

# Mapping Parcel, Plot Boundaries and Crop Type\_Malawi

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## SURVEY IDENTIFICATION INFORMATION QUESTIONNAIRE DESCRIPTION

### INTRODUCTION

No sub-sections, No rosters, Questions: 6, Static texts: 1.

### SECTION 1: IDENTIFICATION AND BASIC HOUSEHOLD DEMOGRAPHICS

No sub-sections, No rosters, Questions: 15.

### SECTION 2: MAPPING PARCEL, PLOT BOUNDARIES AND THE CROP TYPE

No sub-sections, Rosters: 1, Questions: 46, Static texts: 1, Variables: 1.

### SECTION 3: LAND DEGRADATION ASSESSMENT

No sub-sections, No rosters, Questions: 37, Static texts: 3.

### APPENDIX A — CATEGORIES

### LEGEND

*SURVEY IDENTIFICATION INFORMATION  
QUESTIONNAIRE DESCRIPTION*

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**Basic information**

*Title* Mapping Parcel, Plot Boundaries and Crop Type\_Malawi

# INTRODUCTION

STATIC TEXT

## Introduction and Consent

*My name is----- and I work for a One CGIAR research Initiative, called Sustainable Intensification of Mixed Farming Systems (SI-MFS), which aims to alleviate hunger and poverty by increasing agricultural productivity. Your household is one of the over 1000 households in Balaka, Dedza, Kasungu and Mzimba districts in Malawi who were interviewed in December 2022/January 2023 during the baseline survey. The purpose of this survey is to map parcels(fields), plot boundaries and the crop types in mixed farming systems in Malawi. The data acquired from the mapping exercise will facilitate development of a web-based dashboard for in-season monitoring of crop growth and development in farmer's plot. This will enable monitoring effect of variability in weather and crop management practices on crops in specific farmer's plot. The dashboard will be used by extension agencies to generate localized advisories on cropping calendar activities.*

*Data to be collected from you will be coded and kept strictly confidential. All household identifying information will be strictly confidential and used only for research purposes. No identifying information (e.g., respondent name) will appear in the data report. Participation in this interview is voluntary, and you may refuse to participate, discontinue the interview at any time, or skip any question you do not want to answer with no penalty or loss of benefits to which you are otherwise entitled. You are allowed to ask questions concerning the research before agreeing to participate in the interview, during, and after the interview.*

*As head of the household or spouse of the head, I would like to ask you questions mainly about agricultural activities. We will need to walk to your one your fields (parcels) so that we can also measure their size .*

*Please contact Dr. Julius Manda at [j.manda@cgiar.org](mailto:j.manda@cgiar.org) / +265997667571 if you have questions about the research and your right as a research participant. Please contact Dr. Tahirou Abdoulaye, the International Institute of Tropical Agriculture Institutional Review Board chair at [t.abdoulaye@cgiar.org](mailto:t.abdoulaye@cgiar.org) if you need more information or have questions about this study. For further more information, visit: <https://www.cgiar.org/initiative/19-sustainable-intensification-of-mixed-farming-systems/>*

*Before I start, do you have any questions, or is there anything I have said that you would like further clarification?*

|   |  |
|---|--|
| Consent: May I proceed with interviewing you? | SINGLE-SELECT consent<br>01 <input type="radio"/> Yes<br>02 <input type="radio"/> No |
| 1.2. District                                 | TEXT District<br>.....   |
| 1.3. Extension Planning Area (EPA)            | TEXT epa<br>.....  |
| 1.4. Section                                  | TEXT section<br>.....  |
| 1.5. Village                                  | TEXT village<br>.....  |
| 1.7. Respondent name                          | TEXT respondent_name<br>.....  |

# SECTION 1: IDENTIFICATION AND BASIC HOUSEHOLD DEMOGRAPHICS

E consent==1

|   |  |
|---|--|
| 1.1. Country  | TEXT<br>country  |
| 1.0a. Household ID at baseline                            | NUMERIC: INTEGER<br>hhidb  |
| 1.0b. Interview household key                             | TEXT<br>hh_key   |
| 1.6. Type of the household: Treated or Control            | TEXT<br>hhtype   |
| 1.8. Relationship to the householdhead                    | TEXT<br>hr tn  |
| 1.9. Gender of the respondent                             | TEXT<br>gender_respo   |
| 1.10. Name of the household head                          | TEXT<br>hhheadname   |
| 1.11. Gender of the household head                        | TEXT<br>gender_hhhd  |
| 1.12. Contact number of the baseline household respondent | TEXT<br>contact  |
| 1.13. Household size during the baseline                  | NUMERIC: INTEGER<br>hhsiz  |
| 1.14. New household size                                  | NUMERIC: INTEGER<br>hhsiz_new  |
| 1.15. HH participated in the SI-MFS baseline survey?      | SINGLE-SELECT<br>bs n<br>01 <input type="radio"/> Yes<br>00 <input type="radio"/> No |
| 1.16. Home GPS coordinate                                 | GPS<br>hgps  |

|  |  |
|--|--|
| 1.17. Date of Mapping  | DATE <span style="float: right;">date</span><br><hr style="border-top: 1px dotted black;"/>                                |
| 1.18. Is the household hosting an SI-MFS trial?(<br>By CIAT,IITA,CIMMYT e.t.c) | SINGLE-SELECT <span style="float: right;">trialheald</span><br>01 <input type="radio"/> Yes<br>00 <input type="radio"/> No |

## SECTION 2: MAPPING PARCEL, PLOT BOUNDARIES AND THE CROP TYPE

E consent==1

STATIC TEXT

**A PARCEL OR GARDEN (MUNDA) IS A CONTINUOUS PIECE OF LAND AND SHOULD NOT BE SPLIT BY A RIVER OR A PATH WIDE ENOUGH TO FIT AN OX-CART OR VEHICLE.**

