



Making sustainable smallholder tea farming a viable business

Baseline study of the Mufindi Outgrowers Project, Tanzania

Appendices

Yuca Waarts, Christine Plaisier, Linda Puister



LEI

WAGENINGEN UR

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P.O. Box 29703, 2502 LS The Hague, The Netherlands, T +31 (0)70 335 83 30,
E informatie.lei@wur.nl, www.wageningenUR.nl/en/lei. LEI is part of Wageningen UR (University & Research centre).



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Appendix 1 Measurement of economic indicators

Table 1

Economic indicators for green leaf production and how they were calculated

Indicator (category)	Calculation	Additional information
Productivity per hectare	Production of green leaf in kilograms divided by the area in hectare	
Material costs		
Fertilizer cost per hectare	Number of bags applied per hectare times the price per bag, divided by the number of hectares	Price fertilizer = TZs 60,000 (on average) per bag. Missing values were assumed to be 0 cost
Herbicide cost per hectare	Number of litres applied times the price per litre, divided by the number of hectares	Price herbicide = TZs 13,000 on average. Missing value were assumed to be 0 cost
Seedling cost	Number of seedlings planted times the price per seedling	We report on those farmers that have actually planted seedlings, not on the "average farmer" in the sample
Labour cost per hectare		
Weeding	The total number of days spent by hired labour times the price per day for hiring labour. Divided by the number of hectares	The daily wage for hired labour averages TZS 5,250.
Pruning	The total number of bushes pruned by hired labour times the average labour price for pruning a bush. Divided by the number of hectares	Pruning a bush takes about 3 minutes, and costs on average TZS 48
Fertilizer application	The total number of bags applied by hired labour times the average labour price for applying one bag of fertilizer. Divided by the number of hectares	Applying one bag of fertilizer costs 10 minutes, and costs on average TZS 160
Herbicide application	The total number of days spent by hired labour times the price per day for hiring labour. Divided by the number of hectares	The daily wage for hired labour averages TZS 5,250.
Planting	The total number of days spent by hired labour times the price per day for hiring labour	The daily wage for hired labour averages TZS 5,250. We report on those farmers that have actually planted seedlings, not on the "average farmer" in the sample
Plucking	The amount spent on hired labour for plucking, in the whole of 2014 as indicated by the respondents	
Total cost of production per hectare	Material costs + labour costs minus costs for planting (seedlings, labour)	As planting does not take place every year, and tea bushes are generally producing for decades, we have not amortized planting and seedling costs. Cost of equipment and PPE is also not taken into account.
Income and profitability		
Gross income	Production times average price per kg	
Net income	Gross income minus total costs (expenses)	
Profitability per hectare	Net income from green leaf divided by the area in hectares	

Appendix 2 Descriptive statistics economic indicators

Indicator	Group	2014					
		Mean	Median	Sd	Min	Max	N
Green leaf productivity per hectare	Brownfield	5,023	4,139	4,281	7.4	17,428	40
	Brownfield comparison	5,257	3,212	6,332	49.4	29,653	31
Green leaf: gross income per hectare (TZS)	Brownfield	1,247,282	969,888	1,075,297	1,853	4,357,013	40
	Brownfield comparison	1,239,580	803,092	1,538,344	7,413	7,413,155	31
Green leaf: production costs (expenses) per hectare (TZS)	Brownfield	770,987	541,159	1,045,716	59,305	8,672,155	89
	Brownfield comparison	428,760	347,521	336,162	1,581	1,470,276	76
Green leaf: profitability per hectare (TZS)	Brownfield	687,614	478,585	961,743	-459,616	4,179,196	38
	Brownfield comparison	920,405	421,734	1,468,564	-256,989	7,051,591	28
Trees: profitability per hectare (TZS)	Greenfield	131,566	-4,118	297,519	-32,587	926,644	14
	Greenfield comparison	950,735	988,421	974,122	-49,421	2,779,933	17
Beans: profitability per hectare (TZS)	Greenfield	484,127	383,578	489,809	-605,512	2,078,117	98
	Greenfield comparison	375,432	287,181	561,681	-726,489	3,446,174	90
Wheat: profitability per hectare (TZS)	Greenfield	428,728	219,409	590,867	-68,778	1,843,405	10
	Greenfield comparison	309,171	230,426	378,904	-475,163	1,881,809	38
Maize: profitability per hectare (Tsh)	Greenfield	370,066	252,876	705,223	-1,060,708	6,925,408	116
	Greenfield comparison	256,535	244,292	236,046	-617,892	1,210,815	112
Peas: profitability per hectare (TZS)	Greenfield	263,604	182,858	479,813	-1,256,942	1,280,005	25
	Greenfield comparison	209,214	121,905	272,592	-138,379	884,637	15
Total net income crop production	Greenfield	677,000	335,143	1,185,174	-920,399	9,196,113	132
	Greenfield comparison	3,380,742	348,044	17,600,000	-287,000	180,000,000	119
Total net income from other sources than crops	Greenfield	173,721	0	631,985	0	4,412,000	132
	Greenfield comparison	284,970	0	721,314	-60,000	4,097,000	119
Total net income green leaf production	Brownfield	557,784	295,935	978,290	-310,208	3,805,340	38
	Brownfield comparison	829,463	187,250	1,266,976	-57,750	3,983,250	28
Total net income from other sources than green leaf	Brownfield	635,289	0	2,342,825	-141,000	17,300,000	93
	Brownfield comparison	964,278	94,000	3,054,627	-112,700	19,800,000	88

Indicator	Group	2014					
		Mean	Median	Sd	Min	Max	N
Total household income (income from green leaf and other sources)	Brownfield	972,180	342,250	1,701,962	-310,208	9,108,500	54
	Brownfield comparison	978,192	421,834	1,352,664	-110,700	5,751,200	69
Total household income (income from crops and other sources)	Greenfield	935,793	506,987	1,482,263	-920,399	9,201,231	120
	Greenfield comparison	759,789	430,965	1,084,542	-80,000	8,018,500	107

Appendix 3 The questionnaire: Brownfield group

The questionnaire for the Brownfield comparison group is slightly different than the questionnaire for the Brownfield group. In the questionnaire for the Brownfield comparison group, no reference is made to the MOG project, UTT or Unilever, and questions about trainings by UTT are not asked.

Introduction to respondent

My name is _____ . I am here on behalf of the ENVICON and Wageningen University in Holland. We are carrying out research on the livelihoods of tea farmers. You have been selected to be part of this survey because you take part in the Mufindi Outgrowers Project. Your selection for this survey was done at random. If you agree to participate, the survey will take approximately 45 minutes to one hour. We hope that the research will benefit the livelihoods of tea producers in Tanzania, and that it will improve the future work of initiatives, such as the one that is currently undertaken by Unilever. The researchers will keep your responses confidential. Your full name will never be used anywhere, to ensure confidentiality.

You are not obliged to answer questions if you do not want to and you are free to stop the interview at all times. You will not receive any direct benefit if you join this study; your participation is voluntary. But we hope that the research outcomes will be generally benefit tea producers in Mufindi area. Do you have any questions for me? You may ask questions about this study at any time.

May I start the interview? 1=Yes 2=No

Instructions for enumerators 1: all questions need to be answered. If a respondent does not know the answer, write down -999. If a respondent does not want to answer, write -888. If the question does not apply to the respondent, write NA.

Instructions for enumerators 2: if we ask a question about " last year" this means the year from January - December 2014.

Household identification

A Date of interview (dd-mm-yyyy):..... Start time:.....

B Name of enumerator.....

C Group **For the enumerator to answer**

- 1 Brownfield
- 2 Brownfield control group

1a Name of the farmer **Enumerator: this should be the person on your list, if he/she is not available, this should be a person actively involved in tea production with knowledge on production and production costs of the last year (a caretaker, employee or knowledgeable family member). Check this with your supervisor if in doubt.**

.....(pre-filled).....

1b Name of the farmer if not the same person as under 1a

.....

-
- 1c If there is a name under 1b, why is the farmer different from 1a?
0. The original respondent is no longer alive, or no longer farming
 1. The original respondent is available, but not really actively involved
 2. The new respondent is a different member of the same household with thorough knowledge on tea production and its costs
 3. Other, specify.....

