

# Taking Maize Agronomy to Scale in Africa (TAMASA)

## Tanzania Farm and Plot Survey 2017

“We are part of a team at CIMMYT, Uyolet and Selian Agricultural Research Stations, and Michigan State University in USA, who are studying about sustainable agricultural intensification in the country. Your participation in answering these questions is very much appreciated. Your responses will be COMPLETELY CONFIDENTIAL. Your responses will be added to those of ~600 other households and analysed together. If you indicate your voluntary consent by participating in this interview, may we begin? If you have any questions or comments about this survey, you may contact Dr. Kenneth Masuki, phone: +255-784625567; email: [k.masuki@cgiar.org](mailto:k.masuki@cgiar.org).”

### SECTION 1: BASIC INFORMATION

*HH17.dta (key variables: hhid)*

	Household No.	hhid _____
	Date (dd/mm/yyyy)	surdate _____
HH Name _____ hhname	Mobile phone number	phone _____
HH available _____ 1=yes, 2=no		hhav _____
If not available, why not? _____		hhavwhno _____
<i>1=HH does not exist anymore, 2=HH is absent, 3= HH no longer possess land in study grid</i>		
Respondent(s) _____	Respondent	mem _____

*(Enumerator instruction: Record the member number of the respondent from the Demography Table on page 15 after the survey is completed.)*

<b>Identifying Variables:</b>	
Supervisor: _____	snum _____
Enumerator: _____	enum _____
Study Site: _____	sitenum _____
Region: _____	reg _____
District: _____	dist _____
Ward: _____	ward _____
Village: _____	vil _____
Hamlet: _____	hamlet _____

GPS coordinates:	Latitude (south)	hh_lat	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
	Longitude (east)	hh_long	<input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
Altitude (m. a. s. l.)		hh_alt	_____	

## SECTION 2: PLOTS

DRAW MAP OF THE FARM. Number all plots (numbers must correspond to plot numbers in next section).

*Reference Period: 2016/2017 main agricultural season (1<sup>st</sup> Jan 2017 – Present)*

**ENUMERATOR:** *Tell the respondent that we would like to know about household farmland and use during the 2016/17 agricultural season. Sketch ALL plots that were cultivated (including rented-in/borrowed-in), rented-out or borrowed-out and land cultivated/managed on behalf of an absentee owner, by the household during the 2016/17 main agricultural season. Include land cultivated, gardens, fallow land, orchards, private woodlots, virgin land, and all other land owned, borrowed, and rented. After sketching, number the plots. Label (in words) on the sketch the land use of each field (land use categories on next page).*

TABLE 2-1. General characteristics of landholdings

*Plot17.dta* (key variables: *hhid*, *plotid*)

[illegible]

Which plot was the focal maize plot last year? (*plot #*) –  
enter 0 if plot is no longer part of the farm

p17	—
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Which plot is the focal plot this year? (plot #)  
[Leave blank if it is the same]

p18

*add space for comments.....*

Area codes	Land use codes		Ownership codes	
1- acre	1- cropped	6- garden	1- owned <i>with</i> formal title/ land rights certificate	5- shared
2- hectare	2- fallow	7- woodlot	2- owned <i>without</i> formal title/ land rights certificate	6- borrowed without compensation
3- square meter	3- pasture	8- virgin	3- rented: sharecropping	7- other
	4- rented-out	9- other	4- rented: cash up front	
	5- borrowed-out			

## SECTION 3: CROP PRODUCTION

Q3.1A. Did this household have any cropping activity during MAIN CROP Season 2016/2017? (1= yes, no=2)

maincrop \_\_\_\_\_

If Q3.1A=2, skip to the short season crop (Q3.1B).

Table 3-1A: MAIN SEASON crop production

[illegible]

*Plotcropped17.dta and Crop17.dta* (key variables: *hhid*, *season*, *plotid*, *crop*) *season=1*

[illegible]

Crop codes:													
Cereals/ tubers/ roots		Legumes/ oils		Vegetables		Cash crops				Fruits			
Maize (not green)...	1	Beans .....	21	Green maize .....	41	Cotton .....	61	Cardamom .....	76	Passion fruit ....	101	Lemon .....	117
Paddy rice .....	2	Cowpeas .....	22	Cabbage .....	42	Tobacco .....	62	Tamarind .....	77	Banana .....	102	Pomelo .....	118
Sorghum .....	3	Green gram .....	23	Tomato .....	43	Pyrethrum .....	63	Cinnamon .....	78	Avocado .....	103	Jack fruit .....	119
Bulrush millet .....	4	Chick peas .....	24	Spinach .....	44	Jute .....	64	Nutmeg .....	79	Mango .....	104	Durian .....	120
Finger millet .....	5	Bambara nuts ...	25	Carrot .....	45	Seaweed .....	65	Clove .....	80	Pawpaw .....	105	Bilimbi .....	121
Wheat .....	6	Field peas .....	26	Chilies .....	46	Black pepper ....	66	Palm oil .....	81	Orange .....	106	Rambutan .....	122
Barley .....	7	Sunflower .....	27	Amaranth .....	47	Sisal .....	67	Coconut .....	82	Grapefruit .....	107	Bread fruit ....	123
Cassava .....	8	Sesame .....	28	Pumpkin .....	48	Coffee .....	68	Cashew nut .....	83	Grapes .....	108	Malay apple ..	124
Sweet potato .....	9	Groundnuts .....	29	Cucumber .....	49	Tea .....	69	Green tomato .....	84	Pineapple .....	109	Star fruit .....	125
Irish potato .....	10	Soyabeans .....	30	Eggplant .....	50	Cocoa .....	70	Monkeybread .....	85	Mandarin .....	110	Custard apple	126
Yams .....	11	Caster seed .....	31	Watermelon .....	51	Rubber .....	71	Bamboo .....	86	Guava .....	111	God fruit .....	127
Cocoyams .....	12	Pigeonpea .....	32	Cauliflower .....	52	Wattle .....	72	Firewood/ fodder ...	87	Plum .....	112	Mitobo .....	128
Onions .....	13	Lablab .....	33	Okra .....	53	Kapok .....	73	Timber .....	88	Apple .....	113	Pomegranate	129
Ginger .....	14	Other (legume).	34	Fiwi .....	54	Sugar cane .....	74	Medicinal plant ....	89	Pear .....	114	Date .....	130
				Other (veg).....	55	Vanilla .....	75	Fence tree .....	90	Peach .....	115	Tungamaa ....	131
Other (general).....	135									Lime .....	116	Other (fruit)....	132

Area codes	Harvest unit codes	
1= Entire field	1=100 kg bag	14=numbers
2= ¾ of field	2=90 kg bag	15=bunch (bananas)
3= ½ of field	3=50 kg bag	16=crate
4= ¼ of field	4=25 kg bag	17=grams
5= Less than ¼ of field	5=10 kg bag	18=wheelbarrow
	6=5 kg bag	19=cart
	7=2 kg packet (seed)	20=canter
	8=kg	21=pickup
	9=tonne	22=bale
	10=debe	23=day
	11=10 litre bucket	24=acre
	12=5 litre bucket	
	13=litre	

shortcrop \_\_\_\_\_

*Plotcropped17.dta and Crop17.dta* (key variables: *hhid*, *season*, *plotid*, *crop*) *season=2*

