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Yuca Waarts, Christine Plaisier, Linda Puister

Making sustainable smallholder tea farming a viable business

Baseline study of the Mufindi Outgrowers Project, Tanzania

Appendices
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LEI Wageningen UR
Wageningen, April 2016

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## Appendix 1  Measurement of economic indicators

### Table 1
*Economic indicators for green leaf production and how they were calculated*

<table>
<thead>
<tr>
<th>Indicator (category)</th>
<th>Calculation</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Productivity per hectare</strong></td>
<td>Production of green leaf in kilograms divided by the area in hectares</td>
<td></td>
</tr>
<tr>
<td><strong>Material costs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fertilizer cost per hectare</td>
<td>Number of bags applied per hectare times the price per bag, divided by the number of hectares</td>
<td>Price fertilizer = TZs 60,000 (on average) per bag. Missing values were assumed to be 0 cost</td>
</tr>
<tr>
<td>Herbicide cost per hectare</td>
<td>Number of litres applied times the price per litre, divided by the number of hectares</td>
<td>Price herbicide = TZs 13,000 on average. Missing value were assumed to be 0 cost</td>
</tr>
<tr>
<td>Seedling cost</td>
<td>Number of seedlings planted times the price per seedling</td>
<td>We report on those farmers that have actually planted seedlings, not on the “average farmer” in the sample</td>
</tr>
<tr>
<td><strong>Labour cost per hectare</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weeding</td>
<td>The total number of days spent by hired labour times the price per day for hiring labour. Divided by the number of hectares</td>
<td>The daily wage for hired labour averages TZS 5,250.</td>
</tr>
<tr>
<td>Pruning</td>
<td>The total number of bushes pruned by hired labour times the average labour price for pruning a bush. Divided by the number of hectares</td>
<td>Pruning a bush takes about 3 minutes, and costs on average TZS 48</td>
</tr>
<tr>
<td>Fertilizer application</td>
<td>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</td>
<td>Applying one bag of fertilizer costs 10 minutes, and costs on average TZS 160</td>
</tr>
<tr>
<td>Herbicide application</td>
<td>The total number of days spent by hired labour times the price per day for hiring labour. Divided by the number of hectares</td>
<td>The daily wage for hired labour averages TZS 5,250.</td>
</tr>
<tr>
<td>Planting</td>
<td>The total number of days spent by hired labour times the price per day for hiring labour</td>
<td>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</td>
</tr>
<tr>
<td>Plucking</td>
<td>The amount spent on hired labour for plucking, in the whole of 2014 as indicated by the respondents</td>
<td></td>
</tr>
<tr>
<td><strong>Total cost of production per hectare</strong></td>
<td>Material costs + labour costs minus costs for planting (seedlings, labour)</td>
<td>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.</td>
</tr>
<tr>
<td><strong>Income and profitability</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross income</td>
<td>Production times average price per kg</td>
<td></td>
</tr>
<tr>
<td>Net income</td>
<td>Gross income minus total costs (expenses)</td>
<td></td>
</tr>
<tr>
<td><strong>Profitability per hectare</strong></td>
<td>Net income from green leaf divided by the area in hectares</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix 2  Descriptive statistics economic indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Group</th>
<th>Mean</th>
<th>Median</th>
<th>Sd</th>
<th>Min</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green leaf productivity per hectare</td>
<td>Brownfield</td>
<td>5,023</td>
<td>4,139</td>
<td>4,281</td>
<td>7.4</td>
<td>17,428</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Brownfield comparison</td>
<td>5,257</td>
<td>3,212</td>
<td>6,332</td>
<td>49.4</td>
<td>29,653</td>
<td>31</td>
</tr>
<tr>
<td>Green leaf: gross income per hectare (TZS)</td>
<td>Brownfield</td>
<td>1,247,282</td>
<td>969,888</td>
<td>1,075,297</td>
<td>1,853</td>
<td>4,357,013</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Brownfield comparison</td>
<td>1,239,580</td>
<td>803,092</td>
<td>1,538,344</td>
<td>7,413</td>
<td>7,413,155</td>
<td>31</td>
</tr>
<tr>
<td>Green leaf: production costs (expenses) per hectare (TZS)</td>
<td>Brownfield</td>
<td>770,987</td>
<td>541,159</td>
<td>1,045,716</td>
<td>59,305</td>
<td>8,672,155</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>Brownfield comparison</td>
<td>428,760</td>
<td>347,521</td>
<td>336,162</td>
