Use of CAPI for agricultural surveys

Basic Designer
Outline

1. Create a new questionnaire or copy an old one
2. Share the questionnaires in collaborative team
3. Questionnaire Structure
4. Question Fields
5. Create text, numeric, date, single and multi answer categorical questions, and list
6. Enablement conditions
7. Static Text
Learning Objectives

• Know how to create a questionnaire
• Know the major question types (text, numeric, date, single and multi answer, list)
• Understand the concept for enablement conditions
• Be familiar with the fields to be completed for questions
• Know about static text
1. Create a new questionnaire or copy an old one
Welcome to Survey Solutions Questionnaire designer

Please log in or Register

Username: michael_rahija
Password: ********

Stay logged in for a day

LOG IN FORGOT PASSWORD
<table>
<thead>
<tr>
<th>Title</th>
<th>Last Modified</th>
<th>Created Date</th>
<th>Created By</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPS Household Survey</td>
<td>8 May 2017, 01:02</td>
<td>9 Jun 2015, 00:26</td>
<td>dpsres</td>
</tr>
<tr>
<td>Copy of FINAL - Tanzania Crop Forecast_2017_v27_4_17</td>
<td>5 May 2017, 13:19</td>
<td>28 Apr 2017, 04:10</td>
<td>you</td>
</tr>
<tr>
<td>AGRIS Core_updated</td>
<td>5 May 2017, 06:22</td>
<td>21 Feb 2017, 15:13</td>
<td>shinagm</td>
</tr>
<tr>
<td>AGRIS_Eco_Updated</td>
<td>2 May 2017, 12:24</td>
<td>15 Feb 2017, 18:37</td>
<td>shinagm</td>
</tr>
</tbody>
</table>

[Image of the Questionnaire Designer interface with highlighted buttons: Create New and Action menu.]
Create New Questionnaire

- Title mandatory
- Click “Create” to create new questionnaire
General information on household

- Region
- Report the district label
- REPORT THE HOUSEHOLD ID AS IT IS IN THE LIST: {HOUSEOLD_ID}
- Household size: {HSIZE}

Enabling condition ( ? ) □ Hide if disabled ( ? )
Collaboration features
Collaboration features

Questionnaire settings

Questionnaire name: test_menage

Who has access:
ankouwi@hotmail.com - owner

Invite collaborators by e-mail:
somson@yahoo.fr

Questionnaire settings

Questionnaire name: test_menage

Who has access:
ankouwi@hotmail.com - owner
somson4@yahoo.fr - CAN EDIT
MICHAEL.RAHIJA@GMAIL.COM - CAN VIEW

Invite collaborators by e-mail.
Questionnaire name:
test_menage

Who has access:
ankouvi@hotmail.com - owner
somson4@yahoo.fr - CAN EDIT
MICHAEL.RAHJIA@GMAIL.COM - CAN VIEW

Invite collaborators by e-mail.
<table>
<thead>
<tr>
<th>CHANGE</th>
<th>USERNAME</th>
<th>TIMESTAMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person &quot;training_iasri&quot; added</td>
<td>nayo</td>
<td>2017-05-16T06:15:56</td>
</tr>
<tr>
<td>Person &quot;somson4&quot; added</td>
<td>nayo</td>
<td>2017-05-16T06:13:25</td>
</tr>
<tr>
<td>Question &quot;MaritalST&quot; changed</td>
<td>nayo</td>
<td>2017-05-12T07:38:42</td>
</tr>
<tr>
<td>Question &quot;MaritalST&quot; changed</td>
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<td>2017-05-11T22:36:49</td>
</tr>
<tr>
<td>Question &quot;MaritalST&quot; changed</td>
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<td>2017-05-11T22:32:40</td>
</tr>
<tr>
<td>Question &quot;&quot; moved to roster &quot;MMID&quot;</td>
<td>nayo</td>
<td>2017-05-11T22:31:39</td>
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<td>Question &quot;&quot; added</td>
<td>nayo</td>
<td>2017-05-11T22:31:39</td>
</tr>
<tr>
<td>Question &quot;Region&quot; changed</td>
<td>nayo</td>
<td>2017-05-11T22:22:16</td>
</tr>
<tr>
<td>Question &quot;Region&quot; changed</td>
<td>nayo</td>
<td>2017-05-11T22:22:18</td>
</tr>
<tr>
<td>Question &quot;District&quot; changed</td>
<td>nayo</td>
<td>2017-05-11T22:22:16</td>
</tr>
</tbody>
</table>
2. Questionnaire Structure
Designer : Questionnaire structure

• Two panels
  – Left panel provides structure showing questions, subgroups, rosters, etc.
  – Right panel contains fields to create and edit questions.

