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# Survey on Aging in sub-Saharan Africa – CAPI Users' Manual

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**NATIONAL STATISTICAL OFFICE**  
**Zomba, Malawi**



**UNITED NATIONS**  
**Department of Economic and Social Affairs**



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## 1. Introduction into CAPI

Computer-assisted personal interviewing (CAPI) refers to survey data collection by an in-person interviewer (i.e. face-to-face interviewing) who uses a computer to administer the questionnaire to the respondent and captures the answers onto the computer.

CSPRO is a free software package used by hundreds of organizations and tens of thousands of individuals for entering, editing, tabulating, and disseminating census and survey data. CSPRO is designed to be as user-friendly and easy to use as possible, yet powerful enough to handle the most complex applications. It can be used by a wide range of people, from non-technical staff assistants to senior demographers and programmers. The funding for CSPRO comes from USAID. Additional information on CAPI is available on the US Census Bureau website.

The CAPI for the Multiple Indicator Survey on Ageing in sub-Saharan Africa has been programmed by Mr. David Beckles, project consultant.

Useful links and addresses

- U.S. Census Bureau website: <http://www.census.gov/ipc/www/cspro>
- CSPRO Users website: <http://www.csprousers.org>

## CAPI Application

### 2. Overview of the basic functionalities of the tablet

Unlocking the screen/logging-in: entering username/password

Maintaining tablet/charging tablet

Using of technical devices (dongles, etc)

Scrolling/zooming

Home button

### 3. Surveys using CAPI - Enumerators

#### 3.1 *Enumerator's assignment list*

Once logged in, the enumerator assignment list displays operations assigned to that enumerator by the NSO/team-leader. Listings are sorted (how??). Households are identified..... and located..... individual assignment lists password protected?

#### 3.2 *Accessing households on CAPI: Loading the survey:*

*Accessing CAPI & opening applications in CAPI*

*Start page for household interview*

*Start page for individual interview*

#### 3.3 *Locating households using GPS/maps/info collected during listing*

#### 3.4 *Internet access/use of blue-tooth in the field (use of dongles, etc.)/network status*

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- 3.5 *Locating households in the field using GPS codes collected during listing/ without GPS codes (maps?)*
  - 3.6 *Moving within CAPI (moving back & forth in the questionnaire – possible?)*
  - 3.7 *Saving interviews for review/save for continuation*
  - 3.8 *Uploading completed interviews to team-leader’s tablet/laptop for review*
  - 3.9 *Correcting errors*
  - 3.10 *Re-scheduling interviews (correspondence with team-leader)*
  - 3.11 *Logging out at the end of a field day & closing CAPI*

#### **4. Surveys using CAPI – Team-leaders**

The team-leader’s assignment list is different from the enumerator listing as it includes the number of assignments per enumerator and a possibly unassigned category. The listing also shows the number of interviews to be reviewed, completed, incomplete and (to be) re-scheduled.

- 4.1 *Opening screen for team-leader & review menu for team-leader*
- 4.2 *Assigning/re-assigning /re-scheduling interview*
- 4.3 *Reviewing completed interviews & save completed interviews*
- 4.4 *Correcting errors in reviewed interviews*
- 4.5 *Checking/re-interviewing completed interviews*
- 4.6 *Uploading completed interviews to NSO server*
- 4.7 *Team-leader’s control over the field*

#### **5. Surveys using CAPI – Field-supervisors**

- 5.1 *Opening screen for field-supervisors*
- 5.2 *Field-supervisor’s control over the field (over the team-leaders)*
- 5.3 *.....*

#### **6. CAPI live & CAPI training application (tbd)**

##### *6.1 CAPI training*

CAPI training performs the same as CAPI. The main difference is that CAPI training is for practice and pre-test purpose, while CAPI is for live data collection. Enumerators should always make sure to log into CAPI training when practicing – otherwise they send inadvertently practice data as live data.

To activate CAPI training, tap on the CAPI training icon. To activate live CAPI, tap on the CAPI icon.

The following log-in screen appears:

Enter the x-letter username and the x digit password by tapping inside each box and typing in the keyboard, which appears. Then tap ‘submit’. An error message appears if an incorrect username and/or password is entered. Correct the mistake and enter the correct username/password and tap ‘submit’.

