

# Principles of Questionnaire Design

Designing Household Surveys to Measure Poverty  
Perugia, Italy  
November 2017

## Outline

1. Introduction
2. Asking the right questions
3. Choosing the respondents
4. Assuring comprehension
5. Designing the flow
6. Assuring response
7. Recording the answers
8. Reality checking
9. Summary

# 1.

## Introduction

## Introduction

- ✓ Developing a questionnaire is critical part of survey design
- ✓ Quality of data is highly dependent on the questionnaire design
- ✓ Any mistake or inaccuracies in the wording or flow of questions may lead to undesired biases
- ✓ Biases in questionnaire construction influence the answers given
- ✓ Sufficient time allocated to designing questionnaire and testing the questionnaire helps to mitigate the errors and biases

## Factors of a Good Questionnaire

- ✓ Is the questionnaire asking the right questions?
- ✓ Are the questions addressed to the right respondents?
- ✓ Will the respondents understand the questions?
- ✓ Can the question give a real response?
- ✓ Will the respondent be willing to answer the questions?
- ✓ Are the questions repetitive?
- ✓ Will the answers be recorded correctly in the questionnaire?
- ✓ Are questions flowing properly?
- ✓ Have all the above been “reality-checked”?

# 2.

## Asking the right questions

- a. All relevant topics covered?
- b. Each topic adequately covered?

## a) Are all the relevant topics covered?

- ✓ Compose a diverse survey design team
- ✓ Consult and discuss with stakeholders interested in the survey
- ✓ Responding to development frameworks?
  - National/subnational development plan
  - Regional development framework
  - Global framework – SDGs
- ✓ Review of previous relevant surveys
- ✓ Review of relevant qualitative studies
- ✓ Use of local knowledge

## a) Are all the relevant topics covered?

- ✓ Questionnaire likely to explode in size after consultations
- ✓ Policy relevance:– What policy changes or actions do we expect from the survey?
  - A set of indicators
  - A research topic
  - Program evaluation
- ✓ Minimize respondent fatigue
- ✓ Pre-testing:- help to determine the strengths and weaknesses of the survey concerning question format, wording and order

## Exercise: Match topics and possible sources of data

Topic
Immunization rate among children
Tobacco addiction
Use of fertilizers
Formal employment
Migration and remittances
Population in poverty

Source of data
1. Ministry of Labor
2. Ministry of Agriculture
3. Ministry of Education
4. Ministry of Health
5. HIV/AIDS survey of 2010
6. Risky lifestyles survey of 2013
7. Boarder Police
8. Association of Pharmacists
9. Annual Labor Force Survey
10. Study on Farm Practices in Semi-urban
11. National Panel Survey

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## b) Is each topic adequately covered?

- ✓ Questionnaire need to be as short as possible
- ✓ Questionnaire should capture all necessary information for sound analysis
- ✓ Sometimes, better to cut questions/re-word after pre-testing

**Exercise: You are designing a survey to ask about a household's access to credit. Below is the list of modules of the questionnaire. Which module(s) would include the relevant questions to determine amount of money hhold currently owes.**

Roster
Parents of household members
Housing utilities
Education
Health
Labor and other income
Privatization
Migration

Fertility
Credit
Expenditure or Consumption
Agriculture
Non-Farm Enterprise
Other Household Income
Anthropometry
Ownership of Assets

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<del>Fertility</del>
Credit
Expenditure or Consumption
Agriculture
Non-Farm Enterprise
Other Household Income
<del>Anthropometry</del>
Ownership of Assets

# 3.

## Choosing the respondents

### 3. Choosing the respondents

- ✓ Address each module & question to person best informed to answer
- ✓ Individual questions to be answered by individuals themselves
- ✓ Household questions – answered by household member most knowledgeable
  - Sometimes this information is shared by more than 1
- ✓ Apart from hhold head, other members may be more knowledgeable about specific sections/modules
  - Use of cooking fuel: person who cooks most
  - Hhold enterprise: person operating that enterprise

### 3. Choosing the respondents

- ✓ Proxy respondents
- ✓ Errors occur if respondent cannot give the right response
- ✓ Consider recording the details of the proxy respondent in order to determine biasness:

Question 1	Question 2
Is the respondent reporting for him/herself?	Who is responding on behalf of [NAME]?
YES .... 1 NO .... 2 ▶ Q3	HH ROSTER ID CODE

- ✓ For instance, Labor Statistics better be respondent by the worker

### 3. Exercise: Matching respondents to modules

You have been asked to interview a household of Maria, Maxwell and their three children: Simon (20 years old), Samson (16 years old) and Suzen (3 years old). They live with Jacob, Maxwell's father, and Priscilla, the nanny who is 37 years old. They live in a town close to the city. Maxwell is an accountant and drives to the city. Simon attends university as a day scholar. Samson is attending high school close to their house.

Who should answer questions to the **Roster Module**?