[illegible]

Cereals/ tubers/ roots		Legumes/ oils		Vegetables		Cash crops				Fruits			
Maize (not green)...	1	Beans .....	21	Green maize .....	41	Cotton .....	61	Cardamom .....	76	Passion fruit ....	101	Lemon .....	117
Paddy rice .....	2	Cowpeas .....	22	Cabbage .....	42	Tobacco .....	62	Tamarind .....	77	Banana .....	102	Pomelo .....	118
Sorghum .....	3	Green gram ....	23	Tomato .....	43	Pyrethrum .....	63	Cinnamon .....	78	Avocado .....	103	Jack fruit .....	119
Bulrush millet .....	4	Chick peas .....	24	Spinach .....	44	Jute .....	64	Nutmeg .....	79	Mango .....	104	Durian .....	120
Finger millet .....	5	Bambara nuts ...	25	Carrot .....	45	Seaweed .....	65	Clove .....	80	Pawpaw .....	105	Bilimbi .....	121
Wheat .....	6	Field peas .....	26	Chilies .....	46	Black pepper ...	66	Palm oil .....	81	Orange .....	106	Rambutan .....	122
Barley .....	7	Sunflower .....	27	Amaranth .....	47	Sisal .....	67	Coconut .....	82	Grapefruit .....	107	Bread fruit .....	123
Cassava .....	8	Sesame .....	28	Pumpkin .....	48	Coffee .....	68	Cashew nut .....	83	Grapes .....	108	Malay apple ..	124
Sweet potato .....	9	Groundnuts .....	29	Cucumber .....	49	Tea .....	69	Green tomato .....	84	Pineapple .....	109	Star fruit .....	125
Irish potato .....	10	Soyabeans .....	30	Eggplant .....	50	Cocoa .....	70	Monkeybread .....	85	Mandarin .....	110	Custard apple	126
Yams .....	11	Caster seed .....	31	Watermelon .....	51	Rubber .....	71	Bamboo .....	86	Guava .....	111	God fruit .....	127
Cocoyams .....	12	Pigeonpea .....	32	Cauliflower .....	52	Wattle .....	72	Firewood/ fodder ...	87	Plum .....	112	Mitobo .....	128
Onions .....	13	Lablab .....	33	Okra .....	53	Kapok .....	73	Timber .....	88	Apple .....	113	Pomegranate	129
Ginger .....	14			Fiwi .....	54	Sugar cane .....	74	Medicinal plant ....	89	Pear .....	114	Date .....	130
						Vanilla .....	75	Fence tree .....	90	Peach .....	115	Tungamaa ....	131
										Lime .....	116	Other .....	132

TABLE 3-2A: All plots - Hired labor during MAIN rainy season

*Hiredlabor17.dta* (key variables: *hhid*, *season*, *plotid*) *season=1*

Plot No.	Did you hire labor in this season? 1= yes, 2= no [If 2, skip to next row]	Land preparation & planting				Weeding				Fertilizing & other non-harvest activities				Harvest			
		Man days	Woman days	Child days	Total wages paid (TSh)	Man days	Woman days	Child days	Total wages paid (TSh)	Man days	Woman days	Child days	Total wages paid (TSh)	Man days	Woman days	Child days	Total wages paid (TSh)
<b>plotid</b>	<b>hlab1</b>	<b>hlab2</b>	<b>hlab3</b>	<b>hlab4</b>	<b>hlab5</b>	<b>hlab6</b>	<b>hlab7</b>	<b>hlab8</b>	<b>hlab9</b>	<b>hlab10</b>	<b>hlab11</b>	<b>hlab12</b>	<b>hlab13</b>	<b>hlab14</b>	<b>hlab15</b>	<b>hlab16</b>	<b>hlab17</b>

TABLE 3-3A: All plots – Family labor during MAIN rainy season

*Familylabor17.dta* (key variables: *hhid*, *season*, *plotid*) *season=1*

Plot No.	Did you use family labor this season? 1= yes, 2= no [If 2, skip to next row]	Land preparation and planting			Weeding			Fertilizing & other non-harvest activities			Harvest		
		Man days	Woman days	Child days	Man days	Woman days	Child days	Man days	Woman days	Child days	Man days	Woman days	Child days
<b>plotid</b>	<b>flab1</b>	<b>flab2</b>	<b>flab3</b>	<b>flab4</b>	<b>flab5</b>	<b>flab6</b>	<b>flab7</b>	<b>flab8</b>	<b>flab9</b>	<b>flab10</b>	<b>flab11</b>	<b>flab12</b>	<b>flab13</b>

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*Hiredlabor17.dta* (key variables: *hhid*, *season*, *plotid*) *season=2*

[illegible]

*Familylabor17.dta* (key variables: *hhid*, *season*, *plotid*) *season=2*

[illegible]



## SECTION 4: INPUTS and INPUT EXPENDITURES at the farm level

Q.4.1 Did the household borrow any money for expenditures related to cropping activities in the 2016/17 agricultural year? <i>1=yes, 2=no</i>	borrowag_____
Q.4.2 Did the household borrow any money for expenditures related to other productive or non-productive purposes (e.g., education, health care, house construction) in the 2016/17 agricultural year? <i>1=yes, 2=no</i>	borrowother_____

TABLE 4-1: INPUT EXPENDITURES at the farm level

*Expenditures17.dta* (key variables: *hhid, season*)

Please estimate total farm expenditures for inputs in the main and short rainy seasons. (Enter 0 if not used.)

	Inorganic fertilizer ( <i>TSh</i> )	Organic fertilizer ( <i>TSh</i> )	Animal traction ( <i>TSh</i> )	Mechanical traction ( <i>TSh</i> )	Seed ( <i>TSh</i> )	Land rent ( <i>TSh</i> )	Other: ( <i>TSh</i> )
Season	totexp1	totexp1	totexp1	totexp1	totexp1	totexp1	totexp1
Main (1)							
Short (2)							

Q.4.3 Did the household use any type of herbicide on any plot in the 2016/17 agricultural year? <i>1=yes, 2=no</i>	herbicide_____
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## SECTION 5: FERTILIZER AVAILABILITY

*HH17.dta* (key variables: *hhid*)

Q.5.1 This year (2016/17), did you try to obtain fertilizer at your usual/normal source but were not able to? <i>1=yes, 2=no</i> ; If NO skip to SECTION 7	fertget_____
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Table 5-1: Instances of FERTILIZER UNAVAILABILITY

*Fertaval17.dta* (key variables: *hhid*)

