



Block

# 1

## **FUNDAMENTALS OF SOCIAL SCIENCE RESEARCH**

---

### **UNIT 1**

|                                             |          |
|---------------------------------------------|----------|
| <b>Social Science Research: An Overview</b> | <b>5</b> |
|---------------------------------------------|----------|

---

### **UNIT 2**

|                                              |           |
|----------------------------------------------|-----------|
| <b>Components of Social Science Research</b> | <b>20</b> |
|----------------------------------------------|-----------|

---

### **UNIT 3**

|                         |           |
|-------------------------|-----------|
| <b>Research Designs</b> | <b>35</b> |
|-------------------------|-----------|

---

### **UNIT 4**

|                                     |           |
|-------------------------------------|-----------|
| <b>Research Project Formulation</b> | <b>48</b> |
|-------------------------------------|-----------|

---

---

## PROGRAMME DESIGN COMMITTEE

---

|                                                                             |                                                                              |
|-----------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Prof. Amita Shah<br>Gujarat Institute of Development Research,<br>Ahmedabad | Prof. P. Radhakrishnan<br>Madras Institute of Development Studies, Chennai   |
| Prof. S. K. Bhati<br>Jamia Millia Islamia, New Delhi                        | Prof. Ramashray Roy (Rtd)<br>Centre for Study of Developing Societies, Delhi |
| Prof. J. S. Gandhi (Rtd)<br>Jawaharlal Nehru University, New Delhi          | Prof. R. P. Singh ( Rtd)<br>Ex-Vice-Chancellor, MPUAT, Udaipur               |
| Prof. Gopal Krishnan (Rtd)<br>Punjab University, Chandigarh                 | Prof. K. Vijayaraghavan<br>Indian Agriculture Research Institute, New Delhi  |
| Prof. S. Janakrajan<br>Madras Institute of Development Studies,<br>Chennai  | Dr. Nilima Shrivastava<br>IGNOU, New Delhi                                   |
| Prof. Kumar B. Das<br>Utkal University, Bhubaneswar                         | Prof. B. K. Pattanaik<br>IGNOU, New Delhi                                    |
| Prof. Nadeem Mohsin (Rtd)<br>A.N.Sinha Institute of Social Sciences, Patna  | Dr. Nehal A. Farooquee<br>IGNOU, New Delhi                                   |
|                                                                             | Dr. P.V.K.Sasidhar<br>IGNOU, New Delhi                                       |

---

## PROGRAMME DESIGN COMMITTEE (REVISED)

---

|                                                                                    |                                                                            |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Prof. T.S. Papola<br>Institute for Studies in Industrial Development,<br>New Delhi | Prof. Nadeem Mohsin (Rtd)<br>A.N.Sinha Institute of Social Sciences, Patna |
| Prof. S. Janakrajan<br>Madras Institute of Development Studies,<br>Chennai.        | Prof. Rajesh<br>University of Delhi, New Delhi                             |
| Prof. S. K. Bhati<br>Jamia Millia Islamia, New Delhi                               | Prof. B. K. Pattanaik<br>IGNOU, New Delhi                                  |
| Prof. Preet Rustagi<br>Institute for Human Development, Delhi                      | Prof. Nehal A. Farooquee<br>IGNOU, New Delhi                               |
| Prof. Gopal Iyer (Rtd)<br>Panjab University, Chandigarh                            | Prof. P.V.K. Sasidhar<br>IGNOU, New Delhi                                  |
| Dr. S. Srinivasa Rao<br>Jawaharlal Nehru University, New Delhi                     | Dr. Pradeep Kumar<br>IGNOU, New Delhi                                      |
| Dr. S. Rubina Naqvi<br>Hindu College, University of Delhi, Delhi                   | Dr. Nisha Varghese<br>IGNOU, New Delhi                                     |
|                                                                                    | Dr. Grace Don Nemching<br>IGNOU, New Delhi                                 |

---

## COURSE PREPARATION TEAM

---

### Unit Writer:

Dr. Nadeem Mohsin (Rtd)  
A.N.Sinha Institute of Social Sciences  
(Unit 1 and 2)  
Dr. Nisha Varghese  
SOEDS, IGNOU (Unit 3)  
Prof. Mamata Swain  
Revenshaw University, Cuttack (Unit 4)

### Editors:

Prof. V.K.Jain (Rtd) (Content Editor)  
NCERT, New Delhi  
Mr. Praveer Shukla (Language Editor), New Delhi  
Dr. Nisha Varghese, IGNOU  
Prof. B. K. Pattanaik, IGNOU  
Prof. Nehal A. Farooquee, IGNOU  
Prof. P. V. K. Sasidhar, IGNOU

---

**Course Coordinator :** Dr.Nisha Varghese, E-mail : nishavarghese@ignou.ac.in  
**Programme Coordinators :** Prof. P.V.K. Sasidhar, Prof. B.K. Pattanaik,  
Prof. Nehal A. Farooquee

---

## PRINT PRODUCTION

---

|                                                                           |                                                                           |                                                                                 |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Mr. S. Burman<br>Deputy Registrar (Publication)<br>MPDD, IGNOU, New Delhi | Mr. KN Mohanan<br>Asst. Registrar (Publication)<br>MPDD, IGNOU, New Delhi | Mr. Babu Lal Rewadia<br>Section Officer (Publication)<br>MPDD, IGNOU, New Delhi |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------|

---

April, 2018

© Indira Gandhi National Open University, 2018

ISBN: 987-

All rights reserved. No part of this work may be reproduced in any form, by mimeograph or any other means, without permission in writing from the Copyright holder.

*Further information on the IGNOU courses may be obtained from the University's office at Maidan Garhi, New Delhi or the official website of IGNOU at [www.ignou.ac.in](http://www.ignou.ac.in)*

Printed and published on behalf of IGNOU, New Delhi by Registrar, MPDD, IGNOU, New Delhi.

Laser Typeset by Rajshree Computers, V-166A, Bhagwati Vihar, (Near Sec. 2, Dwarka), New Delhi  
Printed at:

---

## **MDV-106 RESEARCH METHODOLOGY IN DEVELOPMENT STUDIES**

---

Research Methodology in Development Studies is one of the important courses in Master of Arts in Development Studies. To equip the students to undertake any research project, an understanding about the various aspects of research and research methodology is very essential.

**Block 1, Fundamentals of Social Science Research** gives basic backdrop of social sciences research. The block consists of four important units such as Social Science Research: An Overview, Components of Social Science Research, Research Designs and Research Project Formulation.

**Block 2, Development Research** contains three units which are Basics of Development Research; Methods of Development Research; and Development Research Applications.

**Block 3, Measurement and Sampling** comprises of four units. These are Measurement, Scales and Tests, Reliability and Validity, and Sampling.

**Block 4, Data Collection** empowers the student with understanding about the collection of data from various sources. The units included in this block are Quantitative Data Collection Methods and Devices, Qualitative Data Collection Methods and Devices and Data Sources.

**Block 5, Data Analysis** gives an insight into various analytical tools and also guides a student to make meaningful report by properly analysing and interpreting the data. The units included in this block are Overview of Statistical Tools, Use of Computer in Data Analysis, Data Processing and Analysis, and Report Writing.

---

## BLOCK 1 FUNDAMENTALS OF SOCIAL SCIENCE RESEARCH

---

Block-1 of Course MDV-106 consists of four units namely Social Science Research: An Overview, Components of Social Science Research, Research Designs and Research Project Formulation

Unit-1 on **‘Social Science Research: An Overview’** introduces several concepts and issues related to social science research. It discusses differences and similarities between natural and social science research. The various approaches which can be adopted for conducting social science research – historical, descriptive, case study and experimental are also covered in this unit.

Unit-2 on **‘Components of Social Science Research’**, discusses the meaning, types and importance of various terms like objectives, concepts, variables, hypothesis, etc. It also gives an account of how a proper research can be done using these components.

Unit-3 on **‘Research Designs’** discusses the meaning, purpose and features of research designs. It also gives an account of the functions of research design, the need for research design, features of research design and types of research design.

Unit-4 on **‘Research Project Formulation’** discusses the steps in the formulation of a research project proposal, the title of a research project, problem statement, and review of literature. This unit gives an account of objectives of research, methodology, work schedule/time frame budget and dissemination strategy.

---

# UNIT 1 SOCIAL SCIENCE RESEARCH: AN OVERVIEW

---

## Structure

- 1.1 Introduction
- 1.2 The Meaning and Concept of Social Science Research
- 1.3 The Differences between Natural and Social Science Research
- 1.4 Approaches to Social Science Research
- 1.5 Types of Social Science Research
- 1.6 Let Us Sum Up
- 1.7 References and Selected Readings
- 1.8 Check Your Progress – Possible Answers

---

## 1.1 INTRODUCTION

---

In a world which is growing every day, in terms of population and knowledge, it is extremely important to understand how different societies work and influence each other. Social science research is an important tool to understand how society functions, and how human beings in society influence each other. Social science research deals with social phenomena and attitudes of human beings as members of a society under different circumstances and situations. Social science research helps every nation in the formulation of legislations and policies, schemes and programmes on socio-economic issues and has been an extremely essential tool for the government and the people. Let us take an example of a social problem which can be solved through research. The problem is the low level of literacy in the country. If the literacy level is low in the country, the country is not expected to flourish. Low levels of literacy will lead to lower levels of employment and lower incomes. Families with lower incomes have a tendency to send their children to work as child labour. Children who work and earn incomes are not able to go to school, and, hence remain illiterate. Illiteracy results in unemployment and unemployment causes poverty. Social science research will help in finding out causes to problems of illiteracy, unemployment, poverty, etc., thereby, assisting the government to formulate legislations and policies, schemes and programmes for the eradication of illiteracy. Social science research is oriented toward building knowledge. It describes the methods by which results are known; it sets up the inquiry process so that evidence from all sides of a problem can be examined; it generalizes knowledge more broadly beyond the specific instances that are examined. Research is one possible way through which knowledge can be generated.

After studying this unit, you should be able to

- explain the meaning and concept of social science research
- distinguish between natural and social science research
- describe the various types and approaches to social science research
- discuss the recent trends in social science research and understand the basic concepts related to research

---

## 1.2 THE MEANING AND CONCEPT OF SOCIAL SCIENCE RESEARCH

---

Social science research can be conducted, for example, in a school setting where absenteeism is a major issue. What are the causes because of which: children remain absent from school; teachers are very strict with students; teaching in the school is not up to the mark; the principal of the school is not able to handle the teachers well; the school is very far off from most of the children's homes; there are no proper toilet facilities for girls in the school? These are some of the issues that could be addressed by research on absenteeism. The solutions for absenteeism can also be found from the findings of the research. Research can, thus, be an important tool in bringing about major policy changes in the school.

What does Social Science research actually mean? This is not a very easy question to answer. At one level, such research deals with social sciences – Sociology, History, Geography, Psychology, Political Science, Economics, etc., and, thus, all research based on these disciplines are social science research. For example, a study of living conditions of tribal communities is research in Sociology. Similarly, a study of the life during the time of Ashoka is research related to History; voting patterns of new eligible voters in a parliamentary election is research in the Political Science; a study on the behaviour of adolescents during parties is Psychological research; and, a study of income and expenditure patterns of middle class urban households during the phase of inflation is research related to Economics. Research, in itself, is designed as a method of enquiry into issues concerning human beings. According to Globusz Publishers, the social science research is a systematic method of exploring, analysing and conceptualising human life in order to extend, correct or verify knowledge of human behaviour and social life. In other words Social Sciences Research “seeks to find explanations to unexplained social phenomena, to clarify the doubtful and correct the misconceived facts of social life”. Research is not an arbitrary activity, but follows certain rules and procedures.

Some of the factors of social science research are as follows

- a) social science research is a method of enquiry to gain further knowledge or enhance existing knowledge
- b) social science research is essential to understand issues of human concerns
- c) social science research involves time and money
- d) social science research is useful for the formulation of legislations, policies, schemes, and programmes

---

## 1.3 THE DIFFERENCES BETWEEN NATURAL AND SOCIAL SCIENCE RESEARCH

---

Let us first try to understand the difference between natural science and social science. Social sciences include the study of Economics, Geography, History, Political Science, Psychology, and Sociology. They are a group of subjects that deal with humans, both as individuals and as interacting groups. Natural Sciences include the study of Astronomy, Biology, Chemistry,

Earth Sciences, Physics, etc. Briefly, social sciences are the study of humans and their interactions, and the natural sciences are the study of the universe and how it works. Perhaps the best way to explain the difference between the two sciences is through the following example. Natural science is when something happens with no help from man whatsoever. It just happens naturally. Social science is when there is some cause to what happens. May be a tree falls down mysteriously and you realize that it was the work of a windstorm; that would be natural science. If you discover that the cause of the tree falling down was that somebody had cut it down, that would be social science.

Within the Social Sciences (Sociology, History, Geography, Psychology, Political Science and Economics) there are differences in research methods. Social Science research has differences as well as some similarities with research in the field of natural sciences (Physics, Chemistry, and Biology). Most of the research pertaining to the natural sciences is completely different from social science research in terms of the entire approach to research, the methodology used for conducting the research, etc. Natural science research is purely experimental in nature, for example, the study of atoms and molecules, the study of the solar system, or the reaction of a particular gas with another gas or solution is research based on experimentation. Many natural science research studies take several years to complete, while many take much less time. The nature of natural science research is mainly scientific and such research often involves huge costs as well. On the contrary, social science research is based on human behaviour and the interrelationship between human beings in a social set up. The methodology of social science research is generally not as complicated as the methodology used in natural science research. Social science research is based on surveys, interviews, focus group discussions, etc., unlike natural science research, which is based on experimentation. The distinction between natural science and social science research is not always very clear and there are areas where both types of researches overlap. For example, when research is carried out on animals, much of the research is biological in nature, where the methods used are those applied in natural science research. However, since such research is also based on animal behaviour, the methodology of research is also those applied in social science research. Nonetheless, it is generally accepted that when it comes to the focus of research, the activities of social researchers differ from those working within the natural sciences. Much of the difference between natural science research and social science research comes to the question of how we actually conduct our research. This is the subject of considerable debate, and some of this revolves around the question of methodology. On one hand, there is a group of social researchers who would argue that when undertaking research projects, we should borrow approaches, designs and methods that are commonly used within the natural sciences, such as experiments. Others would argue that the social world is different from the natural world, and if it is to be investigated effectively, social science research needs to design its own approaches, designs and methods that are more relevant and fit for the purpose.

Let us, now, come to the similarities between natural science research and social science research. Both kinds of research are methods of enquiry to enhance knowledge about something. Both require techniques to conduct

that enquiry. Both enhance knowledge about different aspects of life. Both makes value additions to existing knowledge about particular aspects of life. Both kinds of research are useful and necessary. Both involve time and money. Both are being carried on in different parts of the world, in different ways. Both are useful for the formulation of legislations, policies, schemes, and programmes.

Let us give a tabular representation of the differences between natural science research and social science research.

### **Differences**

| <b>Natural Science Research</b>                                                                                                                   | <b>Social Science Research</b>                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Natural science research deals with subjects like Physics, Chemistry, Biology, Astronomy, and the Earth Sciences.                                 | Social science research deals with subjects like Economics, Geography, History, Political Science, Psychology, and Sociology.                                                                         |
| Natural science research is based on nature.                                                                                                      | Social science research is based on the behaviour of individuals in society.                                                                                                                          |
| Natural science research involves the application of experimentation based on purely scientific tools.                                            | Social science research involves the application of survey methods, interviews, focus group discussions, etc.                                                                                         |
| The nature of natural science research is mainly scientific and such research often involves huge costs not within the control of the researcher. | Social science research is based on human behaviour and the interrelationship between human beings in a social set up. It may involve huge costs but is largely within the control of the researcher. |
| Evolving a methodology for conducting natural science research may often be extremely cumbersome.                                                 | Evolving a methodology for conducting social science research may be less cumbersome.                                                                                                                 |

In this section, you have studied the meaning and concept of social science research and differences between natural science research and social science research, now answer the question given in *Check Your Progress-1*.

### **Check Your Progress 1**

**Note:** (a) Write your answer in about 50 words.

(b) Check your answer with possible answers given at the end of the unit.

1. Discuss the term, social science research with your friends, and get an idea of what they mean by it. See if this definition is similar to the one that you have learnt.

.....

.....

.....

.....

2. Recall the differences between natural science research and social science research and put them point-wise in the space below.

.....  
.....  
.....  
.....