##### *6.2 CAPI live data collection*

The CAPI icon is used to access the assignments during the field period. Assignments will display once NSO/team-leader (tbd) loads them to CAPI. Enumerators will receive the list of their assignments (tbd) from the team-leader. The team-leader will receive the assignments for his team from the NSO (how??) (see item 2)

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## 7. General navigation through the questionnaire using CAPI (tbd David)

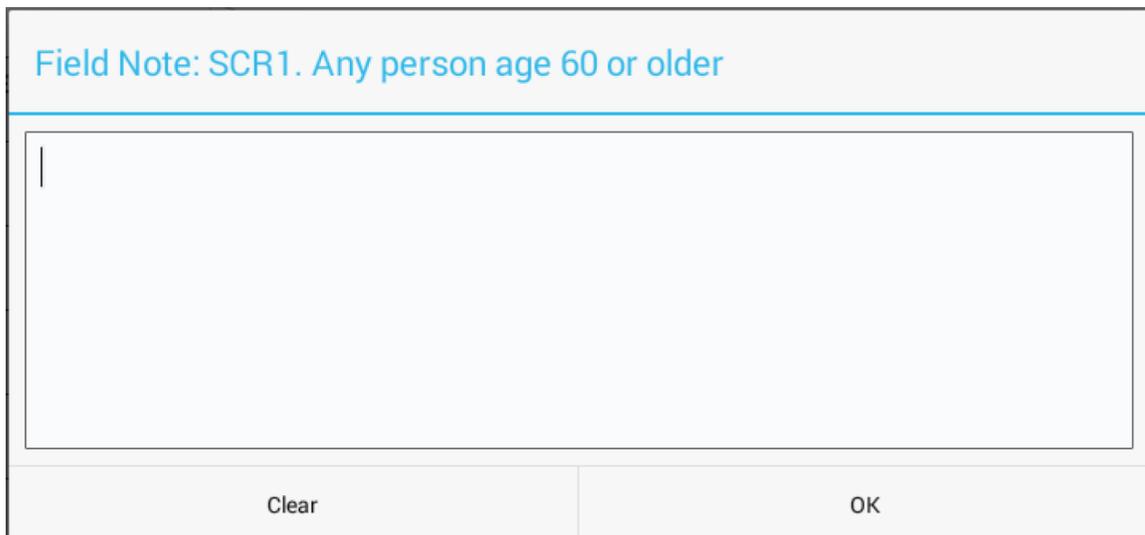
### 7.1 *Field notes*

(David question: will these icons be available in the final version?)

Selecting and clicking on the icon for 'field notes':

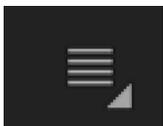


A text field opens for the interviewer to provide 'field notes', i.e. important information regarding the interview/ the specific question. Field notes can be added to all questions throughout the interview. They provide critical information to better understand the responses provided and/or report on any specific conditions/occurrences during the interview that provide the context to the information gathered .

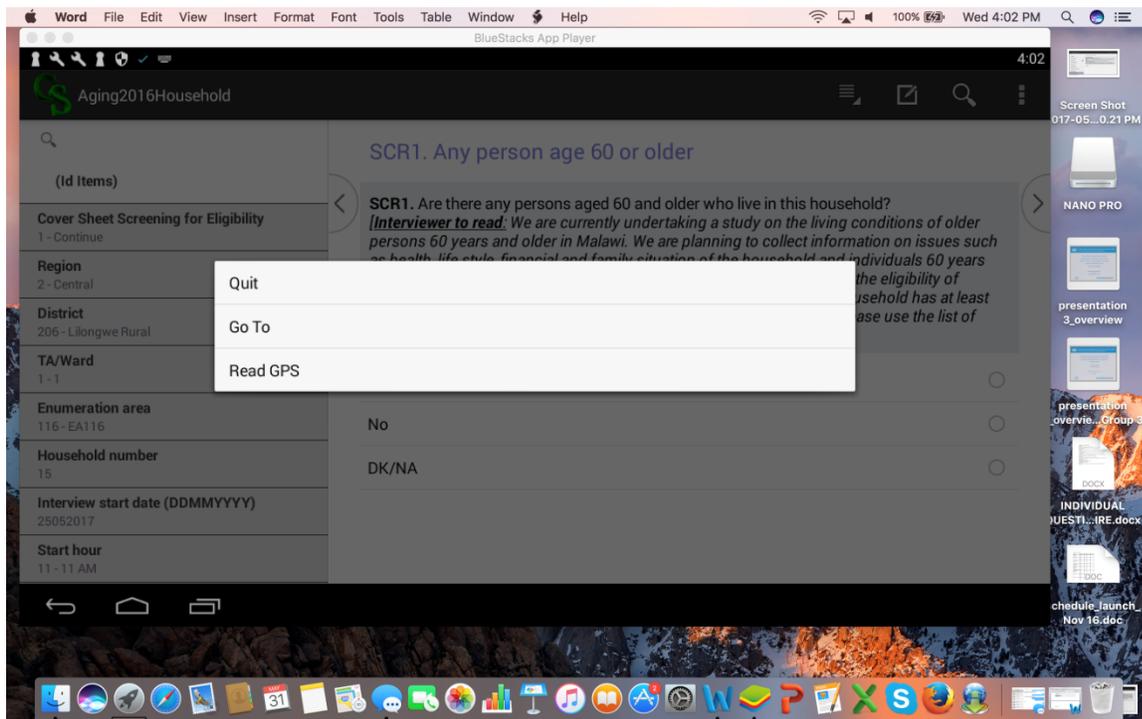
A screenshot of a software interface for entering field notes. At the top, there is a header bar with the text "Field Note: SCR1. Any person age 60 or older" in blue. Below the header is a large, empty white text area for writing. At the bottom of the interface, there are two buttons: "Clear" on the left and "OK" on the right.