**A PARCEL OR GARDEN CAN CONTAIN ONE OR MORE PLOTS.**

**A PLOT IS DEFINED AS A CONTINUOUS PIECE OF LAND ON WHICH A UNIQUE CROP OR A MIXTURE OF CROPS IS GROWN, UNDER A UNIFORM, CONSISTENT CROP MANAGEMENT SYSTEM.**

**A PLOT MUST BE CONTINUOUS AND SHOULD NOT BE SPLIT BY A PATH OF MORE THAN ONE METRE IN WIDTH. PLOT BOUNDARIES ARE DEFINED ACCORDING TO THE CROPS GROWN AND THE OPERATOR.**

|  |   |
|--|---|
| 2a0. Parcels Roster_id during the baseline   | NUMERIC: INTEGER <span style="float: right;">ParcelsRoster_id</span><br>-----   |
| 2ai. Number of parcels during baseline   | NUMERIC: INTEGER <span style="float: right;">totalprc1s</span><br>-----   |
| 2aii.Parcel Name during the baseline(one parcel)   | TEXT <span style="float: right;">pname</span><br>-----  |
| 2aiii. Parcel Name if the name provided is not known by respondent   | SINGLE-SELECT <span style="float: right;">pname2</span><br>01 <input type="radio"/> Name matched<br>02 <input type="radio"/> alternative name |
| 2aiv. Othername specify  | TEXT <span style="float: right;">otherpname</span><br>-----   |
| 2avii. Parcel Boundary   | GEOGRAPHY: POLYGON <span style="float: right;">Parcelb</span><br><br>INPUT MODE : AUTOMATIC<br><br>OVERLAP DETECTION : OFF                    |
| 2aviii. Parcel GPS coordinate<br><br>I THE GPS COORDINATE SHOULD BE TAKEN AT THE CENTROID OF THE PARCEL                | GPS <span style="float: right;">pagps</span><br><br>-----<br>N<br><br>-----<br>W<br><br>-----<br>A  |
| VARIABLE<br>hgps.GpsDistanceKm(pagps)  | DOUBLE <span style="float: right;">distance</span>  |
| 2ax. First photo of the parcel<br><br>I AT LEAST 2 PHOTOS SHOULD BE TAKEN FROM TWO EDGES LOOKING INWARDS TO THE PERCEL | PICTURE <span style="float: right;">photo1</span>   |

|  |                                    |
|--|------------------------------------|
| 2axi. Second photo of the parcel<br>I AT LEAST 2 PHOTOS SHOULD BE TAKEN FROM TWO EDGES LOOKING INWARDS TO THE PERCEL | PICTURE<br>photo2                  |
| 2bi. Plot Roster ID during the baseline  | TEXT<br>PlotRoster_id<br>.....     |
| 2bii. Name of the plot at baseline   | TEXT<br>Plotname<br>.....          |
| 2biii. Size of identified plot at baseline   | TEXT<br>plot_size<br>.....         |
| 2biv. Unit of plot size at baseline  | TEXT<br>aunit<br>.....             |
| 2bv. Number of Plots you cultivated in this parcel in 2023   | NUMERIC: INTEGER<br>pltno<br>----- |

SECTION 2: MAPPING PARCEL, PLOT BOUNDARIES AND THE CROP TYPE

Roster: PLOT- %ROSTERTITLE%

generated by numeric question [pltno](#)

plotRoster

|  |  |
|--|--|
| 2.0. Name of plot [%rostertitle%]<br>E pltno>1   | TEXT<br>Plotnme<br>.....   |
| 2.1. Plot ID for [%rostertitle%]<br>E pltno>1  | NUMERIC: INTEGER<br>plid<br>-----  |
| 2.2. Plot size for [%rostertitle%]<br>E pltno>1  | NUMERIC: DECIMAL<br>plsize<br>-----  |
| 2.3. Area unit of the [%rostertitle%] plot<br>E pltno>1  | SINGLE-SELECT<br>paunit<br>01 <input type="radio"/> Acre<br>02 <input type="radio"/> Hectare<br>03 <input type="radio"/> Square Meter<br>04 <input type="radio"/> Football field |
| 2.4. Boundary of the [%rostertitle%] plot<br>E pltno>1   | GEOGRAPHY: POLYGON<br>pb<br>INPUT MODE : AUTOMATIC<br>OVERLAP DETECTION : OFF  |
| 2.6a. First Photo ID for the [%rostertitle%] plot<br>I AT LEAST 2 PHOTOS SHOULD BE TAKEN FROM TWO EDGES LOOKING INWARDS TO THE PLOT<br>E pltno>1 | PICTURE<br>pltphotod1  |