Year (2016 or 2017)	Month [1...12]	Main reason you were unable to get fertilizer at usual source: 1=high prices 2=stocks out 3=national shortage 4=other _____	Did you travel to another location to get fertilizer? <i>1= yes, 2= no</i> <i>If no, skip to next row</i>	Distance travelled to get fertilizer during this period? ( <i>km</i> )	Did you get the quantity you wanted at this new location? <i>1= yes, 2= no</i>	If no, why? 1=high prices 2=rationing of the commodity 3=high transport cost 4=lack of transport 5=other specify____
fyear	fmnth	nofert1	nofert2	nofert3	nofert4	nofert5

## SECTION 6: CROP SALES

Table 6.1 Crop sales from the previous year (2015/16) harvest

*Cropsales17.dta* (key variables: *hhid*, *crop*)

Crop produced in 2015/16 agricultural year	Quantity harvested		Quantity sold		Price per unit at largest sale (TSh)
	Amount	Unit	Amount	Unit	
<b>crop</b>	<b>amt_harv</b>	<b>unit_harv</b>	<b>amt_sold</b>	<b>unit_sold</b>	<b>price</b>

## SECTION 7: LAND MARKETS

Table 7-1: Land markets

HH17.dta (key variables: hhid)

7.1	Is it possible to rent in/lease land for cropping in this area? <i>1=yes, 2=no, -99=don't know; If 1, skip to Q.7.4, if -99, skip to Q.7.6</i>	Indrent_____
7.2	What is the land rental rate for one acre of good quality agricultural land in this area? (TSh)	Irr_____
7.3	Is it possible to buy agricultural land in this area? <i>1=yes, 2=no, -99=don't know; If 1, skip to Q.7.8, if -99, skip to Section 9</i>	Indbuy_____
7.4	What is the land buying price for one acre of good quality agricultural land in this area? (TSh)	Indprice_____

## SECTION 8: SOCIAL CAPITAL

HH18.dta (key variables: hhid)

Q8.1	Is there a member of the household who is a member of any group? 1=yes; 2=no; <i>If NO, go to SECTION 11</i>	groupmem_____
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TABLE 8.1: SOCIAL CAPITAL

Social18.dta (key variables: hhid, mem)

<i>(Fill this number from the demog table, pg. 22)</i>	Major group activities (up to 3, beginning with the group most important to your household) <i>(See codes)</i>			Number of active members in the group	How often does this member attend meetings? <i>(See codes)</i>
<b>mem</b>	<b>grupact1</b>	<b>grupact2</b>	<b>grupact3</b>	<b>groupsz</b>	<b>meetng</b>

Activity codes	Frequency codes
1- Collective labor (soil and water conservation)	1-Weekly
2- Collective labor (other farm activities)	2- Fortnightly
3- Collective crop marketing	3- Monthly
4- Savings and credit services	4- Quarterly
5- Bee keeping	5- Semi-annually
6- Collective training on farming activities	6- Annually
7- Collective learning on soil and water conservation	7-When need arises
8- Merry-go-round	8- Other _____
9- Women's group	
10-Youth group	
11- Other_____	

Table 8.2: SOCIAL NETWORKS

HH18.dta (key variables: hhid)

Q8.2	Has any member of this household ever held any of the following positions? ( <i>1=yes, 2=no</i> )			
	Civil servant	civil_____	Kitongoji (hamlet) leader	hamlet_____
	Police/ military	police_____	Clan leader	clan_____
	Village head	villhead_____	Women's leader	womens_____
	Village executive officer	execoff_____	Religious leader	religious_____
	Other village official	othvillage_____	Youth leader	youth_____
Q8.3	Is any member related to a clan or village leader by first or second degree relationship? ( <i>1=yes, 2=no</i> )			relclan_____

## SECTION 9: LIVESTOCK

HH17.dta (key variables: hhid)

9.1	Did you have any livestock in the period May 2016 to April 2017?	<i>1=yes, 2=no, If no, go to SECTION 10</i>	lstock_____
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TABLE 9.1: LIVESTOCK HOLDINGS over the period May 2016 to April 2017

Livestock17.dta (key variables: hhid, livecode)

	Livestock code	Number owned April 2017 [Include livestock kept by others]	Current average value (Tsh)	Number owned May 2016	Number sold (May 2016 to April 2017)	Average unit price when sold (Tsh)
	livecode	lstock_apr16	lstock_curval	lstock_may15	lstock_sold	lstock_avgpric
Local cow	1					
Local bull	2					
Local calves	3					
Improved cow	4					
Improved bull	5					
Improved calves	6					
Sheep	7					
Goat (local)	8					
Goat (dairy)	9					
Pig	10					
Chicken- local	11					
Chicken-improved	12					
Duck / Geese	13					
Turkey	14					
Rabbit	15					
Other, specify	16					

9.2 Did this household produce any cow milk during May 2016 to April 2017? 1=yes, 2=no, If no, go to Table 11-3

mlkprod\_\_\_\_\_

Table 9.2: LIVESTOCK OUTPUT

Milk17.dta (key variables: hhid, milk)

	Product	Avg # of animals producing milk	Total quantity produced and sold in each month (in litres) May 2016 to April 2017												What was the most common price received? Tsh/ litre
	milk	cows	my16	jn16	jl16	ag16	se16	oc16	no16	dc16	ja17	fb17	ma17	ap17	price
Cow milk produced	1														
Fresh cow milk sold	2														
Sour cow milk sold	3														

Table 9.3: OTHER LIVESTOCK products produced during the period May 2016 to April 2017

Liveprod17.dta (key variables: hhid, liveprod)

	Livestock product	Average # of animals producing over the year	Number of months of production per year	Average Quantity production/ month	Unit of Production [code]	# months of sales per year	Average quantity sold per month	Price received per unit (Tsh) on the largest sale
	liveprod	animprod	mnthprod	avgprod	unit	mnthsold	qtysold	price
Goat milk	4							
Camel milk	5							
Honey	6							
Eggs (excluding hatched)	7							
Hides and skin	8							
Fish (including from fish ponds and open water)	9							
Wool	10							
Manure (only if sold)	11							
Other, specify_____	12							

Unit codes			
1- 100 kg bag	7- 2 kg packet (seed)	13- numbers	19- wheelbarrow
2- 90 kg bag	8- kgs	14- bunch (bananas)	20- cart
3- 50 kg bag	9- litre	15- gorogoro	21- canter
4- 25 kg bag	10- 10 litre bucket	16- tonnes	22- pickup
5- 10 kg bag	11- 5 litre bucket	17- debe	23- bale
6- 5 kg bag	12- crate	18- grams	24- day
			25- acre

## SECTION 10: HOUSEHOLD ASSETS (PROMPT for each item as listed below)

At present, how many of the following does this household own that are usable/repairable?

(Enumerator Instruction: For value per unit, ask for the current purchase price of the asset as is, or the current market value of the asset as is.)