### 7.2 *Interrupt interview*

Selecting and clicking on the icon for 'interrupt interview':



Opens the following screen and provides the interviewer with the following options:



Selecting 'quit' opens the following menu on the screen:

Do you want to:
Put an entry in the appointments diary?
Use Google calendar? (Android only)
Just quit?

Selecting 'Go To', the following menu becomes available:

(tbd how the questionnaire can be navigated by the interviewer using this menu)

Which section do you want to go to?
Section 2. Household Listing: HQ1 - HQ9
Section 2. Household Listing: HQ11 - HQ18
Section 3. Housing Environment: HE1 - HE13
Section 4. Household Income: HI1 - HI14
Section 5. Household Agricultural Income and Assets: AG1 - AG14
Section 6. Non-Financial Assets: HA1
Section 6. Financial Assets: HA2A - HA2F
Section 7. Access to Social Programs and Benefits: SB1 - SB5A
Section 8. Overall household economic conditions: HC1 - HC4
End Interview
Continuation Field

Clicking on any of the sections listed, moves the interviewer to the selected section (tbc); Clicking on 'continue in current field' returns you to the interview.

7.3 *Navigation within the questionnaire in CAPI*

To navigate the questionnaire, CAPI requires the interviewer to select an answer/or select 'continue' as presented in the image below:

select 'continue': Select 'continue' as follows:



and click on the arrow next to the question/instruction:

**Cover Sheet Screening for Eligibility**

[Interviewer to read: We are currently undertaking a study on the living conditions of older persons 60 years and older in Malawi. We are planning to collect information on issues such as health, life style, financial and family situation of the household and individuals 60 years and over who are members of this household. I need first to determine the eligibility of members of your household to participate in the study, i.e. that your household has at least one member who meets the age criteria, i.e. being 60 years or older.]

To proceed select 'Continue'.

Continue

(Id Items)
<b>Cover Sheet Screening for Eligibility</b>
<b>Region</b> 2 - Central
<b>District</b> 206 - Lilongwe Rural
<b>TA/Ward</b> 1 - 1
<b>Enumeration area</b> 116 - EA116
<b>Household number</b> 15
<b>Interview start date (DDMMYYYY)</b>
<b>Start hour</b>

## 8. Types of questions

This survey uses three types of questions:

Type 1: a number needs to be entered into a field provided by CAPI:

**HQ12. Age**

HQ12. What is the age of **JIM JOHN SMITH** in completed years?  
If less than 1 year enter "0"  
[Interviewer: Probe thoroughly to ensure that you get the correct age, particularly in the case of older persons in their late 50s/early 60s. If needed, use the incident-table provided by NSO]

62

Back to AGING2016 questionnaire
Listing record(1)
Listing record(2)
<b>Start Listing Record</b> 1 - Continue
<b>HQ11. Sex</b> 1 - Male
<b>HQ10. Relationship</b> 2 - Spouse
<b>HQ12. Age</b> 62
<b>HQ12b. Year born</b>
<b>HQ13. Ethnicity</b>

Type 2: a text needs to be entered into the field provided by CAPI:

**Aging2016Household**

**(Id Items)**

- Cover Sheet Screening for Eligibility  
1 - Continue
- Region  
2 - Central
- District  
206 - Lilongwe Rural
- TA/Ward  
1 - 1
- Enumeration area  
116 - EA116
- Household number  
2
- Interview start date (DDMMYYYY)  
23052017
- Start hour  
11 - 11 AM