<td>1,581</td>
<td>1,470,276</td>
<td>76</td>
</tr>
<tr>
<td>Green leaf: profitability per hectare (TZS)</td>
<td>Brownfield</td>
<td>687,614</td>
<td>478,585</td>
<td>961,743</td>
<td>-459,616</td>
<td>4,179,166</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>Brownfield comparison</td>
<td>920,405</td>
<td>421,734</td>
<td>1,468,564</td>
<td>-256,989</td>
<td>7,051,591</td>
<td>28</td>
</tr>
<tr>
<td>Trees: profitability per hectare (TZS)</td>
<td>Greenfield</td>
<td>131,566</td>
<td>-4,118</td>
<td>297,519</td>
<td>-32,587</td>
<td>926,644</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Greenfield comparison</td>
<td>950,735</td>
<td>988,421</td>
<td>974,122</td>
<td>-49,421</td>
<td>2,779,933</td>
<td>17</td>
</tr>
<tr>
<td>Beans: profitability per hectare (TZS)</td>
<td>Greenfield</td>
<td>484,127</td>
<td>383,578</td>
<td>489,809</td>
<td>-605,512</td>
<td>2,078,117</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>Greenfield comparison</td>
<td>375,432</td>
<td>287,181</td>
<td>561,681</td>
<td>-726,489</td>
<td>3,446,174</td>
<td>90</td>
</tr>
<tr>
<td>Wheat: profitability per hectare (TZS)</td>
<td>Greenfield</td>
<td>428,728</td>
<td>219,409</td>
<td>590,867</td>
<td>-68,778</td>
<td>1,843,405</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Greenfield comparison</td>
<td>309,171</td>
<td>230,426</td>
<td>378,904</td>
<td>-475,163</td>
<td>1,881,809</td>
<td>38</td>
</tr>
<tr>
<td>Maize: profitability per hectare (Tsh)</td>
<td>Greenfield</td>
<td>370,066</td>
<td>252,876</td>
<td>705,223</td>
<td>-1,060,708</td>
<td>6,925,408</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>Greenfield comparison</td>
<td>256,535</td>
<td>244,292</td>
<td>236,046</td>
<td>-617,892</td>
<td>1,210,815</td>
<td>112</td>
</tr>
<tr>
<td>Peas: profitability per hectare (TZS)</td>
<td>Greenfield</td>
<td>263,604</td>
<td>182,858</td>
<td>479,813</td>
<td>-1,256,942</td>
<td>1,280,005</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Greenfield comparison</td>
<td>209,214</td>
<td>121,905</td>
<td>272,592</td>
<td>-138,379</td>
<td>884,637</td>
<td>15</td>
</tr>
<tr>
<td>Total net income crop production</td>
<td>Greenfield</td>
<td>677,000</td>
<td>335,143</td>
<td>1,185,174</td>
<td>-920,399</td>
<td>9,196,113</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>Greenfield comparison</td>
<td>3,380,742</td>
<td>348,044</td>
<td>17,600,000</td>
<td>-287,000</td>
<td>180,000,000</td>
<td>119</td>
</tr>
<tr>
<td>Total net income from other sources than crops</td>
<td>Greenfield</td>
<td>173,721</td>
<td>0</td>
<td>631,985</td>
<td>0</td>
<td>4,412,000</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>Greenfield comparison</td>
<td>284,970</td>
<td>0</td>
<td>721,314</td>
<td>-60,000</td>
<td>4,097,000</td>
<td>119</td>
</tr>
<tr>
<td>Total net income green leaf production</td>
<td>Brownfield</td>
<td>557,784</td>
<td>295,935</td>
<td>978,290</td>
<td>-310,208</td>
<td>3,805,340</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>Brownfield comparison</td>
<td>829,463</td>
<td>187,250</td>
<td>1,266,976</td>
<td>-57,750</td>
<td>3,983,250</td>
<td>28</td>
</tr>
<tr>
<td>Total net income from other sources than green leaf</td>
<td>Brownfield</td>
<td>635,289</td>
<td>0</td>
<td>2,342,825</td>
<td>-141,000</td>
<td>17,300,000</td>
<td>93</td>
</tr>
<tr>
<td></td>
<td>Brownfield comparison</td>
<td>964,278</td>
<td>94,000</td>
<td>3,054,627</td>
<td>-112,700</td>
<td>19,800,000</td>
<td>88</td>
</tr>
<tr>
<td>Indicator</td>
<td>Group</td>
<td>Mean</td>
<td>Median</td>
<td>Sd</td>
<td>Min</td>
<td>Max</td>
<td>N</td>
</tr>
<tr>
<td>----------------------------------------------------</td>
<td>------------------------</td>
<td>-------</td>
<td>--------</td>
<td>--------</td>
<td>---------</td>
<td>---------</td>
<td>----</td>
</tr>
<tr>
<td>Total household income (income from green leaf and other sources)</td>
<td>Brownfield</td>
<td>972,180</td>
<td>342,250</td>
<td>1,701,962</td>
<td>-310,208</td>
<td>9,108,500</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Brownfield comparison</td>
<td>978,192</td>
<td>421,834</td>
<td>1,352,664</td>
<td>-110,700</td>
<td>5,751,200</td>
<td>69</td>
</tr>
<tr>
<td>Total household income (income from crops and other sources)</td>
<td>Greenfield</td>
<td>935,793</td>
<td>506,987</td>
<td>1,482,263</td>
<td>-920,399</td>
<td>9,201,231</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>Greenfield comparison</td>
<td>759,789</td>
<td>430,965</td>
<td>1,084,542</td>
<td>-80,000</td>
<td>8,018,500</td>
<td>107</td>
</tr>
</tbody>
</table>
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. You 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