|  |  |
|--|--|
| <p>2.6b. Scnd Photo ID of the [%rostertitle%] plot</p> <p>I AT LEAST 2 PHOTOS SHOULD BE TAKEN FROM TWO EDGES LOOKING INWARDS TO THE PLOT</p> <p>E p1tno&gt;1</p> | <p>PICTURE <span style="float: right;">p1tphotod2</span></p>   |
| <p>2.8a. Primary land use for the [%rostertitle%] Plot</p>   | <p>SINGLE-SELECT <span style="float: right;">luse</span></p> <p>01 <input type="radio"/> Cultivated (annual crops)</p> <p>02 <input type="radio"/> Cultivated (perennial crops)</p> <p>03 <input type="radio"/> Rented-out</p> <p>04 <input type="radio"/> Fallow</p> <p>05 <input type="radio"/> Grazing</p> <p>06 <input type="radio"/> Woodlot</p> <p>07 <input type="radio"/> Homestead</p> <p>08 <input type="radio"/> Fish farming</p> <p>99 <input type="radio"/> Other specify</p>   |
| <p>2.8b. Specify if others</p> <p>E luse==99</p>   | <p>TEXT <span style="float: right;">otherlu</span></p> <p>.....</p>  |
| <p>2.9a. Main crop grown in the [%rostertitle%] plot</p>   | <p>SINGLE-SELECT <span style="float: right;">crop</span></p> <p>001 <input type="radio"/> MAIZE</p> <p>002 <input type="radio"/> WHEAT</p> <p>003 <input type="radio"/> SORGHUM</p> <p>004 <input type="radio"/> FINGER MILLET</p> <p>005 <input type="radio"/> RICE</p> <p>006 <input type="radio"/> BEAN</p> <p>007 <input type="radio"/> SOYABEAN</p> <p>008 <input type="radio"/> PIGEONPEA</p> <p>009 <input type="radio"/> COW-PEAS</p> <p>010 <input type="radio"/> PEAS</p> <p>011 <input type="radio"/> GROUNDNUT</p> <p>012 <input type="radio"/> BAMBARA NUTS</p> <p>013 <input type="radio"/> CABBAGE</p> <p>014 <input type="radio"/> TOMATOES</p> <p>015 <input type="radio"/> OKRA</p> <p>016 <input type="radio"/> ONION</p> <p><a href="#">And 10 other symbols [1]</a></p> |
| <p>2.10. Type of variety of main crop in the [%rostertitle%] plot</p>  | <p>SINGLE-SELECT <span style="float: right;">variety</span></p> <p>01 <input type="radio"/> Improved</p> <p>02 <input type="radio"/> Local</p>   |
| <p>2.11. Cropping System within the [%rostertitle%] plot</p>   | <p>SINGLE-SELECT <span style="float: right;">croppingsystem</span></p> <p>01 <input type="radio"/> monocropping</p> <p>02 <input type="radio"/> Intercropping</p> <p>03 <input type="radio"/> Rotation</p>   |

|   |  |
|---|--|
| <p>2.12a. If selected intercropping above, give the proportion of the within the [%rostertitle%] plot occupied by the main crop in %.</p> <p>E cropingsystem==2</p> | <p>NUMERIC: INTEGER <span style="float: right;">proportional</span></p> <p>-----</p>   |
| <p>2.12b. What are the mixed crop in the within the [%rostertitle%] plot?</p> <p>E cropingsystem==2</p>   | <p>MULTI-SELECT <span style="float: right;">intercropped</span></p> <p>001 <input type="checkbox"/> MAIZE</p> <p>002 <input type="checkbox"/> WHEAT</p> <p>003 <input type="checkbox"/> SORGHUM</p> <p>004 <input type="checkbox"/> FINGER MILLET</p> <p>005 <input type="checkbox"/> RICE</p> <p>006 <input type="checkbox"/> BEAN</p> <p>007 <input type="checkbox"/> SOYABEAN</p> <p>008 <input type="checkbox"/> PIGEONPEA</p> <p>009 <input type="checkbox"/> COW-PEAS</p> <p>010 <input type="checkbox"/> PEAS</p> <p>011 <input type="checkbox"/> GROUNDNUT</p> <p>012 <input type="checkbox"/> BAMBARA NUTS</p> <p>013 <input type="checkbox"/> CABBAGE</p> <p>014 <input type="checkbox"/> TOMATOES</p> <p>015 <input type="checkbox"/> OKRA</p> <p>016 <input type="checkbox"/> ONION</p> <p><a href="#">And 10 other symbols [2]</a></p>  |
| <p>2.13a. Major Soil conservation practice (SCP) in the within the [%rostertitle%] plot</p>   | <p>SINGLE-SELECT <span style="float: right;">scp</span></p> <p>001 <input type="radio"/> no soil conservation</p> <p>002 <input type="radio"/> Mulching</p> <p>003 <input type="radio"/> Trenches/Diversion channels</p> <p>004 <input type="radio"/> Fallow</p> <p>005 <input type="radio"/> Contour ploughing</p> <p>006 <input type="radio"/> Grass/bench terraces</p> <p>007 <input type="radio"/> Trench</p> <p>008 <input type="radio"/> Minimum tillage</p> <p>009 <input type="radio"/> Hedges</p> <p>010 <input type="radio"/> Alley cropping</p> <p>011 <input type="radio"/> Trash line/stone/soil bunds</p> <p>012 <input type="radio"/> Agro-forestry</p> <p>013 <input type="radio"/> Hedgows</p> <p>014 <input type="radio"/> Countour buds</p> <p>015 <input type="radio"/> Tied ridges</p> <p>016 <input type="radio"/> Dams</p> <p><a href="#">And 2 other symbols [3]</a></p> |

|   |  |
|---|--|
| <p>2.13b. Others specify</p> <p>E scp==999</p>  | <p>TEXT <span style="float: right;">otherscp</span></p> <p>.....</p>   |
| <p>2.14a. First main fertilizer used on the within the [%rostertitle%] plot</p>                         | <p>SINGLE-SELECT <span style="float: right;">fertilizer</span></p> <p>001 <input type="radio"/> no fertilizer</p> <p>002 <input type="radio"/> Urea</p> <p>003 <input type="radio"/> MAP</p> <p>004 <input type="radio"/> DAP</p> <p>005 <input type="radio"/> SSP</p> <p>006 <input type="radio"/> TSP</p> <p>007 <input type="radio"/> MoP</p> <p>008 <input type="radio"/> CAN</p> <p>009 <input type="radio"/> Ammonium nitrate</p> <p>010 <input type="radio"/> ammonium sulphate</p> <p>011 <input type="radio"/> NPK formulation</p> <p>012 <input type="radio"/> Mavuno</p> <p>013 <input type="radio"/> Sympal</p> <p>014 <input type="radio"/> Yara fertilizer</p> <p>015 <input type="radio"/> Liquid fertilizer</p> <p>999 <input type="radio"/> Other (Specify)</p> |
| <p>2.14b. Specify other fertilizer</p> <p>E fertilizer==999</p>   | <p>TEXT <span style="float: right;">otherfertilizer</span></p> <p>.....</p>  |
| <p>2.15a. Quantity of first main Fertilizer used in the [%rostertitle%] plot</p> <p>E fertilizer!=1</p> | <p>NUMERIC: INTEGER <span style="float: right;">quantity</span></p> <p>-----</p>   |