**Village/Town name**

Enter the name of the town or village

Type 3: Select one response from several options

**Aging2016Household**

**Back**  
to AGING2016 questionnaire

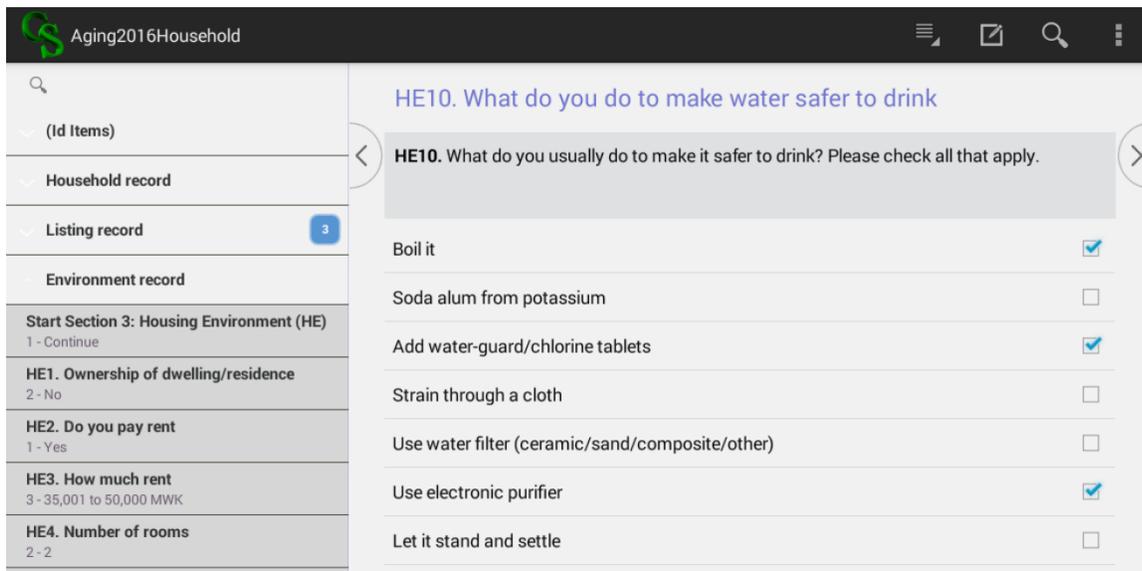
- Listing record(1)
- Listing record(2)
- Start Listing Record  
1 - Continue
- HQ11. Sex  
1 - Male
- HQ10. Relationship  
2 - Spouse
- HQ12. Age  
62
- HQ13. Ethnicity**
- HQ13. Other

**HQ13. Ethnicity**

HQ13. What is **JIM JOHN SMITH's** ethnicity?

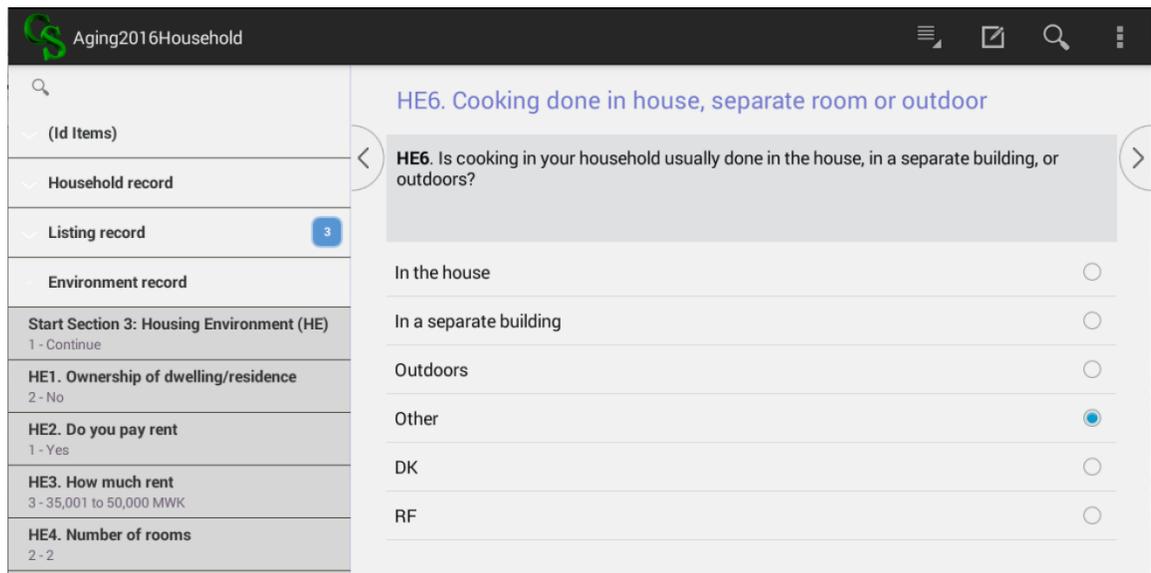
- Chewa
- Yao
- Tumbuka
- Lomwe
- Ngoni
- Sena
- Nyanja
- Tonga

Type 4: Select at least one response (check all that apply) from several options



Category 'other': field for additional information to be entered into the system

The majority of the closed questions (questions that provided a selection of responses) in the survey provide an option 'other' to provide additional information and/or to provide an additional response category that has not been captured by the responses offered.



Selecting 'other' and clicking on the right arrow next to the question will provide a text-field (see below) to enter the relevant information. When finishing with entering the information, click 'ok' and CAPI will move on to the next question.

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HE6. Is cooking in your household usually done in the house, in a separate building, or outdoors?

OK

## 9. Consistency checks

CAPI has a series of built-in consistency checks that allow the system to reduce errors when entering data and alerts the interviewer when erroneous information has been provided with an error message that returns the user to the question to review and revise the response/s provided accordingly. The following provides examples of in-built CAPI consistency checks and related error messages.