..........................................................(pre-filled).............................................................
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)
Now we would like to ask you some questions on your household.

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

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
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).

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

* 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

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

1a 1b 1c 1d 1e 1f 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.

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

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?

2. February 6. June 10. October NA Not applicable
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*)

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

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

<table>
<thead>
<tr>
<th>Protective equipment</th>
<th>Did you have this last year?</th>
<th>Did you or your labourers use this last year?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mask/respirator</td>
<td>0 = No</td>
<td>0 = No</td>
</tr>
<tr>
<td></td>
<td>1 = Yes</td>
<td>1 = Yes, I used it</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = my labourers used it</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 = I and my labourers used this</td>
</tr>
<tr>
<td>Boots</td>
<td>2a</td>
<td>2b</td>
</tr>
<tr>
<td>Hat</td>
<td>3a</td>
<td>3b</td>
</tr>
<tr>
<td>Overall</td>
<td>4a</td>
<td>4b</td>
</tr>
<tr>
<td>Goggles</td>
<td>5a</td>
<td>5b</td>
</tr>
<tr>
<td>Apron/plucking cape/nylon bags/raincoat</td>
<td>6a</td>
<td>6b</td>
</tr>
<tr>
<td>Other</td>
<td>7a</td>
<td>7b</td>
</tr>
</tbody>
</table>
Now, we would like to ask you some questions on access to services

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

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?

<table>
<thead>
<tr>
<th></th>
<th>Mainly man (1)</th>
<th>Mainly woman (2)</th>
<th>Both man and woman (3)</th>
<th>Someone else (4)</th>
</tr>
</thead>
</table>

31. Did you gain useful knowledge from these trainings / advice?

<table>
<thead>
<tr>
<th></th>
<th>Never (1)</th>
<th>Seldom (2)</th>
<th>Sometimes (3)</th>
<th>Most of the time (4)</th>
<th>Always (5)</th>
</tr>
</thead>
</table>

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?

<table>
<thead>
<tr>
<th></th>
<th>Never (1)</th>
<th>1-2 times a year (2)</th>
<th>3-5 times a year (3)</th>
<th>6-11 times a year (4)</th>
<th>&gt;=12 times a year (5)</th>
</tr>
</thead>
</table>

33. Who from the household participated in these trainings or advisory meetings?

<table>
<thead>
<tr>
<th></th>
<th>Mainly man (1)</th>
<th>Mainly woman (2)</th>
<th>Both man and woman (3)</th>
<th>Someone else (4)</th>
</tr>
</thead>
</table>

34. Did you gain useful knowledge from these trainings and meetings?

<table>
<thead>
<tr>
<th></th>
<th>Never (1)</th>
<th>Seldom (2)</th>
<th>Sometimes (3)</th>
<th>Most of the time (4)</th>
<th>Always (5)</th>
</tr>
</thead>
</table>

* 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 ....................
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**

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.