2a District:

2b. Ward:

2c Village name.....

2d. Kitongoji.....

2e Phone number

3 Sex of the respondent

1. Male
2. Female

4a Are you the head of the household?

0. No --> **go to question 5**
1. Yes

4b If not, what's the gender of the head of the household?

1. Male
2. Female

5 Did you sell tea in the last year?

0. No
1. Yes

If the answer to question 5 is NO, then stop the interview and go to another farmer on your list.

6 What is your age?

.....(years)

7 What is the highest education level you completed?

- 0 I did not go to school
- 1 I started primary school but could not complete and stopped at level
- 2 Primary school
- 3 O-level
- 4 A-level
- 5 Certificate college
- 6 Diploma college
- 7 University, please specify the level.....
- 8 Other education..... (please specify)

8 Now we would like to ask you some questions on your household.

Age/gender groups	How many people live in your household including yourself? ¹	How many people do you support with income from the tea farm, including yourself?	How many people from your household work on your tea farm, including yourself?
# of men (i.e. males 18 and over)	1a	2a	3a
# of women (i.e. females 18 and over)	1b	2b	3b
# of boys (i.e. males 15- 17)	1c	2c	3c
# of girls (i.e. females 15-17)	1d	2d	3d
# of boys (i.e. males 12 - 14)	1e	2e	3e
# of girls (i.e. females 12-14)	1f	2f	3f
# of boys (i.e. males 6 - 11)	1g	2g	3g
# of girls (i.e. females 6-11)	1h	2h	3h
# of boys (i.e. males 5 and under)	1i	2i	3i
# of girls (i.e. females 5 and under)	1j	2j	3j

8a How much land did you farm last year? (Include land you were owning, leasing or borrowing?)

.....(acre)

8b How much land did you farm with tea last year? (Include land you were owning, leasing or borrowing?)

.....(acre)

8c How much land *did you own last year?* (= the total land you were farming minus the land you are leasing or borrowing)

.....(acre)

8d How much land on which you grew tea *did you own* last year? (= the total land you were farming minus the land you are leasing or borrowing)

.....(acre)

¹ Household includes people living together the majority of the time under same roof/compound

9a We want to get to know your farm and different tea plots better. Therefore we will ask you questions about what you do on the farm and on your plots where you grow tea. We want to ask information on your tea production about the last year combined for all tea plots.

(Enumerator: Last year refers to calendar year: January – December 2014).

Has the area you farm tea on been mapped?	Size of the tea area you farm	Number of tea bushes on the area you farm tea on	How old are the tea bushes?*(year of first establishment of the area)	Last year's production of green leaf for the whole area**	Price received last year per kg
0=no 1=yes -999 = I do not know	In acres -999 = I do not know	Number	- 999 = I do not know When a farmer has multiple plots, write down all the years (e.g. 1991, 1976)	In kilos -999 = I do not know	In Tsh -999 = I do not know
1a	1b	1c	1d	1e	1f

*** Sometimes a farmer may have filled gaps later; should be indication of establishment year of most tea bushes on a plot**

**** Ask to have a look at the farmers' pass book / receipts etc. when they have it**

Does your farm hold any certifications, or is part of a certified group of farms?	If so, what certification is it? (multiple options possible)	How many bags of fertiliser did you apply to tea last year?	How many litres of herbicides did you apply to tea last year?	How many tea seedlings/tea plants did you buy last year?	What was the price per seedling?
0 = No 1 = Yes -999 = I do not know	1 = Organic 2 =UTZ certified 3 = Fairtrade 4 = Rainforest Alliance 5 = Other	Number -999 = I do not know - NA = not applicable	In litres -999 = I do not know - NA = not applicable	Number -999 = I do not know - NA = not applicable	In Tsh -999 = I do not know - NA = not applicable
1g	1h	1i	1j	1k	1l

9b How much time is spent on tea growing and harvesting activities?

Enumerator: Please fill out -999 when the farmer does not know.

Enumerators:

1) Time spent can be **both family and hired labour**. We ask these questions for plucking weeding and pruning. The unit is different per activity. Example: for weeding we ask the days per year spent on weeding.

2) The cost of hired labour are in different units. Tea plucking is cost per kg of green leaves, while for other activities the costs per day or per bush should be stated.

If the labour is only family labour the costs are zero.

Activity	Quantity spent on activity by farmer or family members (NA = not applicable)	Quantity spent by hired labourers (NA = not applicable)	Unit of measurement	Price and costs. NA when not applicable	Per unit:
1 Weeding	1a.....	1b.....	Days last year	1c.....	Total cost for weeding last year
2 Pruning	2a.....	2b.....	Number of bushes last year	2b.....	Price labour: Tsh/ bush
3 Applying fertilizer	3a.....	3b.....	Number of bags applied last year	3c.....	Price labour: Tsh/bag applied
4 Planting	4a	4b.....	Number of days last year	4c	Price: Tsh. per person per day
5 Applying herbicides	5a	5b.....	Number of days last year	5c	Price: Tsh per person per day

9b.6 What is the price you pay labourers for plucking a kilogram of tea in the main growing season last year? (December – May)

..... Tsh

9b.7 How many kilograms per day does a picker pluck in the main growing season (December-May)?

9b.8 What is the price you pay labourers for plucking a kilogram of tea in the dry season last year? (June – November)

..... Tsh

9b.9 How many kilograms per day does a picker pluck in dry season (June – November)?

9b.10 How much did you spend **in total** on hiring labourers for plucking tea last year?

..... Tsh

9c What are the main challenges for you related to tea production, in order of importance?
Enumerator: please start with the biggest challenge and list the others in order of importance.

- 1
- 2
- 3
- 4
- 5

10 How do you feel last year's production of tea was in terms of weather?

- 0 = Worse than a typical year
- 1 = Same as a typical year
- 2 = Better than a typical year

11 On a typical day of working at the tea farm, when do you start a day's work, and when do you end a day's work?

- 1 Start time.....
- 2 End time.....

12a Did you (or your labourers) use a tea harvesting machine for plucking tea last year?

- 0 = No
- 1 = Yes

12b Did you (or your labourers) use a pruning machine for pruning your tea bushes last year?

- 0 = No
- 1 = Yes

13a How often do you prune the same plot?

- 0 = I do not prune
- 1 = every year --> *Enumerator: please probe whether farmer means that he/she is pruning annually, but a different plot every year.*
- 2 = every 2 years
- 3 = every 3 years
- 4 = every 4 years
- 5 = every 5 years

13b The last time you pruned your tea bushes, in which month did you prune?

- | | | | |
|-------------|----------|--------------|---------------------|
| 1. January | 5. May | 9. September | -999. I do not know |
| 2. February | 6. June | 10. October | NA Not applicable |
| 3. March | 7. July | 11. November | |
| 4. April | 8 August | 12. December | |

-
- 14a In the last year, how many times did you pluck tea in the same plot per month in the main growing season (December – May)?
- 1 = 4 times per month or every 7-8 days
 - 2 = 3 times per month or every 10 days
 - 3 = 2 times per month or every 2 weeks (14 days)
 - 4 = Less than 2 times per month
 - 999 = I do not know.
- 14b In the last year, how many times did you pluck tea in the same plot per month in the dry season (June – November)?
- 1 = 4 times per month or every 7-8 days
 - 2 = 3 times per month or every 10 days
 - 3 = 2 times per month or every 2 weeks (14 days)
 - 4 = Less than 2 times per month
 - 999 = I do not know.
- 15 In the last year did you plant any new tea?
- 0 = No
 - 1 = Yes --> **go to question 17**
- 16 If you did not plant any new tea, why not?
- 0 = I did not have gaps
 - 1 = I did not have the money to buy new tea plants
 - 2 = I wanted to buy them but tea plants were not available.
 - 3 = Other,(please specify)
- 17a Who does most of the work on plucking tea?
- 1 = Mainly men from the family
 - 2 = Mainly women from the family
 - 3 = Mainly boys (<18 years old)
 - 4 = Mainly girls (<18 years old)
 - 5 = Mainly hired labour
- 17b Who does most of the work on manual weeding tea?
- 1 = Mainly men from the family
 - 2 = Mainly women from the family
 - 3 = Mainly boys (<18 years old)
 - 4 = Mainly girls (<18 years old)
 - 5 = Mainly hired labour
- 18a Who does most of the work on chemical weeding on tea?
- 1 = Mainly men from the family
 - 2 = Mainly women from the family
 - 3 = Mainly boys (<18 years old)
 - 4 = Mainly girls (<18 years old)
 - 5 = Mainly hired labour

18b Who does most of the work on applying fertilizer on tea bushes?

