Africa Rising Maize Response Study
September 2014

Enumerator code:	**Date of visit:**	**Visit number:**
District: *1=Dedza;* *2=Ntcheu*	**EPA:**	
Village:	**GPS coordinates of house:** *(S):* *(E):*	
Sample group: *1=Int.;* *2=LC;* *3=DC*	**Household code:**	
Entered by:	**Checked by:**	

Section A. Household Information
Enumerator (say to respondent): First, I will ask you some questions about your household and assets.
Gawo A. Mbiri ya Pakhomo
Ofunsa (Nenani kwa Ofunsidwa): **Poyamba, Tikufunsani Mafunso okhudzana ndi pakhomo panu, katundu ndi za umoyo.**

A4. *What is the name of the Primary Respondent?* **Kodi dzina la omwe mukulankhula nawo ndi ndani?**	

A5. *What is your age? (Write in age) /* **Muli ndi zaka zingati?**		
A6. *What is the respondent's gender?* **Kodi jenda ya omwe mukulankhula nawo ndi chani?**	*Male* / Mwamuna	*1*
	Female / Mkazi	*2*
A7. *Are you the head of this household?* **Kodi ndinu mutu wa banja?**	*Yes (skip to Question A10)* Eya *(pitani ku funso lachi A10)*	*1*
	No / Ayi	*2*
A8. *What is your relationship to the head of this household?* **Ubale wanu ndi mutu wa banja ndi otani?**	*Spouse /* Wachikondi	*1*
	Son/Daughter / Mwana	*2*
	Father/Mother / Makolo	*3*
	Brother/Sister / Achimwene / achemwali	*4*
	Other (specify) / Zina *(tchulani):*	*99*
A9. *What is the name of the household head?* **Kodi dzina la mutu wa banja lino ndi ndani?**		
A10. *What is the gender of the household head?* **Kodi jenda ya mutu wa banja lino ndi chani?**	Male */ Mwamuna*	*1*
	Female */ Mkazi*	*2*
A11. *Over the past 12 months, how many months has the household head **resided elsewhere**?*		

Please list the working-age adults (between ages of 16 to 70) living in this household as well as the sons/daughters who reside elsewhere

A17. Member ID	A18. Sex (1= Male; 2= Female)	A19. Age	A20. Marital status	A21. Primary occupa-tion in terms of time over past 12 months	A22. Relation-ship to household head	A23. Education level	A24. Primary residence over past 12 months (If =3, 4, or 5 to go A25, otherwise SKIP to A32)	A25. Where do they live?(If Mozambique or Malawi, ask which district; codes below)	A26. Is this an urban or rural location (1=urban; 2=rural)	A27. Why did s/he choose this location?	A28. Indicate type of migration (see codes below)	A29. Why did s/he leave? (see codes below)	A30. For how many years has s/he resided there?	A31. What was his/her primary occupation before leaving?
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														

Before moving on, ask: Is there anyone else in the immediate family who does NOT currently reside in the household? If yes, return to table above and fill out for this member.

A20. Codes:	*1=Married*	*2=Widowed*	*3=Divorced*	*4=Separated*	*5=Never married*
A21. Codes:	*1=Primarily working on the farm*	*2= Primarily informal business*	*3=Casual farm labour (ganyu)*	*4=Salaried/wage labour (formal employment)*	*5=Student* *99=Other (specify)*
A22. Codes: *1=Head*	*2=Spouse*	*3=Son/Daughter*	*4=Father/Mother*	*5=Brother/Sister*	*99=Other(specify)*
A23. Codes: *1=No schooling*	*2=Some primary*	*3=Completed primary*	*4=Some secondary*	*5=Completed secondary*	*6=Post-secondary*
A24. Codes: *1=Permanent resident* *2=Permanent resident - - in school*	*3=Primarily resident but often residing somewhere else over past 12 months*	*4=Normally residing somewhere else*	*5= Migrated permanently to different area – has not resided here over past 12 months*	*4=Polygamist spending time in other household*	*5=Resident hired labour* *6=Other (specify)*

A25 Codes:
101=Chitipa	*203=Ntchisi*	*301=Mangochi*	*310=Chikwawa*	*404=Chiuta, Moz.*	*413=Tsangano, Moz.*
102=Karonga	*204=Dowa*	*302=Machinga*	*311=Nsanje*	*405=Tete City, Moz.*	*414=Zumbo, Moz.*
103=Nkhatabay	*205=Salima*	*303=Zomba*	*312=Balaka*	*406=Cahora-Bassa, Moz.*	*499=Other Mozambique (specify)*
104=Rumphi	*206=Lilongwe*	*304=Chiradzulu*	*313=Neno*	*407=Doa, Moz.*	
105=Mzimba	*207=Mchinji*	*305=Blantyre*	*314=Zomba City*	*408=Macanga, Moz.*	*50=South Africa*
107=Mzuzu City	*208=Dedza*	*306=Mwanza*	*315=Blantyre City*	*409=Magoe, Moz.*	*51=Tanzania*
201=Kasungu	*209=Ntcheu*	*307=Thyolo*	*401=Angonia, Moz*	*410=Maravia, Moz.*	*52=Zambia*
202=Nkhotakota	*210=Lilongwe City*	*308=Mulanje*	*402=Changara, Moz.*	*411=Moatize, Moz.*	*99=other (specify)*
		309=Phalombe	*403=Chifunde, Moz.*	*412=Mutarara, Moz.*	

A27 Codes:	*A28 Codes:*	*A29 Codes:*	*A31 Codes:*
1=Has family member there	*1=Seasonal (i.e. have a farm elsewhere but reside in Dedza/Ntcheu)*	*1=Better job/work opportunity elsewhere*	*1=Student*
2=Better job/school Opportunity	*2=Permanent (i.e., have moved family and have household in new location)*	*2=No work here*	*2=Farming own land*
3=More job/school opportunities	*3=Temporary/for ganyu labour*	*3=Land pressures*	*3=Ganyu*
4=Better land	*99=Other (specify)*	*4=Divorce*	*4=Housework*
5=Easy to obtain land		*99=Other (specify)*	*5=Unemployed*
99=Other (specify)			*6=Mining*
			7=Farm management
			99=Other (specify)