|  |  |
|--|--|
| <p>2.15b. Unit</p> <p>E quantity&gt;0</p>  | <p>SINGLE-SELECT <span style="float: right;">unitmain</span></p> <p>01 <input type="radio"/> Kilogram</p> <p>02 <input type="radio"/> Gram</p> <p>03 <input type="radio"/> Liter</p> <p>04 <input type="radio"/> Unit or Piece</p> <p>05 <input type="radio"/> Cane/Basket</p> <p>06 <input type="radio"/> Bucket/Tin</p> <p>07 <input type="radio"/> 90kg maxibag</p> <p>08 <input type="radio"/> 50kg minibag</p> <p>09 <input type="radio"/> Donkey-cart</p> <p>10 <input type="radio"/> Trailer</p> <p>11 <input type="radio"/> Lorry</p> <p>12 <input type="radio"/> Headload</p> <p>13 <input type="radio"/> Bunch</p> <p>14 <input type="radio"/> Bale</p> <p>15 <input type="radio"/> Sachet/tube</p> <p>16 <input type="radio"/> Plate</p> <p><a href="#">And 3 other symbols [4]</a></p> |
| <p>2.16a. Second main fertilizer used on the [%ros tertitle%] plot</p>   | <p>SINGLE-SELECT <span style="float: right;">fertilizersecond</span></p> <p>001 <input type="radio"/> no fertilizer</p> <p>002 <input type="radio"/> Urea</p> <p>003 <input type="radio"/> MAP</p> <p>004 <input type="radio"/> DAP</p> <p>005 <input type="radio"/> SSP</p> <p>006 <input type="radio"/> TSP</p> <p>007 <input type="radio"/> MoP</p> <p>008 <input type="radio"/> CAN</p> <p>009 <input type="radio"/> Ammonium nitrate</p> <p>010 <input type="radio"/> ammonium sulphate</p> <p>011 <input type="radio"/> NPK formulation</p> <p>012 <input type="radio"/> Mavuno</p> <p>013 <input type="radio"/> Sympal</p> <p>014 <input type="radio"/> Yara fertilizer</p> <p>015 <input type="radio"/> Liquid fertilizer</p> <p>999 <input type="radio"/> Other (Specify)</p>             |
| <p>2.16b. Specify other fertilizer</p> <p>E fertilizersecond==999</p>  | <p>TEXT <span style="float: right;">otherfertilizersecond</span></p> <p>.....</p>  |
| <p>2.17a. Quantity of second main Fertilizer used within the [%rostertitle%] plot</p> <p>E fertilizersecond!=1</p> | <p>NUMERIC: INTEGER <span style="float: right;">quantitysecond</span></p> <p>-----</p>   |

|  |  |
|--|--|
| <p>2.17b. Unit</p> <p>E quantitysecond&gt;0</p>  | <p>SINGLE-SELECT <span style="float: right;">unitsecond</span></p> <p>01 <input type="radio"/> Kilogram</p> <p>02 <input type="radio"/> Gram</p> <p>03 <input type="radio"/> Liter</p> <p>04 <input type="radio"/> Unit or Piece</p> <p>05 <input type="radio"/> Cane/Basket</p> <p>06 <input type="radio"/> Bucket/Tin</p> <p>07 <input type="radio"/> 90kg maxibag</p> <p>08 <input type="radio"/> 50kg minibag</p> <p>09 <input type="radio"/> Donkey-cart</p> <p>10 <input type="radio"/> Trailer</p> <p>11 <input type="radio"/> Lorry</p> <p>12 <input type="radio"/> Headload</p> <p>13 <input type="radio"/> Bunch</p> <p>14 <input type="radio"/> Bale</p> <p>15 <input type="radio"/> Sachet/tube</p> <p>16 <input type="radio"/> Plate</p> <p><a href="#">And 3 other symbols [5]</a></p> |
| <p>2.18. Major Organic amendments used on the [%rostertitle%] plot</p>                                     | <p>SINGLE-SELECT <span style="float: right;">majororganic</span></p> <p>00 <input type="radio"/> no organic amendment</p> <p>01 <input type="radio"/> Crop residues</p> <p>02 <input type="radio"/> Animal manure</p> <p>03 <input type="radio"/> Compost</p> <p>04 <input type="radio"/> green leafy biomass</p> <p>05 <input type="radio"/> Household refuse</p>   |
| <p>2.19a. Quantity of Organic amendments used within the [%rostertitle%] plot</p> <p>E majororganic!=0</p> | <p>NUMERIC: INTEGER <span style="float: right;">organicquantity</span></p> <p>-----</p>  |