- 1 = Mainly men from the family
- 2 = Mainly women from the family
- 3 = Mainly boys (<18 years old)
- 4 = Mainly girls (<18 years old)
- 5 = Mainly hired labour

18c Who does most of the work on pruning tea bushes?

- 1 = Mainly men from the family
- 2 = Mainly women from the family
- 3 = Mainly boys (<18 years old)
- 4 = Mainly girls (<18 years old)
- 5 = Mainly hired labour

19 Who receives the money from the sale of tea?

- 1 = Mainly man
- 2 = Mainly woman

20 Who makes the decisions about investing in tea? Spending on fertilizer, seeds, etc.

- 1. Man, but consulted his wife before decision was made
- 2. Woman, but consulted her husband before decision was made
- 3. Man, without consulting his wife before decision was made
- 4. Woman, without consulting her husband before decision was made
- 5. Both man and women together.
- 6. Man by himself (single, widower)
- 7. Woman by herself (single, widow)
- 8. Other

We also would like to ask you some questions on how you make decisions about tea production and management activities at the moment. (**Enumerator:** *multiple options are possible, read the options aloud to the farmers and tick the relevant box*).

21 How did you make decisions on tea production activities last year? (Enumerator, put relevant code in the box; **every row must be filled; multiple answers possible as many factors contribute to making a decision**)

Nr	Based on what information did you make decisions last year on tea production (more than one factor may contribute to making a decision)	No = 0 Yes = 1
0	Based on advice from my parents/friends/neighbours	
1	Based on what I did last year	
2	Based on a routine	
3	Based on the state of my tea bushes/field(s)	
4	Based on recommendations by the tea processing factory / Tanzania Small Holder Tea Development Agency, District Agricultural Office, Tea Research Institute of Tanzania / Unilever	
5	Based on regular check of my records to see whether my farm is doing well	
6	Based on comparing my records with the records of my neighbours/friends/other farmer to see how my farm is doing	
7	Based on what I learned from the training	
8	Based on information on prices for tea and other crops	
9	Based on comparing my production with figures with average tea production in Tanzania to see how my farm is doing	
10	Based on my own experience	
11	Other, please specify	
12	Other.....	

22 We also would like to ask you some questions on protective equipment:

Protective equipment	Did you have this last year?	Did you or your labourers use this last year?
	0 = No 1 = Yes	0 = No 1 = Yes, I used it 2 = my labourers used it 3 = I and my labourers used this
Mask/respirator	1a	1b
Boots	2a	2b
Hat	3a	3b
Overall	4a	4b
Goggles	5a	5b
Apron/plucking cape/nylon bags/raincoat	6a	6b
Other	7a	7b

Now, we would like to ask you some questions on access to services

23. How satisfied were you with the access that you had to planting material last year? ²	Very dissatisfied (1)	Dissatisfied (2)	Neither satisfied nor dissatisfied (neutral) (3)	Satisfied (4)	Very satisfied (5)
24. How satisfied were you with the access that you had to fertilizer last year	Very dissatisfied (1)	Dissatisfied (2)	Neither satisfied nor dissatisfied (neutral) (3)	Satisfied (4)	Very satisfied (5)
25. How satisfied were you with the access that you had to herbicides last year?	Very dissatisfied (1)	Dissatisfied (2)	Neither satisfied nor dissatisfied (neutral) (3)	Satisfied (4)	Very satisfied (5)
26. How satisfied were you last year with your access to credit that you could use to invest in your farm?	Very dissatisfied (1)	Dissatisfied (2)	Neither satisfied nor dissatisfied (neutral) (3)	Satisfied (4)	Very satisfied (5)
27. How satisfied were you last year with the access that you have to technical assistance to help you grow tea?	Very dissatisfied (1)	Dissatisfied (2)	Neither satisfied nor dissatisfied (neutral) (3)	Satisfied (4)	Very satisfied (5)
28. How satisfied were you last year with the access that you have to market price information about tea?	Very dissatisfied (1)	Dissatisfied (2)	Neither satisfied nor dissatisfied (neutral) (3)	Satisfied (4)	Very satisfied (5)
29. In the last year, how many times did you receive agronomy training or advice from the Mufindi Outgrowers Project / UTT? *	Never (1) --> Skip to question 32	1-2 times a year (2)	3-5 times a year(3)	6-11 times a year (4)	>=12 times a year (5)

² Planting material refers to seeds, young seedlings or any transplanting materials. By access, we mean "are you able to get good quality planting material if you wanted it?" Do you have physical access? Do you think it is affordable?

30. Who from the household participated in these trainings or advisory meetings?	Mainly man (1)	Mainly woman (2)	Both man and woman (3)	Someone else (4)	
31. Did you gain useful knowledge from these trainings / advice?	Never (1)	Seldom (2)	Sometimes (3)	Most of the time (4)	Always (5)
32. In the last year, how many times did you receive agronomy training or advice from an extension worker/ agronomist other than the Mufindi Outgrowers project / UTT?	Never (1) --> Skip to question 35	1-2 times a year (2)	3-5 times a year(3)	6-11 times a year (4)	>=12 times a year (5)
33. Who from the household participated in these trainings or advisory meetings?	Mainly man (1)	Mainly woman (2)	Both man and woman (3)	Someone else (4)	
34. Did you gain useful knowledge from these trainings and meetings?	Never (1)	Seldom (2)	Sometimes (3)	Most of the time (4)	Always (5)

*** Enumerators: each session or meeting counts as one: e.g. with regard to farmer field school participation, each session counts as one training session.**

35. Are you a member of a farmer group ?

0 = No --> please go to question 38

1 = Yes

36. If so, which of the following types of farmer groups does your household participate in?
(Enumerators: multiple options are possible)

1 = Cooperative

2 = Association

3 = Informal farmer group

4 = Farmer Field School

5 = Block Farm (tea)

6 = Other

7 = Other

8 = Other

37 If so, were you already member of the farmer group(s) before September 2014?

0 = No

1 = Yes,(write down numbers of answer options of question 36 for the farmer groups they were already member of before September 2014)

Household income and diversification

38 Next, we would like to know more about the crops you grew and animals you kept last year, as well as about other sources of income than tea for your household.

Enumerators: Help respondents with possible sources of income: green beans, potatoes, maize, dairy, calves, pigs, rabbit, chicken, retirement, business, employment, banana, timber, and more. Gross income is sale times price. Write down -999 when the farmer does not know. And -888 when the farmer does not want to answer.

Farm and off-farm activities last year, other than tea , for your entire household	Did you and your family eat this produce at home last year?	How much did you produce last year?	Unit of measurement	Average price per item received last year	What was the yearly gross income from this activity last year?	What were the yearly costs from this activity (last year)
		Number				
<i>Please start with the activity that, apart from tea, gives the most support to your family and then include the other activities in decreasing order of importance</i>	<i>Only applicable for crop production or animal rearing 0=no 1=yes -999 = I do not know NA = not applicable</i>	<i>Number</i>	<i>Kilo, animal, egg, litre of milk. If they state "bag" find out how many kilos a bag is. If they do not know, write down "bag"</i>	<i>Per animal, kilo, egg, litre of milk (same unit as mentioned to the left)</i>	<i>In Tsh.</i>	<i>In Tsh. NA = not applicable</i>
1a	1b	1c	1d	1e	1f	1g
2a	2b	2c	2d	2e	2f	2g
3a	3b	3c	3d	3e	3f	3g
4a	4b	4c	4d	4e	4f	4g
5a	5b	5c	5d	5e	5f	5g
6a	6b	6c	6d	6e	6f	6g
7a	7b	7c	7d	7e	7f	7g
8a	8b	8c	8d	8e	8f	8g
9a	9b	9c	9d	9e	9f	9g
10a	10b	10c	10d	10e	10f	10g
11a	11b	11c	11d	11e	11f	11g
12a	12b	12c	12d	12e	12f	12g
13a	13b	13c	13d	13e	13f	13g