A32. *How many children aged under 10 years are in this household?*	
A33. *How many children aged 10-15 are in this household?*	
A34. *How many people aged 70 years or above are in this household?*	

A35. Over the past 12 months, *do the adults in the household spend more or less time working on the family farm than they did 10 years ago? (0=no change; 1=more now; 2=less now; 99=unsure)*	
A36. *Over the past 12 months, do the adults in the household spend more or less time engaged in formal and informal non-farm business activities than they did 10 years ago? , (0=no change; 1=more; 2=less; 99=unsure)*	

A38. *Does this household own a:* *(1=Yes; 2=No)* **Kodi pa banja panu muli ndi zinthu izi:** (Eya=1; Ayi=2)	*a. Dimba*	
	b. Sprayer / Chopopera mankhwala	
	c. Treadle pump / Thedo pampu	
	d. Ox cart / Ngolo	
	e. Plough / Pulawo	
A39. *Does this household own a:* *(If yes, ask/list how many; if no, write 0)* **Kodi pa banja panu muli ndi zinthu izi?** (ngati zilipo, funsani kachulukidwe, ngati palibe lembani 0)	*a. Cell phone /* Foni ya m'manja	
	b. Bicycle / Njinga	
	c. Radio / Wayilesi	
	d. Television / Kanema	
	e. Sofa set / Mpando wa sofa	
	f. Improved charcoal or wood burning stove Mbaula ya makono ya makala kapena nkhuni	
	g. Kerosene or gas stove / Mbaula ya parafini kapena gasi	
	h. Motorbike / Njinga ya moto	
	i. Car or truck / Galimoto laling'ono kapena lalikulu	
	j. Solar panel / Makina a magetsi a dzuwa	

A42. *Indicate the **estimated household income** between August 2013 and July 2014 (include in-kind receipts to the household (enumerators: fill out either columns b AND c OR column d)*				
A42a. *Income source*	*Code*	**A42b.** *Number of months income received*	**A42c.** *Average monthly income during these months (MWK)*	**A42d.** *Annual income (MWK)*
Agricultural labour on another farm (ganyu)	*1*			
Non-agricultural labour	*2*			
Remittances (includes both domestic and international migrants)	*3*			
Income from informal business (e.g. selling firewood)	*4*			
Income from formal business (e.g. tailor)	*5*			
Income from selling animal products (eggs, milk, meat, or animals)	*6*			
Donations/gifts	*7*			
Other (specify)	*99*			

A45. *During the past growing season, what was the wage rate for ganyu labour?*	*Amount*	
	Unit (1=MWK; 2=kg maize)	
A46. *Does the daily ganyu wage rate in this area provide/purchase more maize or less maize than it did 10 years ago?*	*0=No change* *1=more maize today than 10 years ago* *2=less maize today than 10 years ago*	
A47. *Over the past 12 months, how much would it cost to rent 1 acre of good quality land in this area? (Indicate price in MWK per acre)*		

Section B. Farm-level management and sales

Enumerator (say to respondent): 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).

Ofunsa (Nenani kwa Ofunsidwa): Tsopano, ndikufuna ndikufunseni mafunso a mmene mumasamalira za kumunda. Mafunsowa ndi okhudzana ndi ulimi wanu wa nthawi ya mvula, ndipo musaphatikize mayankho okhudzana ndi za ku dimba kapena ka munda ka pa khomo. Pa mafunsowa, munda utanthauza malo akulu amene mumalipapo. Puloti ndi magawo a mmundamo amene mwadzalapo mbewu zosiyana siyana (kapena mbewu zakaphatikiza).

B1. *How many fields did you plant this past growing season (2013/14)? (Write in number of fields)* **Kodi chaka chino munalima minda ingati?** (Lembani nambala ya minda)	
B2. *What is the total area in acres that was **actually** cultivated this past growing season (2013/14)?*	
B3a. *Were any fields left fallow this past growing season (2013/14)? (1=Yes; 2=No)*	
B3b. *Why were the fields left fallow?*	*0=not applicable* *1=to increase productivity* *2=no material inputs* *3=shortage of labour* *4=dispute* *99=other (specify)*
B4. *What is the total area in acres that **could have been** cultivated (include fields that were cultivated and those left fallow)*	

B5. *Since the 2014 harvest, have you sold maize or plan to? (1=Yes; 2=No; 99=undecided; if no, skip to C13)*		
B6. *If so, what was the month of your largest sale (or in which month do you expect to have your largest sale)? (1=January; 2=February...12=December; 99=undecided)*		
B7. *How much have you sold or plan to sell in total?*	**a.** *Amount*	
	b. *Units*	
B8. *How much did you sell or plan to sell in your largest transaction?(If sale has not yet occurred, SKIP to B10)*	**a.** *Amount*	
	b. *Units*	
B9. *What was the price you received for this sale?*		
B10. *To whom was (or will be) the largest sale?*	*1=other household* *2=small trader* *3=large trader* *99=other (specify)*	
B11a. *Where was (or will be) the largest sale?*		
B11b. *What was the distance in kilometres to the point of the largest sale?*		
B12. *How much (MK) did you pay (or expect to pay) to transport the maize to the point at which you sold it?*		

B7, B8, B14b Unit Codes	2=25 kg bags	4=20 L bucket Ndowa	99=other (specify) Zina
1=kilograms	3=50 kg bags	5=ox carts / Ngolo	(tchulani)
Makilogalamu	Matumba a makilogalamu 50		

B13. *In what month did your stored supplies of last year's (2012-2013) maize crop run out? (1=January; 2=February…12=December)*
Ndi mwezi uti umene chimanga chomwe munakolora chaka chatha (2012-2013) chinatha? (Onani mayankho m'munsimu)

B14. *How much maize did you store in 2012-2013?(unit codes above)*	**a.** *Amount*	
	b. *Units*	

B15. *Where did you store them?*

B15. Codes:	1=Granary	4=Sacks	7=Open ground, covered	10=Multiple
	2= Pit in ground	5=Raised open platforms	8=Open ground, uncovered	11=Commercial
	3=Cribs	6=Raised covered platforms	9=Roof	99=Other (specify)

B16. *How many months do you expect your own food supply from all of your rainfed fields to last this season (2013-2014) (not including dimba produce)? (Specify number of months)* **Mukuyembekeza kuti chakudya chimene munakolola ku minda yanu nthawi ya mvula chaka chatha chidzakutengerani miyezi ingati kuti chithe (osaonjezerapo za ku dimba)?** (lembani nambala ya miyezi)	

B17. *What methods do you plan use to control pests in stored grain? (See codes below)*
Mukokonzekera kudzagwiritsa ntchito njira zanji zotetezera mbewu zanu ku tizilombo towononga mbewu zosungidwa?