<table>
<thead>
<tr>
<th>Farm and off-farm activities last year, other than tea, for your entire household</th>
<th>Did you and your family eat this produce at home last year?</th>
<th>How much did you produce last year?</th>
<th>Unit of measurement</th>
<th>Average price per item received last year</th>
<th>What was the yearly gross income from this activity last year?</th>
<th>What were the yearly costs from this activity (last year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
<td>Only applicable for crop production or animal rearing 0=no 1=yes -999 = I do not know NA = not applicable</td>
<td>Number</td>
<td>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.”</td>
<td>Per animal, kilo, egg, litre of milk (same unit as mentioned to the left)</td>
<td>In Tsh.</td>
<td>In Tsh.</td>
</tr>
<tr>
<td>1a</td>
<td>1b</td>
<td>1c</td>
<td>1d</td>
<td>1e</td>
<td>1f</td>
<td>1g</td>
</tr>
<tr>
<td>2a</td>
<td>2b</td>
<td>2c</td>
<td>2d</td>
<td>2e</td>
<td>2f</td>
<td>2g</td>
</tr>
<tr>
<td>3a</td>
<td>3b</td>
<td>3c</td>
<td>3d</td>
<td>3e</td>
<td>3f</td>
<td>3g</td>
</tr>
<tr>
<td>4a</td>
<td>4b</td>
<td>4c</td>
<td>4d</td>
<td>4e</td>
<td>4f</td>
<td>4g</td>
</tr>
<tr>
<td>5a</td>
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<td>5f</td>
<td>5g</td>
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<td>6a</td>
<td>6b</td>
<td>6c</td>
<td>6d</td>
<td>6e</td>
<td>6f</td>
<td>6g</td>
</tr>
<tr>
<td>7a</td>
<td>7b</td>
<td>7c</td>
<td>7d</td>
<td>7e</td>
<td>7f</td>
<td>7g</td>
</tr>
<tr>
<td>8a</td>
<td>8b</td>
<td>8c</td>
<td>8d</td>
<td>8e</td>
<td>8f</td>
<td>8g</td>
</tr>
<tr>
<td>9a</td>
<td>9b</td>
<td>9c</td>
<td>9d</td>
<td>9e</td>
<td>9f</td>
<td>9g</td>
</tr>
<tr>
<td>10a</td>
<td>10b</td>
<td>10c</td>
<td>10d</td>
<td>10e</td>
<td>10f</td>
<td>10g</td>
</tr>
<tr>
<td>11a</td>
<td>11b</td>
<td>11c</td>
<td>11d</td>
<td>11e</td>
<td>11f</td>
<td>11g</td>
</tr>
<tr>
<td>12a</td>
<td>12b</td>
<td>12c</td>
<td>12d</td>
<td>12e</td>
<td>12f</td>
<td>12g</td>
</tr>
<tr>
<td>13a</td>
<td>13b</td>
<td>13c</td>
<td>13d</td>
<td>13e</td>
<td>13f</td>
<td>13g</td>
</tr>
</tbody>
</table>
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%

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%

How did you use your income (both from your tea farm and from other sources) from last year? (Enumerators: 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

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

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

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?
   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)

   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.

