

INTRODUCTION TO DATA COLLECTION METHODS

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DATA COLLECTION STRATEGY

INTRODUCTION:

Data collection is a very important activity aimed at getting information which is basic for Statistical Surveys and Censuses. Statistics is increasingly used today in every aspect of our national life. The government uses statistics to monitor and evaluate all policies and programme. Hence the need for proper planning and management of data collection in the field.

- ❑ The success of any survey depends ultimately on the quality of data collected
 - Hence, careful and thorough planning in organizing the field operation is required
 - Rigorous implementation of the plan is essential to achieve desired level of quality
- ❑ Some other strategies for collecting good data
 - Recruitment of field personnel
 - Training of field personnel
 - Data collection procedures

PLANNING DATA COLLECTION:

Planning: Planning and preparation of a statistical survey entails the whole stages of survey design or survey mythology from setting of objectives to the last stage which is dissemination of statistical report. Planning and preparation set out the area of inquiry, goals, objectives, target

population, sampling techniques questionnaires design, recruitment and training of personnel's to be used on the field, data collection editing and coding, data analysis and presentation and dissemination of data.

Calendar of activities is made so as to avoid overlapping of activities. There is a common saying which says that he who fails to plan, plans to fail.

- FRAME: The planning of a survey must consider the desired frame. The frame consists of list of population to be covered. The frame may be in form of map in which case people in that geographical area will be covered or a list of business establishments or schools or health institutions and so on. A frame must be well defined such that every element appears on the list separately once and only once. Such a frame is said to be perfect.

SURVEY EQUIPMENT AND INSTRUMENTS: Survey instruments are intended to standardize procedure for data collection. For a very successful data collection exercise, the field staff must be housed in a conducive environment where, they can have storage for their equipment which includes the Enumerator's kit, questionnaires, Manual of instruction for enumerators and supervisors, Listing form, Sample list of selected EAs, Enumeration Area (EA) sketch maps, CAPI etc. All equipment and instruments must be in place before the start of the survey.

Survey instrument: Listing Forms

List of HHs are usually not available. It is used in constructing sampling frame of HHs.

QUESTIONNAIRE: The most important instrument for data collection is the QUESTIONNAIRE. A questionnaire is a set of questions used in collecting required information on a particular subject. It is the basic survey instrument used in capturing/ collecting information from a respondent. Success of a survey, to a large extent, depends on the quality of questionnaire. It is usually completed by the respondent himself where he/she is literate or by the respondent with the assistance of the enumerator. A good questionnaire must be able to obtain complete and accurate information while maintaining the co-operation of the respondents. The modern questionnaires are digitalised and scannable. The essence is to reduce the processes of manual coding/editing so as to eliminate errors. These digitalised questionnaires are electronically processed.

INTERVIEWER'S/SUPERVISOR'S MANUAL: For a very successful data collection exercise there must be a manual to guide the enumerator/supervisor. The manuals facilitate standardization of procedures for data collection.

The manual is a sort of reference book that contains some instruction and definitions to guide the Enumerators/Supervisors on how to complete the questionnaires. These are manuals documenting concepts and definitions used in the survey, data collection procedures, roles and responsibilities of field personnel, how to complete the questionnaire or more generally, the survey design. The supervisor's manual documents supervisor's role and field edit/check procedure.

- RECRUITMENT AND TRAINING: Recruitment and training of the right calibre of staff are very important schedule for a very successful data collection exercise. The number and calibre of staff that must be recruited depends on the sample designs. In NBS today only officers with OND certificates (Statistics) can be recruited as ad-hoc staff.

- **TRAINING:** Training is a set of activities designed to improve the knowledge of the staff and thereby enhance their productivity.

There are two types of training:

- (a) Training of trainers (TOT) – 1st level training
- (b) Training the Supervisors/Enumerators - 2nd level training

Training of trainers involves training of the Senior Staff on **interview technique** and field procedure with respect to the survey of study. The trainer will in turn train the supervisors/enumerators. The training usually focuses on.

- (a) How to complete the questionnaires
- (b) How to use the manual and conduct in-depth interview

DATA COLLECTION PROCEDURES: There are two common data collection approaches – the census and the sample survey. Data can also be collected through Systems of Administrative Statistics (SAS)

- **CENSUS:** is defined as the total or complete enumeration or coverage of all the defined elements of interest in a given population. This approach has two major disadvantages.

- (i) Very expensive
- (ii) Time consuming

- **SAMPLE SURVEY:** Sample survey is the study of fractional aspect of the population upon which inferences can be drawn in a given population. There are various ways of selecting sample from a population but the cardinal purpose for selection is to obtain a representative sample.

Fieldwork Arrangement

- Deals with arrangement for efficient data collection
- Recruitment of Field Personnel
- Arrangement of Personnel for field work
- Workload of field personnel
- Duration of field work
- Preliminary Arrangement (Sensitization of local govt chairpersons, Radio/ Television adverts etc.)

DATA COLLECTION METHODS: The decision about how data will be collected is an important part of the design process which determines the data collection approach. Data collection is the most expensive component of a sample survey or census. The data collection methods include:

Direct (face to face) Interview

The direct interview method is the most common. In this method enumerators or interviewers follow a rigid procedure and asks questions already prepared for the purpose. Enumerators are trained in order to standardize the system of data collection.