TABLE 10.1: Household ASSETS

		Number Owned May 2017	Number Owned May 2016	Average value per unit (TSh)
asset	asset name	qty_now	qty_1yb	value
	Transport			
1	Car/Truck			
2	Motorcycle			
3	Tricycle			
4	Bicycle			
6	Tractor			
7	Trailer			
	Farm			
8	Hoes			
9	Spades/shovel			
10	Ploughs			
11	Sprayer pump			
12	Water pump			
13	Water tank			
14	Water trough			
15	Irrigation equip.			
16	Wheelbarrow			
17	Storage			
18	Poultry houses			
19	Piggery houses			
20	Cattle dip			
21	Spray pump			
22	Zero grazing units			
23	Harrow/tiller			
24	Ridger/weeder			
25	Planter			
26	Boom sprayer			

*Asset17.dta (key variables: hhid, asset)*

		Number Owned May 2017	Number Owned May 2016	Average value per unit (TSh)
asset	asset name	qty_now	qty_1yb	value
27	Sheller			
28	Combine harvester			
29	Generator			
30	Power saw			
31	Grinder			
32	Cane crusher			
33	Cart			
34	Hammer mill			
35	Weighing machine			
36	Beehive			
37	Incubator			
38	Fodder cutter			
	Household			
40	Houses (residential)			
41	TV			
42	Radio			
43	Mobile phone (dumb)			
44	Mobile phone (smart)			
45	Solar panels			
46	Battery			
47	Sewing/knit. machine			
	Other			
48	Furniture			
49	Asset farm, other			
50	Asset household, other			
51	Asset transport, other			

## SECTION 11: INFRASTRUCTURE

TABLE 11.1: DISTANCE to key services

HH17.dta (key variables: hhid)

Enumerator Instruction: Distance should be recorded in kilometers (km).

10.1	What is the distance from your homestead to the nearest fertilizer seller?	dfertsell_____
10.2	How much does it cost to transport a 50-kilo bag of fertilizer from the nearest seller to homestead? (TSh)	fertrans_____
10.3	With what type of transport from seller to homestead? <i>1=car, 2=bus/daladala, 3=bicycle, 4=motorcycle, 5=ox cart, 6=donkey, 7=tractor, 8=other, specify____</i>	trantype_____
10.4	What is the distance from your homestead to the nearest seller of hybrid maize seed?	certmaiz_____
10.5	What is the distance to the nearest town?	distown_____
10.6	How much does it cost to transport one 100-kilo bag of maize to the nearest town? (TSh)	mztrans_____
10.7	With what type of transport from your homestead to the nearest town? <i>1=car, 2=bus/daladala, 3=bicycle, 4=motorcycle, 5=ox cart, 6=donkey, 7=tractor, 8=other, specify____</i>	mztratyp_____
10.8	What is the distance from your homestead to extension advice/service?	dextn_____
10.9	What is the distance from your homestead to the nearest market place for farm produce?	dmkt_____
10.10	What is the distance from your homestead to the nearest livestock market place? (-99=don't know)	danimkt_____
10.11	What is the distance from your homestead to the district headquarters?	ddisthq_____
10.12	What is the distance from your homestead to a motorable road?	dmtroad_____
10.13	What is the distance from your homestead to a tarmac road?	dtmroad_____
10.14	What is the distance to the nearest piped water source?	dph2o_____
10.15	What is the distance to the nearest health centre?	dhlctr_____
10.16	What is the distance to the nearest electricity supply?	delect_____
10.17	What is the distance to the nearest phone reception?	dphone_____

## SECTION 12: DEMOGRAPHIC CHARACTERISTICS OF HOUSEHOLD MEMBERS

*HH17.dta* (key variables: *hhid*)

How many household members are adults ( $\geq 15$ years)?	adults_____
How many household members are age 10-15?	child10_15_____
How many household members are below age 10?	childlt10_____

Table 12-1: Adults members of the household

*Demog17.dta* (Key variables: *hhid*, *mem*)

Reference Period: May 2016 to April 2017

[illegible]



Table 12-1 (Continued)

ID	Did this person receive cash or payment in kind from wage or salaried employment (including ag labor)? <i>1=yes, 2=no</i>	If YES, monthly income estimate (TSh)	No. months in past year in which this salaried income was earned	Hours spent working in average week	Using the 20 beans provided, show how this person split their total time working between on-farm, on others' farms, and in non-farm businesses/ wage jobs in the past 12 months?			Was this person healthy/ able to work during all months at home? <i>1=yes, 2=no</i>	If NO, for how many weeks was this person ill in the past year?
					# Beans on own-farm	# Beans on others' farms	# Beans off-farm		
mem	dem11	dem12	dem13	dem14	bean1	bean2	bean3	dem15	dem16

Relationship to head codes		Marital status	Education levels	
1- head	9- grandchild	1- single (never married)	-99- don't know	15- college 1
2- spouse	10- other relative	2- monogamously married	-9- none	....
3- own child	11- unrelated	3- polygamously married	0- pre-school	18- college 4
4- step child	12- brother/ sister-in-law	4- divorced	1- standard 1	19- univ 1
5- parent	13- parent-in-law	5- widowed	....	20- univ 2
6- brother/ sister	14- worker	6- separated	8- standard 8	21- univ 3
7- nephew/ niece	15= other, specify	7- other, specify	9- form 1	22- univ 4
8- son/ daughter-in-law			....	23- univ 5
			14- form 6	24- postgrad

## SECTION 13: OTHER INCOME

Table 13-1: Estimated household income from other sources

*Otherincome17.dta* (key variables: *hhid*, *source*)

Indicate the estimated household income from other sources between May 2016 and April 2017 (include in-kind receipts to the household)

	Income source	Did you receive income from this source? <i>1=yes, 2=no</i>	Monthly income (TSh)	Number of months income was received
	<b>source</b>	<b>yesno</b>	<b>othincome1</b>	<b>othincome2</b>
Garden sales ( <i>which are not already captured in crop sales</i> )	1			
Remittances ( <i>includes money sent home by people working elsewhere in Tanzania</i> )	2			
Rental income (Land)	3			
Rental income (Buildings)	4			
Income from business (if not in Table 12-1)	5			
Donations/gifts	6			
Other (specify)	7			

## SECTION 14: INTER-GENERATIONAL LAND ACCESS

Table 14-1: Parents' land and potential inheritance

Person	How much land (in acres) did the parents of this person have before the land was inherited by any of this person's siblings?	How much land (in acres) did this person inherit from his/ her parents?	If the father of this person was polygamously married, how many wives did his/her father have?	Number of children of his/ her father		Birth order among all children of his/ her father	
				Male	Female	Among all children of his/her father	Among all children of same sex
a1	a2	a3	a4	a5	a6	a7	a8
Head							
Spouse							

## SECTION 15: FOOD SECURITY

Table 15.1: Months of Adequate Household Food Provisioning

*Foodsecurity17.dta (key variables: hhid, month)*

		1=yes, 2=no
In the last 12 months, were there any months when your household did not have enough food to meet the household's food needs?		<b>fs1</b>
If yes, please indicate during which months your household did not have enough food to meet the household's needs	April 2017	<b>fs2</b>
	March 2017	<b>fs3</b>
	February 2017	<b>fs4</b>
	January 2017	<b>fs5</b>
	December 2016	<b>fs6</b>
	November 2016	<b>fs7</b>
	October 2016	<b>fs8</b>
	September 2016	<b>fs9</b>
	August 2016	<b>fs10</b>
	July 2016	<b>fs11</b>
	June 2016	<b>fs12</b>
	May 2016	<b>fs13</b>