---

## 1.4 APPROACHES TO SOCIAL SCIENCE RESEARCH

---

Various approaches have been adopted for conducting social science research, ranging from the historical approach to the experimental approach. The various approaches to Social Science research can broadly be classified under the following four heads

1. Historical
2. Descriptive
3. Case Study
4. Experimental approach

### 1.4.1 Historical

Most social scientists have treated history differently and have given less importance to the subject from the research perspective. However, the importance of the study of history and its use in social science research is manifold. History depicts social changes and proves that human society was never alike at different points of time. It is rightly accepted that the past affects our present life. It is, therefore, essential to know and understand history in order to understand our present social structures and systems. But, there are social scientists who doubt that history has utility in the study of social systems. Some people even feel that going through old records and documents are a mere waste of time and do not contribute in any way to research.

The historical method of research applies to all fields of social sciences because it includes their origins, growth, etc., over a period of time. For example, if research is to be conducted on the problems of canal irrigation in rural India, one major concern would be the history of origin of the canal from where water is to be made available for irrigation in the area, the government policy in the past on the distribution of canal water, etc. In the collection of historical information, both quantitative and qualitative data can be used. Once the decision is made to conduct historical research, there are steps that should be followed to achieve results. Six steps for conducting historical research have been identified.

- i. The need for knowledge about the historical background of the area in which research is to be conducted.
- ii. The gathering of as much relevant historical facts about the problem or topic as possible.
- iii. If appropriate, the forming of hypothesis that tentatively explains relationships between historical factors.

- iv. The rigorous collection and organization of evidence and the verification of the authenticity of information and its sources.
- v. The selection, organization and analysis of the most pertinent collected evidence and the drawing of conclusions; and
- vi. The recording of conclusions in a meaningful manner.

### **1.4.2 Descriptive**

Descriptive research is used to obtain information about the current status of the research issues in question, with respect to the various conditions that are seen to exist. For example, a descriptive approach can be adopted for research looking into the labour issues in a factory within an industrial zone. A descriptive approach would be based on the following steps

- statement of the problem – for example, labour disputes in the factory resulting in lower productivity
- identification of information needed to solve the problem – for example, grievances of factory workers
- selection or development of instruments for gathering the information – interview technique/focus group discussion, etc.
- identification of target population and determination of sampling procedure – all members of the population, or only a few members to be selected through a proper sampling technique
- design of procedure for information collection – who will collect information and how will the information be collected
- analysis of information – how will the information that has been collected be used and analysed
- conclusions – what is to be concluded and how the conclusion can be used to solve the problem.

The descriptive approach is also based on survey studies, which assess the characteristics of whole population of people or situations.

- School Surveys - used to gather data concerned with internal or external characteristics of a school system
- Job Analysis - used to gather information to be used in structuring a training program for a particular job
- Documentary Analysis - closely akin to historical research; deals with documenting present situations
- Public Opinion Surveys - used to enhance the decision making process by government officials
- Community Surveys - used to gather data concerned with internal or external characteristics of a community

The descriptive approach is also based on inter-relationship studies, which trace relationships from the facts obtained to gain a deeper insight into the situation.

- Case Studies - probes in depth into an individual situation or personality with the intent of diagnosing a particular condition and recommending corrective measures.

- Causal Comparative Studies - compares the likeness and difference among phenomena to determine if certain factors or circumstances tend to accompany certain events, conditions, or processes.
- Correlation Studies - determines the extent of the relationship between two or more variables

A descriptive approach is also based on developmental studies which are concerned with the existing status and interrelationships of phenomena and changes that take place as a function of time.

### 1.4.3 Case Study

A case study is one of several ways of doing research whether, it is social science related or even socially related. It is an intensive study of a single group, incident, or community. A case study is a method of exploring and analysing the life of a single social unit – be it a person, a family, an institution, cultural group or even an entire single community. It is a way of organising social data so as to preserve the character of the social unit being studied. Expressed differently, it is an approach which views any social unit as a whole.

The case study method studies a cohesive unit and it may be an individual, a family, an institution, a cultural group, or an entire community, or even an abstract thing; for example, a set of relationships (husband-wife, brother-sister, mother-daughter, and father-son) friendship formation, etc. It can be a person, a single incident of a person's life, a family; a crisis a family has gone through, an incident (for example the tsunami in a particular year), etc. An excellent example of the case study research approach is a study on child abuse where girls from a particular community who have been constantly abused. The information provided by these girls from the same community helps in drawing conclusions about the nature and extent of abuse faced by the girls and on various other dimensions of child abuse. Another example of case study research approach could be a study on drug addicts. The nature of the problem of drug addiction and various other dimensions of drug addiction could be reflected from the case studies.

Some of the salient features of the case study methods or approach are given below.

1. It studies a unit – an individual, a family, a community, a society, a nation, etc.
2. It undertakes an in-depth study of the whole unit.
3. The unit identified for the case study has to be a cohesive and homogenous unit.
4. The method is qualitative in character as it highlights the qualitative aspects of the case by going deep into the issue of concern.
5. The case study method also provides knowledge of the behavioural pattern of the case.

Case studies are used in social sciences research for several reasons. For example, a case study is appropriate when there is one or only a few cases available to study, perhaps because a phenomenon occurs very rarely. An example of something occurring rarely can be the tsunami which affected parts of southern India. A case study of people affected by the tsunami

can be an interesting subject matter of research. Another example could be India's Independence Day, which is celebrated on 15<sup>th</sup> August. How India achieved independence, and why the British were forced to leave India can be another interesting area for case study research.

#### 1.4.4 Experimental Approach

The experimental approach to research involves two sets of units – a control unit and an experimental unit. A control unit is one on which no external intervention has been made. An experimental unit, on the other hand, is one where some intervention has been made. The experimental research is, thus, undertaken to assess the impact of the intervention. Although experimental methods are generally used in natural sciences research, social sciences research is also based on experimental methods. However, experimental methods in social sciences research are mostly used in sociological researches or in multi disciplinary researches, where more than one aspect of the problem is being examined. Thus, research can be multi disciplinary; examining the social, psychological and economic aspects of a problem, or it could be uni-disciplinary, restricting itself only to one aspect of the problem – the social, economic or psychological aspect only.

An experimental research method has its own advantages over other methods.

1. Experimental method allows the determination of cause and effect relationship in very clear terms.
2. The experimental method is comparatively more precise and accurate.
3. A hypothesis can be tested in the best possible manner by the experimental method.
4. The method is universally acclaimed as the most scientific method.

In this section, you have studied the approaches to social science research like historical, descriptive, case study and experimental, now answer the question given in *Check Your Progress-2*.

#### Check Your Progress 2

**Note:** (a) Write your answer in about 50 words.

(b) Check your answer with possible answers given at the end of the unit.

1. What are the various approaches of Social Science Research?

.....

.....

.....

.....

2. What are the steps involved in descriptive research.

.....

.....

.....

.....

---

## 1.5 TYPES OF SOCIAL SCIENCE RESEARCH

---

There are broadly five types of social sciences research that are undertaken, outlined below.

1. Applied Research
2. Fundamental Research
3. Action Research
4. Participatory Research
5. Participatory Action Research
6. Experimental Research

### 1.5.1 Applied Research

Applied research is an empirical research in which the goal is to contribute to apply the research findings to solve a problem. Applied research is designed to solve practical problems of the modern world, rather than to acquire knowledge for knowledge's sake. One might say that the goal of the applied scientist is to improve the human condition. The primary purpose of applied research is discovering, interpreting and developing methods and systems for the advancement of human knowledge on a wide variety of scientific matters of our world and the universe.

For example, applied researchers may be involved in

- Research that addresses the effectiveness of a fundraising technique
- Research that addresses the effectiveness of a strategy to deal with urban solid waste
- Research that studies the effect of minimum tillage on wheat yield.

Some scientists feel that the time has come for a shift in emphasis away from purely basic research and toward applied research. This trend, they feel, is necessitated by the problems resulting from global overpopulation, pollution, and the overuse of the earth's natural resources. Applied research is used in business, education and medical field in order to find solutions to cure diseases solve scientific problems or develop new technologies. As applied research delves into realistic problems, applied researchers are more concerned about external validity of their studies. They attempt to observe behaviours that can be applied to real life situations.

### 1.5.2 Fundamental Research

Fundamental research or basic research (sometimes pure research) is research carried out to increase understanding of fundamental principles. It is carried out with a view to acquire knowledge for knowledge's sake, and not for finding immediate solutions to problems. Many times, the end results have no direct or immediate benefits. Basic research can be thought of as arising out of curiosity. However, in the long term it is the basis for many applied researches. Basic research is mainly carried out by universities. Fundamental research is less oriented towards immediate solutions to problems. It tends to deal with ideas of interest to the researcher. Fundamental research is carried out to understand, for example, how teenagers in a society behave or how a community in a society lives. It does not find answers to how teenagers should actually behave or what causes teenagers to behave in a particular way or how a particular

community in a society should actually live. Any research undertaken to understand how a particular system works falls in the category of fundamental research.

### 1.5.3 Action Research

Action research is a process of progressive problem solving led by individuals working with others in teams or as part of community work to improve the way they address issues and solve their own problems. Action research can also be undertaken by larger organizations or institutions, assisted or guided by professional researchers, with the aim of improving their strategies, practices, and knowledge of the environments within which they work. As designers and stakeholders, researchers work with others to propose a new course of action to help their community improve its work practices. Kurt Lewin, then a professor at MIT, first coined the term 'action research' in about 1944, and it appears in his paper in 1946, *Action Research and Minority Problems*. In that paper, he described action research as "a comparative research on the conditions and effects of various forms of social action and research leading to social action that uses "a spiral of steps, each of which is composed of a circle of planning, action and fact-finding about the result of the action". According to Nunan (1990), a classroom action research does not require the standard formalization of a research project with a literature search, hypothesis testing, treatment conditions, etc. Instead, it consists of seven basic steps to investigate a problem. They are as follows.

1. After determining that there is a potential problem, survey what is happening through observation - via video, audio, hash marks, or whatever relevant means are available.
2. Code the observation based on the problem, and what was seen (i.e., the code is created solely for that problem/session).
3. Based on the coded information, determine one change that could impact the problem in a positive manner.
4. Implement the change in the course/classroom.
5. Observe the class/course (as in Step 1) while implementing the change.
6. Code the new observation(s) as in Step 2.
7. Finally, compare the coded sessions to determine the results of the change.

### 1.5.4 Participatory Research

Participatory research is an action oriented research activity in which ordinary people address common needs arising in their daily lives, and in the process, generate knowledge. Participatory research differs from both basic and applied social science research in terms of people's involvement in the research process, integration of action with research, and the practice-based nature of the knowledge that is entailed. It sets itself apart even from other forms of action-oriented research because of the central role that non-experts play. In contrast to other forms of action-oriented research, in which outsiders have an important role in determining what problems to address, often taking charge of the research process and implementing action, in participatory research people who share problems in common

decide what problems to tackle and directly get involved in research and social change activities. Action minded researchers with technical backgrounds often get involved in this process, but mainly as facilitators. The reason for this emphasis on popular participation is that participatory research is not just a convenient instrument for solving social problems through technically efficacious means, but it is also a practice that helps marginalized people attain a degree of emancipation as autonomous and responsible members of society. It is allied to the ideals of democracy, and in that spirit it is proper to call it research of the people, by the people and for the people.

Participatory research deals with issues that affect classes of people in such wide ranging areas as inner city, rural poverty, health, education, agriculture, environment, housing, community development, mental health, disability, domestic violence, women's oppression, and immigration. The more obvious purpose of participatory research is to bring about changes by improving the material circumstances of affected people. To this end, people engage in three different kinds of activity; inquiring into the nature of the problem to solve by understanding its causes and meaning; getting together by organizing themselves as community units; and mobilizing themselves for action by raising their awareness of what should be done on normal and political grounds. For this reason, gathering and analyzing necessary information, strengthening community ties and sharpening the ability to think and act critically emerge as three main objectives of participatory research, requiring three different kinds of knowledge.

### **1.5.5 Participatory Action Research**

Action research or participatory action research has emerged in recent years as a significant methodology for intervention, development and change within communities and groups. It is now promoted and implemented by many international development agencies and university programmes, as well as countless local community organizations around the world. Participatory action research is a recognized form of experimental research that focuses on the effects of the researcher's direct actions of practice within a participatory community with the goal of improving the performance quality of the community or an area of concern. Action research involves utilizing a systematic cyclical method of planning, taking action, observing, evaluating (including self evaluation) and critically reflecting prior to planning the next cycle. The actions have a set goal of addressing an identified problem in the workplace, for example, reducing the illiteracy of students through use of new strategies or improving communication and efficiency in a hospital emergency room. It is a collaborative method to test new ideas and implement action for change. It involves direct participation in a dynamic research process, while monitoring and evaluating the effects of the researcher's actions with the aim of improving practice. At its core, action research is a way to increase understanding of how change in one's actions or practices can mutually benefit a community. Essentially Participatory Action Research (PAR) is research which involves all relevant parties in actively examining together current action (which they experience as problematic) in order to change and improve it. They do this by critically reflecting on the historical, political, cultural, economic, geographic and other contexts which make sense of it. Participatory action research is not just research which is hoped that will be followed by action.

It is action which is researched, changed and re-researched, within the research process by participants. It aims to be active research, by and for those to be helped. It tries to be a genuinely democratic process whereby those to be helped, determine the purposes and outcomes of their own research.

PAR should not be confused with PRA - Participatory Rural Appraisal. PRA is an assessment technique that could form part of a PAR process, but does not encompass the full action-reflection cycle. PAR has evolved through the 1990s and into the 21st century as it has been applied to various fields. Other research approaches that often fall under the label of PAR include participatory research, critical action research, classroom action research, action learning, etc. Additionally, more methods have been developed to add value to the PAR technique, such as Participatory Development Communication (PDC) and Participatory Video (PV). Practitioners have also recently tried to move away from the word “research” because of its abstract meaning to action for change within a community or group. Thus, new names are being used, such as Participatory Action Learning, Participatory Learning Action, and Participatory Action Development. PAR is a popular method used in teaching adult learners in low income communities, and others how to explore, challenge, and react to their own needs. It is gaining popularity among community youth workers, as well as middle and senior high school teachers as a successful methodology for engaging youth voice in the classroom. Youth PAR projects identify mostly issues like educational justice, access to quality healthcare, the criminalization of youth, gang violence, police brutality, etc. PAR is also increasingly used in service learning projects.

### 1.5.6 Experimental Research

Experimental research is commonly used in sciences such as sociology and psychology, physics, chemistry, biology and medicine, etc. In scientific research, an experiment (Latin: *ex- periri*, ‘to try out’) is a method of investigating causal relationships among variables, or scientific investigation in which an investigator manipulates and controls one or more independent variables to determine their cause and effects on the research. Experimental research is also called randomized controlled research or randomized controlled trials. In experimental research, the researcher manipulates one variable and controls the rest of the variables. The experimental research has an experimental group and a control group. The subjects are randomly assigned between the groups and the researcher tests one effect at a time. For example, suppose a researcher wants to look at the effects of a Computer Assisted Instruction (CAI) programme on children with autism. Suppose the researcher chooses a sample size of 50 children with autism. In the sample, 25 children are taken in the treatment group who will be administered CAI and the remaining 25 will be in the control group. This kind of a research will come under experimental research.

In this section, you have studied types of social sciences research like applied research, fundamental research, action research, participatory research and experimental research, now answer the question given in *Check Your Progress-3*.

### Check Your Progress 3

**Note:** (a) Write your answer in about 50 words.

(b) Check your answer with possible answers given at the end of the unit.

1. Do you remember the seven basic steps of a classroom action research as given by Nunan? If yes, please put them down point-wise.

.....

.....

.....

.....

2. Write the salient features of a Participatory Action Research.

.....

.....

.....

.....

---

## 1.6 LET US SUM UP

---

We have discussed several concepts and issues related to Social Science research in this unit. We discussed the differences and similarities between Natural and Social Science research. Natural Science research is based on nature. Social Science research is based on the behaviour of individuals in society. Both researches are methods of enquiry to enhance knowledge about something. We all know that various approaches can be adopted for conducting social science research – historical, descriptive, case study and experimental. The experimental approach to research involves two sets of units – a control unit and an experimental unit. The experimental research is thus undertaken to assess the impact of the intervention. Applied research is designed to solve practical problems of the modern world, rather than to acquire knowledge for knowledge's sake. Fundamental research or basic research (sometimes pure research) is research carried out to increase understanding of fundamental principles. While social science research has historically been the domain of government level academic and research institutes, in recent decades many private and non-governmental organisations have also been engaged in such research.

---

## 1.7 REFERENCES AND SELECTED READINGS

---

Brydon-Miller, M.(2003), “*Why action research?*” In Action Research Volume 1(1): 9–28. Sage Publications London, Thousand Oaks CA, New Delhi [www.sagepublications.co.uk](http://www.sagepublications.co.uk).

Burns, D. (2007), “*Systemic Action Research: A strategy for whole system change*”, Policy Press, Bristol.