B17 Codes:	1=Pesticide	2=Ash Chipala	3=Tephrosia Katupe	99=Other (specify)
0=None Palibe	Mankhwala a mbewu			Zina (tchulani)

Section C: Time Money Preferences and Valuation of Fertilizer
Now, I will ask you about a series of hypothetical scenarios. These questions are for research purposes only.

C1. *Would you prefer to receive **40000 MWK 6 months from now** or **50000 MWK 7 months from now**?*	1=40000 MWK in 6 months (go to C2) 2=50000 MWK in 7 months (skip to C4)	
C2. *Would you prefer to receive **40000 in 6 months** or **60000 in 7 months**?*	1=40000 MWK in 6 months (go to C3) 2=60000 MWK in 7 months (skip to C4)	
C3. *How many MWK would need to be offered for you to be willing to wait until 7 months rather than take the 40000 MWK in 6 months?*		
C4. *Consider 4 possible options for winning some money: In the first, you have a 50% chance of winning 40000 MWK and a 50% chance of winning only 1500 MWK. In the second, you have a 50% chance of winning 25000 MWK and a 50% chance of winning only 5000 MWK. In the third, there is a 50% chance of winning 17000 MWK and a 50% chance of winning only 8000 MWK. In the last option, there is a 100% chance of winning 10000 MWK.* *Which of these 4 options would you choose?*		

Options	**50% MWK**	**50% MWK**
1	*40000*	*1500*
2	*25000*	*5000*
3	*17000*	*8000*
4	*10000*	*10000*
5	*Don't understand or wish to respond*	

C5a. *Of the following three types of fertilizer, which are you most likely to buy? (choose ONE)*	*1=23:21:0+4S (NPK)* *2=Urea* *3=CAN*	
C5b. *(Enumerator: If farmer chooses 1 (NPK), ask:* *Would you rather have **16000 MK** or a **50 kg bag of NPK**?* *If farmer chooses 2 (urea), ask:* *Would you rather have **15800 MK** or a **50 kg bag of urea**?* *If farmer chooses 3 (CAN), ask:* *Would you rather have **14000 MK** or a **50 kg bag of CAN**?*	*0=no preference* *1=prefers money* *2=prefers fertilizer*	

C5c. Enumerator instructions: find the farmer's chosen fertilizer on the table below. If the farmer chooses fertilizer (C5b=2), move one cell to the **right** and ask C5b again. Continue moving to the right until you find the point where the farmer switches his/her choice to the money. Circle the highest price at which the farmer chooses fertilizer <u>before</u> switching.

If the farmer prefers money (C5b=1), move one cell to the left and ask C5b again at the lower price. Circle the lowest price at which the farmer chooses money <u>before</u> switching to choose the fertilizer as the response to C5c.

Fertilizer	*If farmer chooses money for a 4th time*	*If farmer chooses money for a 3rd time*	*If farmer chooses money again*	*If farmer chooses money*	<u>***Initial price (start HERE)***</u>	*If farmer chooses fertilizer*	*If farmer chooses fertilizer again*	*If farmer chooses fertilizer for a 3rd time*	*If farmer chooses fertilizer for a 4th time*
NPK	*10000*	*11500*	*13000*	*14500*	***16000***	*17500*	*19000*	*20500*	*22000*
Urea	*10800*	*11300*	*12800*	*14300*	***15800***	*17300*	*18800*	*20300*	*21800*
CAN	*10000*	*11000*	*12000*	*13000*	***14000***	*15000*	*16000*	*17000*	*18000*

Section D: Fertilizer		
Now, I will ask you about fertilizer purchases.		
D1. *Did you purchase any subsidized fertilizer this past growing seasons (2013/14 growing season)? (1=Yes 2=No)*		
D2. *Type of fertilizer purchased:*	**a.** *23:21:0+4S (NPK) (1=Yes; 2=No)*	
	b. *Urea (1=Yes; 2=No)*	
D3. *Source of fertilizer (see codes below; =99 if not applicable)*	**a.** *23:21:0+4S (NPK)*	
	b. *Urea*	
D4a. *Quantity NPK received (unit codes below)*	**1.** *Amount*	
	2. *Unit*	
D4b. *Quantity NPK received (unit codes below)*	**1.** *Amount*	
	2. *Unit*	
D5. *Full or partial subsidy?*	*1=full* *2=partial*	
D6. *If partial how much did you pay per unit (use same units from D6)*		
D7. *What were the market prices per unit during that period?*	**a.** *23:21:0+4S (NPK)*	

		b. *Urea*	

D3. Codes: *1=FISP* *2=Inputs for Assets*	*3=NGO or other aid organization*	*4=Farmer's group* *99=Other (specify)*	*-88=Did not receive*
D4, D7 Unit Codes:	*1=kg*	*2=25 kg sacks*	*3=50 kg sacks*

For crops grown in the past (2013/14) growing season, how much fertilizer did you purchase commercially (not through a subsidy programme)?