## SECTION 16: RISK PREFERENCES

*HH17.dta (key variables: hhid)*

16.1	<p>Consider four possible options for winning some money:</p> <p>In the 1st option, you have a 50% chance of winning 40,000 Tsh and a 50% chance of winning only 1,500 Tsh.</p> <p>In the 2nd option, you have a 50% chance of winning 25,000 Tsh and a 50% chance of winning only 5,000 Tsh.</p> <p>In the 3rd option, there is a 50% chance you would win 17,000 Tsh and a 50% chance of winning only 8,000 Tsh.</p> <p>In the last option, there is a 100% chance of winning 10,000 Tsh.</p> <p>Which of these 4 options would you choose?</p>	<b>risk1</b>	
------	---	--------------	--

Options	50% TSh	50% TSh
1	40,000	1,500
2	25,000	5,000
3	17,000	8,000
4	10,000	10,000
5	Don't understand or don't wish to respond	

## SECTION 17: EXTENSION SERVICES

17.1	Did you receive fertilizer application advice for maize from government extension workers within the past year?	<i>1= yes, 2= no</i>	<b>extn1</b>	
17.2	Did you receive fertilizer application advice for maize from non-government project workers (e.g. NGOs) within the past year?	<i>1= yes, 2= no</i>	<b>extn1</b>	
17.3	Briefly describe in words the fertilizer recommendation you received:			

## SECTION 18: INSURANCE

18.1	Is weather index insurance available to farmers in this area?	<i>1= yes, 2= no</i>	<b>insu1</b>	
18.2	Do you currently participate in weather index insurance?	<i>1= yes, 2= no</i>	<b>insu2</b>	
18.3	Have you participated in weather index insurance in the past?	<i>1= yes, 2= no</i>	<b>insu3</b>	
18.4	How much would you be willing to pay to insure your entire maize crop against weather-induced loss?	<i>TSh</i>	<b>insu4</b>	

## SECTION 19: STORAGE

19.1	What storage methods does this household use for storing maize after harvesting?	<i>See codes below</i>	<b>stor1</b>	
19.2	How much did the household spend on insecticides for local storage from May to December 2016?	<i>TSh</i>	<b>stor2</b>	
19.3	Have you ever used hermetic bags to store maize?	<i>1= yes, 2= no</i>	<b>stor3</b>	
19.4	If 19.3=no, why not? <i>1=High price; 2=Low storage capacity; 3=No major storage losses from insects; 4= Not aware of hermetic bags; 5=Other</i>		<b>stor4</b>	
19.5	Are hermetic bags available in this area?	<i>1= yes, 2= no, 3=don't know</i>	<b>stor5</b>	
19.6	If yes, what is the price per bag?	<i>TSh</i>	<b>stor6</b>	

## SECTION 20: PRICES

20.1	At the nearest local market, what was the buying price for maize in May 2016?	<i>TSh</i>	<b>pric1</b>	
20.2	At the nearest local market, what was the buying price for maize in December 2016?	<i>TSh</i>	<b>pric2</b>	

Storage methods codes	Storage why not codes
1= Normal sacs	1=High price
2= Traditional storage 'vihenge'	2=Low storage capacity
3= Warehouses	3=No major storage losses from insects
4= Hermetic bags	4= Not aware of hermetic bags
5= Other, specify: _____	5=Other, specify: _____

**Thank You!**

## SECTION F: FOCAL PLOT MANAGEMENT

TABLE F-1: Characteristics of the FOCAL PLOT in the main crop season

Maizeplot17.dta

(key variables: hhid, plotid)

1.	Is this plot the same focal plot we visited in 2016? 1= yes, 2= no	<b>focalplot16</b>	
2.	[If Q1=yes] Is the focal plot available for the 2017 survey? (1=yes, 2=no)	<b>plotavail</b>	
3.	[If Q2=no] Why not? [1= Left fallow, 2= Rented out/ borrowed out, 3= Sold, 4= Tenancy/ borrowing arrangement ended, 5= Other] [If not, skip to QF.6)	<b>plotwhynot</b>	
4.	What is the plot ID of this plot?	<b>plotid17</b>	
4.	What was the mode of acquisition of this plot? 1= inheritance, 2= outright purchase, 3= gift, 4= allotted by community or government, 5= cleared the land, 6= other _____	<b>macq</b>	
5.	From whom did you acquire this plot? 1= family, 2= friend/ neighbour, 3= government, 4= clan, 5= other traditional leader, 6= no relation, 7= other _____	<b>reln</b>	
6.	What documents do you have for this plot? (List up to two documents) 1= none, 2= title deed, 3= CCRO, 4= sales contract (witnessed by village government), 5= sales contract (not witnessed by village government), 6= will/ letter of inheritance, 7= letter of allocation from village government, 8= rental contract, 9= other _____	<b>doc1</b> <b>doc2</b>	
7.	Does your household have the right to sell this plot? 1= yes, 2= no	<b>sell</b>	
8.	Who is the owner of this plot? (List up to two people) 1= head, 2= spouse, 3= other male household member, 4= other female household member, 5=non-household member, 6= no one else, -99=don't know	<b>mem1</b> <b>mem2</b>	
9.	Who makes decisions about what happens on this plot? (List up to two people) 1= head, 2= spouse, 3= other male household member, 4= other female household member, 5=non-household member, 6= no one else, -99=don't know	<b>dec1</b> <b>dec2</b>	
10.	What is the first year that this plot was cleared and cultivated? (yyyy) [ -99=don't know]	<b>clear</b>	
11.	What is the first year that this plot was cultivated by this household? [ -99=don't know]	<b>fstrent</b>	
12.	How many years has this field been cultivated in the past 10 years? [ -99=don't know]	<b>cult</b>	
13.	Has this plot been in fallow during the last 10 years? [1=yes, 2=no]	<b>fallow</b>	
14.	If yes, When was the last year that this plot was in fallow? [1 yrs ago, 2 yrs ago, 3 yrs ago... etc]	<b>fallowyr</b>	
15.	What is the slope? 1= flat, 2= moderate slope, 3= moderate terraced, 4= steep slope, 5= steep terraced	<b>slpe</b>	
16.	Position in the landscape? 1=low 2=medium 3=high		
17.	Walking time to the plot in minutes on foot from homestead? [Enter 240 if greater than 240]	<b>wlk</b>	
18.	Does this plot have any form of irrigation? 1=yes 2=no	<b>irrig</b>	
19.	If yes, What type of irrigation is used on this plot? 1=piped irrigation, 2=furrow irrigation, 3=treadle pump/other pump irrigation, 4=bucket/watering can, 5=other (Specify)	<b>irrigtype</b>	
20A.	[Skip if Q1=No] Have you had any land disputes over this plot in the past year? 1= yes, 2= no; If NO skip to Q25	<b>disp1</b>	
20B.	[Skip if Q1=Yes] Have you ever had any land disputes over this plot? 1= yes, 2= no; If NO skip to Q22	<b>disp 2</b>	
21.	In which year, did the most serious dispute start? (yyyy)	<b>dspy</b>	
22.	What was the main cause? 1= inheritance, 2= boundaries, 3= compensation, 4= land sales, 5= trespass, 6= user rights, 7= illegal settlement, 8= eviction, 9= resettlement, 10= other _____	<b>dspc</b>	
23.	With whom? 1= family of head, 2= family of spouse, 3=landlord, 4=squatters/migrants, 5=other relatives, 6=tenant, 7=siblings, 8=parents, 9= other _____	<b>dswm</b>	