Busha, Charles and Stephen P. Harter (1980), *Research Methods in Librarianship: techniques and Interpretations*, Academic Press: New York, NY.

Carr, W. & Kremmis, S. (1986), *Becoming Critical: Education, Knowledge, and Action Research*, Falmer Press, London.

Das, G. *Social Survey and Research*, King Books, New Delhi.

Denzin, Norman K. and Yvonna S. Lincoln (1998), *Strategies of Qualitative Enquiry*, Sage Publications: London.

Henn, Matt, Mark Weinstein and Nick Ford (2006), *A Short Introduction to Social Research*, Vistar Publications, New Delhi.

Leming, Michael R. “*Research and Sampling Designs: Techniques for Evaluating Hypotheses*”, Found at: <http://www.stolaf.edu/people/leming/soc371res/research.html>

McTavish, Don. G and Herman J. Loether (2002), *Social Research – an Evolving Process*, Allyn and Bacon, USA.

Nunan, D. (1990), Action research in the language classroom. In J. Richards & D. Nunan (Eds.), *Second Language Teacher Education*, Cambridge, England: Cambridge University Press.

Peter Park (2004), “Knowledge and Participatory Research” in *Handbook of Action Research: Participatory Inquiry and Practice* by Peter Reason and Hillary Bradbury, Sage Publications Ltd, New Delhi.

---

## 1.8 CHECK YOUR PROGRESS–POSSIBLE ANSWERS

---

### Check Your Progress 1

1. Social science research can be conducted, for example, in a school setting where absenteeism is a major issue. What does Social Science research actually mean? At one level, such research deals with social sciences – Sociology, History, Geography, Psychology, Political Science, Economics, etc. and thus all researches based on these disciplines are social science research. Some of the factors of social science research are as follows. Social science research is extremely essential to understand issues of human concerns. Social science researches are useful for the formulation of legislations, policies, schemes and programmes.
2. The difference between Natural Science and Social Science Research are -

| Natural Science Research                                                                                                                           | Social Science Research                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| It deals with subjects like Physics, Chemistry, Biology, Astronomy and the Earth Sciences.                                                         | It deals with subjects like Economics, Geography, History, Political Science, Psychology and Sociology.                                                                       |
| It is based on nature.                                                                                                                             | It is based on the behaviour of individuals.                                                                                                                                  |
| It involves the application of experimentation based on purely scientific tools.                                                                   | It involves the application of survey methods, interviews, focus group discussions, etc.                                                                                      |
| The nature of natural science research is mainly scientific and such researches often involve huge costs not within the control of the researcher. | It is based on human behaviour and inter-relationship between human beings in a social set up. It may involve huge costs but is largely within the control of the researcher. |

|                                                                                                   |                                                                                       |
|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Evolving a methodology for conducting natural science research may often be extremely cumbersome. | Evolving a methodology for conducting social science research may be less cumbersome. |
|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|

### Check Your Progress 2

1. Various approaches have been adopted for conducting social science research, ranging from historical approach to the experimental approach. The approaches to Social Science research can broadly be classified under four heads: Historical, Descriptive, Case Study, and Experimental approaches.
2. A descriptive research approach would be based on the following steps:
  - a) Statement of the problem;
  - b) Identification of information needed to solve the problem;
  - c) Selection or development of instruments for gathering the information;
  - d) Identification of target population and determination of sampling procedure;
  - e) Design of procedure for information collection;
  - f) Analysis of information; and
  - g) Conclusions.

### Check Your Progress 3

1. According to Nunan (1990), the seven basic steps of classroom teaching are given below.
  - a) After determining that there is a potential problem, survey what is happening through observation - via video, audio, hash marks, or whatever relevant means are available.
  - b) Code the observation based on the problem and what was seen (i.e., the code is created solely for that problem/session).
  - c) Based on the coded information determine one change that could impact the problem in a positive manner.
  - d) Implement the change in the course/classroom.
  - e) Observe the class/course (as in Step 1) while implementing the change.
  - f) Code the new observation(s) as in Step 2.
  - g) Finally, compare the coded sessions to determine the results of the change.
2. Action research involves utilizing a systematic cyclical method of planning, taking action, observation, evaluation and critical reflection of planning the next cycle. Essentially Participatory Action Research (PAR) is research which involves all relevant parties in active examination as well as current action in order to improve it. Participatory action research is not only research, but is also followed by action. These actions are research, its application and follow up research, within the research process by participants.

---

## UNIT 2 COMPONENTS OF SOCIAL SCIENCE RESEARCH

---

### Structure

- 2.1 Introduction
- 2.2 Concept
- 2.3 Objectives
- 2.4 Definition
- 2.5 Hypothesis
- 2.6 Variables
- 2.7 Let Us Sum Up
- 2.8 References and Selected Readings
- 2.9 Check Your Progress – Possible Answers

---

### 2.1 INTRODUCTION

---

Social science research is interesting, but requires a clear understanding of its basic components. If the components on which social science research are based are not understood, it will be difficult to undertake research. If concepts like hypothesis, concept, construct, variable, etc., are not understood, a researcher will not be able to understand the basic principles underlying social science research. It is therefore, essential that these concepts are understood. These concepts will be explained here in simple language, through relevant examples wherever required, in order to have a basic understanding of what social science research is all about.

After studying this unit, you should be able to

- explain the meaning of concept, types of concept, difference between concept and construct;
- discuss the meaning of objectives, types of objectives, and the criteria for judging the objectives;
- describe how to develop a theoretical and conceptual framework;
- explain the meaning and characteristics of definition, types, and the role of definition;
- discuss the meaning and importance of hypothesis; and
- describe the meaning, types, and the role of variables.

---

### 2.2 CONCEPT

---

A concept is a general idea derived, or, inferred, from specific instances or occurrences. It is something formed in the mind; a thought or notion. A concept is a cognitive unit of meaning - an abstract idea or a mental symbol sometimes defined as a 'unit of knowledge', built from other units which act as a concept's characteristics. A concept is typically associated with a corresponding representation in a language or symbol such as a word.

### 2.2.1 Meaning of Concept

A concept can be defined as a verbal response evoked by objects of the class to which the concept applies, for example, light, temperature, sound, age, sex, accidents, etc., are all class names applied to stimuli, subjects or responses of a specific kind. These are all examples of concepts which cannot be directly observed, but their instances can be located. There are other concepts like mental strength, drive, attitude, motivation, etc., whose instances too cannot be directly observed because they are presumed to be located inside the organism. They are called hypothetical constructs.

A concept is a property, or characteristic of some case, or unit of analysis in which one might be interested. It is essentially an idea about some aspect of some phenomenon, for example, gender, self-esteem, bureaucracy, social classification, etc. A case (unit of analysis) is that defined entity that is sampled and scored, or measured, on variables of interest in a research project. A case is defined in terms of its major characteristics and their location in time and place. In Sociology, a case is often a human individual, a group, an organisation or a society. It can also be social entities such as the father-child role relationship. In research, a sample or population of these cases is targeted for examination. Research involves special concepts such as total family income, self-employment, and economic returns. These are generally technical terms that point to some phenomenon that is an important aspect of a topic to be researched. Such concepts must be defined carefully so that others understand specifically what they mean. The concept of total family income, for example, is defined to have a range of possible values. Thus, it is called a variable in a given piece of research. To be useful to researchers, however, the abstract definition of a concept is not enough. A set of indicators must be developed in order to actually measure or classify families in terms of their total family incomes. Families can be classified, for example, into low, middle and high income groups. They can further be categorised into: less than Rs.5000 per month; between Rs.5,000 and Rs. 10,000, per month; and Rs.10,000 and above, per month.

### 2.2.2 Types of Concepts

Concepts are basically of two types:

1. Concepts which cannot be directly observed, but their instances can be located. Examples of such concepts are: temperature, sound, age, etc.
2. Concepts whose instances cannot be directly observed because they are presumed to be located inside the organism. They are called hypothetical constructs. Examples of such concepts are: mental strength, drive, attitude, motivation, etc.

A concept can have a conceptual definition as well as an operational definition. In the above example of the total family income, the conceptual definition is the total monthly earnings of the family (that is, all earning members in the family) through all sources. In the same example, the operational definition would be the range of categories of income such as less than Rs.5,000 per month, between Rs.5,000 and Rs.10,000 per month and Rs.10,000 and above, per month.

### 2.2.3 Concepts and Constructs

A concept, as already defined, is a property or characteristic of some case or unit of analysis in which one might be interested. It is essentially an idea about some aspect of some phenomenon, for example, gender, self esteem, bureaucracy, social classification, etc.

A construct, too, is a verbal response evoked by objects of the class to which the concept applies. Some concepts such as temperature, sound, age, sex, etc. cannot be directly observed, but their instances can be located. Other concepts such as mental strength, drive, attitude, motivation, etc., can neither be directly observed nor can their instances be located as they are presumed to be located inside the organism, and are called constructs. A construct is a concept. It has the added meaning, however, of having been deliberately and consciously invented or adopted for a special scientific purpose. Constructs play a very important role in theory building. Many theories such as the memory trace theory, the frustration-aggression theory, etc. have emerged out of this. Constructs cannot be observed and, thus, are called non-observables. Constructs are also known as intervening variables. An intervening variable is a term invented to account for internal and directly unobservable psychological processes that, in turn, account for behaviour. In other words, an intervening variable is an in-the-head variable which cannot be seen, heard, or felt. It is inferred from the behaviour of the individual. Hostility is inferred from aggressive acts. When we display aggression, it reflects hostility. Learning is inferred from test scores. We exhibit learning when we perform well in test scores. Similarly, anxiety is inferred from skin response, heart beats, etc. When we are nervous or anxious (maybe at the time of facing an interview, or before the announcement of a result), the hair on our skin rises, or, our hearts start beating faster. In research the name for these terms is 'invented constructs', the reality of which is inferred from human behaviour. For example, while studying the effect of motivation, a researcher is aware that motivation is an intervening variable, a construct invented by men to account for persistently motivated behaviour.

### 2.2.4 Role of Concepts in Research

Concepts play an important role in research. In fact, research cannot be conducted without concepts. Every research is based on a concept, as research tries to establish relationship between two concepts, one of which is dependent on the other. Let us explain this through an example. 'Vitamins supplement the growth in babies' is a topic of research. This is a hypothesis which needs to be tested (as we are hypothesizing that vitamins supplement the growth in babies). The statement could be true or false. In this topic of research, as in any other research, we are dealing with concepts. One concept that we have identified is 'vitamins' and the other concept is 'growth in babies'. According to the hypothesis, the higher the dose of vitamins (up to a certain level), the more healthy the growth among babies. Here, we are dealing, as already mentioned, with two concepts. One concept, 'vitamin', is an independent variable and the other concept, 'growth in babies' is a dependent variable. Concepts also help in understanding the cause and effect relationship in research. Let us take an example to understand the cause and effect relationship, as well as the role of dependent and independent variables in research. Concepts are used

in all types of research. We have just given examples of the use of concepts (which are also variables) in experimental research. We can also examine the importance, or role of concept in other types of research. In case study research, for example, the role of concept is equally important. A case study is one of several ways of doing research, whether it is social science related, or even socially related. It is an intensive study of a single group, incident, or community. Case study is a method of exploring and analysing the life of a single social unit – be it a person, a family, an institution, cultural group or even an entire single community – these entities are all concepts.

Similarly, concepts are used in historical as well as descriptive research, as in all types of research we are dealing with individuals, families, institutions, communities, etc., which are all concepts. Thus, research is incomplete without concepts.

---

## 2.3 OBJECTIVES

---

Objectives are extremely useful for conducting research. If we take a broader definition of the term, objective, it is something which is useful for conducting any action. Every act that we perform has an intention, or objective. For example, if a mother scolds a child or hits the child, the action is conducted to achieve a certain goal. The immediate objective, or goal, is to make the child avoid doing something that is considered wrong. The long term objective or goal is to discipline the child and make him differentiate between good and bad. The action of the mother is not ‘research’; it is simply an ‘action’. An example of an objective in social science research could be on ‘Good parenting skills’ which would be to make children and parents responsible and knowledgeable. Here, the action is to provide inputs on good parenting, and the result of this action is transferring the children from a state of being less responsible and knowledgeable, to a state where they become more responsible and knowledgeable.

### 2.3.1 The Meaning of Objectives

When we talk about an objective or a goal we mean a state which we would like to achieve in the future. The term, state, is however interpreted, here, comprehensively. An example of a state would be, ‘to have immigrated within a ten year period to a particular country’. Here, the objective is to reach the state of migrating to a particular country, and the period for achieving that state is ten years. Another example is to have successfully completed a particular educational course in five years. Here, the objective is to reach the state of completing a particular educational course, for which the time period specified is five years. Thus, an objective refers to shifting from one state to another through a certain process, and, within a certain time frame. Thus, we describe an objective as, where we want to be at a particular time. On the other hand, the path to this goal, that is how we wish to achieve this goal as well as the necessary negotiations and decisions, is not a part of the objective itself. Neither is the time period specified for achieving the goal a part of the objective. The dictionary meaning of objective is, ‘something that one’s efforts or actions are intended to attain or accomplish’.

Let us take an interesting example. You are all interested in studying this unit. Why? Here, ‘why’ means what is the objective of studying this unit?

The objective of studying this unit is to put in efforts to attain knowledge about the subjects/topics discussed in this unit. When the knowledge is attained, the student shifts from one state to another – that is the state of being less knowledgeable about the topics discussed in this unit to a state of being more knowledgeable about the topics discussed in this unit.

### 2.3.2 Type of Objectives

Objectives are generally of three types:

1. Broad and specific
2. Long term and short term
3. Measurable and non-measurable

#### 1. Broad and specific objectives

Broad objectives are those which reflect the goal or purpose, but which do not, in actual terms, specify the goals or purpose or mention in clear terms, the specific goals or purpose. We can take the example of a health project, for example. The project is entitled: ‘Improved Systems for Private and Public Health’. Here the broad objective would be to improve the health conditions of people. There are, however, underlying (specific) objectives, whereby, the broad objective, that is, improving the health conditions of people could be achieved.

Specific objectives, on the other hand, refer to specific goals or purpose that are to be attained and are mentioned in specific terms in the statement of objectives. In the example of the health project ‘Improved Systems for Private and Public Health’, specific objectives would be more than one. It could be a few or it could be many. For example, specific objectives could be reduction of disease; it could be provision of requisite medicines in the Primary Health Centres; it could also be availability of qualified doctors to cater to the needs of people, and so on.

#### 2. Long term and short term objectives

The long term objective in the example, above, is improving the health conditions of people. This is a long term objective, since it cannot be achieved overnight, or within a short span of time. In this example, when we refer to people, it could mean the entire population of a country, a state, a district. It could also mean a limited population within the country, state, district, or, a specific community within a block, or, a village. Also, in the same example, when we refer to ‘improving health conditions’, it could include only provision of timely medicines, or provision of health clinics; it could also mean improvement of sanitation and supply of safe and potable water. Thus, the long term objective can only be achieved over a span of, say, 5-10 years.

The short term objective remains confined to the achievement of certain specific objectives, such as, availability of medicines in a particular Primary Health Centre, or availability of a doctor in a slum community on a particular day in a week. These are short term objectives which can be achieved in a short span of time.

#### 3. Measurable and non-measurable objectives

There are certain objectives which can be quantified or measured. In the example, above, the number of patients attending a Primary Health

Centre every week or every month is a measurable objective. One indicator of improving the health conditions of people is more and more patients turning up at the Primary Health Centre every week or every month. The non-measurable objective, in this example could be the improved systems of health in the area. However, even this may be measurable, but only up to a certain extent, since, although it is possible to quantify certain indicators of health, not all of them can be quantified.

### 2.3.3 Criteria for Judging the Objectives

Certain criteria needs to be laid down for judging the objectives – whether the objectives have been thoughtfully identified or not. In social research, it is very important first to understand what are the goals for undertaking the research/study and then to ascertain that the objectives/goals are achievable.

The broad criteria for judging the objectives are:

1. It should lead to action
2. It should be important from the context of the research and should be understood
3. It should be useful and relevant
4. It should be based on logic
5. It should be achievable

#### 1. It should lead to action

Any research is undertaken with a single objective or a set of objectives in mind. The first criterion for identifying an objective is that it should lead to action. For example, if the research is on the topic, “Improved quality of education leads to enhancement of knowledge of children”, one of the objectives of research is enhancement of knowledge of children. The objective of research, in this example, leads to action, since children’s knowledge will increase by the inputs provided through quality education. The provision of quality education is an action which is necessary if the objective of enhancement of knowledge of children is to be achieved.

#### 2. It should be important from the context of the research and should be understood

The objective of research in the above example is important from the context of the research that is being undertaken. The most important aspect of improving the quality of education is enhancement of children’s knowledge. Improved quality of education may lead to other things as well, but, the most important aspect is knowledge enhancement. The objective in this example is also very clear and direct, and is not presented in a manner which is complex or confusing. As a result, it will be easily understood by anyone who is associated with this research.