42 Please estimate the percent of your household income that came from tea last year (versus the total that include other cash crops, dairy, animal husbandry and off-farm incomes):

- 0 = < 25%
- 1 = 25%
- 2 = 25-50%
- 3 = 50%
- 4 = 50-75%
- 5 = 75%
- 6 = > 75%

43. Please estimate the percent of your household income that came from other activities on the farm last year (include other cash crops, dairy and animal husbandry, but exclude off-farm incomes):

- 0 = < 25%
- 1 = 25%
- 2 = 25-50%
- 3 = 50%
- 4 = 50-75%
- 5 = 75%
- 6 = > 75%

45 How did you use your income (both from your tea farm and from other sources) from last year?**(Enumerator: multiple answers are possible but do not read aloud to respondent).**

- 0. Buying inputs / equipment for tea production
- 1. Buying inputs / equipment for other crops
- 2. Hiring labour for tea production
- 3. Hiring labour for other crops
- 4. School and other education fees
- 5. Mobile phones and phone credits
- 6. Funerals / weddings
- 7. Starting a new farm/plantation
- 8. General household expenses e.g. food
- 9. Medical care/expenses
- 10. House/building construction/rehabilitation
- 11. Other, please clarify

**Please prompt farmer to mention as many options as possible*

46 Have you taken credit in the last year? **Enumerators: credit is defined as a loan of cash—does not include in-kind gifts**

- 0. No → **Please go to question 48**
- 1. Yes

-
- 47 For what purpose did you use the credit?
(Instruction to the enumerator: multiple answers are possible but do not read aloud to respondent)
0. Buying inputs / equipment for tea production
 1. Buying inputs / equipment for other crops
 2. Hiring labour for tea production
 3. Hiring labour for other crops
 4. School and other education fees
 5. Mobile phones and phone credits
 6. Funerals / weddings
 7. Starting a new farm/plantation
 8. General household expenses e.g. Food
 9. Medical care/expenses
 10. House/building construction/rehabilitation
 11. Other, please clarify

- 48 Do you and your household maintain any savings (including bank savings accounts, such as, micro-banking)

0 = No --> **Please go to question 51**
 1 = Yes

- 49 If yes, how are you saving?
- 1 = Private, at home
 - 2 = Savings account
 - 3 = Mobile money (sim bank)
 - 4 = VIKOBA
 - 5 = SACCOS
 - 6 = Other(s) _____

- 50 If yes, what are you saving for?
Enumerator: Do not limit to list here. Multiple options are possible. Circle applicable answer(s).

1=Pension
 2=Emergencies
 3=Education
 4=Buy assets
 5=Build house
 6=Travel
 7= Safety of the money
 8= Other_____

Livelihood

- 51 How important is tea to your overall livelihood?

1 = Not very important
 2 = Somewhat important
 3 = Very important

- 52 How do you feel about your overall economic situation compared to last year?

1 = Worse
 2 = Same
 3 = Better

53 Who makes the decisions about buying big household items (e.g. TV, furniture, refrigerator, etc.)

- 1 Man, but consulted his wife before decision was made
- 2 Woman, but consulted her husband before decision was made
- 3 Man, without consulting his wife before decision was made
- 4 Woman, without consulting her husband before decision was made
- 5 Both men and women together.
- 6 Man by himself (single, widower)
- 7 Woman by herself (single, widow).
8. Other

54 Now I would like to ask you questions on your children's school attendance

Age groups	How many children attend the full school programme?	If some children do not go to school, why is that? (write out reason per age group)
Boys, ages 6 – 11years	1a	2a
Girls, ages 6 – 11 years	1b	2b
Boys, ages 12 – 14 years	1c	2c
Girls, ages 12 – 14 years	1d	2d
Boys, ages 15 – 17 years	1e	2e
Girls, ages 15 – 17 years	1f	2f
Adult male, ages 18 and older	1g	2g
Adult female, ages 18 and over	1h	2h

55. What is the primary source of drinking water for your household?

- | | |
|--------------------------|---|
| 1 Interior plumbing | 8 Private outside tap/spigot |
| 2 Indoor tap/spigot | 9 Public tap |
| 3 Water merchant | 10 Well with pump |
| 4 Water truck | 11 Well without pump (artesian well) |
| 5 Rainwater | 12 River, lake, spring, pond, stream, dam |
| 6 Neighbour's tap/spigot | 13 Bottled water |
| 7 Neighbour's well | 14 Other |

56. Do you have access to electricity?

- 0 = No
1 = Yes

57. What is the main source of cooking fuel used by your household?

- | | |
|--------------------|-------------------------|
| 0 = Not cooking | 4 = Gas |
| 1 = Wood picked | 5 = Electricity |
| 2 = Purchased wood | 6 = Oil |
| 3 = Charcoal | 7 = Kerosine |
| | 8 = Other.....(specify) |

58 Can the female head/spouse read?

- NA = No female head/spouse
0 = No
1 = Yes, only in Kiswahili
2 = Yes, in English (regardless of others)

-
- 59 What is the main building material on the floor of the main dwelling?
- 0 = Earth
1 = Concrete, cement, tiles, timber or other
- 60 What is the main building material of the roof of the main dwelling?
- 0 = Grass (possibly with mud)
1 = Grass, leaves, bamboo
2 = Concrete, cement, metal sheets, asbestos sheets, tiles or other
- 61 How many bicycles, mopeds, motorcycles, tractors or motor vehicles does your household own?
- 0 = None
1 = One
2 = Two or more
- 62 Does the household own any radios or radio cassettes?
- 0 = No
1 = Yes
- 63 Does the household own any lanterns (using fire for light)?
- 0 = No
1 = No, we have electric lighting.
2 = Yes, candle light, open flame light
3 = Yes, kerosene lamp or other lamp (with covered flame)
- 64 Does the household own any irons (charcoal or electric)?
- 0 = No
1 = Yes
- 65 What type of furniture do you have?
- How many tables does the household own? (only observe or ask indirectly!)
- 0 = None
1 = One
2 = Two
3 = Three or more
- 66 Does anyone in your household have a mobile phone?
- 0 = No
1 = Yes, 1 mobile phone
2 = Yes, 2 mobile phones
3 = Yes, 3 or more mobile phones
- 67 Do you have a TV in your household?
- 0 = No
1 = Yes, 1 TV
2 = Yes, 2 or more TVs

We would ask you some questions on the food you eat.

68. Were there months in the past year, in which you did not have enough food to meet your family's needs?

0 = No --> **please go to question 70**

1 = Yes

69. If so, which were the months in the past year when you did not have enough food to meet your family's needs? (*Do not read the list of months aloud*)

- | | | | |
|-------------|----------|--------------|---------------------|
| 1. January | 5. May | 9. September | -999. I do not know |
| 2. February | 6. June | 10. October | |
| 3. March | 7. July | 11. November | |
| 4. April | 8 August | 12. December | |

70. Please describe the foods (meals and snacks) that you ate or drank yesterday during the day and night, whether at home or outside the home. Start with the first food or drink of the morning. **Enumerator:** *Write down all foods and drinks mentioned. When composite dishes are mentioned, ask for the ingredients. Do not include any food used in a small amount for seasoning or condiments (like chillies, spices, herbs, or fish powder). When the respondent has finished, probe for meals and snacks not mentioned.*

1. Breakfast:

2. Morning snack:

3. Lunch:

4. Afternoon snack:

5. Dinner:

6. Evening snack:

Enumerator: When the respondent recall is complete, fill in the food groups on below based on the information recorded above. For any food groups not mentioned, ask the respondent if a food item from this group was consumed.