### 9.1 Incomplete response

In the present design of CAPI, a response is required for all questions. In case an interviewer attempts to advance without providing a response, the following error message appears on the screen:

WARNING: Out of range! Please enter a valid value for HI9

OK

This requests the interviewer to click on 'ok' to return to the question to provide a response. For any question a respondent is not able to answer, because he/she doesn't know, select 'DK' (which stands for 'don't know'). For any question the respondent refuses to provide an answer, select 'RF' (which stands for 'refused') and proceed to the next question.

### 9.2 Inconsistent responses

For questions that allow the selection of several responses, CAPI has built-in consistency checks to reduce possible errors that can be either due to inconsistency in the response pattern of a respondent and/or typos of the interviewer. The following image provides an example of inconsistent responses selected: the response categories 'Don't now' and 'Refused' cannot be selected with any other response category:

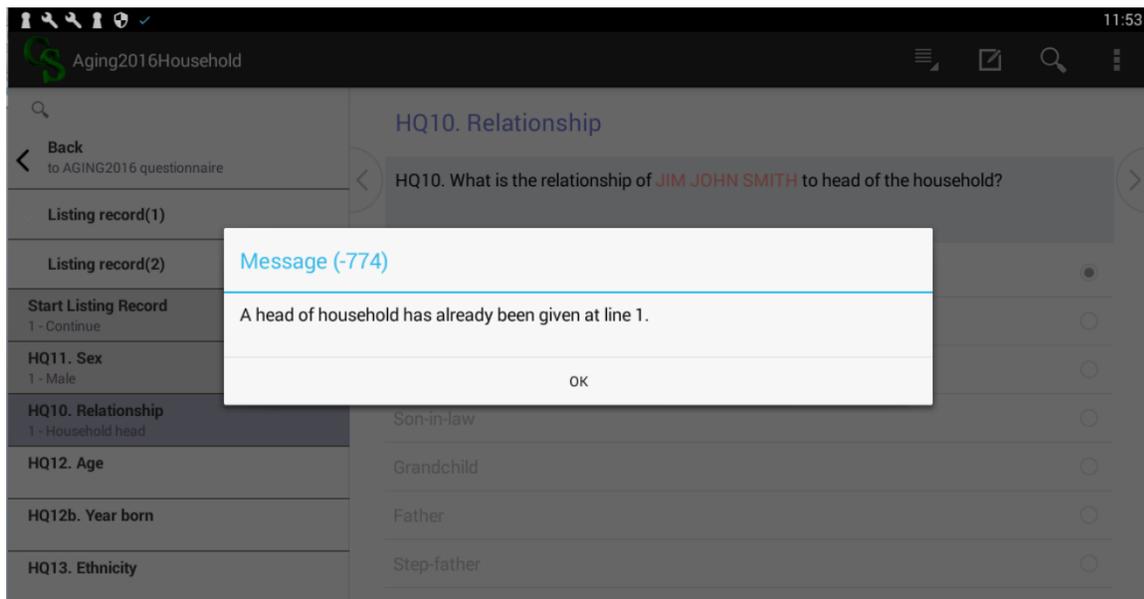
Should the interviewer try to enter an inconsistent selection of responses, CAPI will trigger the following error message:

Clicking on 'ok' the interviewer is returned to the question to review and revise the responses accordingly.

### 9.3 Inconsistent information provided

#### Example 1:

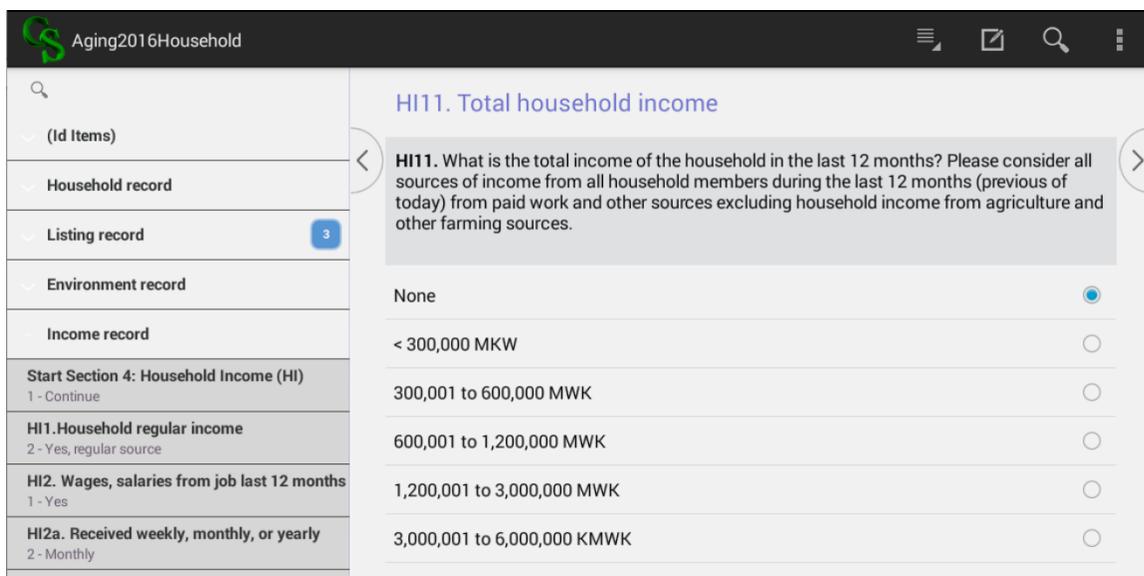
The following screenshot provides an example of a question for which an incorrect (inconsistent) response was provided: In this situation, two individuals (instead of one) were designated head of household by the interviewer. Given that only one individual can be designated head of household of any given household, CAPI triggers the following error message:



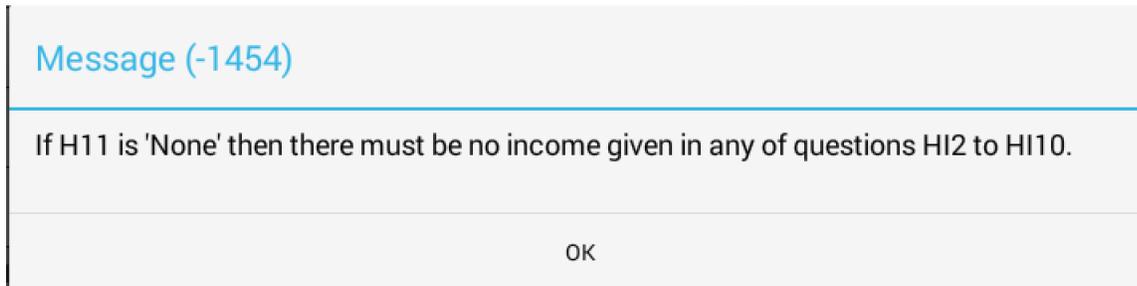
Click on 'ok' and CAPI returns to the question in order for the interviewer to review and revise the information provided.

Example 2:

The interviewer has provided an inconsistent response as follows (after providing income information to earlier questions):



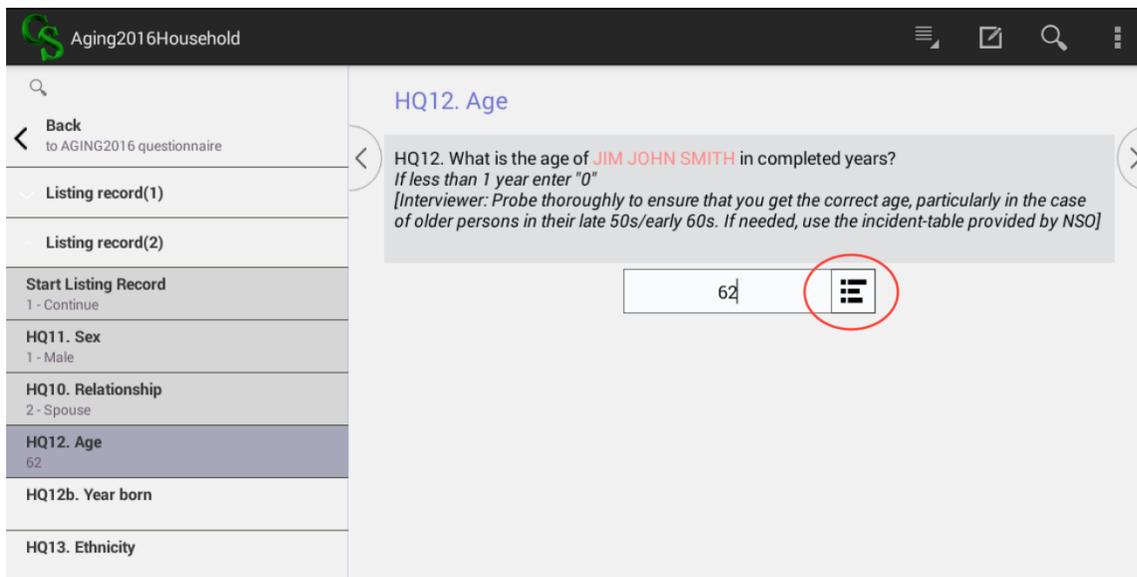
CAPi triggers the following error message:



Clicking 'ok' returns the interviewer to the question to review and revise the response provided accordingly and in consistency with earlier responses provided

#### 9.4 Provision of (number) ranges

In order to reduce the risk of typos and respondent's errors/inconsistencies, CAPi provides ranges for numeric information, such as age of the respondent (in this example), to be entered. Any number entered that is outside that given range will trigger an error message and will return the interviewer to the question to review and revise the response accordingly.



The following image demonstrates how the interviewer can review the age range provided: Click on the icon within the (red) circle and CAPI will display the range within which the response needs to be (0-105 years of age). Should the respondent either not know his age, select 'DK' for don't know' or should he/she refuse to provide the age-information, select 'RF' for 'refused'.