Type of fertilizer	**D8.** *Quantity purchased*	**D9.** *Units*	**D10.** *Distance from farm to point of purchase (km)*
a. *23:21:0+4S (NPK)*			
b. *Urea*			
c. *CAN*			
d. *D Compound*			
e. *DAP*			
f. *Other (specify):*			

D11. *How much did you pay in total to transport your fertilizer from the point of purchase to the farm? (MWK for all bags purchased)*	

D12. *Compared to 10 years ago, are there more commercial fertilizer dealers in this area today, or are there fewer today?*	*1=More today* *2=Fewer today* *3=Not sure*	

NAME OF FARMER: VILLAGE:
WHO GAVE TOUR OF FARM (name):   GPS (from center of farm):
MEMBER ID OF PERSON GIVING TOUR:

DRAW MAP OF THE FARM (to be done by farmer)
Ask farmer to indicate high (H) and low (L) fertility plots

(Enumerators: using the farm map above and surveys from last year, ask farmers to estimate the area of each plot in all fields. You can ask the farmers to identify plots based off of what was grown on them LAST YEAR (2012/13)

Plot	Field 1		Field 2		Field 3	
	Crops grown LAST YEAR (2012/13)	**E1.** *Plot area in acres*	*Crops grown LAST YEAR (2012/13)*	**E2.** *Plot area in acres*	*Crops grown LAST YEAR (2012/13)*	**E3.** *Plot area in acres*
a						
b						
c						
d						
e						
f						

HIGH FERTILITY PLOT DETAILS

GPS FROM CENTER OF PLOT: _____   MEMBER ID OF PERSON GIVING TOUR: _____

NAME OF CROPS GROWN	1ST CROP	Is this crop intercropped? If yes, 2nd crop	3rd crop if applicable	Crop planted as a border or ridge through field (if any)
DATE PLANTED				
VARIETY				
AMOUNT OF SEED USED				
UNIT FOR SEED				
TYPE				
SEED SOURCE(S)				

DESCRIBE NATURE OF BORDER (IF APPLICABLE)		Planting on ridge	**Place the first letter of the plant on the grid where it is located on the ridge**

Planting on ridge codes:
LM=local maize
HM=hybrid maize
CM=OPV/composite maize
CA=cassava
SM=sorghum
T=tobacco
C=cotton
P=pigeon pea
G=groundnut
SP=sweet potato
B=common bean
SB=soyabean
BN=Bambara nut

GPS AREA OF PLOT:	NUMBER OF WEEDINGS:
DATE AND TYPE OF 1ST WEEDING	
DATE AND TYPE OF 2ND WEEDING	
DATE AND TYPE OF 3RD WEEDING	

CODES FOR WEEDING:	1=KAPALEPALE 2=KUBANDIRA 3=KUZULIRA

SPACING OF ROWS:	ROWS 1&2	ROWS 2&3

HOW DID YOU **DECIDE** ON THE SPACING OF ROWS?

cm	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	cm
30																						30
25																						25
20																						20
15																						15
10																						10
5																						5
0																						CTR
5																						5
10																						10
15																						15
20																						20
25																						25
30																						30
cm	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	Cm

LOW FERTILITY PLOT DETAILS

GPS FROM CENTER OF PLOT: _____   MEMBER ID OF PERSON GIVING TOUR: _____

NAME OF CROPS GROWN	1ST CROP	Is this crop intercropped? If yes, 2nd crop	3rd crop if applicable	Crop planted as a border or ridge through field (if any)
DATE PLANTED				
VARIETY				
AMOUNT OF SEED USED				
UNIT FOR SEED				
TYPE				
SEED SOURCE(S)				

DESCRIBE NATURE OF BORDER (IF APPLICABLE)		Planting on ridge	Place the first letter of the plant on the grid where it is located on the ridge																				
		LM=local maize **HM=hybrid maize** **CM=OPV/composite maize** **CA=cassava** **SM=sorghum** **T=tobacco** **C=cotton** **P=pigeon pea** **G=groundnut** **SP=sweet potato** **B=common bean** **SB=soyabean** **BN=Bambara nut**	cm	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	cm
GPS AREA OF PLOT:	NUMBER OF WEEDINGS:		30																						30
			25																						25
DATE AND TYPE OF 1ST WEEDING			20																						20
			15																						15
DATE AND TYPE OF 2ND WEEDING			10																						10
			5																						5
DATE AND TYPE OF 3RD WEEDING			**0**																						**CTR**
			5																						5
CODES FOR WEEDING: 1=KAPALEPALE 2=KUBANDIRA 3=KUZULIRA			10																						10
			15																						15
SPACING OF ROWS:	ROWS 1&2 / ROWS 2&3		20																						20
			25																						25
HOW DID YOU **DECIDE** ON THE SPACING OF ROWS?			30																						30
			cm	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	Cm

Additional codes for high and low fertility plots

<u>High Fertility Plot:</u>

HF1a: First crop	HF1b: Month planted	HF1c: Crop variety
HF2a: 2nd crop	HF2b: Month planted	HF2c: Crop variety
HF3a: 3rd crop	HF3b: Month planted	HF3c: Crop variety
HF4a: 4th crop	HF4b: Month planted	HF4c: Crop variety

HF5a: Main crop amount of seed used	HF5b: Units HF5c: Seed type		HF5d: Source
HF6a: 2nd crop amount of seed used	HF6b: Units HF6c: Seed type		HF6d: Source
HF7a: 3rd crop amount of seed used	HF7b: Units HF7c: Seed type		HF7d: Source
HF8a: 4th crop amount of seed used	HF8b: Units HF8c: Seed type		HF8d: Source

HFborder: Nature of border
HFarea: GPS area of plot
HF9: Number of weedings

HF10a: Date 1st weeding	HF10b: 1st weeding type
HF11a: Date 2nd weeding	HF11b: 2nd weeding type
HF12a: Date 3rd weeding	HF12b: 3rd weeding type

HF13: Spacing between rows 1 and 2
HF14: Spacing between rows 2 and 3
HF15: How decided on spacing
HF16: Intercropped?

