animals 12=Burned 13=Collected for fuel, compost, etc. 14= Buried residues before tillage 15=incorporate residues during tillage 99=Other (Specify) _____
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HHID _____

Field _____ Represented plot _____ Fertility Low

Agricultural Labor (Household and Hired) for the HIGH FERTILITY PLOT

CULTIVATE17- Enumerator, was the represented plot cultivated during the 2017/18 season?

(If fallow, enter "NO") 1=Yes, 2=No

If NO, skip to next page, Otherwise ask all questions regarding the represented plot (Even ask these questions if there was no maize)

	<i>How many hh members younger than 16 provide labor for _____? If none, enter “0” and skip to LAB03</i>	<i>How many days did hh members younger than 16 provide labor for _____?</i>	<i>How many household MEN 16 - 70 years provide labor for _____? If none, enter “0” and skip to LAB05</i>	<i>How many days did household MEN 16 - 70 years provide labor for _____?</i>	<i>How many household WOMEN 16 -70 years provide labor for _____? If none, enter “0” and skip to LAB07</i>	<i>How many days did household WOMEN 16 -70 years provide labor for _____?</i>	<i>How many household members over 70 years provide labor for _____? If none, enter “0” and skip to LAB09</i>	<i>How many days did household members over 70 years provide labor for _____?</i>	<i>How many MEN were hired to provide labor for _____? If none, enter “0” and skip to LAB11</i>	<i>How many days did hired MEN provide labor for _____? If none, enter “0” and skip to next activity</i>	<i>How many WOMEN were hired to provide labor for _____? If none, enter “0” and skip to next activity</i>	<i>How many days did hired WOMEN provide labor for _____?</i>
LAB Activity	LAB01	LAB02	LAB03	LAB04	LAB05	LAB06	LAB07	LAB08	LAB09	LAB10	LAB11	LAB12
1=Land preparation												
2=Planting												
3=Basal (NPK) application												
4=Top dress (urea) application												
5=Weeding												
6=Banking (second weeding)												

Enumerator – Use this space to ask, “Which household members provided labor for _____?” This is to assist with answering the questions above

<i>Land preparation</i>	<i>Planting</i>	<i>Basal application</i>	<i>Top dress application</i>	<i>Weeding</i>	<i>Banking (2nd weeding)</i>

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HHID _____

Field _____ Represented plot _____ Fertility **Low**

CULTIVATE17- Enumerator, was the represented plot cultivated during the 2017/18 season?								
<i>(If fallow, enter "NO") 1=Yes, 2=No</i>								
<i>If NO, skip to next page, Otherwise ask all questions regarding the represented plot</i>								<i>(Even ask these questions if there was no maize)</i>
LOCATION								
	1	2	3	4	5	6	7	8
RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE	RIDGE
WEED RANKING <i>(INCLUDE WITCH WEED)</i>								
WITCH WEED RANKING <i>(WITCH WEED ONLY)</i>								
FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW	FURROW
WEED RANKING <i>(INCLUDE WITCH WEED)</i>								
WITCH WEED RANKING <i>(WITCH WEED ONLY)</i>								

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Field _____ Represented plot _____ Fertility Low

MAIZE17- Enumerator, is there any maize in the represented plot? 1=Yes; 2=No **(IF NO, SKIP TO NEXT PAGE)**

atLEAF CHLOROPHYLL READINGS (4 PLANTS PER LOCATION & 3 READING REPS PER PLANT ON SAME LEAF AREA)

	Location 1		Location 2		Location 3		Location 4		Location 5		Location 6		Location 7		Location 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
Plant No. 1																
	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	
Plant No. 2																
	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	
Plant No. 3																
	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	
Plant No. 4																
	# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES		# LEAVES	