### 3. Exercise: Matching respondents to modules

You have been asked to interview a household of Maria, Maxwell and their three children: Simon (20 years old), Samson (12 years old) and Susan (3 years old). They live with Jacob, Maxwell's father, and Priscilla, the nanny who is 37 years old. They live in a town close to the city. Maxwell is an accountant and drives to the city. Simon attends university as a day scholar. Samson is attending high school close to their house.

Who should answer questions to the Roster Module?

- ✓ Maria
- ✓ Maxwell
- ✓ Simon
- ✓ Samson
- ~~✓ Susan~~
- ✓ Jacob
- ✓ Priscilla

## 3. Choosing the respondents

### Adapting the wording to the respondent

- ✓ Do you own or operate a non-farm enterprise?
- ✓ Does [NAME] own or operate a non-farm enterprise?
- ✓ Do you, or anyone in your household, own or operate a non-farm enterprise?

## 3. Choosing the respondents

### Adapting the wording to the respondent

- ✓ Do you own or operate a non-farm enterprise?

Refers only to the individual responding to the question

- ✓ Does [NAME] own or operate a non-farm enterprise?

Refers specifically to another individual in the household

- ✓ Do you, or anyone in your household, own or operate a non-farm enterprise?

Refers to the respondent or anyone else in the respondent's household

# 4.

## Assuring Comprehension

## 4. Assuring Comprehension/Understanding

- ✓ Avoid ambiguous wording: *e.g Where do you like to shop?*
  - Different respondents may interpret the question differently
  - Respondents have tough time to figure out what the question is looking for
- ✓ Avoid double barreled questions: *e.g How often do you update your computer and printer and consult the technician upstairs?*
  - Other respondents update either but not both
- ✓ Be clear who the question refers to: *e.g Do you own the house?*
  - Other respondents may refer to the respondent him/herself or the household as a whole
- ✓ Make the reference period explicit: *e.g Did you attend school?*
  - Last week? Last year? Respondents will provide different responses
- ✓ Avoid jargon or too academic words that may limit comprehension by respondent
- ✓ Language should be the one that respondent will better understand
- ✓ Questions should be acceptable culturally

## 4. Exercise: Assuring Comprehension/Understanding

We want to measure the current net present value of owner-occupied dwellings.  
Which of the following wordings is most appropriate?

1. How much is your house worth?
2. What is the current net present value of this dwelling?
3. How much would you sell your house for today?
4. If you were to sell your house today, what price do you believe you could receive?
5. How much did you pay for this house?

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## 4. Exercise: Assuring Comprehension/Understanding

Which of the following questions do you think has the appropriate wording?

1. Some people believe that in certain exceptional circumstances, it is justified for a father to strike his child as punishment. Do you agree with this?
2. Do you think that in certain circumstances it is justified for a father to strike his child?
3. Some old-fashioned people think it is still okay to hit their children. You don't think it is okay to hit your children, do you?
4. Do you think that rules banning corporal punishment within the home should be prohibited?

## 4. Exercise: Assuring Comprehension/Understanding

Which of the following questions do you think has the appropriate wording?

1. Some people believe that in certain exceptional circumstances, it is justified for a father to strike his child as punishment. Do you agree with this?
2. Do you think that in certain circumstances it is justified for a father to strike his child?
3. Some old-fashioned people think it is still okay to hit their children. You don't think it is okay to hit your children, do you?
4. Do you think that rules banning corporal punishment within the home should be prohibited?

## 4. Exercise: Assuring Comprehension/Understanding

Please indicate whether each of the following questions is properly asked or not. If not, please indicate how the question should be worded

1. Do you smoke?
2. How many cigarettes do you smoke?
3. When did you start smoking?
4. Do you smoke pipe tobacco, cigars or cigarettes?
5. Do you smoke at home or at work?
6. What is your favorite brand of cigarettes?
7. Are you aware that smoking tobacco is risky?
8. How much do you spend on cigarettes?

## 4. Assuring comprehension

### Translation

1. Translation of questionnaire needs to be done before piloting
2. Sometimes not possible to translate into all languages. Special training should be conducted on such languages
3. A glossary of difficult terms or show cards can be useful
4. Back translation helps detect problems with translation

# 5.

## Designing the flow

## 5. Designing the flow

1. Flow helps smooth transition from one question to the other, one section to the other, one topic to the other
2. Good flow helps time taken to complete interview
3. Improves engagement between interviewer and respondent
4. It helps improve the quality of information being collected
5. “Skip instructions” ensure questions are responded to by the right person

# 6.

## Assuring response

## 6. Assuring response

1. Sensitive data is always difficult to collect
2. Respondents may not be willing to respond
3. Respondents may provide false information
  - information is income
  - Sexually transmitted diseases
  - Engagement in corrupt practices
4. Better leave sensitive questions at the end of the interview
5. Curious bystanders become bored and pays no attention to the interview

# 7.

## Recording the answers

## 7. Recording the answers

1. Formatting is an important part of questionnaire designing
2. Ample time should be allocated to format the questionnaire
3. Categories should be considered depending on the needs
  - a. Closed form
  - b. Yes/No
  - c. Multiple answers
  - d. Numeric
  - e. Textual

## 7. Recording the answers

### Closed form

1. A question where a single answer can be chosen from a set of predefined responses
2. The questionnaire should ensure only one response is recorded
3. It is preferable that codes are numeric
4. Examples?