	Place a 1 in the box if an item in the group was consumed, place a 0 if not.
A. All starchy staples: bread, rice noodles, biscuits, or any other foods made from millet, sorghum, maize, rice, or wheat as well as potatoes, yams, manioc, cassava or any other food made from roots or tubers	
B. Beans and peas: dried beans, dried peas, lentils, or foods made from these (such as hummus)	
C. Nuts and seeds: nuts, seeds or foods made from these (such as peanut butter)	
D. Dairy: milk, cheese, yogurt or other milk product	
E. Flesh foods: beef, pork, lamb, goat, rabbit, game, chicken, duck, other birds, insects, fresh or dried fish or shellfish, liver, kidney, heart or other organ meats or blood-based foods	
F. Eggs: eggs from chicken, duck, guinea fowl or any other egg	
G. Vitamin A-rich dark green leafy vegetables: including amaranth, cassava leaves, kale, and spinach (including wild forms)	
H. Other vitamin A-rich vegetables and fruits: pumpkin, carrot, squash, or sweet potato that are orange inside or any ripe mango, cantaloupe, apricot (fresh or dried), ripe papaya, dried peach, and 100% fruit juice made from these	
I. Other vegetables: tomato, onion, eggplant and others	
J. Other fruits: apple, orange and others (including wild fruits and 100% fruit juice made from these)	

71 How do you feel yesterday's food consumption of the whole day was compared to a typical day?

- 1 = Worse than a typical day
- 2 = Same as a typical day
- 3 = Better than a typical day

72 How many times a week do you eat flesh foods, such as beef, pork, chicken, fish, mutton, or insects?

- 0 = Never or <1 x/week
- 1 = 1-2 x/week
- 2 = 3-5 x/week
- 3 = 6-7 x/week
- 4 = > 1 x/day
- 5 = I do not know

-
- 73 How many times a week do you eat eggs?
- 0 = Never or <1 x/week
 - 1 = 1-2 x/week
 - 2 = 3-5 x/week
 - 3 = 6-7 x/week
 - 4 = > 1 x/day
 - 5 = I do not know
- 74 How many times a week do you eat vitamin A-rich dark green leafy vegetables such as amaranth, cassava leaves, kale, and spinach (including wild forms)
- 0 = Never or <1 x/week
 - 1 = 1-2 x/week
 - 2 = 3-5 x/week
 - 3 = 6-7 x/week
 - 4 = > 1 x/day
 - 5 = I do not know
- 75 How many times a week do you eat other vitamin A-rich vegetables and fruits, such as pumpkin, carrot, squash, or mango?
- 0 = Never or <1 x/week
 - 1 = 1-2 x/week
 - 2 = 3-5 x/week
 - 3 = 6-7 x/week
 - 4 = > 1 x/day
 - 5 = I do not know

Trading relationships

- 76 Were you satisfied with the price you received for your tea last year?
- 1 = Very dissatisfied
 - 2 = Dissatisfied
 - 3 = No opinion
 - 4 = Satisfied
 - 5 = Very satisfied .
- 77 Were you satisfied with the profit you made from tea last year?
- 1 = Very dissatisfied
 - 2 = Dissatisfied
 - 3 = No opinion
 - 4 = Satisfied
 - 5 = Very satisfied
- 78 Do you expect that your relationship with your primary tea buyer will continue for a long time?
- 0 = No
 - 1 = Neutral
 - 2 = Yes
 - 3 = I do not know.

79 Would you like to strengthen your relationship with your primary tea buyer in the future?

- 0 = No
- 1 = Neutral
- 2 = Yes
- 3 = I do not know

80 Do you expect to invest more in tea farming in the next 5 years than you did last year?

- 0 = No
- 1 = If not, why not?..... (specify)
- 2 = Yes
- 3 = If yes, why?(specify)
- 4 = I do not know

81 Would you like your children to become tea producers?

- 0 = No
- 1 = If not, why not?..... (specify)
- 2 = Yes
- 3 = If yes, why?(specify)
- 4 = I do not know
- 5 = NA

That was the last question in this questionnaire. Thank you very much for your time and effort to help us understand more about tea production. Is there anything else you would like to tell us or ask us?

Do you have any questions or comments?

.....

.....

.....

.....

.....

.....

.....

Enumerator: please read through questionnaire to make sure no questions were left unanswered before leaving your farmer! Thank you!

End time of the interview:.....

Appendix 4 The questionnaire: Greenfield group

The questionnaire for the Greenfield comparison group is slightly different than the questionnaire for the Greenfield group. In the questionnaire for the Greenfield comparison group, no reference is made to the MOG project, UTT or Unilever, and questions about trainings by UTT are not asked.

Introduction to respondent

My name is _____ . I am here on behalf of the ENVICON and Wageningen University in Holland. We are carrying out research on the livelihoods of farmers. You have been selected to be part of this survey because you take part in the Mufindi Outgrowers Project. Your selection for this survey was done at random. If you agree to participate, the survey will take approximately 45 minutes to one hour. We hope that the research will benefit the livelihoods of producers in Tanzania, and that it will improve the future work of initiatives, such as the one that is currently undertaken by Unilever. The researchers will keep your responses confidential. Your full name will never be used anywhere, to ensure confidentiality.

You are not obliged to answer questions if you do not want to and you are free to stop the interview at all times. You will not receive any direct benefit if you join this study; your participation is voluntary. But we hope that the research outcomes will be generally benefit producers in Mufindi area. Do you have any questions for me? You may ask questions about this study at any time.

May I start the interview? 1=Yes 2=No

Instructions for enumerators 1: all questions need to be answered. If a respondent does not know the answer, write down -999. If a respondent does not want to answer, write -888. If the question does not apply to the respondent, write NA.

Instructions for enumerators 2: if we ask a question about " last year" this means the year from January - December 2014.

Household identification

A Date of interview (dd-mm-yyyy):..... Start time:.....

B Name of enumerator.....

C Group **For the enumerator to answer**

- 3 Brownfield
- 4 Brownfield control group
- 5 Greenfield
- 6 Greenfield control

1a Name of the farmer **Enumerator: this should be the person on your list, if he/she is not available, this should be a person actively involved in farm production with knowledge on production and production costs of the last year (a caretaker, employee or knowledgeable family member). Check this with your supervisor if in doubt.**

.....(pre-filled).....

1b Name of the farmer if not the same person as under 1a

.....

1c If there is a name under 1b, why is the farmer different from 1a?

- 0. The original respondent is no longer alive, or no longer farming
- 1. The original respondent is available, but not really actively involved
- 2. The new respondent is a different member of the same household with thorough knowledge on production and its costs
- 3. Other, specify.....

2a District:

2b. Ward:

2c Village name.....

2d. Kitongoji.....

2e Phone number

3 Sex of the respondent

- 3. Male
- 4. Female

4a Are you the head of the household?

- 2. No --> **go to question 5**
- 3. Yes

4b If not, what's the gender of the head of the household?

- 3. Male
- 4. Female

5 NA

If the answer to question 5 is NO, then stop the interview and go to another farmer on your list.

6 What is your age?

.....(years)

7 What is the highest education level you completed?

- 2 I did not go to school
- 3 I started primary school but could not complete and stopped at level
- 2 Primary school
- 3 O-level
- 4 A-level
- 5 Certificate college
- 6 Diploma college
- 7 University, please specify the level.....
- 8 Other education..... (please specify)

8 Now we would like to ask you some questions on your household.

Age/gender groups	How many people live in your household including yourself? ³	How many people do you support with income from the farm, including yourself?	How many people from your household work on your farm, including yourself?
# of men (i.e. males 18 and over)	1a	2a	3a
# of women (i.e. females 18 and over)	1b	2b	3b
# of boys (i.e. males 15- 17)	1c	2c	3c
# of girls (i.e. females 15-17)	1d	2d	3d
# of boys (i.e. males 12 - 14)	1e	2e	3e
# of girls (i.e. females 12-14)	1f	2f	3f
# of boys (i.e. males 6 - 11)	1g	2g	3g
# of girls (i.e. females 6-11)	1h	2h	3h
# of boys (i.e. males 5 and under)	1i	2i	3i
# of girls (i.e. females 5 and under)	1j	2j	3j

8a How much land did you farm last year? (Include land you were owning, leasing or borrowing?)

.....(acre)

8b NA

8c How much land *did you own last year?* (= the total land you were farming minus the land you are leasing or borrowing)

.....(acre)

8d NA

8e We understand that you will convert part of your land to tea or already have converted part of your land to tea, is that correct?