HF17a: Main crop # stations/meter	HF17b: # seeds/station
HF18a: 2nd crop # stations/meter	HF18b: # seeds/station
HF19a: 3rd crop # stations/meter	HF19b: # seeds/station
HF20a: 4th crop # stations/meter	HF20b: # seeds/station

<u>Low Fertility Plot:</u>

LF1a: First crop	LF1b: Month planted	LF1c: Crop variety
LF2a: 2nd crop	LF2b: Month planted	LF2c: Crop variety
LF3a: 3rd crop	LF3b: Month planted	LF3c: Crop variety
LF4a: 4th crop	LF4b: Month planted	LF4c: Crop variety

LF5a: Main crop amount of seed used	LF5b: Units LF5c: Seed type		LF5d: Source
LF6a: 2nd crop amount of seed used	LF6b: Units LF6c: Seed type		LF6d: Source
LF7a: 3rd crop amount of seed used	LF7b: Units LF7c: Seed type		LF7d: Source
LF8a: 4th crop amount of seed used	LF8b: Units LF8c: Seed type		LF8d: Source

LFborder: Nature of border
LFarea: GPS area of plot
LF9: Number of weedings

LF10a: Date 1st weeding	LF10b: 1st weeding type
LF11a: Date 2nd weeding	LF11b: 2nd weeding type
LF12a: Date 3rd weeding	LF12b: 3rd weeding type

LF13: Spacing between rows 1 and 2
LF14: Spacing between rows 2 and 3
LF15: How decided on spacing
LF16: Intercropped?

LF17a: Main crop # stations/meter	LF17b: # seeds/station
LF18a: 2nd crop # stations/meter	LF18b: # seeds/station
LF19a: 3rd crop # stations/meter	LF19b: # seeds/station
LF20a: 4th crop # stations/meter	LF20b: # seeds/station

Crop codes:

1=local maize	6=pigeon pea	11=cowpea	16=Irish potato
2=hybrid maize	7=groundnut	12=bambara nut	17=Millet
3=OPV/Composite maize	8=soya bean	13=sorghum	18=Rice
4=tobacco	9=common bean	14=cassava	19=Pumpkin
5=cotton	10=velvet bean	15=sweet potato	20=Sugarcane
			99=can't remember

Units:
1=Kilograms
2=25 kg bags
3=50 kg bags
4=90 kg bags
5=5L bucket
6=20L bucket
7=Plate
8=Basin
9=Oxcart
99=Other (specify)

Seed source:
1=Recycled from last year
2=Other household
3=Extension agent
4=Local store/market
5=FISP
6=Inputs for Assets
7=Other NGO
8=Wage for ganyu labour
9=From FISP beneficiary
10=Africa Rising
99=Other (specify)

Weeding type:
1=Kapalepale
2=Kubandira
3=Kuzulira
4=Herbicides

Seed type:
1=Local
2=Hybrid

How decided on spacing:
1=Intuition
2=Tradition (copied from parents, etc)
3=Extension workers
4=Africa RISING
5=Wanted to improve yields
6=Maintained how found field
7=Wider rows for easier weeding/better crop development
8=Control erosion

Section F: High Fertility Plot Details

Enumerator (say to respondent): These next questions will be about your high and low fertility plots, and we will discuss them one at a time. First, the high fertility plot:

Ofunsa (nenani kwa ofunsidwa): Mafunso otsatirawa akhala okhudzana ndi munda uliwonse paokha paokha, ndipo tikambirana za munda uliwonse mwapadera, pokambirana, mudzindilozela komwe kuli mundawo kuchokera pakhomo pano.

F1. *How many years has your household farmed this plot? (Write in years)* **Kodi banja lanu lalima mundawu kwa zaka zingati?** (Lembani zaka)	

F2. *Who is responsible for managing this plot?* **Amasamalira gawo la mundawu ndi ndani?**	*1=household head* *2=spouse* *3=both* *99=other (specify)*	

F3. *Do you own this land? (1=Yes; 2=No) /* **Kodi mundawu ndi wanu wanu?** (1=Eya; 2=Ayi)	

F4 *How fertile is the soil on this plot? (See codes below)* **Kodi mundawu uli ndi chonde chochuluka bwanji** (Onani mayankho m'munsimo)	
F5. *Does this plot have a problem with soil acidity? (1=Yes; 2=No)*	
F6. *How has the fertility of the soil changed in the past 10 years? (See codes below)*	

F7. *Why do you believe the fertility of the soil has changed this way? (See codes below; list up to 2 reasons)*	**a.** *Primary reason*	
	b. *Secondary reason*	

F8. *How have yields changed in the past 10 years?*	

F9. *Why do you believe they have changed this way?*	

F10. *If you applied the recommended quantity of fertilizer to this plot, would it have produced more or less maize on it now as compared to 10 years ago (assuming rainfall and other factors were exactly the same):*	*0=same* *1=more maize now* *2=less maize now* *99=unsure*	

F11. *Why do you believe it has changed this way?*	

F4 Codes:	*1=low fertility*	*2= average fertility* wa nthaka pang'ono	*3=very fertile* wa nthaka kwambiri
F6, F8, and *F10. Codes:*	*0=no change* *1=increased*	*2=declined* *99=don't know*	
F7, and F9 Codes: *1=erosion* *2=lack of inorganic fertilizer* *3=lack of compost, manure, mulch, etc.*	*4=increased use of compost, manure, mulch, etc.*	*5=intercropping with legumes* *6=increase used of inorganic fertilizer*	*99=no change or don't know*
F11 Codes: *1=soil fertility has declined* *2=soil fertility has improved* *3=erosion*	*4=soil acidity has worsened* *5=soil acidity has improved*	*6=maize seed type more responsive to fertilizer now*	*99=other (specify)*

F12a. *What soil preparation method did you use before planting this plot this season (2013-2014)? (List all that apply; see codes below)* **Munagwiritsa ntchito njira zotani zokonzera munda wanu musanadzale mbeu chaka chino (2013-2014)?** (Tchulani zonse zomwe munachita; Onani mayankho m'munsimo)	
F12b. *In which month did you prepare the ridges?*	
F13. *What soil conservation methods do you use on this field? (List all that apply; see codes below)*	