24.	Which institutions have been involved in addressing this dispute? 1=chief, 2=clan/ clan head, 3=elders, 4=neighbours, 5= village government, 6= village land council, 7= ward tribunal, 1=courts, 6= other _____	<b>resolv</b>	
25.	How likely is it that someone else may challenge you for ownership or control of this plot within the next 5 years? 1= very unlikely, 2= unlikely, 3= likely, 4= very likely	<b>tenuresec</b>	
26.	From whom is this challenge most likely to come? 1= family of head, 2= family of spouse, 3=landlord, 4=squatters/migrants, 5=other relatives, 6=tenant, 7=siblings, 8=parents, 9= other _____	<b>concnwh</b>	
27.	<b>[Skip if Q1=1]</b> Has soil testing been done on this plot in the past year? 1= yes, 2= no, -99= don't know	<b>soiltest</b>	
28.	What is the inherent soil fertility of this plot? 1=not fertile (zero harvest without fertilizer); 2=moderate; 3=fertile; 4=very fertile (can harvest without fertilizer use)	<b>fertility</b>	
29.	Since this household first began cultivating this plot, do you think the soil has become more fertile or less fertile? 1= More fertile 2= Less fertile 3=No change	<b>fertchange</b>	
30.	Which indicators do you use when assessing your land's soil fertility? (Check all that apply) 1=Presence of certain local plants; 2=Presence of earthworms or other soil invertebrates; 3=Soil colour; 4=Soil structure/hardness; 5=Soil texture; 6=Previous crop yield; 99=Other (specify)	<b>fertindic</b>	
31.	Has this field suffered from plant disease this season? 1=yes 2=no	<b>crpdisease</b>	
32.	If yes, identify the primary disease. 1=Maize Lethal Necrosis (MLN), 2=Other (Specify____) 3=Don't know	<b>diseasespec</b>	
33.	Has this field suffered from witch weed (Striga)? 1=yes, 2=no, 3=Don't know	<b>striga</b>	

TABLE F-2: Crops on the FOCAL PLOT in the main crop season

Othercrops17.dta

(key variables: hhid, plotid)

									If crop = beans		
		Did the plot have a...? 1= yes, 2= no If no, skip to border crop	Crop code	Proportion of plot under this crop	If crop = beans, how many times was this crop grown?	Month planted [1...12]	Week planted [1...4]	Month harvested [1...12]	Month planted for 2 <sup>nd</sup> crop [1...12]	Week planted for 2 <sup>nd</sup> crop [1...4]	Month harvested for 2 <sup>nd</sup> crop [1...12]
	plot_crop	yn	crop	prop	bean_times	plant_month	plant_week	harvest_month	mp_bean	wp_bean	mh_bean
Main crop	1										
1 <sup>st</sup> intercrop	2										
2 <sup>nd</sup> intercrop	3										
3 <sup>rd</sup> intercrop	4										
4 <sup>th</sup> intercrop	5										
5 <sup>th</sup> intercrop	6										
Border crop	7										

**Area codes:** 1=Entire field, 2= ¾ of field, 3= ½ of field, 4= ¼ of field, 5= Less than ¼ of field

TABLE F-2 Continued

		How was the seed distributed? 1= Broadcast 2= Row 3= Planting stations, not in rows [If 1, go to next row If 3, skip to seed_distrib4	If crop is not maize and maize was planted in rows, was this planted within or between maize rows?  1= Within maize rows 2= Between maize rows	What was the number of plants per planting station?
	plot_crop	seed_distrib1	seed_distrib3	seed_distrib5
Main crop	1			
1 <sup>st</sup> intercrop	2			
2 <sup>nd</sup> intercrop	3			
3 <sup>rd</sup> intercrop	4			
4 <sup>th</sup> intercrop	5			
5 <sup>th</sup> intercrop	6			
Border crop	7			

TABLE F-3: Types of seed planted on FOCAL PLOT in the main and short seasons

*Maizeseed17.dta (key variables: hhid, plotid, season)*

Crop [ALL that apply]  1= Maize 133= Green maize 134= Maize fodder	Seed type 1= Local 2= Improved	Seed Variety [code] [Fill in only if seed1=1, 133, or 134]	How much was sown?		Was seed purchased? 1= yes, 2= no	How did you obtain this seed? 1= Cash purchase 2= Credit 3= Exchange 4= Free 5= Retained seed 6= Voucher 7= other, specify	Source of seed [code]
			Amount	Unit [code]			
21= Beans 22= Cowpeas 25= Bambara nuts 26= Field peas 29= Groundnuts 32= Pigeonpea 33=Lablab							
<b>crop</b>	<b>seed1</b>	<b>seed2</b>	<b>seed3</b>	<b>seed4</b>	<b>seed5</b>	<b>seed6</b>	<b>seed7</b>

**Maize Seed Codes:**

1=Local maize  
2=OPV maize  
Monsanto  
3=DK (Specify #)  
4= DK Other specify  
Kenya Seed Co  
5=Katumani  
6=Kitali 614  
7=KS Other specify  
IFFA Seed  
8=Lubango Hybrid  
Meru  
9=Meru HB 409  
10=Meru HB 504  
11=Meru HB 513  
12=Meru HB 515  
13=Meru HB 623  
14=Meru HB Other Specify

**PANNAR**

15=PAN 67  
16=PAN 691  
17=PAN 6549  
18=PAN 63  
19=PAN Other Specify  
Pioneer  
20=Pioneer 32  
21=Pioneer Other Specify  
SEED-CO  
22=SC 403  
23=SC 407  
24=SC 513  
25=SC 621  
26=SC 627  
27=SC 713  
28=SC 719  
29= SC Other specify

**TANSEED**

30=Tanseed 600  
31=Tanseed Other specify  
Uyole Hybrid  
32=UH 615  
33=UH 6303  
34=UH Other Specify \_\_\_\_  
35= Other, specify \_\_\_\_

**Unit codes**

1=100 kg bag	13=litre
2=90 kg bag	14=numbers
3=50 kg bag	15=bunch (bananas)
4=25 kg bag	16=crate
5=10 kg bag	17=grams
6=5 kg bag	18=wheelbarrow
7=2 kg packet (seed)	19=cart
8=kg	20=canter
9=tonne	21=pickup
10=debe	22=bale
11=10 litre bucket	23=day
12=5 litre bucket	24=acre

**Source codes**

1- small trader	8- own production, this field
2- stockist/ agent	9- own production, other field
3- large company	10- other farmer
4- NGO/ CBO	11- extension agent
5- cooperative	12- other, specify_____
6- other farmer group	
7- own production	