- 0 No
- 1 Yes

8f Why have you decided to convert to tea?

.....

³ Household includes people living together the majority of the time under same roof/compound

8g What kind of change do you expect from changing to tea?

.....
.....

8h What did you produce on the land last year where you will grow tea?

- 1 Crop name
- 2 Crop name
- 3 Crop name
- 4 Unutilized land

8i How many bushes do you intend to plant, on how much land?

Nr of bushes Land area

8j Do you expect to incur a loss of income because of the conversion of the land, until the tea bushes produce tea?

- 1 No --> please go to question 9a
- 2 Yes

8k if yes, how do you expect to make up for this loss of income?

.....
.....

9a

We want to get to know your farm and different crop production activities better. Therefore we will ask you questions about what you do on the farm and what types of crops you produce. Please start with the *activity that gives the most support to your family and then include the other activities in decreasing order of importance*

Enumerator: start with the activity that gives most support to the family then continue with the other crops. Last year refers to calendar year: January – December 2014. Please note that farmers can grow different crops on one plot (at one time), and can grow also two crops on the same plot after another (e.g. maize and irish potatoes at the same time or first irish potatoes, then green beans). Thus they have multiple harvests from the same plot in one year. Thus, the sizes of crop area mentioned below added up can be bigger than the total area farmed on (some area used twice). Please note down for each crop information on production and sale (1a) and right after that information on production costs for the same crop (1b).

1a Crop production and sale

Crop produced	Has the area planted been mapped?	Size of the area planted	How much did you produce last year?	Unit of measurement	Last years' sale for the whole plot	Price received last year per unit	Did you and your family eat this produce at home last year?
					Sale can be different than yield because family eats part of crop or part of crop is gone to waste so cannot be sold	If there were different prices, as the average or general price	
Name of crop	0=no 1=yes -999 = I do not know	In acres -999 = I do not know	In number -999 = I do not know	Write down relevant unit -999 = I do not know	Number, of unit mentioned before -999 = I do not know	In Tsh -999 = I do not know	0 = No 1 = Yes
2a	2b	2c	2d	2e	2f	2g	2h
3a	3b	3c	3d	3e	3f	3g	3h
4a	4b	4c	4d	4e	4f	4g	4h
5a	5b	5c	5d	5e	5f	5g	5h
6a	6b	6c	6d	6e	6f	6g	6h

7a	7b	7c	7d	7e	7f	7g	7h
8a	8b	8c	8d	8e	8f	8g	8h

1b Cost of production per crop

Crop produced	Total number of days spent on growing and harvesting crop by family members per crop last year	Total number of days spent on growing and harvesting crop by hired labourers per crop last year	Total costs for hired labour last year	Total costs for mechanical equipment (tractor etc.) last year	How much money did you spend on fertilizer to grow crop last year?	How much money did you spend on pesticides to grow crop last year?	How much money did you spend on planting material (seeds, plants) to grow crop last year?
Name of crop	Number of days	Number of days	In Tsh	In Tsh	In Tsh	In Tsh	In Tsh
Ask the next questions for the same crops as noted in the question before	-999 = I do not know	-999 = I do not know	-999 = I do not know - NA = not applicable (no hired labour)	-999 = I do not know - NA = not applicable (not used)	-999 = I do not know - NA = not applicable	-999 = I do not know - NA = not applicable	-999 = I do not know - NA = not applicable
2a	2i	2j	2k	2l	2m	2n	2o
3a	3i	3j	3k	3l	3m	3n	3o
4a	4i	4j	4k	4l	4m	4n	4o
5a	5i	5j	5k	5l	5m	5n	5o
6a	6i	6j	6k	6l	6m	6n	6o
7a	7i	7j	7k	7l	7m	7n	7o
8a	8i	8j	8k	8l	8m	8n	8o

9b NA

9c What are the main challenges for you related to tea production, in order of importance?
Enumerator: please start with the biggest challenge and list the others in order of importance.

1

2

3

4

5

10 How do you feel last year's production of the crop which *gives the most support to your family* was in terms of weather? (Enumerators: this relates to the first crop in question 9a)

0 = Worse than a typical year

1 = Same as a typical year

2 = Better than a typical year

11 On a typical day of working at the farm, when do you start a day's work, and when do you end a day's work?

1 Start time.....

2 End time.....

12a NA

12b NA

13a NA

13b NA

14a NA

14b NA

15 NA

16 NA

17a NA

17b NA

18a NA

18b NA

18c NA

18d Who does most of the work on the crop which *gives the most support to your family?*

- 1 = Mainly men from the family
- 2 = Mainly women from the family
- 3 = Mainly boys (<18 years old)
- 4 = Mainly girls (<18 years old)
- 5 = Mainly hired labour

19 Who receives the money from the sale of crop that *gives the most support to your family?*

- 1 = Mainly man
- 2 = Mainly woman

20 Who makes the decisions about investing in the crop which *gives the most support to your family?* Spending on fertilizer, seeds, etc.

- 1. Man, but consulted his wife before decision was made
- 2. Woman, but consulted her husband before decision was made
- 3. Man, without consulting his wife before decision was made
- 4. Woman, without consulting her husband before decision was made
- 5. Both man and women together.
- 6. Man by himself (single, widower)
- 7. Woman by herself (single, widow)
- 8. Other

We also would like to ask you some questions on how you made decisions about production and management activities for the crop which *gives the most support to your family* last year.

(Enumerator: multiple options are possible, read the options aloud to the farmers and tick the relevant box).

21 How did you make decisions on production activities last year? (Enumerator, put relevant code in the box; **every row must be filled; multiple answers possible as many factors contribute to making a decision**)

Nr	Based on what information did you make decisions last year on farm production (more than one factor may contribute to making a decision)	No = 0 Yes = 1
0	Based on advice from my parents/friends/neighbours	
1	Based on what I did last year	
2	Based on a routine	
3	Based on the state of my field(s)	
4	Based on recommendations by extension officers	
5	Based on regular check of my records to see whether my farm is doing well	
6	Based on comparing my records with the records of my neighbours/friends/other farmer to see how my farm is doing	
7	Based on what I learned from the training	
8	Based on information on prices for crops	
9	Based on comparing my production with figures with average crop production in Tanzania to see how my farm is doing	
10	Based on my own experience	
11	Other, please specify	
12	Other.....	

22 We also would like to ask you some questions on protective equipment:

Protective equipment	Did you have this last year?	Did you or your labourers use this last year?
	0 = No 1 = Yes	0 = No 1 = Yes, I used it 2 = my labourers used it 3 = I and my labourers used this
Mask/respirator	1a	1b
Boots	2a	2b
Hat	3a	3b
Overall	4a	4b
Goggles	5a	5b
Apron/plucking cape/nylon bags/raincoat	6a	6b
Other	7a	7b

Now, we would like to ask you some questions on access to services

35. How satisfied were you with the access that you had to planting material last year? ⁴	Very dissatisfied (1)	Dissatisfied (2)	Neither satisfied nor dissatisfied (neutral) (3)	Satisfied (4)	Very satisfied (5)
36. How satisfied were you with the access that you had to fertilizer last year	Very dissatisfied (1)	Dissatisfied (2)	Neither satisfied nor dissatisfied (neutral) (3)	Satisfied (4)	Very satisfied (5)
37. How satisfied were you with the access that you had to herbicides last year?	Very dissatisfied (1)	Dissatisfied (2)	Neither satisfied nor dissatisfied (neutral) (3)	Satisfied (4)	Very satisfied (5)
38. How satisfied were you last year with your access to credit that you could use to invest in your farm?	Very dissatisfied (1)	Dissatisfied (2)	Neither satisfied nor dissatisfied (neutral) (3)	Satisfied (4)	Very satisfied (5)
39. How satisfied were you last year with the access that you have to technical assistance to help	Very dissatisfied (1)	Dissatisfied (2)	Neither satisfied nor dissatisfied (neutral) (3)	Satisfied (4)	Very satisfied (5)

⁴ Planting material refers to seeds, young seedlings or any transplanting materials. By access, we mean "are you able to get good quality planting material if you wanted it?" Do you have physical access? Do you think it is affordable?