F12a. Codes:	*3 = burn residues*	*6=build mounds*	*8=animal traction*

1= incorporate residues early (after harvest) 2=incorporate residues late winter	4=level soil / Kusalaza 5=align ridges Kulima m'mizere	Kulima m'milu 7=dig planting basins Kulima m'maenje	Kulima mogwiritsa ntchito ziweto 9=zero tillage Ulimi wa mtaya khasu 99=Other (specify) Zina (tchulani)
F13. Codes: 1=mulching 2=farm yard manure 3=compost 4=slash and burn 5=green manure 6=terracing	7=grass strips 8=crop residues 9=planting basins 10=minimal/zero tillage 11=ripping	12=drainage (water logging) 13=early incorporation of residues in furrow 14=mid-winter incorporation of residues in furrow	15=burning of residues 16=late incorporation of residues (waiting until fall rains, then preparing ridges)

F14. *How has the intensity of planting changed in the past 10 years?(0=no change 1=become more intense 2=become less intense 99=don't know)*	
F15. *Do you rotate your main crop with any other crops? (1=Yes; 2=No) (If No, then skip to F18.)* **Kodi mumalima chimanga mosinthanitsa ndi mbewu zina?** (1=Eya; 2=Ayi) (Ngati yankho lanu liri ayi, pitanu ku funso F18.)	
F16. *Please list the crops that you rotate with your main crop. (List all that apply; see codes below)* **Chonde tchulani mbewu zonse zimene mumasinthanitsa ndi mbewu zanu za chimanga.** (Tchulani zonse zomwe anasinthanitsa; Onani mayankho m'munsimo)	

F16 Codes: 1=local maize chimanga cha makolo 2=hybrid maize chimanga cha makono 3=OPV/Composite maize 4=tobacco / fodya	5=cotton / thonje 6=pigeon pea / 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 Mbata za kholowa	16=Irish potato Mbatatesi 17=millet / Mawere 18=rice / Mpunga 19=pumpkin / Maungu 99=Other (specify) Zina (tchulani)

Please list the crops grown on this plot over the past 4 years and your plans for the 2014/2015 season.

Year	**a.** *Main crop grown*	**b.** *Was this intercropped? (1=Yes; 2=No)*	**c.** *If intercropped, with what?*
F17. *2014/15*			
F18. *2012/13*			
F19. *2011/12*			
F20. *2010/11*			
F21. *2009/10*			

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=Irish potato 17=Millet 18=Rice 19=Pumpkin 99=can't remember

Please describe the soil amendments used on this plot in the past 2 years.		
	2013/14=*1*	**2012/13**=*2*
F22a. *Amendment 1*		
F22b. *Date applied (month)*		
F22c. *Amount*		
F22d. *Unit*		
F22e. *Source(s)*		
F23a. *Amendment 2*		
F23b. *Date applied (month)*		
F23c. *Amount*		
F23d. *Unit*		
F23e. *Source(s)*		
F24a. *Amendment 3*		
F24b. *Date applied (month)*		
F24c. *Amount*		
F24d. *Unit*		
F24e. *Source(s)*		

F22a, F23a, F24a Codes:
1=23:21:0+4S (NPK)
2=Urea
3=other fertilizer (specify)
4=Compost
5=Manure
6=Crop residue
99=Other (specify)

F22d., F23d, F24d Codes:
1=kilograms
2=25 kg sack
3=50 kg sack
4=Bucket
5=Plate
6=Ox cart
99=other (specify)

F22e, F23e, F24e Codes:
1=Extension agent
2=Local store
3=FISP
4=Inputs for Assets
5=Other NGO
99=Other (specify)

F25. *In what year was this plot last left fallow? (=-88 if never fallowed since the household was formed)*	
F26. *For how many years was it left fallow?*	

F27. *What methods did you use to control insect pests on this plot?* **Ndi njira ziti zimene munagwiritsa ntchito kuti muthane ndi tizilombo mu gawoli?**	
F28. *How do you plan to manage the crop residues on this plot?* **Kodi zotsalira za mbewu m'gawoli mudzazigwiritsa ntchito yanji?**	

F27 Codes: *2=Weeding*   *4=Aloe vera*   *99=Other (specify)*
1=Pesticides   *3=Ash*   *5=Botanicals (e.g., neem)*

F28 Codes: *2=Compost*   *4=Ashes/burn for pest*   *5=Firewood*
1=Land preparation   *3=Livestock feed*   *management*   *99=Other (specify)*

F29. Of the crops grown in this season (2013-2014) how much of each crop did you produce or do you expect to produce? (See codes below) **Pa mbewu zonse zomwe munalima chaka chino (2013-2014) munakolola kapena mukuyembekezera kukolola zochuluka bwanji?** (onani mayankho m'munsimu)					F30. Were any of the crops taken for vegetable (leaves, green pods, or green cobs)?			
	a. Crop code	b. Amount	c. Units	d. Shelled/ unshelled	a. 1=Yes; 2=No	b. If yes, amount	c. If yes, unit	d. Shelled/ unshelled
Main crop								
2nd crop								
3rd crop								

F31. Please list the uses of outputs from each plot										
	a. Crop code	b. 1st use	c. Amount	d. Units	e. Shelled /unshelled	f. 2nd use	g. Amount	h. Unit	i. Shelled /unshelled	j. If sale, income from sale
Main crop										
2nd crop										
3rd crop										

F29 and F31 crop codes:	5=cotton / thonje	11=cowpea / Khobwe	16=Irish potato
1=local maize	6=pigeonpea	12=bambara nut Nzama	Mbatatesi
chimanga cha makolo	nandolo	13=sorghum / Mapira	17=millet / Mawere
2=hybrid maize	7=groundnut / mtedza	14=cassava / Chinangwa	18=rice / Mpunga
chimanga cha makono	8=soya bean / soya	15=sweet potato	19=pumpkin / Maungu
3=OPV/Composite maize	9=common bean Nyemba	Mbatata za kholowa	99=Other (specify)
4=tobacco / fodya	10=velvet bean Kalongonda		

F29, F30, F31Unit Codes	2=25 kg bags	4=20 L bucket Ndowa	99=other (specify) Zina (tchulani)
1=kilograms	3=50 kg bags	5=ox carts / Ngolo	
Makilogalamu	Matumba a makilogalamu 50		

F31 Use codes	2=sale to other household	4=household storage	6=livestock fodder
1=sale to trader	3=own consumption	5=fuel	99=other (specify)

Section G: Low Fertility Plot Details

Enumerator (say to respondent): These next questions will be about your high and low fertility plots, and we will discuss them one at a time. First, the high fertility plot:

Ofunsa (nenani kwa ofunsidwa): Mafunso otsatirawa akhala okhudzana ndi munda uliwonse paokha paokha, ndipo tikambirana za munda uliwonse mwapadera, pokambirana, mudzindilozela komwe kuli mundawo kuchokera pakhomo pano.