The screenshot shows the CAPI interface for 'Aging2016Household'. The main question is 'HQ12. Age' with the text: 'HQ12. What is the age of JIM JOHN SMITH in completed years? If less than 1 year enter "0" [Interviewer: Probe thoroughly to ensure that you get the correct age, particularly in the case of older persons in their late 50s/early 60s. If needed, use the incident-table provided by NSO]'. The current value is 62. A dropdown menu is open, showing options: 0-105 (selected), DK, and RF. The left sidebar shows a list of questions: Back to AGING2016 questionnaire, Listing record(1), Listing record(2), Start Listing Record (1 - Continue), HQ11. Sex (1 - Male), HQ10. Relationship (2 - Spouse), HQ12. Age (62), HQ12b. Year born, and HQ13. Ethnicity.

## 10. Interviewer instructions

CAPI provides interviewer instructions at the beginning of each substantive section and/or along with specific questions as necessary. These instructions provide guidance to the interviewer to explain/clarify the matter and/or to provide guidance to the interviewer as to how to handle a certain topic and/or question.

There are two types of interviewer instructions:

Type 1: 'Interviewer to read' instructions: these instructions need to be read out loud to the respondent as provided:

11:03

Aging2016Household

Search

(Id Items)

Cover Sheet Screening for Eligibility

Region  
2 - Central

District  
206 - Lilongwe Rural

TA/Ward  
1 - 1

Enumeration area  
116 - EA116

Household number  
15

Interview start date (DDMMYYYY)

Start hour

### Cover Sheet Screening for Eligibility

[Interviewer to read: We are currently undertaking a study on the living conditions of older persons 60 years and older in Malawi. We are planning to collect information on issues such as health, life style, financial and family situation of the household and individuals 60 years and over who are members of this household. I need first to determine the eligibility of members of your household to participate in the study, i.e. that your household has at least one member who meets the age criteria, i.e. being 60 years or older.]

*To proceed select 'Continue'.*

Continue

Type 2: 'Interviewer': these are guidance notes for the interviewer (these are not to be read aloud to the respondent):

Aging2016Household

Search

(Id Items)

Household record

Listing record 3

Environment record

Income record

Agriculture record

Household Ownership Form

Finance record

Start Financial Assets

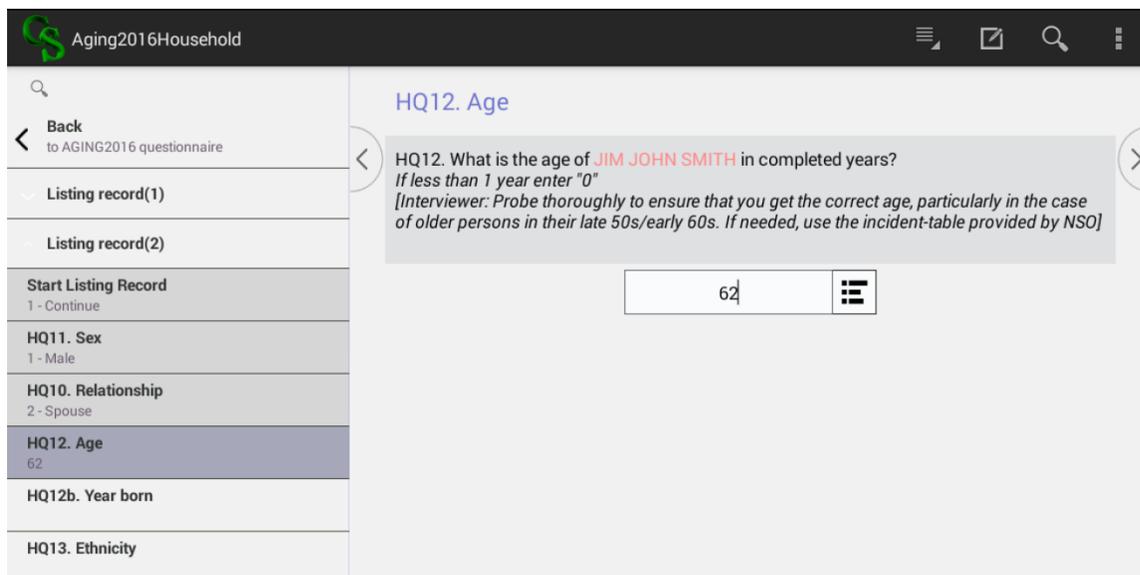
HA2a. Current bank account

### Start Financial Assets

**Start Financial Assets**  
*[Interviewer: The questions being asked are:*  
**HA2\***. Do you or members of your household currently own any of the following financial assets?  
**HA2\*\_1**. What is the approximate current total value of these assets?  
*where \* is a letter from 'a' to 'f'.*  
*If respondent reports 0 items owned by the household, write ``0`` in the respective field.*  
*When you respond, please make sure to include all assets owned by the household. This*