• In designer:
This section is empty.

You can start by using ADD QUESTION and ADD SUB-SECTION buttons on top of this block or manage sections with the left panel.

Language of survey, device types, collaboration and other options can be found at the SETTINGS panel (top right corner).
Designer : Questionnaire structure

**LEFT PANEL**

- **Subsection**: questions that have something in common
- **Roster**: A group of questions that all relate to elements in some list (e.g., characteristics of household member listed in roster)
- **Static text**: blocks of text can be added this could be useful for example when enumerators are reading intro to respondent. See next slide:
- **Variable** – *Advanced feature*
• Static Text: not a question type
• Subsection
• Questions
Designer : Questionnaire structure

**RIGHT PANEL**

- **Questions**: text and entry field to capture the answer of a respondent. In designer:
Will go over each field later in the presentation
Designer : Questionnaire structure

• **Sections** : Kind of like schedules in paper questionnaires. In designer:
6 Sections:

Section 1: Identification and Area

Section 2: Crop Area during the Long (Masika) Rainy Season

Section 3: Crop Yield - Information for first plot containing EXPERIMENTAL SUBPLOT 1

Section 4: Selection and Yield information for EXPERIMENTAL SUBPLOT 1

Section 5: Crop Yield - Information for first plot containing EXPERIMENTAL SUBPLOT 2

Section 6: Yield information EXPERIMENTAL SUBPLOT 2
3. Question Fields
KEY CONCEPT APPROACHING!
Question Types: Reminder

• CAPI application is usually designed from a preconceived questionnaires (paper).

• A well-developed questionnaire usually lead to a consistent CAPI application

• Sometimes, the non-compliance of certain rules when developing questionnaires may lead to errors in the design of CAPI Application.

• These rules have been developed from an analysis of the sources of errors in the data in many cases.
Question Types: Reminder

• How to deal with a question when the answer to that question contains a certain number of information?
  – Ex6: How much water does your household consume a day?
  – The answers could be: 10 liter; 2 barrels; 4 seals....

• To avoid any calculation on the field, it is advisable to capture or collect information from the field as it is. In this example, there is two informations given:
  – one for the magnitude (1; 2 or 4)
  – and the second for unit of measurement (liter; barrels; seals...).

• It is then advisable to create two question (Further conversion could be made at the head office for analysis).
Question Types: Reminder

• How to deal with a question..., when the options of that question do not measure the same information.

• Ex: Q1: Over the last five years, did this establishment submit an application to obtain an electrical connection (yes or no)?

• Q2: If yes, In reference to that application for an electrical connection, approximately how long did it take to obtain it from the day of the application to the day the service was received?
  – |__|__|days
  – |__|__|weeks
  – |__|__|month
  – still in process
  – application denied
it is obvious that the set of options in the green frame do not measure the same dimension with the on in red.
Question Types: Reminder

• It is necessary to dissociate the options in homogeneous groups as shown below:

• Q1: Over the last five years, did this establishment submit an application to obtain an electrical connection (yes or no)?

• Q2a: If yes, In reference to that application for an electrical connection, what was the status of the response?
  1. obtained
  2. still in process
  3. application denied

• Q2b: If obtained, approximately how long did it take from the day of the application to the day the service was received?
  – |__|__| days
  – |__|__| weeks
  – |__|__| month
Designer: Fields for every question

- Question Type*
- Variable Name*
- Variable Label
- Question text*
- Pattern (only text)
- Add Instruction
- Conditional Expression
- Validation expression
- Validation message
- Question Scope

* Mandatory
Designer: Fields for every question

- **Question Type**: Specifies how the response is collected by application
- **Variable Name**: appears as columns in dataset
- **Variable Label**: more user friendly name to appear as label in dataset
- **Question text**: What is read to respondent (*It is this text that appears to the enumerator*)
Designer: Fields for every question

- **Enablement expression**: Condition which activates the question when met. If no condition is specified, the question WILL appear. *SuSo version of Skip pattern!*

- **Validation expression**: expression which must be **TRUE** for error message not to appear. If not specified, any value is valid.