<table>
<thead>
<tr>
<th>Place a 1 in the box if an item in the group was consumed, place a 0 if not.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. All starchy staples:</strong> 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</td>
</tr>
<tr>
<td><strong>B. Beans and peas:</strong> dried beans, dried peas, lentils, or foods made from these (such as hummus)</td>
</tr>
<tr>
<td><strong>C. Nuts and seeds:</strong> nuts, seeds or foods made from these (such as peanut butter)</td>
</tr>
<tr>
<td><strong>D. Dairy:</strong> milk, cheese, yogurt or other milk product</td>
</tr>
<tr>
<td><strong>E. Flesh foods:</strong> 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</td>
</tr>
<tr>
<td><strong>F. Eggs:</strong> eggs from chicken, duck, guinea fowl or any other egg</td>
</tr>
<tr>
<td><strong>G. Vitamin A-rich dark green leafy vegetables:</strong> including amaranth, cassava leaves, kale, and spinach (including wild forms)</td>
</tr>
<tr>
<td><strong>H. Other vitamin A-rich vegetables and fruits:</strong> 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</td>
</tr>
<tr>
<td><strong>I. Other vegetables:</strong> tomato, onion, eggplant and others</td>
</tr>
<tr>
<td><strong>J. Other fruits:</strong> apple, orange and others (including wild fruits and 100% fruit juice made from these)</td>
</tr>
</tbody>
</table>

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: ...............
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. You 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   
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.

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

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?

........................................................................................................................................

........................................................................................................................................
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

<table>
<thead>
<tr>
<th>Crop produced</th>
<th>Has the area planted been mapped?</th>
<th>Size of the area planted</th>
<th>How much did you produce last year?</th>
<th>Unit of measurement</th>
<th>Last years’ sale for the whole plot</th>
<th>Price received last year per unit</th>
<th>Did you and your family eat this produce at home last year?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0=no 1=yes -999 = I do not know</td>
<td>In acres -999 = I do not know</td>
<td>In number -999 = I do not know</td>
<td>Write down relevant unit -999 = I do not know</td>
<td>Number, of unit mentioned before -999 = I do not know</td>
<td>In Tsh -999 = I do not know</td>
<td>0 = No 1 = Yes</td>
</tr>
<tr>
<td>Name of crop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>2a</td>
<td>2b</td>
<td>2c</td>
<td>2d</td>
<td>2e</td>
<td>2f</td>
<td>2g</td>
<td>2h</td>
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<td>3a</td>
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<td>4h</td>
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<td>6d</td>
<td>6e</td>
<td>6f</td>
<td>6g</td>
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<tr>
<td>7a</td>
<td>7b</td>
<td>7c</td>
<td>7d</td>
<td>7e</td>
<td>7f</td>
<td>7g</td>
<td>7h</td>
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<tr>
<td>8a</td>
<td>8b</td>
<td>8c</td>
<td>8d</td>
<td>8e</td>
<td>8f</td>
<td>8g</td>
<td>8h</td>
</tr>
</tbody>
</table>

**1b Cost of production per crop**

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

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

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..............................................
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)

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

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

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

<table>
<thead>
<tr>
<th>Question</th>
<th>Very dissatisfied (1)</th>
<th>Dissatisfied (2)</th>
<th>Neither satisfied nor dissatisfied (neutral) (3)</th>
<th>Satisfied (4)</th>
<th>Very satisfied (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>35. How satisfied were you with the access that you had to planting material last year?[^4]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36. How satisfied were you with the access that you had to fertilizer last year?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37. How satisfied were you with the access that you had to herbicides last year?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38. How satisfied were you last year with your access to credit that you could use to invest in your farm?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39. How satisfied were you last year with the access that you have to technical assistance to help</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[^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?
<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>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?</strong></td>
<td>Very dissatisfied (1)</td>
</tr>
<tr>
<td><strong>41. In the last year, how many times did you receive agronomy training or advice from the Mufindi Outgrowers Project / UTT?</strong></td>
<td>Never (1)</td>
</tr>
<tr>
<td><strong>42. Who from the household participated in these trainings or advisory meetings?</strong></td>
<td>Mainly man (1)</td>
</tr>
<tr>
<td><strong>43. Did you gain useful knowledge from these trainings / advice?</strong></td>
<td>Never (1)</td>
</tr>
<tr>
<td><strong>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?</strong></td>
<td>Never (1)</td>
</tr>
<tr>
<td><strong>45. Who from the household participated in these trainings or advisory meetings?</strong></td>
<td>Mainly man (1)</td>
</tr>
<tr>
<td><strong>46. Did you gain useful knowledge from these trainings and meetings?</strong></td>
<td>Never (1)</td>
</tr>
</tbody>
</table>
* 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