|   |  |
|---|--|
| <p>2.19b. Unit</p> <p>E organicquantity&gt;0</p>  | <p>SINGLE-SELECT <span style="float: right;">unitoa</span></p> <p>01 <input type="radio"/> Kilogram</p> <p>02 <input type="radio"/> Gram</p> <p>03 <input type="radio"/> Liter</p> <p>04 <input type="radio"/> Unit or Piece</p> <p>05 <input type="radio"/> Cane/Basket</p> <p>06 <input type="radio"/> Bucket/Tin</p> <p>07 <input type="radio"/> 90kg maxibag</p> <p>08 <input type="radio"/> 50kg minibag</p> <p>09 <input type="radio"/> Donkey-cart</p> <p>10 <input type="radio"/> Trailer</p> <p>11 <input type="radio"/> Lorry</p> <p>12 <input type="radio"/> Headload</p> <p>13 <input type="radio"/> Bunch</p> <p>14 <input type="radio"/> Bale</p> <p>15 <input type="radio"/> Sachet/tube</p> <p>16 <input type="radio"/> Plate</p> <p><a href="#">And 3 other symbols [6]</a></p>         |
| <p>2.20a. Total DRY produce harvested for the main crop within the [%rostertitle%] plot</p> | <p>NUMERIC: DECIMAL <span style="float: right;">produce</span></p> <p>-----</p>  |
| <p>2.20b. Unit</p> <p>E produce&gt;0</p>  | <p>SINGLE-SELECT <span style="float: right;">unitdryproduce</span></p> <p>01 <input type="radio"/> Kilogram</p> <p>02 <input type="radio"/> Gram</p> <p>03 <input type="radio"/> Liter</p> <p>04 <input type="radio"/> Unit or Piece</p> <p>05 <input type="radio"/> Cane/Basket</p> <p>06 <input type="radio"/> Bucket/Tin</p> <p>07 <input type="radio"/> 90kg maxibag</p> <p>08 <input type="radio"/> 50kg minibag</p> <p>09 <input type="radio"/> Donkey-cart</p> <p>10 <input type="radio"/> Trailer</p> <p>11 <input type="radio"/> Lorry</p> <p>12 <input type="radio"/> Headload</p> <p>13 <input type="radio"/> Bunch</p> <p>14 <input type="radio"/> Bale</p> <p>15 <input type="radio"/> Sachet/tube</p> <p>16 <input type="radio"/> Plate</p> <p><a href="#">And 3 other symbols [7]</a></p> |
| <p>2.22. Were Crop residues removed from the [%rostertitle%] plot after harvest?</p>        | <p>SINGLE-SELECT <span style="float: right;">residualremove</span></p> <p>01 <input type="radio"/> Yes</p> <p>00 <input type="radio"/> No</p>  |

|   |  |
|---|--|
| 2.23. What is the dominant soil color within the [%rostertitle%] plot | <p style="text-align: right;">soilcolor</p> <p>SINGLE-SELECT</p> <p>01 <input type="radio"/> black</p> <p>02 <input type="radio"/> brown</p> <p>03 <input type="radio"/> red</p> <p>04 <input type="radio"/> grey</p>                      |
| 2.24. What is the slope level of the [%rostertitle%] plot?            | <p style="text-align: right;">slope</p> <p>SINGLE-SELECT</p> <p>01 <input type="radio"/> flat</p> <p>02 <input type="radio"/> gentile slope</p> <p>03 <input type="radio"/> moderate slope</p> <p>04 <input type="radio"/> steep slope</p> |

# SECTION 3: LAND DEGRADATION ASSESSMENT

E consent==1

STATIC TEXT

*Land degradation(LD): Is the reduction or the loss of productivity potential of the land. This module is intended to identify what types of land degradation is happening where, it's extent and severity*

3.0. Are there signs of any form of land degradation in the plot?

SINGLE-SELECT

singland

- 01  Yes  
00  No

STATIC TEXT

*If yes above proceed in the next section to specify the type, extent, degree (intensity) and possible direct causes. If answer is 'No', data collection in particular plot should end.*

STATIC TEXT

## Types of land degradation

3.1 What type of land degradation is observed in this plot

E singland==1

MULTI-SELECT

1d

- 01  Soil serosion by water  
02  Soil serosion by wind  
03  Physical Soil deterioration  
04  Biological Degradation

3.1a. Soil Erosion by Water

E 1d.ContainsAny(1)

MULTI-SELECT

sew

- 01  Sheet erosion  
02  Rill erosion  
03  Gully erosion  
04  Mass movement or Landslides  
05  Riverbank erosion  
06  Sedimentation

3.1b. Extent (as % of plot)

E 1d.ContainsAny(1)

NUMERIC: INTEGER

extent1

-----

3.1c. Degree/ Intensity

E 1d.ContainsAny(1)

SINGLE-SELECT

degree1

- 01  Light  
02  Moderate  
03  Strong  
04  Severe

3.2a. Soil erosion by wind

E 1d.ContainsAny(2)

MULTI-SELECT

sewind

- 01  Loss of top soil  
02  Deflation & Deposition  
03  Offsite degradation effects