- **Message**: message that appears to interviewer when validation message is violated.
Designer: Question Scope

- Question scope determine **WHO** provides the answer
- By default, the question’s scope is interviewer.
Designer: Question Scope

• **Interviewer**: answers entered into questionnaire by enumerator. Most questions!

• **Supervisor**: answers can only be entered by supervisor. For example, economic activity code.

• **Hidden**: Stored prefilled value to be used in validations

• **Identifying**: *Info from Sampling Frame*, Identification particulars:
  – Individual id-part: (Name, Location, phone number)
  – Geo-identification particulars: Answer entered by Headquarters. The answer could be used to locate the enumeration unit. Neither Supervisor, nor Interviewer can change.
4. Create text, numeric, date, single and multi answer categorical questions, and list
Question Type

• Different question types capture different types of information.
• Choosing the correct type is crucial to minimize mistakes
• This presentation will cover text, numeric, date, single and multi answer categorical, and list.
• More complex types will be covered in a later session.
### Question Types

<table>
<thead>
<tr>
<th>Question type</th>
<th>Variable name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text</td>
<td></td>
</tr>
<tr>
<td>Categorical: Single-select</td>
<td></td>
</tr>
<tr>
<td>Categorical: Multi-select</td>
<td></td>
</tr>
<tr>
<td>Numeric</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td></td>
</tr>
<tr>
<td>Text</td>
<td></td>
</tr>
<tr>
<td>GPS</td>
<td></td>
</tr>
<tr>
<td>List</td>
<td></td>
</tr>
<tr>
<td>Barcode</td>
<td></td>
</tr>
<tr>
<td>Picture</td>
<td></td>
</tr>
</tbody>
</table>

**ADD INTERVIEWER INSTRUCTION**

- Enabling condition
- Hide if disabled

**ADD NEW VALIDATION RULE**

- Question scope: **Interviewer**
• Enumerator can enter anything in blank field. Possible applications are: names, addresses, other: please specify
Numeric

- Captures numerical information (ex: quantities, prices, volumes, etc.)
- Can force integers
- Can limit values using validation fields
- Interviewer can only enter number in this field
Interviewer picks a date on a calendar. Useful in capturing dates of birthdays, marriage, purchase of certain goods, etc. Probing required when exact date not known.
Categorical one-answer

• To be used when possible answers are known to belong to a certain list, and only one answer is possible.

• Examples: male/female, urban/rural, highest qualification level, etc.
Categorical one-answer

Which is the highest level of education Ann has attained?

- None
- Primary School
- Secondary School
- University
- Other
Categorical multiple-answer

- To be used when possible answers are known to belong to a certain list, and more than one answer is possible.
- Examples: “Do you have any of the following items in your HH: stove, refrigerator, etc...”
- Interviewer selects items.
Categorical multiple-answer

- Can be ordered, or not ordered
Categorical General Features

• Precoding: Codes for categories are entered in designer, and not visible to the interviewer.

• Preloading long lists of responses, and ‘filtering’

• Uploading .tab

• Linked can take list from another question
Categorical General Features

• Many times on PAPI, there will be an option for “Other (please specify)”.  
• How might this be implemented in CAPI?  
• Solution:  
  – Add “Other”, and give code  
  – Create new text question that activates when “Other” is selected for the previous question.
List Questions

• It is used when the number and values are not known by questionnaire designer.
  – Examples: Names of HH members, favorite movies, etc.