#### 3. It should be useful and relevant

Let us use the same example to explain our point. In the research cited above, “Improved quality of education leads to enhancement of

knowledge of children”, what are the most significant and useful aspects? The most significant and useful aspects are the improvement in quality of education and the enhancement in the knowledge of children. The objective is also relevant in the above research since the relevance of improvement in the quality of education can only be judged through the enhancement of knowledge of children.

#### 4. It should be based on logic

Logic is the most important aspect of objective formulation. Any objective can be formulated only if the researcher has a clear understanding of the subject matter of research and why it needs to be conducted. In the above example, once again, the most logical objective is enhancement of children’s knowledge. There has to be an application of mind in deciding what could be the best outcome of an action – improvement in the quality of education. There could be another objective of this research – increase in the salary of teachers – but, this would not be the most logical objective of the research.

#### 5. It should be achievable

A very important criterion for the formulation of an objective is that it should be achievable. In the example given above, the objective, enhancement in the knowledge of children is achievable. If the quality of education improves - that is, better teachers are provided to children, better facilities are provided to children, interaction between teachers and children are more frequent, parent-teachers meetings are held frequently, special attention is being provided by teachers to weak students, and so on, then children’s knowledge is bound to be enhanced. Thus, the objective is achievable if the inputs provided are of good and standard quality.

In this section, you have studied the meaning of concepts, types of concepts, role of concepts, meaning and types of objectives of social science research, now answer the questions given in *Check Your Progress-1*.

#### Check Your Progress 1

**Note:** (a) Write your answer in about 50 words.

(b) Check your answer with possible answers given at the end of the unit.

1. Discuss with your friends and see what they mean by concepts.

.....  
.....  
.....  
.....

2. Explain to your friends the meaning of different types of objectives.

.....  
.....  
.....  
.....

---

## 2.4 DEFINITION

---

Defining a concept is not very different from defining any word. The objective is to make it very clear to some audience what one is dealing with. Logically, definitions aim to lay bare the principal features or structure of a concept, partly in order to make it definite, to delimit it from other concepts, and, partly, in order to make a systematic exploration of the subject matter with which it deals.

### 2.4.1 Meaning and Characteristics of Definition

The dictionary meaning of definition is the act or process of giving an exact meaning to a concept or word; describing or explaining the scope of the concept or word; describing or explaining a statement of the meaning of a concept, or, word or the nature of a thing. All research deals with concepts which have to be clearly defined. In the absence of a clear cut definition of a concept, the concept becomes ambiguous and vague, creating problems for a researcher in carrying out research.

Definitions have the following characteristics:

1. Definitions provide alternate meaning to concepts.
2. Definitions explain the meaning of concepts in clear and explicit terms.
3. Definitions provide reasonable and logical explanations to concepts.
4. Definitions describe concepts in terms which are easily understandable.
5. Definitions use common sense to describe and explain concepts to make them easily identifiable.

### 2.4.2 Types of Definitions

Definitions are of two types:

1. Conceptual
2. Operational

#### 1. Conceptual definition

The first step is to define what we mean by any particular concept. Once that has been done, it will then be possible to develop indicators for that concept as it has been defined. Conceptual definitions are those which define a concept. For example, what is the concept of religiousness – or, how a person can be called more religious or less religious? Similarly, poverty may be conceptualised in economic terms, perhaps using income to assess its existence. Similarly, it can be conceptualised in social terms, using the crime committed in a particular area to assess its magnitude. There are several dimensions to conceptualise poverty.

1. Poor purchasing power – low capacity to purchase because of low income.
2. Powerlessness – inability to influence others.
3. Isolation – being cut off from society.
4. Meaninglessness – no purpose of life as basic needs are not fulfilled.

#### 2. Operational definition

Once we are able to specify the different dimensions of a concept, we will be at a point where we can move from the abstract to the concrete.

The operational definition refers to the process through which indicators are developed to measure the concepts – that is, to transform them into observable phenomena. From each of the four dimensions of poverty, a set of questions can be developed to operationalize each dimension. For example, indicators can be developed for the first dimension of poverty, that is, poor purchasing power. In order to get information on this dimension, following questions can be asked:

1. What necessities do you purchase for your family's sustenance?
2. How do you meet the requirements of your child if you are unable to provide mother's milk?
3. What are other items apart from food on which you spend money?

The questions identified above indicate one dimension of poverty. Operational definitions, thus, provide indicators to the conceptual definition of a concept, in this case, poverty.

### **2.4.3 Role of Definitions**

Social Science Research revolves around the definition of concepts – both conceptual and operational. If definitions of concepts are not accurate, the researcher may not be able to understand what the concept is and how to ask questions related to the concept from the respondents. It is important for the researcher to understand the concept as it is defined and then conduct the interview. If this is not done, bias may be reflected from the way the questions are addressed to the respondents, and from the response of the respondents, as well.

Concepts like motivation, learning, perception, etc., are research in the Behavioural Sciences (a branch of the Social Sciences) which need to be clearly defined conceptually, and understood by the researcher before the researcher is able to undertake research on these topics. These conceptually defined concepts, then, need to be made operational (operationally defined) by devising indicators that can be used to measure these concepts. If the researcher is unable to understand the conceptual and operational definitions of these concepts, he or she, will not be able to do justice with research. It is, therefore, important that definitions of concepts are clearly understood before they are used by researchers for the purpose of conducting research.

---

## **2.5 HYPOTHESIS**

---

What is the purpose of formulating research questions like, “do children's performance in school improve on being given special coaching?”, or “Does regular use of milk make children healthy?” Well, research questions are formulated with the purpose of seeking answers to these questions. Two approaches to an answer are used in research and both require an examination of facts. The first approach is to gather appropriate factual data and examine them to see whether an answer to the research question can be formulated. The second approach uses prior research and thinking to come up with one or more hypothesized answers to the research question. The answer thus sought is called a hypothesis. Then, research is designed to gather factual data aimed at testing whether the hypothesized answers are false. If they are not falsified by the factual data, then the hypothesized answers are presumed to be reasonable answers to the initial

research question for the time being, as further research may show that the hypotheses are false in some situations.

### 2.5.1 Meaning of Hypothesis

A hypothesis is a proposed answer to a research question. Hypotheses may be derived from theoretical ideas or they may be suggested by exploratory research. For example, if the question is, “does regular use of milk make children healthy?” the hypothesis will be “Regular use of milk makes children healthy”.

A hypothesis is defined as a conjectural statement of the relationship between two or more variables. In the above example, the variables are ‘regular use of milk’ and ‘healthy children’. While a problem asks the question, “How is A related to B?” a hypothesis declares, “A is related to B”. A hypothesis is, thus, a statement or declaration, about a relationship between two or more variables, which is taken for granted with the purpose of deciding on the basis of research, about the probable existence of the presumed relationship.

A hypothesis is a tentative answer to a research problem, expressed in the form of a clearly stated relation between the independent and the dependent variables. Hypotheses are tentative answers because they can be verified only after they have been tested empirically.

### 2.5.2 Importance of Hypothesis

Hypotheses are important and indispensable tools of scientific research. There are three main reasons to accept this statement:

1. Hypotheses are working instruments of theory. They emerge as a deduction from a theory. Every worthwhile theory permits the formulation of additional hypotheses. These, when tested, are either proved or disproved and, in turn, constitute further tests of the original theory. For example, the theory of aggression may include the hypothesis, “Frustration produces aggression”. From this broad hypothesis, a few more specific hypotheses can be deduced. Like, to prevent children from reaching goals they find desirable (frustration) will result in their fighting with each other; children deprived of parental love (frustration) will react with aggressive behaviour.
2. Hypotheses are testable and can prove to be true or false. Facts which do not reflect relationship, for example, “He is smart”, are called isolated facts and cannot be tested. Only relations are tested. For example, “Girls from college A are smarter than girls from college B”. This is a hypothesis and can be tested.
3. Hypotheses are powerful sources for the advancement of knowledge as they allow the researcher to get outside his own barriers. A hypothesis is so important that it would not be an exaggeration to state that there would be no science in any complete sense without a hypothesis. Hypothesis is considered to be the backbone of all scientific research. Without it, confirmation or rejection of theories would be impossible.

### 2.5.3 Criteria for Judging a Workable Hypothesis

There are several criteria for judging a workable hypothesis.

1. A hypothesis should be stated in conceptually clear terms. In other words, it should not be vague or ambiguous.
2. A hypothesis should be testable. If a hypothesis refers to an idea that is not represented in real life, then it cannot be considered a good hypothesis as it cannot be tested.
3. A hypothesis should be governed by the law of parsimony. In other words, it should be economical in explaining the events to which it relates. It should not be based on too many assumptions.
4. A hypothesis should be formulated in specific terms, to distinguish it from a theory. A hypothesis selects some specific facts and events from a theory.
5. A hypothesis should be related to available techniques of testing it.
6. A hypothesis should be related to the known bodies of facts and theories. Theory building is the ultimate aim of science and a good hypothesis should help in fulfilling this aim.

---

## 2.6 VARIABLES

---

Concepts such as ‘total family income’ are ideas an investigator has about important characteristics of some entity such as a family. The concept must be clarified and defined, preferably explicitly, so that researchers can understand and share the phenomenon that is being studied. The concept of ‘total family income’ is defined to have a range of possible values. Thus, it is called a variable in a given piece of research.

### 2.6.1 Meaning of Variables

A variable is an indicator of some defined concept or characteristic of a case. For example, a response to the question, “What is your age?” is a variable that can be used as indicator of the concept age. The indicator of the concept age can be: less than one year; between 1 and 5 years; between 5 and 10 years; between 10 and 15 years; and, so on. The indicator of the concept age can be the actual age in numerical terms or the date of birth (date, month, and year). A variable may also be defined as a property that takes on different values, as many measurable attribute of objects, things or beings. Examples of variables could be any concept such as age, income, community, intelligence, motivation, etc. The term variable more directly expresses the quantitative meaning. It means, ‘whatever varies’. The most intricate variations can be expressed in terms of numbers which are capable of indefinite divisions. A variable has, accordingly, been defined as ‘a symbol to which numerals or values are assigned.’

### 2.6.2 Types of Variables

Variables are of different types

1. dependent and independent variables
2. qualitative and quantitative variables

## 1. Dependent and independent variables

Researchers aim at studying the relationship between variables which is described as one of dependence. They are dependent variable and independent variable. The independent variable is the stimulus variable, and the dependent variable is the response variable.

An independent variable is the presumed cause of the dependent variable, which is the presumed effect. In the above two examples, the cause and effect relationship can also be seen. For example, milk is the cause and children's growth is the effect and the kind of school is the cause and mannerism is the effect.

## 2. Qualitative and quantitative variable

Qualitative variables are those which vary in kind and not in degree. An example of a qualitative variable is sex, race, religion, etc. They cannot be described in numbers. A quantitative variable, on the other hand, is one whose values can be ordered in respect of their magnitude, that is, they can be described as being more or less, higher or lower, larger or smaller, etc. Examples of quantitative variables are intelligence, age, time, temperature, etc.

Quantitative variable can further be classified into two: (i) discrete or discontinuous and (ii) continuous. The value of a discrete variable is a fixed quantity. For example, sex and family size are discrete variables. These can be stated in terms of indivisible quantity, and not in terms of fractions like, 2.5 or 15.75, and, so on. Discrete variables consist of two or more classes – dichotomous, those that consist of two categories (for example, sex has two categories-male and female); and, polychromous, those that consist of more than two categories (for example, intelligence can be categorized into high intelligence, average intelligence and low intelligence).

A continuous variable is described as a 'quantitative variable which can be measured with an arbitrary degree of fineness'. For example, time is a continuous variable, since it can be measured in years, months, days, minutes, seconds, one hundred of a second, and so on.

### 2.6.3 Role of Variables

Variables play an important role in research. In fact, research cannot be conducted without variables. Every research is based on variables, as research tries to establish relationship between two variables, one of which is dependent and the other is independent. Variables also help in understanding cause and effect relationship in research. Variables are used in all types of research. We have just given examples of the use of variables in experimental research. We can also examine the importance or role of variables in other types of research. In case study research, for example, the role of variables is equally important. A case study is an intensive study of a single group, incident, or community. A case study is a method of exploring and analyzing the life of a single social unit – be it a person, a family, an institution, cultural group or even an entire single community – these entities are all variables.

In this section, you have studied the meaning and characteristics of definition, types of definition, role of definitions, meaning and importance

of hypothesis, meaning and types of variables, now answer the question given in *Check Your Progress-2*.

### Check Your Progress 2

**Note:** (a) Write your answer in about 50 words.

(b) Check your answer with possible answers given at the end of the unit.

1. Explain the meaning of definitions and discuss its salient characteristics?

.....

.....

.....

.....

2. Discuss the meaning and importance of hypothesis in social science research.

.....

.....

.....

.....

---

## 2.7 LET US SUM UP

---

We have discussed several concepts and issues related to social science research in this unit. We have discussed, in this unit, the meaning, types and importance of various terms like objectives, concepts, variables, hypothesis, etc. Objectives are useful for conducting research. Concepts play an important role in research. In fact, research cannot be conducted without concepts. All research is based on concepts, as research tries to establish relationships between two concepts, one of which is dependent on the other. Concepts also help in understanding cause and effect relationship in research, and are used in all research. Behind a good research question is some idea or hunch, or, ideally, a more carefully researched theory. Research questions involve special concepts. A variable is an indicator of some defined concept or characteristic of a case. Variables are of different types: dependent and independent variable; qualitative and quantitative variable. Variables play an important role in research. In fact, research cannot be conducted without variables. Variables also help in understanding cause and effect relationship in research.

Definitions have certain characteristics: they provide alternate meaning to concepts, explain the meaning of concepts in clear and explicit terms; provide reasonable and logical explanations to concepts; describe concepts in terms which are easily understandable; use common sense to describe and explain concepts to make them easily identifiable. Social science research revolves around the definition of concepts – both conceptual and operational. If definitions of concepts are not accurate, the researcher may not be able to understand what the concept is, and how to ask questions related to the concept from the respondents. A hypothesis is a proposed answer to a research question. Hypotheses are working instruments of theory. Hypotheses also deal with linkages between variables.

---

## 2.8 REFERENCES AND SELECTED READINGS

---

Bryman, A. (2001), *Social Research Methods*, Oxford University Press, Oxford.

Das, G. *Social Survey and Research*, King Books, New Delhi.

Frankfort-Nachmias, C. and Nachmias, D. (1996), *Research Methods in the Social Sciences*, St.Martin's Press, New York.

Henn, Matt, Mark Weinstein and Nick Ford (2006), *A Short Introduction to Social Research*, Vistar Publications, New Delhi.

Kane, E. (1990), *Doing Your Own Research: Basic Descriptive Research in the Social Sciences and Humanities*, Boyars, London.

McTavish, Don. G and Herman J. Loether. (2002), *Social Research – an Evolving Process*, Allyn and Bacon, USA.

Riley, Matilda White(1963), *Sociological Research: A Case Approach*, Harcourt Brace, New York.

---

## 2.9 CHECK YOUR PROGRESS – POSSIBLE ANSWERS

---

### Check Your Progress-1

1. A concept can be defined as a verbal response evoked by objects of the class to which the concept applies, for example, light, temperature, sound, age, sex, accidents, etc., are all class names applied to stimuli, subjects or responses of a specific kind. A case (unit of analysis) is that defined entity that is sampled and scored or measured on variables of interest in a research project. Research involves concepts such as total family income, self employment and economic returns. The concept of total family income, for example, is defined to have a range of possible values.
2. Objectives are generally of three types: broad and specific objectives, long term and short term objectives, measurable and non-measurable objectives. Broad objectives are those which do reflect the goal or purpose but which do not, in actual terms, specify the goals or purpose or mention in clear terms the specific goals or purpose. Long term objective in the above example is improving the health conditions of people. This is a long term objective, since it cannot be achieved overnight, or within a short span of time. Measurable objectives are quantified or measured and non-measurable objectives are not measured.

### Check Your Progress-2

1. The dictionary meaning of definition is the act or process of giving an exact meaning to a concept or word; describing or explaining the scope of the concept or word; describing or explaining a statement of the meaning of a concept or word or the nature of a thing. Definitions have the following characteristics.
  - Definitions provide alternate meaning to concepts.
  - Definitions explain the meaning of concepts in clear and explicit terms.