G1. *How many years has your household farmed this plot? (Write in years)* **Kodi banja lanu lalima mundawu kwa zaka zingati?** (Lembani zaka)		
G2. *Who is responsible for managing this plot?* **Amasamalira gawo la mundawu ndi ndani?**	*1=household head* *2=spouse* *3=both* *99=other (specify)*	

G3. *Do you own this land? (1=Yes; 2=No) /* **Kodi mundawu ndi wanu wanu?** (1=Eya; 2=Ayi)	

G4 *How fertile is the soil on this plot? (See codes below)* **Kodi mundawu uli ndi chonde chochuluka bwanji** (Onani mayankho m'munsimo)		
G5. *Does this field have a problem with soil alkalinity? (1=Yes; 2=No)*		
G6. *How has the fertility of the soil changed in the past 10 years? (See codes below)*		
G7. *Why do you believe the fertility of the soil has changed this way? (See codes below; list up to 2 reasons)*	**a.** *Primary reason*	
	b. *Secondary reason*	
G8. *How have yields changed in the past 10 years?*		
G9. *Why do you believe they have changed this way?*		
G10. *If you applied the recommended quantity of fertilizer to this plot, would it have produced more or less maize on it now as compared to 10 years ago (assuming rainfall and other factors were exactly the same):*	*0=same* *1=more maize now* *2=less maize now* *99=unsure*	
G11. *Why do you believe it has changed this way?*		

G4 Codes: *1=not fertile*	*1=low fertility*	*2= average fertility* wa nthaka pang'ono	*3=very fertile* wa nthaka kwambiri
G6, G8, and *G10. Codes:*	*0=no change* *1=increased*	*2=declined* *99=don't know*	
G7, and G9 Codes: *1=erosion* *2=lack of inorganic fertilizer* *3=lack of compost, manure, mulch, etc.*	*4=increased use of compost, manure, mulch, etc.*	*5=intercropping with legumes* *6=increased use of inorganic fertilizer*	*99=no change or don't know*
G11 Codes: *1=soil fertility has declined* *2=soil fertility has improved* *3=erosion*	*4=soil acidity has worsened* *5=soil acidity has improved*	*6=maize seed type more responsive to fertilizer now*	*99=other (specify)*

G12a. *What soil preparation method did you use before planting this plot this season (2013-2014)? (List all that apply; see codes below)* **Munagwiritsa ntchito njira zotani zokonzera munda wanu musanadzale mbeu chaka chino (2013-2014)?** (Tchulani zonse zomwe munachita; Onani mayankho m'munsimo)	
G12b. *In which month did you prepare the ridges?*	
G13. *What soil conservation methods do you use on this field? (List all that apply; see codes below)*	

G12a. Codes:	*3 = burn residues*	*6=build mounds*	*8=animal traction*

1= incorporate residues early (after harvest) 2=incorporate residues late winter	4=level soil / Kusalaza 5=align ridges Kulima m'mizere	Kulima m'milu 7=dig planting basins Kulima m'maenje	Kulima mogwiritsa ntchito ziweto 9=zero tillage Ulimi wa mtaya khasu 99=Other (specify) Zina (tchulani)
G13. Codes: 1=mulching 2=farm yard manure 3=compost 4=slash and burn 5=green manure 6=terracing	7=grass strips 8=crop residues 9=planting basins 10=minimum/zero tillage 11=ripping	12=drainage (water logging) 13=early incorporation of residues in furrow 14=mid-winter incorporation of residues in furrow	15=burning of residues 16=late incorporation of residues (waiting until fall rains, then preparing ridges)

G14. *How has the intensity of planting changed in the past 10 years?(0=no change 1=become more intense 2=become less intense 99=don't know)*	
G15. *Do you rotate your main crop with any other crops? (1=Yes; 2=No) (If No, then skip to G18.)* **Kodi mumalima chimanga mosinthanitsa ndi mbewu zina?** (1=Eya; 2=Ayi) (Ngati yankho lanu liri ayi, pitanu ku funso F15.)	
G16. *Please list the crops that you rotate with your main crop. (List all that apply; see codes below)* **Chonde tchulani mbewu zonse zimene mumasinthanitsa ndi mbewu zanu za chimanga.** (Tchulani zonse zomwe anasinthanitsa; Onani mayankho m'munsimo)	

G16 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=Irish potato Mbatatesi 17=millet / Mawere 18=rice / Mpunga 19=pumpkin / Maungu 99=Other (specify) Zina (tchulani)

Please list the crops grown on this plot over the past 4 years and your plans for the 2014/2015 season.