you grow the crop which gives the most support to your family?					
40. How satisfied were you last year with the access that you have to market price information about the crop which gives the most support to your family??	Very dissatisfied (1)	Dissatisfied (2)	Neither satisfied nor dissatisfied (neutral) (3)	Satisfied (4)	Very satisfied (5)
41. In the last year, how many times did you receive agronomy training or advice from the Mufindi Outgrowers Project / UTT? *	Never (1) --> Skip to question 32	1-2 times a year (2)	3-5 times a year(3)	6-11 times a year (4)	>=12 times a year (5)
42. Who from the household participated in these trainings or advisory meetings?	Mainly man (1)	Mainly woman (2)	Both man and woman (3)	Someone else (4)	
43. Did you gain useful knowledge from these trainings / advice?	Never (1)	Seldom (2)	Sometimes (3)	Most of the time (4)	Always (5)
44. In the last year, how many times did you receive agronomy training or advice from an extension worker/ agronomist other than the Mufindi Outgrowers project / UTT?	Never (1) --> Skip to question 35	1-2 times a year (2)	3-5 times a year(3)	6-11 times a year (4)	>=12 times a year (5)
45. Who from the household participated in these trainings or advisory meetings?	Mainly man (1)	Mainly woman (2)	Both man and woman (3)	Someone else (4)	
46. Did you gain useful knowledge from these trainings and meetings?	Never (1)	Seldom (2)	Sometimes (3)	Most of the time (4)	Always (5)

*** Enumerators: each session or meeting counts as one: e.g. with regard to farmer field school participation, each session counts as one training session.**

35. Are you a member of a farmer group ?

0 = No --> please go to question 38

1 = Yes

36. If so, which of the following types of farmer groups does your household participate in?
(Enumerators: multiple options are possible)

1 = Cooperative

2 = Association

3 = Informal farmer group

4 = Farmer Field School

5 = Block Farm (tea)

6 = Other

7 = Other

8 = Other

37. If so, were you already member of the farmer group(s) before September 2014?

0 = No

1 = Yes,(write down numbers of answer options of question 36 for the farmer groups they were already member of before September 2014)

Household income and diversification

38. Next, we would like to know more about the crops you grew and animals you kept last year, as well as about other sources of income than crop production for your household.

Enumerators: Help respondents with possible sources of income: green beans, potatoes, maize, dairy, calves, pigs, rabbit, chicken, retirement, business, employment, and more. Gross income is sale times price. Write down -999 when the farmer does not know. And -888 when the farmer does not want to answer.

Farm and off-farm activities last year, other than crop production , for your entire household	Did you and your family eat this produce at home last year?	How much did you produce last year? Number	Unit of measurement	Average price per item received last year	What was the yearly gross income from this activity last year?	What were the yearly costs from this activity (last year)
<i>Please start with the activity that, apart from crop production gives the most support to your family and then include the other activities in decreasing order of importance</i>	<i>Only applicable for animal rearing 0=no 1=yes -999 = I do not know NA = not applicable</i>	<i>Number</i>	<i>Kilo, animal, egg, litre of milk. If they state "bag" find out how many kilos a bag is. If they do not know, write down "bag"</i>	<i>Per animal, kilo, egg, litre of milk (same unit as mentioned to the left)</i>	<i>In Tsh.</i>	<i>In Tsh. NA = not applicable</i>
1a	1b	1c	1d	1e	1f	1g
2a	2b	2c	2d	2e	2f	2g
3a	3b	3c	3d	3e	3f	3g
4a	4b	4c	4d	4e	4f	4g
5a	5b	5c	5d	5e	5f	5g
6a	6b	6c	6d	6e	6f	6g
7a	7b	7c	7d	7e	7f	7g
8a	8b	8c	8d	8e	8f	8g
9a	9b	9c	9d	9e	9f	9g
10a	10b	10c	10d	10e	10f	10g

42 Please estimate the percent of your household income that came from the crop *which gives the most support to your family?* last year (versus the total that include other cash crops, dairy, animal husbandry and off-farm incomes):

- 0 = < 25%
- 1 = 25%
- 2 = 25-50%
- 3 = 50%
- 4 = 50-75%
- 5 = 75%
- 6 = > 75%

43. Please estimate the percent of your household income that came from other activities on the farm last year (include other cash crops, dairy and animal husbandry, but exclude off-farm incomes):

- 0 = < 25%
- 1 = 25%
- 2 = 25-50%
- 3 = 50%
- 4 = 50-75%
- 5 = 75%
- 6 = > 75%

45 How did you use your income (both from your farm and from other sources) from last year?**(Enumerator: multiple answers are possible but do not read aloud to respondent).**

- 12. Buying inputs / equipment for production of the crop *which gives the most support to your family?*
- 13. Buying inputs / equipment for other crops
- 14. Hiring labour for production of the crop *which gives the most support to your family?*
- 15. Hiring labour for other crops
- 16. School and other education fees
- 17. Mobile phones and phone credits
- 18. Funerals / weddings
- 19. Starting a new farm/plantation
- 20. General household expenses e.g. food
- 21. Medical care/expenses
- 22. House/building construction/rehabilitation
- 23. Other, please clarify

**Please prompt farmer to mention as many options as possible*

46 Have you taken credit in the last year? **Enumerators: credit is defined as a loan of cash—does not include in-kind gifts**

- 2. No → **Please go to question 48**
- 3. Yes

- 47 For what purpose did you use the credit?
(Instruction to the enumerator: multiple answers are possible but do not read aloud to respondent)
12. Buying inputs / equipment for production the crop *which gives the most support to your family?*
 13. Buying inputs / equipment for other crops
 14. Hiring labour for production the crop *which gives the most support to your family?*
 15. Hiring labour for other crops
 16. School and other education fees
 17. Mobile phones and phone credits
 18. Funerals / weddings
 19. Starting a new farm/plantation
 20. General household expenses e.g. Food
 21. Medical care/expenses
 22. House/building construction/rehabilitation
 23. Other, please clarify

- 48 Do you and your household maintain any savings (including bank savings accounts, such as, micro-banking)

0 = No --> **Please go to question 51**
 1 = Yes

- 49 If yes, how are you saving?
- 1 = Private, at home
 - 2 = Savings account
 - 3 = Mobile money (sim bank)
 - 4 = VIKOBA
 - 5 = SACCOS
 - 6 = Other(s) _____

- 50 If yes, what are you saving for ?
Enumerator: Do not limit to list here. Multiple options are possible. Circle applicable answer(s).

1=Pension
 2=Emergencies
 3=Education
 4=Buy assets
 5=Build house
 6=Travel
 7= Safety of the money
 8= Other_____

Livelihood

- 51 How important is the crop *which gives the most support to your family?* to your overall livelihood?
- 1 = Not very important
 - 2 = Somewhat important
 - 3 = Very important

52 How do you feel about your overall economic situation compared to last year?

- 1 = Worse
- 2 = Same
- 3 = Better

53 Who makes the decisions about buying big household items (e.g. TV, furniture, refrigerator, etc.)

- 1 Man, but consulted his wife before decision was made
- 2 Woman, but consulted her husband before decision was made
- 3 Man, without consulting his wife before decision was made
- 4 Woman, without consulting her husband before decision was made
- 5 Both men and women together.
- 6 Man by himself (single, widower)
- 7 Woman by herself (single, widow).
- 8 Other

54 Now I would like to ask you questions on your children’s school attendance

Age groups	How many children attend the full school programme?	If some children do not go to school, why is that? (write out reason per age group)
Boys, ages 6 – 11years	1a	2a
Girls, ages 6 – 11 years	1b	2b
Boys, ages 12 – 14 years	1c	2c
Girls, ages 12 – 14 years	1d	2d
Boys, ages 15 – 17 years	1e	2e
Girls, ages 15 – 17 years	1f	2f
Adult male, ages 18 and older	1g	2g
Adult female, ages 18 and over	1h	2h

55. What is the primary source of drinking water for your household?

- 1 Interior plumbing
- 2 Indoor tap/spigot
- 3 Water merchant
- 4 Water truck
- 5 Rainwater
- 6 Neighbour’s tap/spigot
- 7 Neighbour’s well
- 8 Private outside tap/spigot
- 9 Public tap
- 10 Well with pump
- 11 Well without pump (artesian well)
- 12 River, lake, spring, pond, stream, dam
- 13 Bottled water
- 14 Other