- Definitions provide reasonable and logical explanations to concepts.
  - Definitions describe concepts in terms which are easily understandable.
  - Definitions use common sense to describe and explain concepts to make them easily identifiable.
2. A hypothesis is a proposed answer to a research question. For example, if the question is, “does regular use of milk make children healthy?” the hypothesis will be “Regular use of milk makes children healthy”. Hypotheses are important and indispensable tools of scientific research. Hypotheses are working instruments of theory. Every worthwhile theory permits the formulation of additional hypotheses. For example, the theory of aggression may include the hypothesis, “Frustration produces aggression”. From this broad hypothesis, a few more specific hypotheses can be deduced.

---

## **UNIT 3 RESEARCH DESIGNS**

---

### **Structure**

- 3.1 Introduction
- 3.2 Meaning, Concept and Importance of Research Design
- 3.3 Functions of Research Design
- 3.4 Types of Research Design
- 3.5 Let Us Sum Up
- 3.6 References and Selected Readings
- 3.7 Check Your Progress – Possible Answers

---

### **3.1 INTRODUCTION**

---

This unit focuses on issues involved in designing a study. Any social science study involves several components which need to be integrated in a coherent and unambiguous way so as to ensure that the research problem is addressed effectively. It is the function of the research design to ensure that the research problem is addressed in an effective and unambiguous way. One of the common mistakes made by most of the researchers is that they begin their research without giving proper attention and importance to research design. A proper research design would be a blue print in the hands of the researchers and help in guiding the researcher about the collection, measurement and analysis of data. This unit would cover various aspects and types of a research design. After reading this unit you will be able to:

- Describe the meaning and concept of a research design
- Discuss the importance of a research design
- Elaborate upon the functions of a research design
- Explain the different types of research design

---

### **3.2 MEANING, CONCEPT AND IMPORTANCE OF RESEARCH DESIGN**

---

A research design is a plan and structure of investigation used to obtain answers to research questions (Kerlinger, 1986).

A traditional research design is a blue print or detailed print of how a research study is to be completed – operationalizing variables so that they can be measured, selecting a sample of interest to study, collecting data to be used as a basis for testing hypothesis, and analysing the result. (Thyer, 1993:94).

The first obvious question that arises in one's mind is – why have a research design? A simple analogy will help answer this question better. Say you want to construct a building. You don't right away order materials and set dates for completion of various levels of the building without first knowing what sort of building is to be constructed. You need to first know what the building would be, whether it would be a school, an office or a residential complex. In the same way, social science research also needs

a research design before starting with data collection and analysis. A research design helps the researcher to know what information they require to answer their research questions. A good research design puts before a researcher a blue print of what information needs to be collected, how the respondents would be chosen, how the collected information would be analysed and how the results would be presented in a meaningful manner.

The research design helps in taking decisions on the following:

- Nature of the study
- Reason for conducting the study
- Location of the study
- Nature of data needed for the study
- The time period for which the data has to be collected
- The location from where the data has to be collected
- Specifying the sampling design
- Techniques of data collection
- Analysis of collected data
- Style of report writing

A well defined research design is needed for smooth sailing of the research processes from deciding on the topic of research to collection of data, analysis and report writing so as to collect maximum information with minimum money and time. Research designs have a great bearing on the reliability of the research results and hence should be prepared with utmost care.

### **3.2.1 Features of a Good Research Design**

A good research design would be one which would maximize the reliability of the results while minimizing the bias. The desirable features of a good research design also depend on the problem being investigated. For some, a design which gives maximum information may be the best while for others it may be the one which gives smallest experimental errors. Thus a design quite suitable for one research problem may be found lacking in others. For example, exploratory research studies require the research design to be flexible enough whereas in case of studies demanding accuracy, the research designs which would minimize bias and maximize reliability will be more suited.

---

## **3.3 FUNCTIONS OF RESEARCH DESIGN**

---

A research design has two broad functions. The first one relates to identifying and developing logistics and procedures required to undertake a particular study. The second function relates to ensuring quality in these procedures so as to ensure their validity, objectivity and accuracy. The research design should detail all the procedures a researcher plans to use so as to obtain answers to the research question. A good research design should be flexible, appropriate, efficient and economical.

### **3.3.1 A good research design has the following functions:**

1. A research design would help identify a research problem and justify its selection.

2. It will provide a proper review of previously conducted research on associated problem and will provide a synthesis of previously published literature.
3. Specifying the hypothesis of the research problem clearly and explicitly is another function of a research design.
4. To identify the variables on which data would be needed in order to test the specified hypothesis and also to clarify the method for collecting the data.
5. To describe the analytical methods that would be used in order to test the hypothesis.

### 3.3.2 Criteria for Choosing a Research Design

The design to be chosen depends on the following factors

- The aim of the study and the information required.
- The nature of the phenomenon being studied. Whether it is quantifiable and if quantified, whether the results would be reliable and valid.
- Is it ethical to conduct the study
- The availability of literature on the topic
- The cost of the design

Till now you have read about the meaning, concept, importance and functions of a research design. Now try and answer the questions given in *Check Your Progress – 1*.

#### Check Your Progress 1

**Note:** (a) Write your answer in about 50 words.

(b) Check your answer with possible answers given at the end of the unit.

1. What is meant by a research design?

.....

.....

.....

.....

2. Describe the criteria for choosing a research design.

.....

.....

.....

.....

---

## 3.4 TYPES OF RESEARCH DESIGN

---

There are several types of research design which can be used depending on the nature of the research. This section gives you details of the following research designs:

1. Action Research Design

2. Case Study Design
3. Causal Design
4. Cohort Design
5. Cross Sectional Design
6. Descriptive Research Design
7. Experimental Design
8. Exploratory Research Design
9. Historical Research Design
10. Longitudinal Research Design
11. Metal-Analysis Design
12. Observational Design
13. Philosophical Design
14. Sequential Design

Let us study each of these designs in detail.

### 1. Action Research Design

Action research consists of a family of research methodologies which pursue action and research outcomes at the same time. Action research design tends to be cyclic in nature wherein, initially an understanding of the problem is developed and plans are made for some intervention. This is followed by acting upon the interventions and then the related observations or information is collected. This is followed by critical reflection in which the researchers reflect upon and critique what has happened. This reflection leads to next stage of planning and the cycle continues.

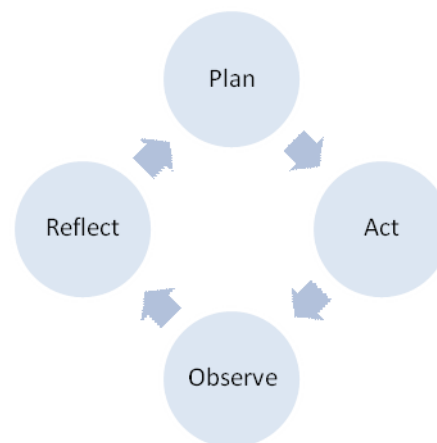


**Fig. 1: Cyclical Nature of Action Research Design**

This research design is thus cyclical in nature and helps in deeper understanding of a given situation starting with conceptualizing the problem followed by several interventions and their evaluations.

Advantages:

Action research designs are used in community situations. They aim at solution driven research outcomes instead of testing theories. Apart from being cyclic, action research is also participative in nature. Its cyclic nature gives more chance to learn from experience provided that there is real

reflection on the process and on the outcomes of each cycle. Action research also provides flexibility to allow fuzzy beginnings while progressing towards appropriate endings.

Disadvantages:

One of the most important features of action research is that the researcher is responsible for both change (action) as well as for research. Hence action research is more time consuming than conventional research. You may also not be able to use the conventional format of documentation in case of action research.

## **2. Case Study Design**

Case study design is a useful tool for in depth analysis of a particular research problem rather than a statistical survey. It helps in narrowing the research problem to a few examples. Unlike surveys, a case study will not provide complete answers to a question but it can help in elaboration and hypothesis formation. This design can also be used to test the applicability of a theory or a model in the real world.

Advantages:

Case study designs help in understanding complex issues by a detailed study of limited number of cases. Examining of contemporary life situations through case studies helps in application of concepts and theories and extension of methodologies. Case studies also help in detailed descriptions of rare cases.

Cautions:

Case studies cannot be used to generalise the findings over wider population. This type of design may lead to researcher's bias while interpreting the results due to intense exposure of the researcher to the case being studied. A case being studied may not be a representative of the larger problem being studied and hence may not be a good design to assess the cause and effect relationship.

## **3. Causal Design**

Causal designs are used to study phenomena in which a variation in one phenomenon (the independent variable) leads to a variation in other phenomena (the dependent variable). Causal researches are conducted in order to understand the nature and extent of cause and effect relationships. One of the examples where causal research design can be used in development studies is when one needs to study the impact of a livelihood programme on the income levels of the people. For a researcher to choose a causal research design there should be an empirical association between the independent variable and the dependent variable and the relation between the two variables is not spurious. Another important aspect to be kept in mind is that the variation in the independent variable should precede any variation in the dependent variable to establish the causality.

Advantages:

Causal studies help in identifying the reasons behind some processes. They are also useful in impact assessment studies. Replication is possible in causal studies. These studies offer high levels of internal validity due to systematic selection of subjects.

**Cautions:**

Coincidences in events or spurious relations may be perceived as cause and effect relations. Due to the existence of a wide range of extraneous variables in the social environment, the causality can only be inferred but not proven with high levels of certainty. There exists possibility of existence of causal relationship between two variables but it may be difficult to establish which variable is the cause and which the effect is.

**4. Cohort Design**

Cohort design is a design in which a group having similar characteristics is closely monitored over time simultaneously with another group. It is generally used in medical research where a population is selected and information is collected on the statistical occurrence of a particular phenomenon (say heart disease) among subjects which have a particular characteristic (diabetics). The entire population is then followed up in time and the incidence of occurrence of heart disease in diabetic individuals is compared with incidence of heart disease in those who are not diabetic. This design can also be used in applied social science research, specially the researches that measure risk factors.

**Advantages:**

This research design is specially used in studies where a randomised control study may be unethical and hence researches that measure risk factors usually use cohort design. Cohort studies measure the potential causes before the outcome, thereby avoiding the problem of having to clearly state which the cause is and which is the effect.

**Caution**

While using the cohort design to compare two cohorts, the researcher cannot control for all other factors that might differ between the two groups. Sometimes cohort studies may take long time to complete especially if researcher has to wait for the incidence of interest to occur within the group. Sometimes the time may be long enough for the key variables to change, thereby impacting the validity of the study. Since cohort design lacks randomization, it has lower validity than those designs in which the sample is chosen randomly.

**5. Cross Sectional Design**

Cross sectional design lacks the dimension of time. In cross sectional researches, observations are taken for different groups at one point of time. A cross sectional design can only measure differences among the subjects. A cross sectional study can be used to describe the characteristics of a group. However, the process of change cannot be traced in a cross sectional study. It focuses on finding relationship among variables at one point of time.

**Advantages:**

Cross sectional studies are based in drawing inferences from the existing differences than measuring change. The selection of groups is purposive and based upon existing differences in the sample and not random. This design uses survey technique to collect data and hence can be done at a relatively lower cost.

Finding subjects for study with similar characteristics can be difficult. The results being static cannot be explained in temporal context. These studies cannot be used to establish cause and affect relationships. There is no follow up to the findings.

## **6. Descriptive Research Design**

Descriptive research designs are the best methods for collecting information that will demonstrate relationships or describe the current status of the phenomenon as it exists. Descriptive studies involve surveys or interviews to collect the necessary information. Descriptive studies typically provide answers to questions related to who, what, when, where and how, however, they cannot provide answers to why.

Advantages:

Descriptive studies observe the subjects in their natural environment as they exist and are generally precursors to qualitative research designs. They are useful tools in more focused studies.

Caution:

The results from descriptive studies cannot be used to prove or disprove a hypothesis. The results of descriptive studies cannot be replicated as they are based on observational methods.

## **7. Experimental Design**

In the simplest forms of experimental designs, two groups are created which are equivalent to each other. Then one of the groups, also called the treatment group gets a programme and the other group, also called the control group does not get the programme. These two groups are similar in all other aspects. Then the differences are observed in both the groups. Since both the groups are supposed to be equivalent in all the aspects, the difference arising between the two is considered to be due to the only difference between the two groups which is that one of the groups get the programme.

Advantages:

If people are assigned to the two groups on a random basis from a common pool and if the sample size is large enough to achieve probabilistic equivalence between the two groups, the experimental research designs are capable of achieving strong internal validity. Since the experimental designs allow researchers to control a situation, it also allows researchers to establish a cause and effect relationship.

Caution:

Since the experimental designs are artificially established, the results may not generalize well to the real world. Also, the artificial setting of the experiments may alter the response of the participants. Experimental designs requiring special equipments may be a costly affair. There may also be ethical considerations to be addressed in experimental research designs.

## **8. Exploratory Research Design:**

Exploratory research designs are used when the researcher has an understanding or observation about something and seeks to learn more about

it. It is used in research problems in which there are few or no earlier studies to refer to or rely upon to predict an outcome. Exploratory designs are undertaken with one or more of the following goals:

- To develop familiarity with basic details, settings, and concerns.
- To develop a well grounded picture of the existing situation
- Generation of new ideas and assumptions.
- Development of tentative theories or hypotheses.
- To determine the feasibility of the study in future.
- To lay the groundwork which will lead to future studies.
- Direction for future research and techniques get developed.

Advantages:

It helps in gaining background information on a particular topic. Exploratory research designs are undertaken with one of the two basic purposes to define new topics or a new angle or to clarify the existing concepts. These research designs help in generating a formal hypothesis or in developing a more precise research problem. Exploratory designs are useful in research prioritization or resource allocation.

Caution:

As the sample size used in exploratory designs are small, they cannot be used to make generalizations about the population. They do not provide a definitive conclusion for a research problem. The outcome of exploratory researchers may not be of much value to the decision makers. As compared to other designs, this design lacks the rigorous standards of data collection and analysis.

## **9. Historical Research Design**

Historical research typically involves studying and interpreting past events to predict the future ones. Historical research typically involves Collection, verification and synthesis of evidences from the past so as to establish or refute a hypothesis. It uses both primary and secondary data sources including documentary evidences such as diaries, reports, archives, official records etc.

Advantages:

Historical researches are unobtrusive and do not affect the result of the study. Historical approach is typically suited for trend analysis. There is no possibility of interaction between the researcher and the subject which could affect the findings of the research.

Caution:

The fulfilment of the objectives of such researches is based upon the availability and quality of documents related to the research problem. Interpreting historical researches can be very time consuming. Historical researches are weak in terms of the demands of internal validity. Since the availability of entire documents needed to fully address a historical research is rare, such gaps need to be acknowledged in the report.

## **10. Longitudinal Research Design**

In a longitudinal study, the sample is followed over time to make repeated observations. In longitudinal studies, the same group or sample is tracked

over time and the changes observed. The researcher then relates them to variables that might have caused the changes. They are useful in studies required to establish causal relationship and help in showing both the magnitude and direction of causal relationships.

Advantages:

Longitudinal studies help in identifying the duration of the particular phenomenon being studied. These studies help in measuring and analysing the pattern of change on different variables over time. They also facilitate predictions to be made on the basis of earlier factors.

Caution:

Large sample size is needed to be able to accurately explain the causal relationships. It may also be difficult to maintain the integrity of original sample over time. The data collection method may change over time and it may also be difficult to show more than one variable at a time. Longitudinal research is based on the assumption that the present trend will continue which may not hold true all the time.

## **11. Meta-analysis Design**

Meta analysis is a technique designed for combining results from independent studies. It involves evaluation and summarizing of results from a number of individual studies thus increasing the overall sample size and also increasing the ability of researcher to study the effects of interest. This type of study uses synoptic reasoning to develop a new understanding of the research problem. Meta-analysis includes analysing differences in the results among studies and increasing the precision by giving due weight to the size of different studies included. The validity of meta-analysis depends on the quality of systematic review on which it is based. A well designed meta-analysis depends upon strict adherence to the criteria used for selecting studies and the availability of information in those studies to be able to properly analyse their findings. Larger the heterogeneity in the results of the individual studies, the more difficult it becomes to establish validity of the synopsis of the results.

Advantages:

Meta-analysis can be used as a strategy to determine gaps in already existing literature. Such studies help in review if researches on a particular topic over a long period of time and published in various sources. They also help in overcoming the problem of small sample in individual studies. They are generally used to generate new hypothesis or suggest problems for future studies.

Caution:

Large sample may yield reliable but not necessarily valid results. Synthesis of a heterogeneous collection of studies in terms of literature reviewed, methods applied or measurements of findings may be difficult. The whole process can be quite time consuming and small violations in criteria used for analysing the studies may lead to meaningless findings.

## **12. Observational Design**

This type of research design draws a conclusion by comparing subjects against a control group; however, the allocation of treatment is not fully

under the control of the researcher. The main difference between experimental and observational research is the lack of manipulation of independent or causal variable in case of observational research design. The researcher simply observes the naturally occurring values of the independent and dependent variables and then uses techniques to find out if they co-vary. This design helps ensure that there are no false responses that might be introduced by manipulative research procedures. An observational study allows a useful insight into a phenomenon and avoids the ethical and practical difficulties of setting up a large and cumbersome research project. Observational designs are of two types: direct observations in which subjects know that the researcher is watching them and Unobtrusive observations in which the individuals do not know that they are being observed.