Year	**a.** *Main crop grown*	**b.** *Was this intercropped? (1=Yes; 2=No)*	**c.** *If intercropped, with what?*
G17. *2014/15*			
G18. *2012/13*			
G19. *2011/12*			
G20. *2010/11*			
G21. *2009/10*			

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=Irish potato 17=Millet 18=Rice 19=Pumpkin 99=Other (specify)

Please describe the soil amendments used on this plot in the past 2 years.		
	2013/14=*1*	**2012/13**=*2*
G22a. *Amendment 1*		
G22b. *Date applied (month)*		
G22c. *Amount*		
G22d. *Unit*		
G22e. *Source(s)*		
G23a. *Amendment 2*		
G23b. *Date applied (month)*		
G23c. *Amount*		
G23d. *Unit*		
G23e. *Source(s)*		
G24a. *Amendment 3*		
G24b. *Date applied (month)*		
G24c. *Amount*		
G24d. *Unit*		
G24e. *Source(s)*		

G22a, G23a, G24a Codes:
1=23:21:0+4S (NPK)
2=Urea
3=other fertilizer (specify)
4=Compost
5=Manure
6=Crop residue
99=Other (specify)

G22d., G23d, G24d Codes:
1=kilograms
2=25 kg sack
3=50 kg sack
4=Bucket
5=Plate
6=Ox cart
99=other (specify)

G22e, G23e, G24e Codes:
1=Extension agent
2=Local store
3=FISP
4=Inputs for Assets
5=Other NGO
6=Own
7=Other farmer/household
99=Other (specify)

G25. *In what year was this plot last left fallow? (=-88 if never fallowed since the household was formed)*	
G26. *For how many years was it left fallow?*	

G27. *What methods did you use to control insect pests on this plot?* **Ndi njira ziti zimene munagwiritsa ntchito kuti muthane ndi tizilombo mu gawoli?**	
G28. *How do you plan to manage the crop residues on this plot?* **Kodi zotsalira za mbewu m'gawoli mudzazigwiritsa ntchito yanji?**	

G27 Codes: *2=Weeding*   *4=Aloe vera*   *99=Other (specify)*
1=Pesticides   *3=Ash*   *5=Botanicals (e.g., neem)*

G28 Codes: *2=Compost*   *4=Ashes/burn for pest*   *5=Firewood*
1=Land preparation *3=Livestock feed*   *management*   *99=Other (specify)*

G29. *Of the crops grown in this season (2013-2014) how much of each crop did you produce or do you expect to produce? (See codes below)* **Pa mbewu zonse zomwe munalima chaka chino (2013-2014) munakolola kapena mukuyembekezera kukolola zochuluka bwanji?** (onani mayankho m'munsimu)					**G30.** *Were any of the crops taken for vegetable (leaves, green pods, or green cobs)?*			
	a. Crop code	*b. Amount*	*c. Units*	*d. Shelled/ unshelled*	*a. 1=Yes; 2=No*	*b. If yes, amount*	*c. If yes, unit*	*d. Shelled/ unshelled*
Main crop								
2nd crop								
3rd crop								

G31. *Please list the uses of outputs from each plot*										
	a. Crop code	*b. 1st use*	*c. Amount*	*d. Units*	*e. Shelled /unshelled*	*f. 2nd use*	*g. Amount*	*h. Unit*	*i. Shelled /unshelled*	*g. If sale, income from sale*
Main crop										
2nd crop										
3rd crop										

G29 and G31 crop codes:	4=tobacco / fodya	9=common bean Nyemba	14=cassava /
1=local maize	*5=cotton* / thonje	*10=velvet bean* Kalongonda	Chinangwa
chimanga cha makolo	*6=pigeonpea*	*11=cowpea* / Khobwe	*15=sweet potato*
2=hybrid maize	nandolo	*12=bambara nut* Nzama	Mbatata za kholowa
chimanga cha makono	*7=groundnut /* mtedza	*13=sorghum /* Mapira	*16=Irish potato*
3=OPV/Composite maize	*8=soya bean* / soya		*17=Millet*
			18=Rice
			19=Pumpkin

G29, G30, G31Unit Codes	*2=25 kg bags*	*4=20 L bucket* Ndowa	*99=other (specify)* Zina
1=kilograms	*3=50 kg bags*	*5=ox carts /* Ngolo	(tchulani)
Makilogalamu	Matumba a makilogalamu 50		

G31 Use codes	*2=sale to other household*	*4=household storage*	*6=livestock fodder*
1=sale to trader	*3=own consumption*	*5=fuel*	*99=other (specify)*

Section H: Labour

H1. *Did any household members participate in the following activities? (1=Yes; 2=No) If no, continue to H8* | |

Plot Gawo la munda	H2. *Land preparation*			H3. *Planting*			H4. *Basal fertilizer application*			H5. *Top dressing application*			H6. *Weeding*			H7. *Harvesting and post-harvest labour*		
	H2a. *HH member ID*	**H2b.** *# days spent*	**H2c.** *Total # labour days*	**H3a.** *HH member ID*	**H3b.** *# days spent*	**H3c.** *Total # labour days*	**H4a.** *HH member ID*	**H4b.** *# days spent*	**H4c.** *Total # labour days*	**H5a.** *HH member ID*	**H5b.** *# days spent*	**H5c.** *Total # labour days*	**H6a.** *HH member ID*	**H6b.** *# days spent*	**H6c.** *Total # labour days*	**H7a.** *HH member ID*	**H7b.** *# days spent*	**H7c.** *Total # labour days*
Most fertile																		
Least fertile																		

H8. *Did the household hire any outside labour for the following activities? (1=Yes; 2=No)* | |

For which of the following activities did the household hire outside labour?

Plot Gawo la munda	H9. *Land preparation*			H10. *Planting*			H11. *Basal fertilizer application*			H12. *Top dressing application*			H13. *Weeding*			H14. *Harvesting and post-harvest labour*		
	H9a. *# of people hired*	**H9b.** *# days spent*	**H9c.** *Total # labour days*	**H10a.** *# of people hired*	**H10b.** *# days spent*	**H10c.** *Total # labour days*	**H11a.** *# of people hired*	**H11b.** *# days spent*	**H11c.** *Total # labour days*	**H12a.** *# of people hired*	**H12b.** *# days spent*	**H12c.** *Total # labour days*	**H13a.** *# of people hired*	**H13b.** *# days spent*	**H13c.** *Total # labour days*	**H14a.** *# of people hired*	**H14b.** *# days spent*	**H14c.** *Total # labour days*
Most fertile																		
Least fertile																		

Labour days are calculated as the number of workers times the number of days they worked. So if 4 people work for 2 days and 3 other people work 5 days, the total number of labour days is 4x2+3x5=23. Multiply by ½ for child days

# of workers	X	# days worked by each worker	=	labour days
	X		=	
	X		=	
	X		=	
	X		=	
	X		=	