CHAPTER – VI

RESEARCH METHODOLOGY

6.1 INTRODUCTION

Research Methodology is an important tool for the researcher in any field of study. It is with this tool that the researcher analyses research problem and finds suitable solutions to the research problem by first formulating the hypothesis and then proving the hypothesis with the help of the data collected through primary and secondary means. The main concept of research, research methodology and their definitions along with various researches and their uses has been discussed in this chapter. Here the methodology used for the research study and the selection of samples and criteria applied for selecting the samples for this research work has also been discussed below.

6.2 Meaning of Research

Research is an academic activity and as such the term should be used in a technical sense. According to Clifford Woody research comprises defining and redefining problems, formulating hypothesis or suggested solutions; collecting, organizing and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis. D. Slesinger and M. Stephenson in the Encyclopedia of social Sciences define research as “the manipulation of things, concepts or symbols for the purpose of generalizing to extend, correct or verify knowledge, whether that knowledge aids in construction of theory or in the practice of an art”. Research is, thus, an original contribution to the existing stock of knowledge making for its advancement. It is the pursuit of truth with the help of study, observation, comparison and experiment. In
short, the search for knowledge through objective and systematic method of finding solution to problem is research. The systematic approach concerning generalization and the formulation of a theory is also research. As such the term ‘research’ refers to the systematic method consisting of enunciating the problem, formulating a hypothesis, collecting the facts or data, analyzing the facts and reaching certain conclusions either in the form of solutions (s) towards the concerned problem or in certain generalizations for some theoretical formulation.

6.3 Objectives of Research

The purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth which is hidden and which has not been discovered as yet. Though each research study has its own specific purpose, we may think of research objectives as falling into a number of following broad groupings:

1. To gain familiarity with a phenomenon or to achieve new insights into it (studies with this object in view are termed as exploratory or formulative research studies);

2. To portray accurately the characteristics of a particular individual, situation or a group (studies with this object in view are known as descriptive research studies);

3. To determine the frequency with which something occurs or with which it is associated with something else (studies with this object in view are known as diagnostic research studies);

4. To test a hypothesis of a casual relationship between variables (such studies are known as hypothesis – testing research studies)
6.4 Motivation in Research

What makes people to undertake research? This is a question of fundamental importance. The possible motives for doing research may be either one or more of the following:

1. Desire to get a research degree along with its consequential benefits;
2. desire to face the challenge is solving the unsolved problems, i.e., concern over practical problems initiates research;
3. Desire to get intellectual joy of doing some creative work;
4. Desire to be of service to society;
5. Desire to get respectability.

However, this is not an exhaustive list of factors motivating people to undertake research studies. Many more factors such as directives of government, employment conditions, curiosity about new things, desire to understand casual relationships, social thinking and awakening and the like may as well motivate (or at times compel) people to perform research operations.

6.5 Types of Research

The basic types of research are as follows:

(i) **Directive v/s Analytical:** Descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research we quite often use the term Expost facto research for descriptive research studies. The main characteristic of this method is that the researcher has no control over the variables; he can only report what has happened or what is happening. Most ex post facto research projects are used for descriptive studies in which the researcher seeks to measure such items as, for example, frequency of shopping, preferences of people, or similar data.
Ex post facto studies also include attempts by researchers to discover causes even when they cannot control the variables. The methods of research utilized in descriptive research are survey methods of all kinds, including comparative and co-relational methods. In analytical research, on the other hand, the researcher has to use facts or information already available, and analyze these to make a critical evaluation of material.

(ii) Applied v/s Fundamental

Research can be either be applied (or action) research or fundamental (to basic or pure) research. Applied research aims at finding a solution for an immediate problem facing a society or an industrial/business organization, whereas fundamental research is mainly concerned with generalizations and with the formulation of a theory.

(iii) Quantitative v/s Qualitative

Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity. Qualitative research, on the other hand, is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind. For instance, when we are interested in investigating the reasons for human behavior (i.e., why people think or do certain things), we quite often talk of ‘Motivation Research’, an important type of qualitative research. This type of research aims at discovering the underlying motives and desires, using in depth interviews for the purpose. Other techniques of such research are word association tests, sentence completion tests, story completion tests and similar other projective techniques. Attitude or opinion research i.e., research designed to find out how people feel or what they think about a particular subject or institution is also qualitative research. Qualitative research is especially important in the behavioral
sciences where the aim is to discover the underlying motives of human behavior.

(iv) Conceptual v/s Empirical

Conceptual research is that related to some abstract idea(s) or theory. It is generally used by philosophers and thinkers to develop new concepts or to reinterpret existing ones. On the other hand, empirical research relies on experience or observation alone, often without due regard for system and theory. It is data-based research, coming up with conclusions which are capable of being verified by observation or experiment. We can also call it as experimental type of research. In such a research it is necessary to get at facts firsthand, at their source, and actively to go about doing certain things to stimulate the production of desired information. In such a research, the researcher must first provide himself with a working hypothesis or guess as to the probable results. He then works to get enough facts (data) to prove or disapprove his hypothesis. He then sets up experimental designs which he thinks will manipulate the persons or the materials concerned so as to bring forth the desired information. Such research is thus characterized by the experimenter’s control over the variables under study and his deliberate manipulation of one of them to study its effects. Empirical research is appropriate when proof is sought that certain variables in some way. Evidence gathered through experiments or empirical studies is today considered to be the most powerful support possible for a given hypothesis.