**Advantages:**

Observational designs are flexible and do not necessarily need to be structured around a hypothesis. The researcher is able to do an in depth investigation about a particular behaviour and hence helps in understanding the interrelation among various dimensions of the study. As the variables being studied are allowed to operate without any intervention in case of observational designs, the external validity is often very high. The results of observational research can be generalised in real life situations.

**Caution:**

The internal validity of observational research designs is low. Reliability of the data is low as they are difficult to replicate. The findings may pertain to a unique sample population and cannot be generalised. The study may have an element of the researcher's bias. Since nothing is manipulated, a cause and effect relationship cannot be established. The presence of a researcher in case of direct observations may lead to skewed data.

### **13. Philosophical design**

The philosophical researches challenge the assumptions underlying a particular study. Arguments derived from philosophical theories, models, concepts or traditions form the tools for this type of studies. Such studies can basically be of three types:

- **Ontology** — the study that describes the nature of reality; for example, what is real and what is not, what is fundamental and what is derivative?
- **Epistemology** — the study that explores the nature of knowledge; for example, by what means does knowledge and understanding depend upon and how can we be certain of what we know?
- **Axiology** — the study of values; for example, what values does an individual or group hold and why? How are values related to interest, desire, will, experience, and means-to-end? And, what is the difference between a matter of fact and a matter of value?

**Advantages:**

This type of research helps the researcher in gaining greater self understanding about the purpose of research. Philosophical studies help to refine concepts and theories that are invoked in relatively unreflective modes of thought and discourse thus offering clarity to the terms, concepts and ideas.

Caution:

Its application is limited to specific problems and has limited applicability in real life issues. There can be analytical difficulties in moving from philosophy to advocacy and between abstract thought and application to the phenomenal world.

#### 14. Sequential Research Design

A sequential design may be defined as a combination of longitudinal and cross sectional design in which several cohorts are followed at a time. In longitudinal designs, we look at one group over a long period of time and in cross sectional design we look at several groups at a particular period of time. In sequential design, we look at different groups over a period of time.

Advantages:

Sequential design is a useful design for exploratory studies. As the study is repetitive in nature, minor changes or correction warranted in the research methods can be done at the initial stages. The study being conducted serially, the results of one sample are known before next sample is drawn and analysed providing enough opportunities for improvement of sampling methods and analysis.

Caution:

The sampling method used does not allow choosing a representative sample of the population unless the researcher goes for a very large sample. Also as the sampling technique is not randomised, the results cannot be generalised for the entire population. It is also difficult to interpret variation from one sample to another over time.

In this section you have read about the various types of research design. Now try and answer the questions given in *Check Your Progress – 2*.

#### Check Your Progress 2

**Note:** (a) Write your answer in about 50 words.

(b) Check your answer with possible answers given at the end of the unit.

1. What is Cohort Research Design? What are its advantages?

.....

.....

.....

.....

2. What is longitudinal Research Design? What are its advantages?

.....

.....

.....

.....

.....

---

### 3.5 LET US SUM UP

---

In this unit, we discussed the meaning, purpose and features of research designs and found that a good research design is possible through different phases. Research design, however, depends on research purpose, and is bound to be different in the case of exploratory or formulative studies from other studies, such as descriptive or diagnostic ones. Each type of research design, however, does not suit all categories of designs and for each category of research, separate types of designs will be needed. The researcher must decide in advance of collection and analysis of data as to which design would prove to be more appropriate for his/her research project. The researcher must give due weight to various points such as the type of universe and its nature, the objective of the study, the resource list or the sampling frame, desired standard of accuracy, and the like, when taking a decision with respect of the design for the research project.

---

### 3.6 REFERENCES AND SELECTED READINGS

---

Bhattacharjee, Anol, “Social Science Research: Principles, Methods, and Practices” (2012). Textbooks Collection. Book 3

Festinger L. and Katz D. (1953), *Research Methods in Behavioural Sciences*, Holt, Rinehart and Winston Inc., New York.

Goode W.J. and Hatt P.K. (1981), *Methods in Social Research*, McGraw-Hill Book Company, Singapore.

Kerlinger F.N. (1973), *Foundations of Behavioural Research*, Holt, Rinehart and Winston Inc., New York.

Kerlinger, F.N. (1986). *Foundations of Behavioral Research*, 3rd edn, Holt Rinehart & Winston.

Kothari C. R. And Gaurav Garg (2014). *Research Methodology Methods and Techniques*, New Age International Pvt. Ltd., New Delhi.

Mulay Sumati and Sabarathanam V.E. (1980), *Research Methods in Extension Education*, Manasayan, New Delhi.

Siegel S. (1956), *Nonparametric Statistics for the Behavioural Sciences*, McGraw-Hill Book Company Inc., New York.

Thyer, B. (1993). Single system research designs. In *Social Work Research and Evaluation*. R Grinnel Ed. Itasca, IL.

Verma, S. (2015). *Technical Communication for Engineers*, Vikas Publishing House Pvt. Ltd., Noida, UP

Young P.V. (1996), *Scientific Social Surveys and Research*, Prentice – Hall of India Pvt. Ltd., New Delhi.

---

### 3.7 CHECK YOUR PROGRESS – POSSIBLE ANSWERS

---

#### Check Your Progress 1

1. A traditional research design is a blue print or detailed print of how a research study is to be completed – operationalizing variables so that they can be measured, selecting a sample of interest to study,

collecting data to be used as a basis for testing hypothesis, and analysing the result. (Thyer, 1993:94).

2. The design to be chosen depends on the following factors
  - The aim of the study and the information required.
  - The nature of the phenomenon being studied. Whether it is quantifiable and if quantified, whether the results would be reliable and valid.
  - Is it ethical to conduct the study
  - The availability of literature on the topic
  - The cost of the design

### Check Your Progress 2

1. Cohort design is a design in which a group having similar characteristics is closely monitored over time simultaneously with another group. It is generally used in medical research where a population is selected and information is collected on the statistical occurrence of a particular phenomenon. The entire population is then followed up in time and the incidence of occurrence of heart disease in diabetic individuals is compared with incidence of heart disease in those who are not diabetic. This design can also be used in applied social science research, specially the researches that measure risk factors.

Advantages:

This research design is specially used in studies where a randomised control study may be unethical and hence researches that measure risk factors usually use cohort design. Cohort studies measure the potential causes before the outcome, thereby avoiding the problem of having to clearly state which the cause is and which is the effect.

2. In a longitudinal study, the sample is followed over time to make repeated observations. In longitudinal studies, the same group or sample is tracked over time and the changes observed. The researcher then relates them to variables that might have caused the changes. They are useful in studies required to establish causal relationship and help in showing both the magnitude and direction of causal relationships.

Advantages:

Longitudinal studies help in identifying the duration of the particular phenomenon being studied. These studies help in measuring and analysing the pattern of change on different variables over time. They also facilitate predictions to be made on the basis of earlier factors.

---

## **UNIT 4 RESEARCH PROJECT FORMULATION**

---

### **Structure**

- 4.1 Introduction
- 4.2 Steps in the Formulation of a Research Project Proposal
- 4.3 Title of Research Project
- 4.4 Problem Statement
- 4.5 Review of Literature
- 4.6 Objectives of Research
- 4.7 Methodology
- 4.8 Work Schedule/Time Frame
- 4.9 Budget
- 4.10 Dissemination Strategy
- 4.11 References
- 4.12 Let Us Sum Up
- 4.13 References and Selected Readings
- 4.14 Check Your Progress – Possible Answers

---

### **4.1 INTRODUCTION**

Research project formulation is one of the important tasks of the students pursuing various programmes in Development Studies. The research project formulation comprises many steps starting from the choosing of a research topic up till the budget and time line fixation. This unit deals with the details of the various steps involved in the research project formulation. After reading this unit, you should be able to formulate a research project proposal by completing the following steps

- identification, analysis and description of a research problem
- review of relevant literature and other available information
- formulation of research objectives
- development of an appropriate research methodology
- preparation of a work plan for the study
- identification of resources required and preparation of a budget
- development of a strategy for distribution and utilisation of research results

---

### **4.2 STEPS IN THE FORMULATION OF A RESEARCH PROJECT PROPOSAL**

The first step in any research project is to write a research proposal. The research proposal indicates the research problem that you will study, and shows the road map to undertaking the research project. A research proposal is intended to convince others that you have a worthwhile research project and that you have the competence and the work plan to complete it. Generally, a research proposal should contain all the key elements involved in the research process, and include sufficient information for the readers

to evaluate the proposed study. First, the researcher has to identify a problem that he aims to study. The logical next step is to find an answer or solution to the problem through a systematic step by step approach. A good proposal increases the chances of getting funding, and is also necessary for efficient research and valid results. A good proposal contains a clear statement of the problem to be studied, a review of relevant literature, objectives of the study, methodology, time frame, budget, and references.

An outline of the proposal format is provided below.

1. Title of research project
2. General introduction/ Background/ Importance of Study/Statement of Problem
3. Review of relevant literature
4. Objectives
5. Methodology
6. Time Frame
7. Budget
8. References

A schematic diagram of steps in the formulation of a research project proposal is given below.

**Table 4.1 Steps in the Formulation of a Research Project Proposal**

| Questions you must ask                                                                                         | Steps you will take                                        | Important elements of each step                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| What is the problem and why should it be studied?                                                              | Selection, analysis and statement of the research problem  | <ul style="list-style-type: none"> <li>- problem identification</li> <li>- prioritising problems</li> <li>- analysis</li> <li>- justification</li> </ul>                                                                                                                                                    |
| What information is available?                                                                                 | Literature review                                          | <ul style="list-style-type: none"> <li>- literature and other available information</li> </ul>                                                                                                                                                                                                              |
| Why do we want to carry out the research? What do we hope to achieve?                                          | Formulation of research objectives                         | <ul style="list-style-type: none"> <li>- general and specific objectives</li> <li>- hypotheses</li> </ul>                                                                                                                                                                                                   |
| What additional data do we need to meet our research objectives? How are we going to collect this information? | Research methodology                                       | <ul style="list-style-type: none"> <li>- variables</li> <li>- types of study</li> <li>- data collection techniques</li> <li>- sampling</li> <li>- plan for data collection</li> <li>- plan for data processing and analysis</li> <li>- ethical considerations</li> <li>- pre-test or pilot study</li> </ul> |
| Who will do what, and when?                                                                                    | Work plan                                                  | <ul style="list-style-type: none"> <li>- human resources</li> <li>- timetable</li> </ul>                                                                                                                                                                                                                    |
| What resources do we need to carry out the study? What resources do we have?                                   | Budget                                                     | <ul style="list-style-type: none"> <li>- material support and equipment</li> <li>- money</li> </ul>                                                                                                                                                                                                         |
| How will the project be administered? How will utilisation of results be ensured?                              | Plan for project administration and utilisation of results | <ul style="list-style-type: none"> <li>- administration</li> <li>- monitoring</li> <li>- identification of potential users</li> </ul>                                                                                                                                                                       |
| How will we present our proposal to relevant authorities, community and the funding agencies?                  | Proposal summary                                           | <ul style="list-style-type: none"> <li>- briefing sessions and lobbying</li> </ul>                                                                                                                                                                                                                          |

Source: <http://www.Module 6 FORMULATION OF RESEARCH OBJECTIVES International Development Research Centre.htm>

---

### 4.3 TITLE OF RESEARCH PROJECT

---

The title of the research project gives the first impression of a proposal and, hence, it needs to be carefully framed. It has to be catchy, small and informative. It should be a shorter version of the objective. It should indicate, broadly, what is being attempted. It should be precise and accurate. No jargon or abbreviations should be used. Use of ambiguous and confusing words should be avoided. The title should not be too long. It should contain the key words to reflect the research objectives. It should not usually contain more than 8-10 words. If there are too many words, the title may be broken into main title and sub title. An effective title not only arouses the reader's interest, but, also, steers the researcher towards the proposal in an organized way.

A few examples of good titles are given below.

1. Cost of Cultivation of Paddy in Punjab
2. Changes in Land Holding Pattern in Orissa
3. Participatory Irrigation Management in India
4. Groundwater Management for Agriculture in Uttar Pradesh
5. Economic Impact of Flood in Andhra Pradesh
6. Functioning of Public Distribution System in Bihar
7. Effectiveness of Extension Services in Agriculture in Tamil Nadu

---

### 4.4 PROBLEM STATEMENT

---

The introductory section in a research proposal highlights the importance of the study and describes the context in which the study is required. It typically begins with a general statement of the problem area, a focus on a specific research problem, to be followed by the rationale or justification for the proposed study. The introduction generally contains the following components.

1. A statement of the research problem, which is often referred to as the importance of the study.
2. A discussion of the context and definition of your research question in such a way as to show its necessity and importance.
3. The rationale of your proposed study and a clear indication of why it is worth doing.
4. A brief description of the major issues and sub-problems to be addressed by your research.
5. An outline of the boundaries of your proposed research in order to provide a clear focus.

However, try to place your research question in the context of either a current “hot” area, or an older area that remains viable and interesting. Second, provide a brief, but appropriate historical backdrop. Third, provide the contemporary context in which your proposed research question occupies the central stage. Finally, identify key players and refer to the most relevant and representative publications. In short, try to paint your research question in broad brushes, and, at the same time, bring out its

significance. It is pertinent to mention here, that during the line of formulation of a “Problem Statement”, you have to take into consideration two vital factors:

- (i) criteria for choosing a research topic
- (ii) formulating research questions.

#### **4.4.1 Criteria for Choosing a Research Topic**

Development research is intended to provide information for decision making to promote development, the selection and analysis of the research topic should involve those who are responsible for the development of the community. This would include managers in service delivery, workers in different development sectors and community leaders, as well as researchers. Each topic that is proposed for research has to be judged according to certain guidelines or criteria. There may be several ideas to choose from. The guidelines or criteria for selecting a research topic are as follows

1. Relevance
2. Avoidance of duplication
3. Urgency or timeliness
4. Political acceptability of study
5. Feasibility of study
6. Applicability of results
7. Ethical acceptability

##### **1. Relevance**

The topic you choose should be a priority problem. Questions to be asked include

- How large or widespread is the problem?
- Who is affected?
- How severe is the problem?

Try to think of serious socio-economic problems that affect a great number of people, or, of the most serious problems that are faced by the managers in the area of your work.

##### **2. Avoidance of duplication**

Before you decide to carry out a study, it is important that you find out whether the suggested topic has been investigated before, either within the proposed study area or in another area with similar conditions. If the topic has been researched, the results should be reviewed to explore whether major questions that deserve further investigation remain unanswered. If not, another topic should be chosen.

##### **3. Urgency of data needed (timeliness)**

How urgently are the results needed for making a decision or developing interventions at various levels (from community to policy)? Consider which research should be done first and which can be done later.

#### 4. Political acceptability

In general it is advisable to research a topic that has the interest and support of the local/national authorities. This will increase the chance that the results of the study will be implemented. Under certain circumstances, however, you may feel that a study is required to show that the government's policy needs adjustment. If so, you should make an extra effort to involve the policy makers concerned at an early stage, in order to limit the chances of confrontation later.

#### 5. Feasibility

Look at the project you are proposing and consider the complexity of the problem and the resources you will require while carrying out your study. Thought should be given first to manpower, time, equipment, and money that are locally available. In situations where the local resources necessary to carry out the project are not sufficient, you might consider resources available at the national level; for example, in research units, research councils or local universities. Finally, explore the possibility of obtaining technical and financial assistance from external sources.

#### 6. Applicability of possible results/recommendations

Is it likely that the recommendations from the study will be applied? This will depend not only on the management capability within the team and the readiness of the authorities but also on the availability of resources for implementing the recommendations. Likewise, the opinion of the potential clients and of responsible staff will influence the implementation of recommendations.

#### 7. Ethical acceptability

We should always consider the possibility that we may inflict harm on others while carrying out research. Therefore, review the study you are proposing and consider important ethical issues such as:

- How acceptable is the research to those who will be studied? (Cultural sensitivity must be given careful consideration). Is the problem shared by the target group and management staff and researchers?
- Can informed consent be obtained from the research subjects?
- Will the results be shared with those who are being studied? Will the results be helpful in improving the living standard of those being studied?