|  |  |
|--|--|
| <p>3.2b. Extent (as % of plot)</p> <p>E 1d.ContainsAny(2)</p>      | <p>NUMERIC: INTEGER <span style="float: right;">extent2</span></p> <p>-----</p>  |
| <p>3.2c. Degree/ Intensity</p> <p>E 1d.ContainsAny(2)</p>          | <p>SINGLE-SELECT <span style="float: right;">degree2</span></p> <p>01 <input type="radio"/> Light</p> <p>02 <input type="radio"/> Moderate</p> <p>03 <input type="radio"/> Strong</p> <p>04 <input type="radio"/> Severe</p>   |
| <p>3.3. Physical soil deterioration</p> <p>E 1d.ContainsAny(3)</p> | <p>MULTI-SELECT <span style="float: right;">psd</span></p> <p>01 <input type="checkbox"/> Compaction</p> <p>02 <input type="checkbox"/> waterlodging</p> <p>03 <input type="checkbox"/> Loss of bio productive function due to other activities</p>  |
| <p>3.3b. Extent (as % of plot)</p> <p>E 1d.ContainsAny(3)</p>      | <p>NUMERIC: INTEGER <span style="float: right;">extent3</span></p> <p>-----</p>  |
| <p>3.3c. Degree/ Intensity</p> <p>E 1d.ContainsAny(3)</p>          | <p>SINGLE-SELECT <span style="float: right;">degree3</span></p> <p>01 <input type="radio"/> Light</p> <p>02 <input type="radio"/> Moderate</p> <p>03 <input type="radio"/> Strong</p> <p>04 <input type="radio"/> Severe</p>   |
| <p>3.4a. Biological Degradation</p> <p>E 1d.ContainsAny(4)</p>     | <p>MULTI-SELECT <span style="float: right;">bd</span></p> <p>01 <input type="checkbox"/> Reduction of vegetation cover</p> <p>02 <input type="checkbox"/> Loss of habitats</p> <p>03 <input type="checkbox"/> Vegetative biomass decline</p> <p>04 <input type="checkbox"/> Effects of Fires</p> <p>05 <input type="checkbox"/> Species composition change or Diversity decline</p> <p>06 <input type="checkbox"/> Invasive species</p> <p>07 <input type="checkbox"/> Bush encroachment</p> |
| <p>3.4b. Extent (as % of plot)</p> <p>E 1d.ContainsAny(4)</p>      | <p>NUMERIC: INTEGER <span style="float: right;">extent4</span></p> <p>-----</p>  |
| <p>3.4c. Degree/ Intensity</p> <p>E 1d.ContainsAny(4)</p>          | <p>SINGLE-SELECT <span style="float: right;">degree4</span></p> <p>01 <input type="radio"/> Light</p> <p>02 <input type="radio"/> Moderate</p> <p>03 <input type="radio"/> Strong</p> <p>04 <input type="radio"/> Severe</p>   |

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| <p>3.5. Direct causes of land degradation</p> <p>E singland==1</p> | <p>MULTI-SELECT <span style="float: right;">causes</span></p> <p>01 <input type="checkbox"/> Soil management</p> <p>02 <input type="checkbox"/> Crop and Rangeland management</p> <p>03 <input type="checkbox"/> Deforestation &amp; natural vegetation removal</p> <p>04 <input type="checkbox"/> Over-exploitation of vegetation for domestic use</p> <p>05 <input type="checkbox"/> Overgrazing</p> <p>06 <input type="checkbox"/> Industrial &amp; Mining</p> <p>07 <input type="checkbox"/> Urbanization &amp; Infrastructure Development</p> <p>08 <input type="checkbox"/> Discharges</p> <p>09 <input type="checkbox"/> Release of airborne pollutants</p> <p>11 <input type="checkbox"/> Over abstraction/ excessive withdrawal of water</p> <p>12 <input type="checkbox"/> Natural causes</p> |
| <p>3.6a. Soil management</p> <p>E causes.ContainsAny(1)</p>        | <p>MULTI-SELECT <span style="float: right;">sm</span></p> <p>001 <input type="checkbox"/> Cultivation of highly unsuitable/vulnerable soils</p> <p>002 <input type="checkbox"/> Missing or insufficient soil conservation/runoff and erosion control measures</p> <p>003 <input type="checkbox"/> Heavy machinery</p> <p>004 <input type="checkbox"/> Tillage practice</p> <p>888 <input type="checkbox"/> Others Specify</p>   |
| <p>3.6b. Other specify</p> <p>E sm.Contains(888)</p>               | <p>TEXT <span style="float: right;">othersm</span></p> <p>.....</p>   |

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| <p>3.7a. Crop and Rangeland management causes</p> <p>E causes.ContainsAny(2)</p>             | <p>MULTI-SELECT <span style="float: right;">crm</span></p> <p>01 <input type="checkbox"/> Reduction of plant cover and residues (including burning, use for fodder)</p> <p>02 <input type="checkbox"/> Inappropriate application of manure, fertilizer, herbicides, pesticides and other agro-chemicals or waste</p> <p>03 <input type="checkbox"/> Nutrient mining</p> <p>04 <input type="checkbox"/> Shortening of the fallow period in shifting cultivation</p> <p>05 <input type="checkbox"/> Inappropriate irrigation</p> <p>06 <input type="checkbox"/> Inappropriate use of water in rain fed agriculture</p> <p>07 <input type="checkbox"/> Bush encroachment and bush thickening</p> <p>08 <input type="checkbox"/> Occurrence and spread of weeds and invader plants</p> <p>09 <input type="checkbox"/> Others</p> |
| <p>3.7b. Otherspecify</p> <p>E crm.Contains(9)</p>   | <p>TEXT <span style="float: right;">othercrm</span></p> <p>.....</p>   |
| <p>3.8a. Deforestation &amp; natural vegetation removal</p> <p>E causes.ContainsAny(3)</p>   | <p>MULTI-SELECT <span style="float: right;">df</span></p> <p>01 <input type="checkbox"/> Large-scale commercial forestry</p> <p>02 <input type="checkbox"/> Expansion of urban/settlement areas and industry</p> <p>03 <input type="checkbox"/> Conversion to agriculture</p> <p>04 <input type="checkbox"/> Forest/grassland fire</p> <p>05 <input type="checkbox"/> Road and rail construction</p> <p>99 <input type="checkbox"/> Other</p>  |
| <p>3.8b. other Specify</p> <p>E df.Contains(99)</p>  | <p>TEXT <span style="float: right;">otherdf</span></p> <p>.....</p>  |
| <p>3.9a. Over-exploitation of vegetation for domestic use</p> <p>E causes.ContainsAny(4)</p> | <p>MULTI-SELECT <span style="float: right;">oev</span></p> <p>01 <input type="checkbox"/> Excessive gathering of fuel wood/timber</p> <p>02 <input type="checkbox"/> Removal of fodder</p> <p>03 <input type="checkbox"/> others specify</p>   |
| <p>3.9b. Other specify</p> <p>E oev.Contains(3)</p>  | <p>TEXT <span style="float: right;">otheroev</span></p> <p>.....</p>   |