Continue

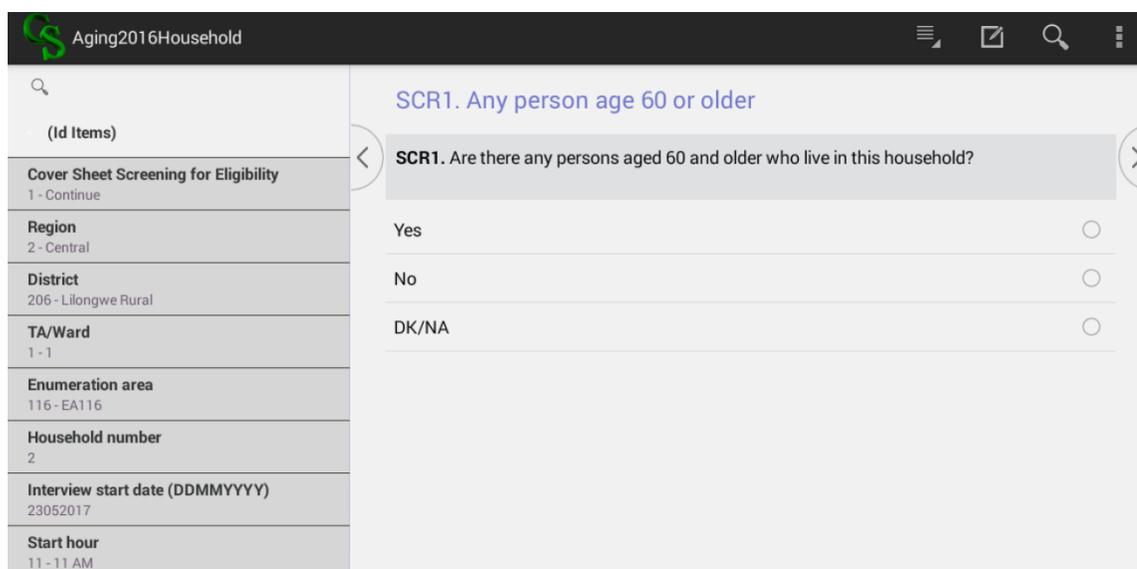
Should the text of the instruction be longer than the screen provided, the interviewer can scroll down (how on the tablets used??) to completely access the information provided.



## 11. Guidance on selected questions

### 11.1 Household listing (household questionnaire)

An area of critical importance for the survey is completion of the household listing. The household listing starts with listing all members of the household (according to the guidelines provided in the interviewer manual). Of critical importance is the complete listing of household members age 60 years and older. In order to list all individuals in this age-group CAPI provides the following question to allow the interviewer to list all age-eligible individuals in the household (according to the guidelines provided in the interviewer manual):



Select 'yes' and click on the arrow to the right of the question to proceed to the follow-up question that collects the name of that individual. Upon completion of entering the name/s of this age-eligible

individual, CAPI returns to the screen above. Select 'Yes' if there are additional eligible household members and 'No' if there are no more additional eligible individuals.

## 11.2 Access to water and time to get it

The survey assesses the time needed to collect water (question HE8c: how long does it take?). The first screen collects the info in hours: select '0' hours if it takes less than one hour. Select the appropriate number for the number of hours it takes to collect water. Then click on the arrow on the right side of the question to advance to the next question that collects the minutes needed (in addition to the hour/s or if the time is less than one hour).

The screenshot shows a mobile application interface for 'Aging2016Household'. On the left is a navigation menu with sections: '(Id Items)', 'Household record', 'Listing record' (with a blue badge '3'), 'Environment record', 'Start Section 3: Housing Environment (HE)', 'HE1. Ownership of dwelling/residence', 'HE4. Number of rooms', 'HE5. Separate room for preparation of food', and 'HE6. Cooking done in house, separate room or outdoor'. The main content area is titled 'HE8f. Time taken in HOURS' and contains the question: 'HE8f. How long does it take to go there, get water, and come back during the dry season?'. Below the question is a list of radio button options from 0 to 6. Option 0 is selected.

Option	Selected
0	<input checked="" type="radio"/>
1	<input type="radio"/>
2	<input type="radio"/>
3	<input type="radio"/>
4	<input type="radio"/>
5	<input type="radio"/>
6	<input type="radio"/>

and then provide the time in minutes accordingly:

The screenshot shows the same mobile application interface, but the main content area is now titled 'HE8f. Time taken in MINUTES'. The question remains: 'HE8f. How long does it take to go there, get water, and come back during the dry season?'. Below the question is a list of radio button options from 30 to 36. Option 30 is selected.

Option	Selected
30	<input checked="" type="radio"/>
31	<input type="radio"/>
32	<input type="radio"/>
33	<input type="radio"/>
34	<input type="radio"/>
35	<input type="radio"/>
36	<input type="radio"/>