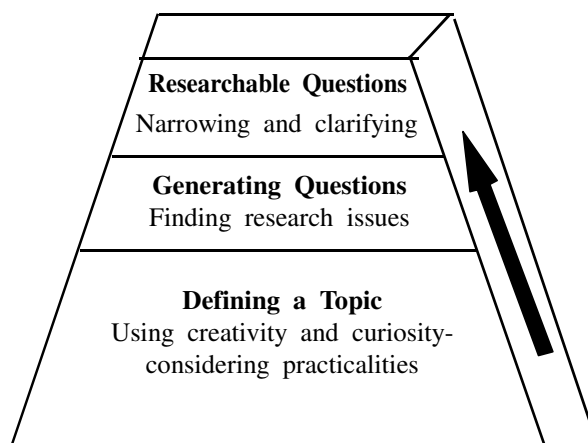


Fig. 4.1 : From Topics to Researchable Questions

Source : O'Leary, 2004

### 4.4.2 Formulating Research Question

Developing a well articulated research question is an important part of the process because it defines the project, sets boundaries, and gives direction. Moving from ideas to researchable question can be daunting. Using insights derived from personal experience, theory, observations, contemporary issues, and engagement with the literature can give you direction for your research. Narrowing, clarifying and even redefining your questions is essential to the research process. Forming the right questions should be seen as an iterative process that is informed by reading and doing, at all stages. Hypotheses are designed to express relationships between variables. If this is the nature of your question, a hypothesis can add to your research. If your question is more descriptive or explorative, generating a hypothesis may not be appropriate. Good research questions need to be: right for you; right for the field; well articulated; doable. Good research questions get approval from experts in the field. A check list for framing a good research question is shown in Table 4.2.

**Table 4.2 Check List for Good Research Question**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>IS THE QUESTION RIGHT FOR ME?</b></p> <ul style="list-style-type: none"> <li>● Will the question hold my interest?</li> <li>● Can I manage any potential biases/subjectivities I may have?</li> </ul> <p><b>IS THE QUESTION RIGHT FOR THE FIELD?</b></p> <ul style="list-style-type: none"> <li>● Will the findings be considered significant?</li> <li>● Will it make a contribution?</li> </ul> <p><b>IS THE QUESTION WELL ARTICULATED?</b></p> <ul style="list-style-type: none"> <li>● Are the terms well defined?</li> <li>● Are there any unchecked assumptions?</li> </ul> <p><b>IS THE QUESTION DOABLE?</b></p> <ul style="list-style-type: none"> <li>● Can information be collected in an attempt to answer the question?</li> <li>● Do I have the skills and expertise necessary to access this information?<br/>If not, can the skills be developed?</li> <li>● Will I be able to get it all done within my time constraints?</li> <li>● Are costs likely to exceed my budget?</li> <li>● Are there any potential ethics problems?</li> </ul> <p><b>DOES THE QUESTION GET APPROVAL FROM EXPERTS?</b></p> <ul style="list-style-type: none"> <li>● Do experts in the field think my question is relevant/important/doable?</li> </ul> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Source : O'Leary, 2004

In this section, you have studied the various steps adopted for the formulation of research project, the title of a research project and problem statement, now answer the questions given in *Check Your Progress-I*.

### Check Your Progress 1

**Note:** (a) Write your answer in about 50 words.

(b) Check your answer with possible answers given at the end of the unit.

1. Define research and write the different components of a research project proposal.

.....

.....

.....

.....

2. What criteria should a researcher take into account while choosing a research topic?

.....

.....

.....

.....

---

## 4.5 REVIEW OF LITERATURE

---

Most application forms for research grants include a section called a literature review. The production of new knowledge is fundamentally dependent on past knowledge. If the researcher is not conversant with the existing literature, it is virtually impossible to add to it. Reviewing the literature is an essential part of the research process. It informs, educates, inspires, and enlightens the researcher. It helps in generating ideas, raising questions, and is instrumental in the process of research design. In fact, it is very important to ascertain what information already exists on the research topic, in order to make the best possible use of existing data; avoid duplication; and get a clear idea of what resources are needed for new data collection.

### 4.5.1 Need of Review of Literature

- Informing your audience of what is happening in the field.
- Establishing your credibility as a knowledgeable and capable researcher.
- Arguing the relevance and the significance of your research question(s).
- Providing the context for your own methodological approach.
- Arguing the relevance and appropriateness of your approach.

### 4.5.2 What are the possible sources of information?

- Individuals, groups, and organisations
- Published information (books, articles, indexes, abstract journals)
- Unpublished information (other research proposals in related fields, reports, records, computer data bases)

### 4.5.3 Functions of Literature Review

1. Ensures that you are not duplicating work that has been done before.

2. Gives credits to those who have laid the groundwork for your research.
3. Demonstrates your knowledge of the research problem.
4. Demonstrates your understanding of the theoretical and research issues related to your research question.
5. Shows your ability to critically evaluate relevant literature information.
6. Indicates your ability to integrate and synthesize the existing literature.
7. Provides new theoretical insights or develops a new model as the conceptual framework for your research.
8. Convinces your reader that your proposed research will make a significant and substantial contribution to the literature (i.e., resolving an important theoretical issue or filling a major gap in the literature).

The functions of the literature review in the research process are shown with more clarity in the following schematic diagrams.

**Fig 4.2 Literature and the Research Process**

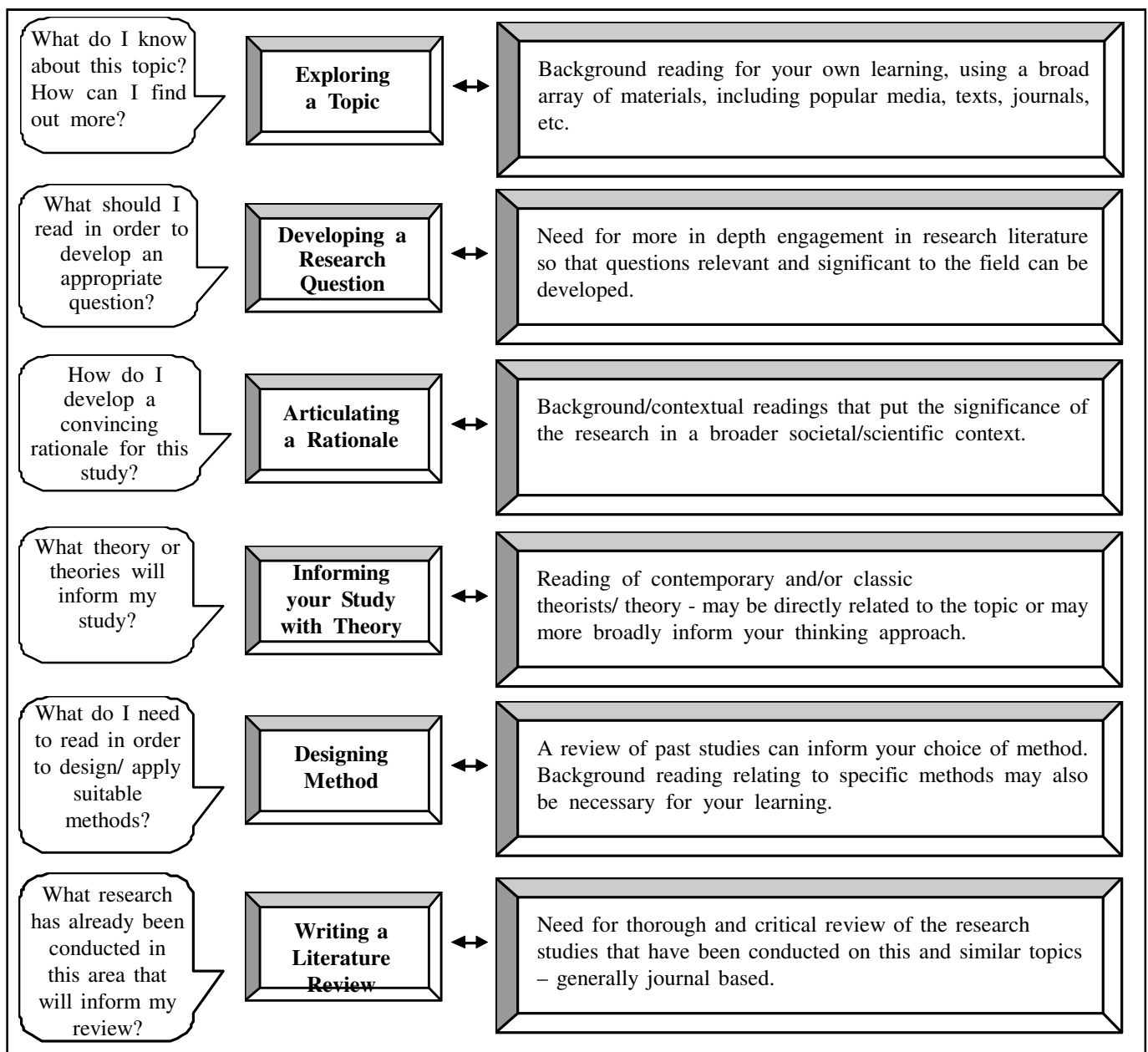
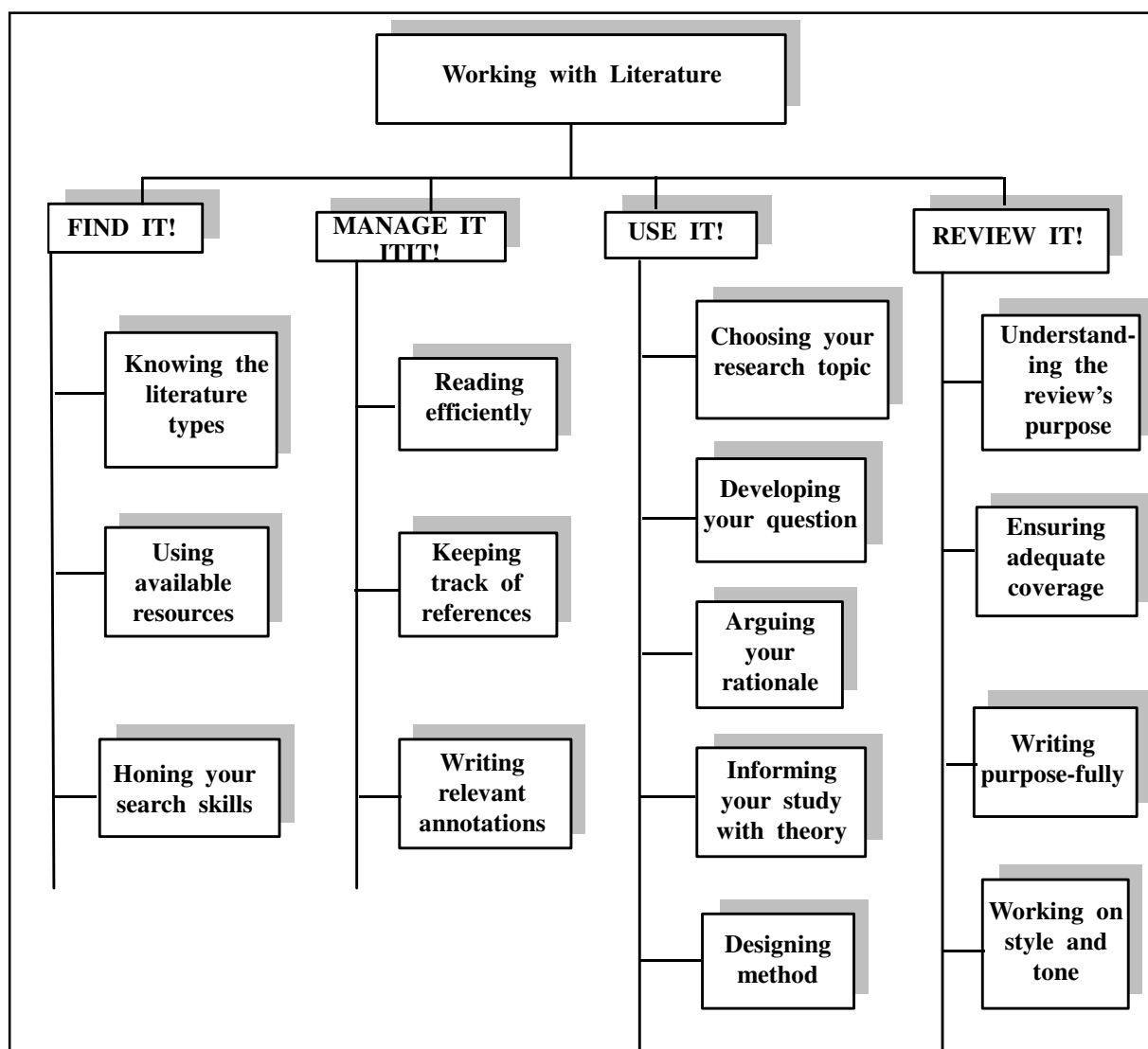


**Fig 4.3 How to work with literature is indicated in the following flow chart**



Source : O'Leary, 2004

#### 4.5.4 Problems in Reviewing Literature

In most cases, the literature reviews suffer from the following problems.

- Lack of organization and structure
- Lack of focus, unity and coherence
- Being repetitive and verbose
- Failing to cite influential papers
- Failing to keep up with recent developments
- Failing to critically evaluate cited papers
- Citing irrelevant or trivial references
- Depending too much on secondary sources

Your scholarship and research competence will be questioned if any of the above applies to your proposal.

There are different ways to organize your literature. Once you have read a number of different sources and thought about them, the next step is to bring these together under different themes. Writing up a literature review is not about summarizing and describing the points made by each author you have read. Instead, your review should be a coherent argument where you analyse the arguments of others. You have an important role in synthesizing different people's work on a particular theme and by doing this you are adding value to this work by presenting it in a new light. Writing a good review is therefore quite a specific skill.

---

## 4.6 OBJECTIVES OF RESEARCH

---

Having identified a real world problem and framed it in terms of its relevance to a policy maker, the researcher must, then, pose an answerable research question or hypothesis. This essentially defines the objective of the project.

The objective of a certain research summarizes what is to be achieved by the study. It should clearly define the question for which a solution is being sought. You should consider the following points on stating research objectives in order to

- be clearly related to the statement of the problem
- cover the different aspects of the problem
- be clearly phrased in operational terms specifying exactly what you are going to do, where and for what purpose.
- be realistic considering local conditions and available resources.
- use specific action verbs i.e. to determine, to identify, to verify, to describe, to calculate.
- avoid vague non-action verbs i.e. to study, to appreciate, to understand.

The research objectives are classified into two types, general and specific.

### 4.6.1 General Objectives

These will define what is expected to be achieved by the study in general terms. For example, if the research problem chosen is "Atrocities against tribals in the Area X", the general objective could be "to identify the reasons for atrocities against tribals in the Area X, so as to suggest remedial measures".

### 4.6.2 Specific Objectives

Here, the general objective is broken down into smaller and logically connected units to address the various aspects of the problem and the key factors that are assumed to cause or influence the problem. The specific objectives of a research work should focus on the following points:

- To identify the distribution and patterns of a problem.
- To examine the possible factors that may influence the problem.
- To indicate how the research results will be used.

Returning to our example on atrocities against tribals, the specific objectives for a research work in this problem could be set in the following manner:

- To determine the prevalence of atrocities against tribals in the Area X.
- To identify the socio-economic characteristics of the exploited tribals and the exploiters.
- To examine the mode of exploitation and oppression of the tribals in the Area X.
- To identify the socioeconomic and cultural factors that may influence atrocities against tribals in the Area X.

In addition to objectives, a set of hypotheses can be formulated in some studies. An hypothesis can be defined as, a 'Logical conjecture (hunch or educated guess) about the nature of relationships between two or more variables expressed in the form of a testable statement'. A hypothesis is a suggested or assumed explanation for the research problem that can be tested. It is a prediction for a relationship between one or more factor and the problem under study. In our example above about atrocities against tribals we can formulate and test the following hypotheses:

- The higher caste, landowning, non-tribals attack and exploit the tribals from poor socioeconomic backgrounds.
- Women, children, and elderly tribals are more vulnerable to such violence.
- Police inaction/leniency is the root cause of persistence of atrocities against tribals.

Now that you are familiar with the various steps of research project proposal like review of literature and objectives of research, answer the questions given in *Check Your Progress-2*.

### Check Your Progress 2

**Note:** (a) Write your answer in about 50 words.

(b) Check your answer with possible answers given at the end of the unit.

1. Explain the functions of a literature review in formulating a research proposal.

.....

.....

.....

.....

.....

2. Do you remember some important points which help to formulate a research objective?

.....

.....

.....

.....

.....

---

## 4.7 METHODOLOGY

---

This is one of the most important steps in designing a research project. The reviewers of the project proposal usually pay utmost attention to the methodology aspect to examine whether the project is doable or not given the time and budget limit. The guiding principle for writing the methodology section is that it should contain sufficient information for the reader to determine whether the methodology is sound. Some even argue that a good proposal should contain sufficient details for another qualified researcher to implement the study. The methodology should be as explicit as possible, identifying the research sites; sample size for surveys; method for stratification of samples; frequency of surveys (e.g., one-shot or repeated); and so on. Pre-tests of questionnaires are highly recommended. You need to demonstrate your knowledge of alternative methods and make the case that your approach is the most appropriate and most valid way to address your research question.