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| <p>3.10a.Overgrazing</p> <p>E causes.ContainsAny(5)</p>                                    | <p>MULTI-SELECT <span style="float: right;">og</span></p> <p>01 <input type="checkbox"/> Excessive numbers of livestock trampling along animal paths</p> <p>02 <input type="checkbox"/> Overgrazing and trampling around or near feeding, watering and shelter points</p> <p>03 <input type="checkbox"/> Too long or extensive grazing periods</p> <p>04 <input type="checkbox"/> In a specific area or camp, leading to over-utilization of palatable species</p> <p>05 <input type="checkbox"/> Change in livestock composition from large to small stock; from grazers to browsers ; from livestock to game and vice versa</p> <p>10 <input type="checkbox"/> Others</p> |
| <p>3.10b. Other specify</p> <p>E og.Contains(10)</p>                                       | <p>TEXT <span style="float: right;">otherog</span></p> <p>.....</p>   |
| <p>3.11a. Industrial &amp; Mining</p> <p>E causes.ContainsAny(6)</p>                       | <p>MULTI-SELECT <span style="float: right;">IM</span></p> <p>01 <input type="checkbox"/> Industry</p> <p>02 <input type="checkbox"/> Mining</p> <p>03 <input type="checkbox"/> Waste deposition</p> <p>11 <input type="checkbox"/> Others</p>   |
| <p>3.11b. Other specify</p> <p>E IM.Contains(11)</p>                                       | <p>TEXT <span style="float: right;">otherim</span></p> <p>.....</p>   |
| <p>3.12a. Urbanization &amp; Infrastructure development</p> <p>E causes.ContainsAny(7)</p> | <p>MULTI-SELECT <span style="float: right;">uid</span></p> <p>01 <input type="checkbox"/> Urban creation</p> <p>02 <input type="checkbox"/> Settlements and roads</p> <p>12 <input type="checkbox"/> Others</p>   |
| <p>3.12b. Other specify</p> <p>E uid.Contains(12)</p>                                      | <p>TEXT <span style="float: right;">otheruid</span></p> <p>.....</p>  |

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| <p>3.13a. Discharges</p> <p>E causes.ContainsAny(8)</p>  | <p>MULTI-SELECT ds</p> <p>01 <input type="checkbox"/> Sanitary sewage disposal</p> <p>02 <input type="checkbox"/> Waste water discharge</p> <p>03 <input type="checkbox"/> Excessive runoff</p> <p>04 <input type="checkbox"/> Poor and insufficient infrastructure to deal with urban waste (organic And inorganic waste)</p> <p>06 <input type="checkbox"/> Others</p>   |
| <p>3.13b. Other specify</p> <p>E ds.Contains(6)</p>  | <p>TEXT otherds</p> <p>.....</p>   |
| <p>3.14a. Release of airborne pollutants from industrial activities,mining and urbanisation</p> <p>E causes.ContainsAny(9)</p> | <p>MULTI-SELECT ra</p> <p>00001 <input type="checkbox"/> Contamination of vegetation/ crops and soil</p> <p>00002 <input type="checkbox"/> Contamination of surface and ground water resources</p> <p>99999 <input type="checkbox"/> Others</p>  |
| <p>3.14a. Others SPecify</p> <p>E ra.Contains(99999)</p>   | <p>TEXT otherra</p> <p>.....</p>   |
| <p>3.16a. Over-abstraction / excessive withdrawal of water</p> <p>E causes.ContainsAny(11)</p>                                 | <p>MULTI-SELECT abst</p> <p>0001 <input type="checkbox"/> Irrigation</p> <p>0002 <input type="checkbox"/> Industrial use</p> <p>0003 <input type="checkbox"/> Domestic use</p> <p>0004 <input type="checkbox"/> Mining activities</p> <p>0005 <input type="checkbox"/> Decreasing water use efficiency</p> <p>9999 <input type="checkbox"/> Others</p>   |
| <p>3.16b. Others Specify</p> <p>E abst.Contains(99999)</p>   | <p>TEXT otherabst</p> <p>.....</p>   |
| <p>3.17a. Natural Causes</p> <p>E causes.ContainsAny(12)</p>   | <p>MULTI-SELECT nc</p> <p>01 <input type="checkbox"/> Change in temperature</p> <p>02 <input type="checkbox"/> Change of seasonal rainfall</p> <p>03 <input type="checkbox"/> Heavy/extreme rainfall</p> <p>04 <input type="checkbox"/> Windstorms / dust storms</p> <p>05 <input type="checkbox"/> Floods</p> <p>06 <input type="checkbox"/> Droughts</p> <p>07 <input type="checkbox"/> Topography</p> <p>08 <input type="checkbox"/> Other natural causes</p> |

3.17b. Other Natural cause

Enc. Contains(8)

TEXT

othernc

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## APPENDIX A — CATEGORIES

[1] [crop: 2.9a. Main crop grown in the \[%rostertitle%\] plot](#)