F.1	What is the total cost of seed expenditures for the focal plot in the main season? <i>(Include all crops. Zero expenditure = 0)</i>	seedexp_____
<i>Maizeplot17.dta (key variables: hhid, plotid)</i>		
F.2	Did you use chemical fertilizer on this plot in the 2016/2017 MAIN SEASON? 1=yes, 2=no; If yes, If yes, skip to Table 15-4	chemfert_____
F.3	Why not? 1=not profitable, 2=low response rate, 3=couldn't obtain credit, 4=not enough cash, 5=too expensive, 6=no cash when needed, 7= fertilizer not available, 8= no need to use, 9=other, specify_____	whynofert_____

TABLE F-4: SOIL AMENDMENTS used in 2016/17 main season for the FOCAL PLOT *Soilamend17.dta (key variables: hhid, plotid, inptype)*

Amendments	Input type	Timing of application	Date of application		Amount of application	
	[code]	[code]	month	week	amount	unit [code]
	inptype	amnd1	amnd2	amnd3	amnd4	amnd5
1						
2						
3						
4						
5						
6						

  

Timing codes		Unit codes	
1- During soil preparation		1=100 kg bag	13=litre
2- Right BEFORE planting		2=90 kg bag	14=numbers
3- During planting		3=50 kg bag	15=bunch (bananas)
4- Right AFTER planting		4=25 kg bag	16=crate
		5=10 kg bag	17=grams
		6=5 kg bag	18=wheelbarrow
		7=2 kg packet (seed)	19=cart
		8=kg	20=canter
		9=tonne	21=pickup
		10=debe	22=bale
		11=10 litre bucket	23=day
		12=5 litre bucket	24=acrev

  

Input codes					Unit codes		Source codes
1- NPK (20:20:0)	15- CAN (26:0:0)	29- Rock-phosphate	41- chicken manure	61- plough	1=100 kg bag	13=litre	1- small trader
2- NPK (17:17:0)	16- UREA	30- Mijingu 1100	42- cow manure	62- sprayer	2=90 kg bag	14=numbers	2- stockist/ agent
3- NPK (25:5:+5S)	17- UREA+CAN	31- Mavuno-top dress	43- goat/swine/rabbit manure	63- AT equip	3=50 kg bag	15=bunch	3- large company
4- NPK (23:23:23)	18- DAP + CAN	32- pesticide	44- chicken manure	64- technical support	4=25 kg bag	(bananas)	4- NGO/ CBO
5- NPK (23:21:0+4S)	19- MAP	33- insecticide	45- compost – animal manure	65- water	5=10 kg bag	16=crate	5- cooperative
6- NPK (20:10:10)	20- TSP	34- herbicide	based	66- planter cost	6=5 kg bag	17=grams	6- other farmer group
7- NPK (23:23:0)	21- SSP	35- fungicide	46- compost – plant residue	67- harvester cost	7=2 kg packet	18=wheelbarrow	7- own production
8- NPK (17:17:17)	22- ASN (26:0:0)		based	68- transport	(seed)	19=cart	8- own production, this field
9- NPK (18:14:12)	23- SA (21:0:0)		47- termite mound	69- sheller cost	8=kg	20=canter	9- own production, other field
10- NPK (15:15:15)	24- Foliar feeds		48- plant material from	70- fuel	9=tonne	21=pickup	10- other farmer
11- NPK (25:5:0)	25- Magmax Lime		forest/ grasslands	71- gunny bags	10=debe	22=bale	11- extension agent
12- NPK (14:14:20)	26- DSP		49- Crop residue	72- ridger cost	11=10 litre bucket	23=day	12- other, specify_____
13- NPK (22:6:12)	27- Mavuno-basal		50- Ash	73- land rent	12=5 litre bucket	24=acre	
14- DAP	28- Kero green		79- none	74- land preparation cost			
			80- NPK	75- farm implements			
				76- farm machinery			
				77- irrigation equipment			
				78- Other_____			

  

Mode of purchase	
1- own cash	
2- borrowed cash	
3- in kind credit	
4- own + borrowed cash	
5- voucher	

Maizeplot17.dta (key variables: hhid, plotid)

F.4	What is the value of these inputs used on the focal plot in the main season? (TSh, No input expenditures = 0)	inputexp_____
F.5	In which month was land preparation done for this plot in the main season? [1...12]	prepsoil_____

TABLE F-5: Crop RESIDUES used in 2016/17 main season for the FOCAL PLOT

Residue17.dta (key variables: hhid, plotid)

	Residue type	Did you incorporate this residue in the rows or ridges last year? <i>1=yes, 2=no</i> <i>If no, skip to resid5</i>	How much?		Source [code]	If no, why not? [code]
			amount	unit [code]		
	resid	resid1	resid2	resid3	resid4	resid5
Pigeon pea	1					
Groundnut	2					
Soya	3					
Cowpea	4					
Bean	5					
Weeds	6					
Maize	7					
Other _____	8					

**Reason codes**

- 1- Farmer burned
- 2- Burned by someone else
- 3- Used for fuel
- 4- Used for fodder
- 5- N/A
- 6- other \_\_\_\_\_

TABLE F-6: Management of the FOCAL PLOT in the main crop season

Maizeweed17.dta (key variables: hhid, plotid)

1.	What was the main tillage method used? (List up to two) <i>1 = Conventional hand hoe, 2 = Planting basins (potholes), 3 = Zero tillage, 4 = Ploughing, 5 = Ripping, 6 = Ridging (before planting), 7 = Bunding, 8 = Mounding, 9= no other method</i>	till_1 _____ till_2 _____
2.	Number of weedings of the MOST FERTILE MAIZE FIELD in the main season (2016/2017)?	weed _____
3.	FIRST weeding:	Month [1...12] _____ Week [1...4] _____ Type of weeding ( <i>1= manual, 2= chemical</i> ) _____
4.	SECOND weeding:	Month [1...12] _____ Week [1...4] _____ Type of weeding ( <i>1= manual, 2= chemical</i> ) _____
5.	THIRD weeding:	Month [1...12] _____ Week [1...4] _____ Type of weeding ( <i>1= manual, 2= chemical</i> ) _____

TABLE F-7: Main source(s) of power used for the FOCAL PLOT for the 2016/17 main season *Machinelabour17.dta* (key variables: *hhid*, *plotid*)

	Activity Code	Were oxen, mechanical traction, or hand hose used for this purpose? (1= Oxen, 2=Mech., 3=Hand 4=N/A)	If oxen, were the oxen owned (=1) or hired (=2)?	If hired, total cost (TSh)	If mechanical traction, were machines owned (=1) or hired (=2)?	If hired, total cost (TSh)
	<b>activ</b>	<b>trac1</b>	<b>trac2</b>	<b>trac3</b>	<b>trac4</b>	<b>trac5</b>
Land clearing	1					
Ploughing	2					
Harrowing	3					
Planting	4					
Other _____	5					