• The number of items cannot be larger than 40

• Many times used as source questions for rosters. This will be covered later.
List Questions

• Tap to enter new item
5. Enablement conditions
Enablement conditions

- PAPI = Skip Patterns
- CAPI = **Enablement** conditions
- Instead of questions being skipped, questions are simply either **enabled** or **disabled** based on the answer to previous question
Data validation: Building expressions

• Two questions are involved:
  – **Unleash** question: Used to enable a question.
  – **Recipient** question: question that must adhere to the conditions.
Enablement conditions

• For example, suppose you have the gender of a person collected in a variable named ‘gender’ and a question asking if the HH member has ever been pregnant collected in variable ‘pregnancy’.

• Gender is coded 1 “male” and 2 “female”

• Clearly you want to only enable the pregnancy question for females.

• To do this use the conditional expression.
# Enablement conditions

<table>
<thead>
<tr>
<th>Make a list of all the individuals who normally live and eat in this household, starting with the household head</th>
<th>Sex</th>
<th>Age in complete years</th>
<th>What is the relationship of [NAME] to the head of the household?</th>
<th>What is [NAME'S] marital status?</th>
<th>Is [NAME] able to read and write in [OFFICIAL and/or LOCAL LANGUAGE]</th>
<th>Has [NAME] ever attended school?</th>
</tr>
</thead>
<tbody>
<tr>
<td>M4_Q1</td>
<td>M4_Q2</td>
<td>M4_Q3</td>
<td>M4_Q4</td>
<td>M4_Q5</td>
<td>M4_Q6</td>
<td>M4_Q7</td>
</tr>
</tbody>
</table>

**Filter**

- **NAME**
- **ALL**

**Coding categories**

- **1 - Male**
- **2 - Female**
- **1 - Head**
- **2 - Wife/husband**
- **3 - Child / adopted child**
- **4 - Grandchild**
- **5 - Nice / nephew**
- **6 - Father / mother**
- **7 - Sister / brother**
- **8 - Son/daughter in law**
- **9 - Brother/sister in law**
- **10 - Grandfather/grandmother**
- **11 - Father/mother in law**
- **12 - Other relative**
- **13 - Servant / servant’s relative**
- **14 - Lodger / lodger’s relative**
- **15 - Other non-relative**

**Recipients**

- **1 - Married**
- **2 - Consensual Union**
- **3 - Separated**
- **4 - Divorced**
- **5 - Widowed**
- **6 - Never Married**
- **1 - no**
- **2 - read only**
- **3 - write only**
- **4 - ready and write**

**Unleash**
Enablement conditions
Enablement conditions

Unleash

Recipient
Enablement conditions

**UNLEASH QUESTION**

**RECEPIENT QUESTION**
Enablement conditions

• Enablement conditions are written in C#. They are quite flexible and can take into account the response in many questions.
• Don’t be scared, they’re about as difficult as basic excel formulas.
• We will have a specialized presentation on the syntax of validation, and conditional expressions.
Enablement conditions

• CAN YOU THINK OF OTHER EXAMPLES?
Static Text

• Static Text is used to convey information to the enumerator or the interviewee.
• Create static text by selecting “Add Static Text” from the drop-down menu.
Static Text

Static text appears on the tablet in the same position as in the designer.
SECTION 4: SELECTION AND YIELD INFORMATION FOR EXPERIMENTAL SUBPLOT 1

Static Text

<font color="red">INSTRUCTIONS FOR SELECTING EXPERIMENTAL SUB-PLOT 1</font>

First, stand at the southwest corner of the selected plot and mark it. Now, face north. The plot should be ahead of you, and on the right. Now, walk north and count your steps until arriving at the north west corner. This is side 1. Now walk east and count the number of steps for side 2.
Section 4: Selection and Yield information for EXPERIMENTAL SUBPLOT 1

INSTRUCTIONS FOR SELECTING EXPERIMENTAL SUB-PILOT 1

First, stand at the southwest corner of the selected plot and mark it. Now, face north. The plot should be ahead of you, and on the right. Now, walk north and count your steps until arriving at the north west corner. This is side 1. Now walk east and count the number of steps for side 2.
Review Learning Objectives

- How to create a questionnaire
- Major question types (text, date, single and multi answer, list)
- Be familiar with the fields to be completed for questions
- Understand the concept for enablement conditions
- Know about static text
Q&A