56. Do you have access to electricity?

- 0 = No
- 1 = Yes

57. What is the main source of cooking fuel used by your household?

- 0 = Not cooking
- 1 = Wood picked
- 2 = Purchased wood
- 3 = Charcoal
- 4 = Gas
- 5 = Electricity
- 6 = Oil
- 7 = Kerosine
- 8 = Other.....(specify)

-
- 58 Can the female head/spouse read?
- NA = No female head/spouse
0 = No
1 = Yes, only in Kiswahili
2 = Yes, in English (regardless of others)
- 59 What is the main building material on the floor of the main dwelling?
- 0 = Earth
1 = Concrete, cement, tiles, timber or other
- 60 What is the main building material of the roof of the main dwelling?
- 0 = Grass (possibly with mud)
1 = Grass, leaves, bamboo
2 = Concrete, cement, metal sheets, asbestos sheets, tiles or other
- 61 How many bicycles, mopeds, motorcycles, tractors or motor vehicles does your household own?
- 0 = None
1 = One
2 = Two or more
- 62 Does the household own any radios or radio cassettes?
- 2 = No
3 = Yes
- 63 Does the household own any lanterns (using fire for light)?
- 0 = No
1 = No, we have electric lighting.
2 = Yes, candle light, open flame light
3 = Yes, kerosene lamp or other lamp (with covered flame)
- 64 Does the household own any irons (charcoal or electric)?
- 0 = No
1 = Yes
- 65 What type of furniture do you have?
- How many tables does the household own? (only observe or ask indirectly!)
- 0 = None
1 = One
2 = Two
3 = Three or more
- 66 Does anyone in your household have a mobile phone?
- 0 = No
1 = Yes, 1 mobile phone
2 = Yes, 2 mobile phones
3 = Yes, 3 or more mobile phones

67 Do you have a TV in your household?

- 0 = No
- 1 = Yes, 1 TV
- 2 = Yes, 2 or more TVs

We would ask you some questions on the food you eat.

68. Were there months in the past year, in which you did not have enough food to meet your family's needs?

- 0 = No --> **please go to question 70**
- 1 = Yes

69 If so, which were the months in the past year when you did not have enough food to meet your family's needs? (*Do not read the list of months aloud*)

- | | | | |
|-------------|----------|--------------|---------------------|
| 5. January | 5. May | 9. September | -999. I do not know |
| 6. February | 6. June | 10. October | |
| 7. March | 7. July | 11. November | |
| 8. April | 8 August | 12. December | |

70 Please describe the foods (meals and snacks) that you ate or drank yesterday during the day and night, whether at home or outside the home. Start with the first food or drink of the morning. **Enumerator:** *Write down all foods and drinks mentioned. When composite dishes are mentioned, ask for the ingredients. Do not include any food used in a small amount for seasoning or condiments (like chillies, spices, herbs, or fish powder). When the respondent has finished, probe for meals and snacks not mentioned.*

7. Breakfast:

8. Morning snack:

9. Lunch:

10. Afternoon snack:

11. Dinner:

12. Evening snack:

Enumerator: When the respondent recall is complete, fill in the food groups on below based on the information recorded above. For any food groups not mentioned, ask the respondent if a food item from this group was consumed.

	Place a 1 in the box if an item in the group was consumed, place a 0 if not.
K. All starchy staples: bread, rice noodles, biscuits, or any other foods made from millet, sorghum, maize, rice, or wheat as well as potatoes, yams, manioc, cassava or any other food made from roots or tubers	
L. Beans and peas: dried beans, dried peas, lentils, or foods made from these (such as hummus)	
M. Nuts and seeds: nuts, seeds or foods made from these (such as peanut butter)	
N. Dairy: milk, cheese, yogurt or other milk product	
O. Flesh foods: beef, pork, lamb, goat, rabbit, game, chicken, duck, other birds, insects, fresh or dried fish or shellfish, liver, kidney, heart or other organ meats or blood-based foods	
P. Eggs: eggs from chicken, duck, guinea fowl or any other egg	
Q. Vitamin A-rich dark green leafy vegetables: including amaranth, cassava leaves, kale, and spinach (including wild forms)	
R. Other vitamin A-rich vegetables and fruits: pumpkin, carrot, squash, or sweet potato that are orange inside or any ripe mango, cantaloupe, apricot (fresh or dried), ripe papaya, dried peach, and 100% fruit juice made from these	
S. Other vegetables: tomato, onion, eggplant and others	
T. Other fruits: apple, orange and others (including wild fruits and 100% fruit juice made from these)	

71 How do you feel yesterday's food consumption of the whole day was compared to a typical day?

- 1 = Worse than a typical day
- 2 = Same as a typical day
- 3 = Better than a typical day

72 How many times a week do you eat flesh foods, such as beef, pork, chicken, fish, mutton, or insects?

0 = Never or <1 x/week

1 = 1-2 x/week

2 = 3-5 x/week

3 = 6-7 x/week

4 = > 1 x/day

5 = I do not know

73 How many times a week do you eat eggs?

0 = Never or <1 x/week

1 = 1-2 x/week

2 = 3-5 x/week

3 = 6-7 x/week

4 = > 1 x/day

5 = I do not know

74 How many times a week do you eat vitamin A-rich dark green leafy vegetables such as amaranth, cassava leaves, kale, and spinach (including wild forms)

0 = Never or <1 x/week

1 = 1-2 x/week

2 = 3-5 x/week

3 = 6-7 x/week

4 = > 1 x/day

5 = I do not know

75 How many times a week do you eat other vitamin A-rich vegetables and fruits, such as pumpkin, carrot, squash, or mango?

0 = Never or <1 x/week

1 = 1-2 x/week

2 = 3-5 x/week

3 = 6-7 x/week

4 = > 1 x/day

5 = I do not know

Trading relationships

76 Were you satisfied with the price you received for your the crop *which gives the most support to your family?* last year?

1 = Very dissatisfied

2 = Dissatisfied

3 = No opinion

4 = Satisfied

5 = Very satisfied .

6 = NA, did not sell this crop on the market

77 Were you satisfied with the profit you made from the crop *which gives the most support to your family?* last year?

1 = Very dissatisfied

2 = Dissatisfied

3 = No opinion

4 = Satisfied

5 = Very satisfied

78 Do you expect that your relationship with your primary buyer for the crop *which gives the most support to your family?* will continue for a long time?

- 0 = No
- 1 = Neutral
- 2 = Yes
- 3 = I do not know.
- 4 = NA, no primary buyer

79 Would you like to strengthen your relationship with your primary buyer in the future?

- 0 = No
- 1 = Neutral
- 2 = Yes
- 3 = I do not know
- 4 = NA, no primary buyer

80 Do you expect to invest more in farming crop that gives most support to your family in the next 5 years than you did last year?

- 0 = No
- 1 = If not, why not?..... (specify)
- 2 = Yes
- 3 = If yes, why?(specify)
- 4 = I do not know

81 Would you like your children to become tea producers?

- 0 = No
- 1 = If not, why not?..... (specify)
- 2 = Yes
- 3 = If yes, why?(specify)
- 4 = I do not know
- 5 = NA

82 Would you like your children to become producers of the crop that gives most support to your family??

- 0 = No
- 1 = If not, why not?..... (specify)
- 2 = Yes
- 3 = If yes, why?(specify)
- 4 = I do not know
- 5 = NA

That was the last question in this questionnaire. Thank you very much for your time and effort to help us understand more about farm production in Mufindi area. Is there anything else you would like to tell us or ask us?

Do you have any questions or comments?

.....

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.....

Enumerator: please read through questionnaire to make sure no questions were left unanswered before leaving your farmer! Thank you!

End time of the interview:.....

LEI Wageningen UR
P.O. Box 29703
2502 LS The Hague
The Netherlands
T +31 (0)70 335 83 30
E publicatie.lei@wur.nl
www.wageningenUR.nl/en/lei

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LEI Wageningen UR
P.O. Box 29703
2502 LS Den Haag
The Netherlands
E publicatie.lei@wur.nl
www.wageningenUR.nl/lei

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