There are mainly two types of research with regard to methodology: qualitative and quantitative. There are no well-established or widely accepted canons in qualitative analysis. If you are doing qualitative research, your method section needs to be more elaborate than what is required for traditional quantitative research. More importantly, the data collection process in qualitative research has a far greater impact on the results as compared to quantitative research. That is another reason for greater care in describing how you will collect and analyze your data.

For quantitative studies, the method section is typically outlined by the following sections.

1. **Design** - Is it a questionnaire study or a participant observation? What kind of design do you choose?
2. **Respondents or participants** - Who will take part in your study? What kind of sampling procedure do you use? Census or sample survey?
3. **Tools**- What kind of tools or questionnaires do you use? Why do you choose them? Are they valid and reliable?
4. **Procedure** -How do you plan to carry out your study? What activities are involved? How long does it take?

In light of the questions raised or the hypotheses proposed to be tested, sampling becomes necessary, and full information on the following points should be provided:

- (1) Universe of study
- (2) Sampling frame
- (3) Sampling procedure
- (4) Units of observation and sampling size

If the study requires any control groups, these should be specifically mentioned. An explanation of the determination of size and type of sample will also be necessary. Proposals that do not require a sample selection should specify their strategy appropriately, and describe the rationale.

### 4.7.1 Data Collection

The different types of data that are proposed to be collected should be specifically mentioned. The sources for each type of data and the tools and techniques that will be used for collecting different types of data should be specified.

- a) For the questionnaire or schedule to be used, the following points should be covered.
  - (1) Distribution of questionnaire or schedule in different sections, e.g. identification data, socio-economic data, questions on various sub-themes.
  - (2) The approximate number of questions to be asked from each respondent.
  - (3) The scaling techniques to be included in the instrument.
  - (4) The approximate time needed for the interview.
  - (5) Plans, if any, for index construction.
  - (6) A coding plan (whether the questions and responses will be pre-coded or not; whether the coding is done for computer, or for hand tabulation).
- b) For interviews, provide the following details.
  - (1) How they are to be conducted (free associational, non-directive, focused, direct or on telephone)?
  - (2) Particular characteristics that interviews must have.
- c) Describe how the observation technique will be used.
  - (1) Provide the type of observation: participant, quasi-participant, non-participant.
  - (2) Provide the units of observation.
  - (3) Will this be the only technique or will other techniques also be employed?

### 4.7.2 Editing

During editing, look for

- completeness of responses. (Note that a blank space may mean 'no response' or 'don't know', unless you've made a category for each of these responses)
- logical inconsistencies, correcting them whenever possible
- the possibility of combining responses, if that is more suitable for analysis.

Editing should be done by the research team, or under its direction. If several persons are involved in editing, as in the case of large surveys, an editing manual should be compiled beforehand.

### 4.7.3 Training of Research Team Members

The research team including, in particular, research assistants who join just before the pre-test, must be given explicit training. They should not only

be able to collect data properly but also understand other procedures such as the selection of sampling units, map reading and data handling. They may also be involved in the pre-test and in the adjustment of instruction sheets and data collection tools after the pre-test.

The training programme usually consists of

- discussion on the objectives and methodology of the study
- reading of manuals or instruction sheets prepared for the study
- interview training
- field experience (this should include participation in the pre-test described below)
- discussion on data-collection tools and instruction sheets and how they need to be adjusted (based on field-testing).

The research assistants should be trained together with the whole team, including possible additional supervisors.

#### **4.7.4 Pre-test or Pilot study of the Methodology**

A pre-test usually refers to a small-scale trial of particular research components. The pre-test should assess the validity of the data-collection instruments and procedures, as well as the sampling procedures. A pilot study is the process of carrying out a preliminary study, going through the entire research procedure with a small sample. A pre-test or a pilot study serves as a trial run that allows us to identify potential problems in the proposed study. Although this means extra effort at the beginning of a research project, the pre-test and/or pilot study enables us, if necessary, to revise the methods and logistics of data collection before starting the actual fieldwork. As a result, a good deal of time, effort and money can be saved in the long run. Pre-testing is simpler and less time consuming and costly than conducting an entire pilot study.

#### **What aspects of your research methodology can be evaluated during pre-testing?**

1. Reactions of the respondents to the research procedures can be observed in the pre-test to determine
  - availability of the study population and how respondents' daily work schedules can best be respected
  - acceptability of the methods used to establish contact with the study population
  - acceptability of the questions asked
  - willingness of the respondents to answer the questions and collaborate with the study.
2. Data collection tools can be pre-tested to determine the following points
  - Pre-tests show you whether the tools you use allow you to collect the information you need, and whether those tools are reliable. You may find that some of the data collected is not relevant to the problem, or, is not in a form suitable for analysis. This is

the time to decide not to collect this data, or, to consider using alternative techniques that will produce data in a more usable form.

- How much time is needed to administer the interview guide or questionnaire, to conduct observations, or group interviews, and/or to make measurements?
3. Whether there is any need to revise the format or presentation of interview guides/ questionnaires, including whether:
    - the sequence of questions is logical
    - the wording of the questions is clear
    - translations are accurate
    - space for answers is sufficient
    - there is a need to pre-categorise some answers or to change closed questions into open-ended questions.
    - there is a need to adjust the coding system
    - There is a need for additional instructions for interviewers (e.g., guidelines for 'probing' certain open questions).
  4. Sampling procedures can be checked to determine
    - whether the instructions concerning how to select the sample are followed in the same way by all staff involved
    - how much time is needed to locate individuals to be included in the study.
  5. Staffing and activities of the research team can be checked, while all are participating in the pre-test, to determine
    - how successful the training of the research team has been
    - what the work output of each member of the staff is
    - how well the research team works together
    - whether logistical support is adequate
    - the reliability of the results when instruments or tests are administered by different members of the research team
    - whether staff supervision is adequate

#### **4.7.5 Data Processing and Analysis**

You need to mention how different types of collected data will be processed. How will data be entered in the computer by using a master sheet? Which computer software will be used to enter and analyse the data? Usually, in most social science research, MS-Excel is used for data entry, and SPSS (Statistical Package for Social Science) is used for analysis. Which type of statistical analysis will be applied to test the hypotheses? You may use simple average, standard deviation, or regression analysis. For interpreting the data more accurately, sometimes more advanced econometric techniques may also be used.

---

## 4.8 WORK SCHEDULE/ TIME FRAME

---

The project should be broken up in suitable stages and the time required for the completion of each stage of work should be specified. Such stages may cover

- preparatory work, including selection and appointment of staff and their training
- literature review
- data collection from secondary sources
- preparation of questionnaire and pre testing
- pilot study, if any
- drawing of sample
- data collection from primary sources
- data processing (which should include coding, editing, verification, sorting, and computer analysis)
- data analysis
- report writing

The timetable should allow adequate time for each stage to carry the project through to completion. A work schedule is a table that summarises the tasks to be performed in a research project, the duration of each activity, and who is responsible for the different tasks.

The work schedule includes

- the tasks to be performed
- the dates each task should begin and be completed
- research team, research assistants and support staff ( typists) assigned to the tasks
- person-days required by research team members, research assistants and support staff.

---

## 4.9 BUDGET

---

The budget should specify the resources needed to carry out all the tasks specified above. The budget for research work is essentially a document of its expenses. While constructing a budget, one should adopt a bottom up approach. For example, if fieldwork is involved, the budget for that item should be calculated by estimating the number of trips required, their duration and mileage, and so on.

The research proposal is required to outline the capital and running costs together with the hidden costs such as the use of already existing laboratories, libraries and computer facilities and technical and secretarial help, in addition to the costs of travel of researchers and subjects. A portion of the proposed budget should be reserved for the unforeseen costs. A fully itemized budget is necessary as granting bodies require a detailed breakdown of the costs of the projects. The golden rule is not to ask for too much or too little. It is wise to find out in advance the likely figure a particular granting authority will allow for a work of the type proposed (which

provides a ceiling for the budget). A narrative portion of the budget is used to explain any unusual items in the budget. If the costs are straightforward no explanation is needed. If the narrative is needed it can be structured in two ways.

1. Create “notes to the budget” with footnote style numbers on the line items in the budget, keyed to the numbered explanations.
2. Or, if extensive or more general explanation is required, the budget narrative can be structured as straight text.

The cost of the project is to be estimated in terms of total man-month and the facilities needed. Calculate it under the headings that follow.

- (1) Personnel
- (2) Travel
- (3) Data Processing
- (4) Stationery and printing
- (5) Equipment
- (6) Books and journals etc.
- (7) Contingency expenses including postage
- (8) Any other (specify)
- (9) Overhead charges
- (10) Grand total

While suggesting budget estimates for your research proposal, the project director should take into account the time budget, as well as various steps involved in the conduct of the research proposal. The rationale for the allocation of time and money for the various items of budget estimates must be furnished.

#### **4.9.1 How Should a Budget be Prepared?**

It is necessary to use the work plan as a starting point. Specify, for each activity in the work plan, what resources are required. Determine these for each resources needed, as well as the unit cost and the total cost. Example, in the work plan of a study to determine factors affecting farmers’ suicides in Andhra Pradesh, it is specified that 5 field investigators will each visit 20 households, one per working day, as 100 households of deceased farmers will need to be visited. With two vehicles this amounts to 20 working days. Each research team member will be accompanied by one of the research assistants. The budget for the fieldwork component of the work plan will include funds for personnel salary, transport expenses, accommodation and daily allowances as outlined below.

- (a) Remuneration
  - (i) Two Field Investigators for 20 days
  - (ii) Two Field Assistants for 20 days
- (b) Expenses for hiring two vehicles for 20 days
  - (i) Daily Allowance for the two field investigators for 20 days and two field assistants for 20 days

- (c) Hotel accommodation expenses
- (i) Two Field Investigators for 20 days
  - (ii) Two Field Assistants for 20 days

---

## 4.10 DISSEMINATION STRATEGY

---

The research findings should be disseminated to policy makers, planners, practitioners and other researchers for their consideration and reaction. There are various ways to publicise your research output as indicated below.

- Through seminars and workshops, organized to provide a forum for sharing experiences and research findings among academicians, administrators, executives, scientists, policy makers.
- Conducting awareness meetings in the study areas and to receive the feedback from the community.
- Presenting the research findings in national and international seminars and workshops and publish research papers in research journals.
- Publishing popular articles in daily news papers and magazines, preferably in regional languages.
- Holding issue-based group discussion and talks on project findings in radio and television.
- Entering the findings into worldwide website network for wider dissemination of findings.
- Translating the findings into regional language and publish brochures and pamphlets and circulate among interested readers.

---

## 4.11 REFERENCES

---

You always need to reference all the literature that you refer to in your proposal. When you use the Vancouver system, you will use consecutive numbers in the text to indicate your references. At the end of your proposal you will then list your references in that order, using the format described above. If your research proposal has annexure, the references will come before the annexure.

⇒ **Activity 1:** Prepare a research proposal for assessing the impact of air pollution on the health of inhabitants in Delhi.

Alternatively, you can use the Harvard system and refer to the references more fully in the text, putting the surname of the author, year of publication and number(s) of page(s) referred to between brackets, e.g., (Basu 1998:15-17). If this system of citation is used, the references at the end of the proposal should be listed in alphabetical order. The Harvard author/date system of referencing seems easier, as you can change the order of paragraphs without consequences for your referral system. However at present, computers have programmes that change the numbers of your references automatically if you reshuffle the text while using the Vancouver system.

In this section, you studied methodology, work schedule/time frame, budget and dissemination strategy, now answer the questions given in *Check Your Progress-3*.

### Check Your Progress 3

**Note:** (a) Write your answer in about 50 words.

(b) Check your answer with possible answers given at the end of the unit.

1. Write short notes on the following: a) pilot study and b) pre-testing.

.....

.....

.....

.....

.....

2. Write the names of some data collection tools and techniques in social science research?

.....

.....

.....

.....

.....

---

## 4.12 LET US SUM UP

---

The first step in any research project is to write a research proposal. The research proposal details the research problem that you are interested to study, and shows the road map to undertaking the research project. At the outset the researcher has to choose a topic after doing the extensive review of literature and rationale behind choosing the topic. Then, the researcher has to give a detail of methodology of how to conduct the study including spelling the area, sample, tools for data collection and analysis technique. Next, the researcher has to clearly indicate the time frame on the budget required for undertaking the research work. Nowadays, the bilateral of organizations and government funded projects require the dissemination strategies to be used for the wider circulation of research findings.

---

## 4.13 REFERENCES AND SELECTED READINGS

---

Jay P. M. and Waller D. S. (2005), *Designing and Managing a Research Project: A Business Student's Guide*, Response Books, New Delhi.

O'Leary Zina (2004), *The Essential Guide to Doing Research*, Vistaar Publications, New Delhi.

Vandana D. and Potter R. B. (eds.), (2006), *Doing Development Research*, Sage and Vistaar Publications, New Delhi.

Varkevisser C. M., Pathmanathan I. and Brownlee A. (1991), *Designing and conducting Health Systems Research projects. Part I: Proposal development and fieldwork; Part II: Data analysis and report writing*. Ottawa: Health Sciences Division of the International Development Research Centre (IDRC) and Geneva: Programme on Health Systems Research and Development of the World Health Organisation.

## **4.14 CHECK YOUR PROGRESS - POSSIBLE ANSWERS**

### **Check Your Progress 1**

1. Research is the systematic collection, analysis, and interpretation of data to answer a certain question or solve a problem. The different components of a research project proposal are (i) general introduction/ background/ importance of study problem; (ii) review of relevant literature; (iii) objectives; (iv) methodology; (v) time frame; (vi) budget, and (vii) references
2. Each topic that is proposed for research has to be judged according to certain guidelines or criteria. There may be several ideas to choose from. The guidelines or criteria for selecting a research topic are: relevance, avoidance of duplication, urgency of data needed, political acceptability of the study, applicability of results, and ethical acceptability.

### **Check Your Progress 2**

1. The functions of the literature review in the research process are
  - a. Ensures that work is not duplicated
  - b. Give credit to those who have laid the groundwork for your research
  - c. Demonstrate knowledge of the research problem
  - d. Demonstrates your understanding of the theoretical and research issues
  - e. Show an ability to critically evaluate relevant literature information
  - f. Indicates the ability to integrate and synthesize the existing literature
2. The following are some of the important points to formulate research objectives:
  - To be clearly related to the statement of the problem.
  - To be clearly phrased in operational terms, specifying exactly what you are going to do, where, and for what purpose.
  - To be realistic considering local conditions and available resources.
  - To use specific action verbs (i.e., to determine, to identify, etc.) and to avoid vague non-action verbs (i.e., to study, to appreciate, to understand, etc.).

### **Check Your Progress 3**

1. a) Pre-test refers to a small-scale trial of specific research components. The pre-test should assess the validity of the data collection instruments and procedures, as well as the sampling procedures. b) A Pilot Study is the process of carrying out a preliminary study, going through the entire research procedure with a small sample.
2. In social science research, various types of techniques and tools are used for data collection. But most the important tools and techniques for data collection are: a) questionnaire and schedule b) interviews c) observation techniques, etc.

# MDV-106: RESEARCH METHODOLOGY IN DEVELOPMENT STUDIES

(6 CREDITS)

| BLOCK | UNIT NOS | UNIT TITLES                                      |
|-------|----------|--------------------------------------------------|
| 1     |          | <b>Fundamentals of Social Science Research</b>   |
|       | 1        | Social Science Research: An Overview             |
|       | 2        | Components of Social Science Research            |
|       | 3        | Research Designs                                 |
|       | 4        | Research Project Formulation                     |
| 2     |          | <b>Development Research</b>                      |
|       | 1        | Basics of Development Research                   |
|       | 2        | Methods of Development Research                  |
|       | 3        | Development Research Applications                |
| 3     |          | <b>Measurement and Sampling</b>                  |
|       | 1        | Measurement                                      |
|       | 2        | Scales and Tests                                 |
|       | 3        | Reliability and Validity                         |
|       | 4        | Sampling                                         |
| 4     |          | <b>Data Collection</b>                           |
|       | 1        | Quantitative Data Collection Methods and Devises |
|       | 2        | Qualitative Data Collection Methods and Devises  |
|       | 3        | Data Sources                                     |
| 5     |          | <b>Data Analysis</b>                             |
|       | 1        | Overview of Statistical Tools                    |
|       | 2        | Use of Computer in Data Analysis                 |
|       | 3        | Data Processing and Analysis                     |
|       | 4        | Report Writing                                   |