<table>
<thead>
<tr>
<th>Did you and your family eat this produce at home last year?</th>
<th>How much did you produce last year?</th>
<th>Unit of measurement</th>
<th>Average price per item received last year</th>
<th>What was the yearly gross income from this activity last year?</th>
<th>What were the yearly costs from this activity (last year)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only applicable for animal rearing 0=no 1=yes 0-999 = I do not know NA = not applicable</td>
<td>Number</td>
<td>Kilo, animal, egg, litre of milk. If they state &quot;bag&quot; find out how many kilos a bag is. If they do not know, write down &quot;bag&quot;</td>
<td>Per animal, kilo, egg, litre of milk (same unit as mentioned to the left)</td>
<td>In Tsh.</td>
<td>In Tsh. NA = not applicable</td>
</tr>
<tr>
<td>1a</td>
<td>1b</td>
<td>1c</td>
<td>1d</td>
<td>1e</td>
<td>1f</td>
</tr>
<tr>
<td>2a</td>
<td>2b</td>
<td>2c</td>
<td>2d</td>
<td>2e</td>
<td>2f</td>
</tr>
<tr>
<td>3a</td>
<td>3b</td>
<td>3c</td>
<td>3d</td>
<td>3e</td>
<td>3f</td>
</tr>
<tr>
<td>4a</td>
<td>4b</td>
<td>4c</td>
<td>4d</td>
<td>4e</td>
<td>4f</td>
</tr>
<tr>
<td>5a</td>
<td>5b</td>
<td>5c</td>
<td>5d</td>
<td>5e</td>
<td>5f</td>
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<tr>
<td>6a</td>
<td>6b</td>
<td>6c</td>
<td>6d</td>
<td>6e</td>
<td>6f</td>
</tr>
<tr>
<td>7a</td>
<td>7b</td>
<td>7c</td>
<td>7d</td>
<td>7e</td>
<td>7f</td>
</tr>
<tr>
<td>8a</td>
<td>8b</td>
<td>8c</td>
<td>8d</td>
<td>8e</td>
<td>8f</td>
</tr>
<tr>
<td>9a</td>
<td>9b</td>
<td>9c</td>
<td>9d</td>
<td>9e</td>
<td>9f</td>
</tr>
<tr>
<td>10a</td>
<td>10b</td>
<td>10c</td>
<td>10d</td>
<td>10e</td>
<td>10f</td>
</tr>
</tbody>
</table>
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

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

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.................................(specify)

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  
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.

<table>
<thead>
<tr>
<th></th>
<th>Place a 1 in the box if an item in the group was consumed, place a 0 if not.</th>
</tr>
</thead>
<tbody>
<tr>
<td>K.</td>
<td><strong>All starchy staples</strong>: 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</td>
</tr>
<tr>
<td>L.</td>
<td><strong>Beans and peas</strong>: dried beans, dried peas, lentils, or foods made from these (such as hummus)</td>
</tr>
<tr>
<td>M.</td>
<td><strong>Nuts and seeds</strong>: nuts, seeds or foods made from these (such as peanut butter)</td>
</tr>
<tr>
<td>N.</td>
<td><strong>Dairy</strong>: milk, cheese, yogurt or other milk product</td>
</tr>
<tr>
<td>O.</td>
<td><strong>Flesh foods</strong>: 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</td>
</tr>
<tr>
<td>P.</td>
<td><strong>Eggs</strong>: eggs from chicken, duck, guinea fowl or any other egg</td>
</tr>
<tr>
<td>Q.</td>
<td><strong>Vitamin A-rich dark green leafy vegetables</strong>: including amaranth, cassava leaves, kale, and spinach (including wild forms)</td>
</tr>
<tr>
<td>R.</td>
<td><strong>Other vitamin A-rich vegetables and fruits</strong>: 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</td>
</tr>
<tr>
<td>S.</td>
<td><strong>Other vegetables</strong>: tomato, onion, eggplant and others</td>
</tr>
<tr>
<td>T.</td>
<td><strong>Other fruits</strong>: apple, orange and others (including wild fruits and 100% fruit juice made from these)</td>
</tr>
</tbody>
</table>

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: ..................
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Yuca Waarts, Christine Plaisier, Linda Puister

Baseline study of the Mufindi Outgrowers Project, Tanzania

Appendices

Making sustainable smallholder tea farming a viable business