## 7. Recording the answers

### Closed form

1. A question where a single answer can be chosen from a set of predefined responses
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B04	
RELATIONSHIP TO HEAD:	
HEAD . . . . .	.1
WIFE/HUSBAND . . . . .	.2
CHILD/ADOPTED CHILD . . . . .	.3
GRANDCHILD . . . . .	.4
NIECE/NEPHEW . . . . .	.5
FATHER/MOTHER . . . . .	.6
SISTER/BROTHER . . . . .	.7
SON/DAUGHTER-IN-LAW . . . . .	.8
BROTHER/SISTER-IN-LAW . . . . .	.9
GRANDFATHER/MOTHER . . . . .	10
FATHER/MOTHER-IN-LAW . . . . .	11
OTHER RELATIVE . . . . .	12
SERVANT OR SERVANT'S RELATIVE . . . . .	13
LODGER/LODGER'S RELATIVE . . . . .	14
OTHER NON-RELATIVE . . . . .	15
OTHER (SPECIFY) . . . . .	16

## 7. Recording the answers

Yes / No

1. Very common and important type of closed form questions
2. The question on the left uses numeric codes
3. The question on the right is ticked when “Yes”

Correct technique

<b>Question 1</b>	
Can [NAME] read and write?	
YES	..... 1
NO	..... 2
<input type="checkbox"/>	

Incorrect technique

<b>Question 1</b>	
Can [NAME] read and write?	
<b>X</b> MARK THE BOX	
<input type="checkbox"/>	

## 7. Recording the answers

### Multiple answer

1. More than one answer from a list of predefined responses is chosen
2. Analysis can be harder to deal with
3. Need to ensure that all possible responses have been covered

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6- If "YES", what level of students would you use this material for?

[Tick all that apply]

Certificate	Diploma	Master's	PhD
1	2	3	4

## 7. Recording the answers

### Numeric

1. A number is expected as response
2. The questionnaire needs to explicitly indicate the unit of measurement e.g. km, US\$, hours etc.
3. Where there is a need to convert, instructions should be provided to ensure uniformity across the survey
4. What about Non-Standard Units such as heaps?

<b>B12</b>
How long is it since [NAME] came to stay here, in this village or urban location?
<b>YEARS</b>

## 7. Recording the answers

ALLOWING NSUs: Simplifies respondent's role, conversion factors are consistent



## 7. Recording the answers



## 7. Recording the answers

### Textual

1. Question where verbal statement is expected as a response
2. Stored as “String” or “Alphanumeric”
3. Common in opinion surveys
4. Also used to record names, addresses etc. and useful for follow-ups

## 7. Recording the answers

### Don't Knows

1. At times, respondents may be unable or unwilling to provide an answer
2. Survey practitioners have been debating on how to deal with this
3. Sometimes this option can be misused – interviewers do not put more effort to probe
4. Supervision plays an important part to check on these responses
5. Important to have interviewer manual to help clarify on some questions:
  - Textbook for training
  - Reference for interviewers

# 8.

## Reality checking

## 8. Reality checking

Piloting – bring the questionnaire to the field and interviewing real people is critical to the whole survey design process before you actually interview your sample population

Administer your questionnaire to few respondents (you can include your pals) to

- ensure that survey questions operate well
- ensure that the survey instrument as a whole is within the expected budget, timeframe

Ask your respondents to think out loud as they are responding to your survey

# 9.

## Summary

## 9: Summary

- »Assuring that all policy-relevant issues are addressed
  - Review of the required indicators
  - Discuss with key stakeholders
  - Research on past survey experience
- »Careful drafting, with emphasis on
  - Respondent identification
  - Question wording
  - Real responses
  - Question flow
  - Formatting – even with CAPI
- »Pre-testing questionnaire and Piloting the survey
- »Don't re-invent the wheel!

## 11. Reference material

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3. Designing Household Surveys: Questionnaire for Developing Countries (Vol 1, Pages 91-133)
4. Do Labor Statistics depend on how and to whom the questions are asked? Results from a survey experiment in Tanzania
5. Harvard University Program on Survey Research (Nov. 2007). Tip Sheet on Question Wording
6. [https://psr.iq.harvard.edu/files/psr/files/PSRQuestionnaireTipSheet\\_0.pdf](https://psr.iq.harvard.edu/files/psr/files/PSRQuestionnaireTipSheet_0.pdf)
7. [http://siteresources.worldbank.org/INTLSMS/Resources/3358986-1423600559701/LSMS\\_GB\\_NSU\\_Web.pdf](http://siteresources.worldbank.org/INTLSMS/Resources/3358986-1423600559701/LSMS_GB_NSU_Web.pdf)
8. Main Source: LSMS, Multi-topic surveys distance learning course  
[http://lsms.adeptanalytics.org/course/fscommand/session1/Ses1\\_eng.html](http://lsms.adeptanalytics.org/course/fscommand/session1/Ses1_eng.html)

Networking

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