In this method enumeration should be completed in a shorter time if adequate staff can be trained for the exercise. The efficiency of this method is dependent on the following factors.

- (i) Cooperative attitudes of the respondents which will affect the quality and quantity of data
- (ii) Type of training provided for field workers
- (iii) The category of field workers
- (iv) Field supervision arrangement, and
- (v) Availability of field materials

Advantages:

- (i) It is used in highly complex fields or involved multi-subject undertaking, this technique is the most feasible, even where literacy is high.
- (ii) It yields high response rate because skilful interviewer can persuade an unwilling respondent.
- (iii) The interviewer is free and has more opportunities to restructure questions wherever it is necessary to do so.
- (iv) It allows more and accurate information to be obtained by asking the respondent more questions or asking him/her for further explanation.
- (v) Skilled interviewer will know when to make calls and recalls if respondents are out.
- (vi) It can be applied to all respondents whether literate or illiterate.
- (vii) Interviewer can note the reactions of respondents if necessary.

Problems of data collection: Enumerator usually encounters a lot of problems which we will look at.

- 1. Difficult respondents
- 2. Respondent not available or located
- 3. Language problem
- 4. Ignorance on the part of respondent / Illiteracy
- 5. Taboos and traditional / religious belief
- 6. Transport and communication
- 7. Problems arising from paying field staff

TYPES OF DATA

There are two types of data

- (i) Primary Data
- (ii) Secondary Data

- PRIMARY DATA: The primary data are first hand information collected from respondents. The quality of the information so collected depends highly on the efficiency of the survey design, the enumerators and co-operation of the respondents.

- SECONDARY DATA: The secondary data are information already generated but may or may not be in the form required by the user.

The primary data are preferable to secondary data because

- (i) Secondary data is prone to error during transcription
- (ii) Primary data is more detailed

QUESTIONNAIRE DESIGN

Questionnaire is a set of questions and responses designed to elicit information from respondents

A. General Principles of Design

The following general points need to be noted in the construction of a questionnaire

- ✓ The questionnaire should not look complicated
- ✓ The captions should be clear and precise
- ✓ Adequate instructions must be provided
- ✓ The questionnaire should carry some identification e.g. Title
- ✓ It should be convenient to the office staff
- ✓ Spacing should be given special care

B. The scope of the Questionnaire

In deciding what questions to ask, the following points should be noted

- ✓ Include only relevant questions, so as to make the questions very short
- ✓ Except in opinion surveys, factual questions are to be preferred to opinion questions
- ✓ Avoid questions on issues that are obvious which respondents are ignorant about
- ✓ Reduce questions that involve memory-recall to the barest minimum
- ✓ Avoid using words with emotional overtones
- ✓ The sequence of questions should be logical
- ✓ Highly personal or embarrassing questions should be kept to the end of the interview when the respondent may feel more at ease with the interviewer
- ✓ Above all use simple language to avoid misinterpretation

C. Question Content

It is necessary to consider the respondents' ability to give accurate answers and their willingness to do so.

- i. Ability: In considering any question, it is necessary for the survey to determine whether the respondents are likely to possess the knowledge or have access to the information necessary for giving a correct answer
- ii. Willingness: It should be noted that to have respondents who are willing to answer the questions in a survey does not mean that accurate answers will be given by them.

D. Question Wording

Factors that need to be considered with respect to the wording of questions are: -

- ✓ Questions must be sufficiently specific
- ✓ Questions should not be ambiguous
- ✓ Questions should be capable of having a precise answer
- ✓ Questions must not contain words of vague meaning
- ✓ Questions should not require calculations to be made
- ✓ Questions must not be in such a form that the answers will be biased
- ✓ Questionnaire should not be too long
- ✓ Avoid hypothetical questions
- ✓ Embarrassing questions should be avoided
- ✓ Questions involving memory-recall should be minimized or completely eliminated

E. Parts of Questionnaire: -

The questionnaire is often in two parts: -

- ✓ The first part is a classification section
- ✓ The second part has the questions relating to the subject-matter of the inquiry

Question Order: -

- ❖ It necessary to plan the order of questions when questions are being put together for the questionnaire
- ❖ The order of questions should be such that the respondent will feel relaxed to answer the questions and establishes rapport between himself and the interviewer (where interview method is used)

QUALITY CONTROL MEASURES

- ❑ Quality control programme consists of all or combination of the following techniques;
 - Comprehensive and adequate training for field personnel
 - Close monitoring and effective supervision
 - On-the-spot assessment of fieldwork
 - Skim-check or review of completed questionnaires
 - Manageable workload for interviewers
 - Adequate publicity for the survey

COORDINATION

Directorate members and Stakeholders coordinate the survey activities. Coordination will last throughout the survey period. Activities to be coordinated includes:

- Trainings
- Fieldwork
- Data Processing
- Report Writing
- Etc.

DATA TRANSMISSION: Data is always captured with CAPI devices. The transmission is done Real time, online. Data Editing/Monitoring Equipment is retrieved after data collection.