Categories: 1:MAIZE, 2:WHEAT, 3:SORGHUM, 4:FINGER MILLET, 5:RICE, 6:BEAN, 7:SOYABEAN, 8:PIGEONPEA, 9:COW-PEAS, 10:PEAS, 11:GROUNDNUT, 12:BAMBARA NUTS, 13:CABBAGE, 14:TOMATOES, 15:OKRA, 16:ONION, 17:IRISH POTATO, 18:SWEET POTATO, 19:CASSAVA, 20:BANANA, 21:OIL-PALM, 22:SUGAR CAN, 23:COTTON, 24:TOBACCO, 25:SESAME, 999:Others (Specify)

[2] [intercropped: 2.12b. What are the mixed crop in the within the \[%rostertitle%\] plot?](#)

Categories: 1:MAIZE, 2:WHEAT, 3:SORGHUM, 4:FINGER MILLET, 5:RICE, 6:BEAN, 7:SOYABEAN, 8:PIGEONPEA, 9:COW-PEAS, 10:PEAS, 11:GROUNDNUT, 12:BAMBARA NUTS, 13:CABBAGE, 14:TOMATOES, 15:OKRA, 16:ONION, 17:IRISH POTATO, 18:SWEET POTATO, 19:CASSAVA, 20:BANANA, 21:OIL-PALM, 22:SUGAR CAN, 23:COTTON, 24:TOBACCO, 25:SESAME, 999:Others (Specify)

[3] [scp: 2.13a. Major Soil conservation practice \(SCP\) in the within the \[%rostertitle%\] plot](#)

Categories: 1:no soil conservation, 2:Mulching, 3:Trenches/Diversion channels, 4:Fallow, 5:Contour ploughing, 6:Grass/bench terraces, 7:Trench, 8:Minimum tillage, 9:Hedges, 10:Alley cropping, 11:Trash line/stone/soil bunds, 12:Agro-forestry, 13:Hedgows, 14:Countour buds, 15:Tied ridges, 16:Dams, 17:Gabions, 999:Others (Specify)

[4] [unitmain: 2.15b. Unit](#)

Categories: 1:Kilogram, 2:Gram, 3:Liter, 4:Unit or Piece, 5:Cane/Basket, 6:Bucket/Tin, 7:90kg maxibag, 8:50kg minibag, 9:Donkey-cart, 10:Trailer, 11:Lorry, 12:Headload, 13:Bunch, 14:Bale, 15:Sachet/tube, 16:Plate, 17:Cup, 18:Heap, 99:Other

[5] [unitsecond: 2.17b. Unit](#)

Categories: 1:Kilogram, 2:Gram, 3:Liter, 4:Unit or Piece, 5:Cane/Basket, 6:Bucket/Tin, 7:90kg maxibag, 8:50kg minibag, 9:Donkey-cart, 10:Trailer, 11:Lorry, 12:Headload, 13:Bunch, 14:Bale, 15:Sachet/tube, 16:Plate, 17:Cup, 18:Heap, 99:Other

[6] [unitoa: 2.19b. Unit](#)

Categories: 1:Kilogram, 2:Gram, 3:Liter, 4:Unit or Piece, 5:Cane/Basket, 6:Bucket/Tin, 7:90kg maxibag, 8:50kg minibag, 9:Donkey-cart, 10:Trailer, 11:Lorry, 12:Headload, 13:Bunch, 14:Bale, 15:Sachet/tube, 16:Plate, 17:Cup, 18:Heap, 99:Other

[7] [unitdryproduce: 2.20b. Unit](#)

Categories: 1:Kilogram, 2:Gram, 3:Liter, 4:Unit or Piece, 5:Cane/Basket, 6:Bucket/Tin, 7:90kg maxibag, 8:50kg minibag, 9:Donkey-cart, 10:Trailer, 11:Lorry, 12:Headload, 13:Bunch, 14:Bale, 15:Sachet/tube, 16:Plate, 17:Cup, 18:Heap, 99:Other

# LEGEND

Legend and structure of information in this file

| Name of section   | Enabling condition for this section | Type of question, scope  | Variable name        |
|---|-------------------------------------|--|----------------------|
| <p><b>SECTION 5: OTHER INCOME SOURCES</b></p> <p>E s4_other_sources_which.Contains(98)</p> <hr/> <p><b>Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur?</b></p> <p>I This refers to family relations<br/>E s3_time_other &gt; 0<br/>V1 s4_re1_leaders_which.Contains(98)<br/>M1 Can not be itself<br/>V2 (s3_time_other_breeding_advice &lt;= (50 - s3_time_art_insem_advice))    s3_time_other_breeding_advice == 0<br/>M2 This person is not in the list<br/>F optioncode != s5_ignored_option_code</p> |                                     | <p>Answer options</p> <p>MULTI-SELECT<br/>SCOPE: PREFILLED</p> <p>01 <input type="checkbox"/> Community animal health workers</p> <p>02 <input type="checkbox"/> Private</p> <p>03 <input type="checkbox"/> Government</p> <p>04 <input type="checkbox"/> Livestock keepers association</p> <p>05 <input type="checkbox"/> NGO</p> <p>And 5 other [13]</p> | s4_re1_leaders_other |
| <p><b>Additional information:</b></p> <p>"I" – Question instruction</p> <p>"E" – Enabling condition</p> <p>"V1" – Validation condition №1</p> <p>"M1" – Message for validation №1</p> <p>"F" – Filter in Categorical questions</p>  |                                     | <p>Link to full set in appendix</p>  |                      |

## Breadcrumbs

| Type or roster             | Roster Title                    |
|----------------------------|---------------------------------|
| CHAPTER 3 IDENTIFICATION / | Roster: LEADER RELATION DETAILS |
|                            | generated by fixed list:        |
| 01                         | Ward Livestock Officer          |
| 02                         | Village Livestock Officer       |
| 99                         | Other (specify)                 |

List items