TABLE F-8: SOIL & WATER CONSERVATION PRACTICES on the FOCAL PLOT *Soilwater17.dta* (key variables: *hhid*, *plotid*)

If this is the same focal plot from last year:	Soil and water conservation practice	Did you implement this practice on this plot in 2016/17? (1=yes 2=no) <i>If 2, skip to next row.</i>				
	Soil and water conservation practice	Do you implement this practice on this plot? (1=yes 2=no) <i>If 2, skip to next row.</i>	If yes, what year was this practice started? (yyyy)	Did you still implement this practice? (1=yes; 2=no) <i>If 1, skip to next row.</i>	If stopped practicing what is the reason? [code]	What year did you stop? (yyyy)
	<b>practice</b>	<b>cons1</b>	<b>cons2</b>	<b>cons3</b>	<b>cons4</b>	<b>cons5</b>
Mulching	1					
Animal manure	2					
Compost manure	3					
Slash and burn	4					
Green manure	5					
Terracing	6					
Grass strips	7					
Crop residues /household refuse	8					
Planting basins	9					
Minimum/ zero tillage	10					
Ripping	11					
Drainage (waterlogging)	12					
Ridging	13					
Contour bands	14					
Other (specify)	15					
<b>Reason codes:</b> 1=small land size; 2=not profitable; 3=cannot afford; 4=don't have time; 5=don't have labor; 6=other specify_____						

F.6 Is this plot the same focal plot we visited last year? 1= yes, 2= no [If yes, skip to Q15.7]

focalplot16\_\_\_\_\_

TABLE F-9: HISTORY OF AGRONOMIC PRACTICES in FOCAL PLOT over last 5 years *History17.dta* (key variables: *hhid*, *plotid*)

	Year	Season 1= Main 2= Short	Was this field cultivated in this year/ season? (1=yes 2=no -99 = don't know) If not 1, skip to next row.	What crops were grown in this year/ season? [code] -96 = no other crop			Main land prep type: 0=none 1=manual 2=oxen 3=tractor	Types of fertilizer applied [code] If 0, skip to next row.		
				Crop 1	Crop 2	Crop 3		Fertilizer 1	Fertilizer 2	Fertilizer 3
	histyear	season	hist1	hist2	hist3	hist4	hist5	hist6	hist7	hist8
2015/16	1	1								
		2								
2014/15	2	1								
		2								
2013/14	3	1								
		2								
2012/13	4	1								
		2								
2011/12	5	1								
		2								

**Input codes**

1- NPK (20:20:0)	11- NPK (25:5:0)	21- SSP	41- chicken manure
2- NPK (17:17:0)	12- NPK (14:14:20)	22- ASN (26:0:0)	42- cow manure
3- NPK (25:5:+5S)	13- NPK (22:6:12)	23- SA (21:0:0)	43- goat/swine/rabbit manure
4- NPK (23:23:23)	14- DAP	24- Foliar feeds	44- chicken manure
5- NPK (23:21:0+4S)	15- CAN (26:0:0)	25- Magmax Lime	45- compost – animal manure based
6- NPK (20:10:10)	16- UREA	26- DSP	46- compost – plant residue based
7- NPK (23:23:0)	17- UREA+CAN	27- Mavuno-basal	47- termite mound
8- NPK (17:17:17)	18- DAP + CAN	28- Kero green	48- plant material from forest/ grasslands
9- NPK (18:14:12)	19- MAP	29- Rock-phosphate	49- Crop residue
10- NPK (15:15:15)	20- TSP	30- Mijingu 1100	50- Ash
		31- Mavuno-top dress	51- DAP+UREA

F.7 Does this household have a second maize focal plot in 2017? 1=yes, 2=no; If yes, return to Table F-1, Q2, and proceed to complete section 15 through Table F-9 for the new focal plot.

maizeplot2\_\_\_\_\_

TABLE F-10: Measurements for the FOCAL PLOT in the main crop season

Maizeplot17.dta (key variables: hhid, plotid)

Plot name		plotnam _____									
Plot No.		plotid _____									
GPS coordinates	Longitude	<table><tr><td><div></div></td><td><div></div></td><td>.</td><td><table><tr><td><div></div></td><td><div></div></td><td><div></div></td><td><div></div></td></tr></table></td></tr></table>		<div></div>	<div></div>	.	<table><tr><td><div></div></td><td><div></div></td><td><div></div></td><td><div></div></td></tr></table>	<div></div>	<div></div>	<div></div>	<div></div>
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<div></div>	<div></div>	<div></div>	<div></div>								
	Latitude	<table><tr><td><div></div></td><td><div></div></td><td>.</td><td><table><tr><td><div></div></td><td><div></div></td><td><div></div></td><td><div></div></td></tr></table></td></tr></table>		<div></div>	<div></div>	.	<table><tr><td><div></div></td><td><div></div></td><td><div></div></td><td><div></div></td></tr></table>	<div></div>	<div></div>	<div></div>	<div></div>
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<div></div>	<div></div>	<div></div>	<div></div>								
Area (GPS) (acres)		area_gps _____									

  

Ridge height (cm)	ridgeht _____
Row distance (cm)	rowdist _____
Planting distance (cm)	plantdist _____

Intercrop observations in ODK are missing here... (but in any case are duplicates from plot roster info)

TABLE F-11: CROP CUTS for the FOCAL PLOT in the main crop season

Maizecuts17.dta (key variables: hhid, plotid)

	Prevalence of weeds in quadrant 1= none 2= soil > weeds 3= soil = weeds 4= soil < weeds	Number of stands (plants) of maize	Number of cobs	Fresh weight of sub-sample of cobs	Fresh weight of remaining cobs	Fresh weight of sub-sample of plants minus cobs	Fresh weight of remaining plants minus cobs	If intercropped, number of intercropped plants
		<i>number</i>	<i>number</i>	<i>kg</i>	<i>kg</i>	<i>kg</i>	<i>kg</i>	<i>number</i>
<b>quadrat</b>		<b>stands</b>	<b>cobs</b>	<b>wcobs_ss</b>	<b>wcobs_rs</b>	<b>wstov_ss</b>	<b>wstov_rs</b>	
1								
2								
3								

F.7 Is pigeon pea found on the plot? 1=yes, 2=no; If no, skip to F.8	pigeon_pea_____
--	-----------------

TABLE F-11: Continued

	Number of plants of pigeon pea	Fresh weight of 3 pigeon pea plants	Sub-sample fresh weight of pigeon pea	Sub-sample dry weight of pigeon pea	Comments
	<i>number</i>	<i>kg</i>	<i>kg</i>	<i>kg</i>	
<b>quadrat</b>	<b>pp_plants</b>	<b>pp_fweight</b>	<b>fwgt_pp_ss</b>	<b>dwgt_pp_ss</b>	<b>pp_comments</b>

1					
2					
3					

F.8 Does this household have a second maize focal plot in 2017? 1=yes, 2=no; If yes, return to Table F-10, and proceed to complete Tables F-10 through F-11 for the new focal plot.

maizeplot2\_\_\_\_\_

**Thank You!**