(v) Some Other Types of Research

All the types of research are variations of one or more of the above stated approaches, based on either the purpose of research, or the time required to accomplish research, on the environment in which research is done, or on the basis of some other similar factor. From the point of view of time, we can think
of research either as one-time research or longitudinal research. In the former case the research is carried on over several time-periods.

6.6 Research Approaches

The above description of the types of research brings to light the fact that there are two basic approaches to research, viz., quantitative approach and the qualitative approach. The former involves the generation of data in quantitative form which can be subjected to rigorous quantitative analysis in a formal and rigid fashion. This approach can be further sub-classified into inferential, experimental and simulation approaches to research. The purpose of inferential approach to research is to form a data base from which to infer characteristics or relationships of populations. This usually means survey research where a sample of population is studied (questioned or observed) to determine its characteristics, and it is then inferred that the population has the same characteristics.

Experimental approach characterized by much greater control over the research environment and in this case some variables are manipulated to observe their effect on other variables.

Stimulation approach involves the construction of an artificial environment within which relevant information and data can be generated. This permits an observation of the dynamic behavior of a system (or its sub-system) under controlled conditions. The term 'simulation' in the context of business and social sciences applications refers to “the operation of numerical model that represents the structure of a dynamic process. Given the values of initial conditions, parameters and exogenous variables, a simulation is run to represent the behavior of the process over time“.

Simulation approach can also be useful in building models for understanding future conditions.
6.7 Research Methodology

Research Methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically.

The various steps that are generally adopted by a researcher in studying his research problem along with the logic behind them are studied in it. It is necessary for the researcher to know not only the research methods/techniques but also the methodology. Researchers not only need to know how to develop certain indices or tests, how to calculate mean, the mode, the median or the standard deviation or chi-square, how to apply particular research techniques, but they also need to know which of these methods or techniques, are relevant and which are not relevant and what would they mean and indicate and why. Researchers also need to understand the assumptions underlying various techniques and they need to know the criteria by which they can decide that certain techniques and procedures will be applicable to certain problems and others will not. This entire means that it is necessary for the researcher to design his methodology designs a building, has to consciously evaluate the basis of his decisions, i.e., he has to evaluate why and on what basis he selects particular size, number and location of doors, windows and ventilators, uses particular materials and not others and the like. Similarly, in research the scientist has to expose the research decisions to evaluation before they are implemented. He has to specify very clearly and precisely what decisions he selects and why he selects them so that they can be evaluated by others also.

From what has been stated above, one can say that research methodology has many dimensions and research methods do constitute a part of the research methodology. The scope of research methodology is wider than that of research methods. Thus, when one talks of research methodology he not only talks of the research methods but also considers the logic behind the methods used in the context of the research study and explains why he is using a particular method or technique and why not using others so that research results are capable of being evaluated either by the researcher himself or by others. Why a research study has been defined, in what
way and why the hypothesis has been formulated, what data have been collected and what particular method has been adopted, why particular technique of analyzing data has been used and a host of similar other questions are usually answered when we talk of research methodology concerning a research problem or study.

6.8 Research and Scientific Method

For a clear perception of the term research, one should know the meaning of scientific method. The two terms, research and scientific method, are closely related. Research, as well we have already stated can be termed as a “and inquiry into the nature of, the reasons for, and the consequences of any particular set of circumstances, whether these circumstances experimentally controlled or recorded just as they occur. Future, research implies the researcher is interested in more then particular results; he is interested in the repeatability of the results and their extension to more complicated and general situation”. On the other hand, the philosophy common to all research methods and techniques although they may vary considerably from one science to another, is usually given the name of scientific method. In the context, Karl Pearson writes, “The scientific method is one and same in the branches (of science) and that method is the method of all logically trained minds … the unity of all sciences consist alone in its methods, not its materials; the man who classifies facts of any kind whatever who sees their mutual relation and describes their sequence, is applying Scientific Method and is a man of science”. Scientific Method is the pursuit of truth as determined by logical considerations. The ideal of science is to achieve a systematic interrelation of facts. Scientific method attempts to achieve “this deal by experimentation, observation, logical arguments from accepted postulates, and a combination of these three in varying proportions”. In scientific method, logic aids in formulating propositions explicitly and accurately so that their possible alternatives become clear. Further, logic develops the consequences of such alternatives, and when these are compared with observable phenomena, it becomes possible for the researcher or the scientist to state which alternative is most in harmony with the
observed facts. All this is done through experimentation and survey investigations which constitute the integral parts of scientific method.

Experimentation is done to test hypotheses and to discover new relationships. If any, among variables, but the conclusions drawn on the basis of experimental data are generally criticized for either faulty assumptions, poorly designed experiments, badly executed experiments or faulty interpretations. As such the researcher must pay all possible attention while developing the experimental design and must state only probable inferences. The purpose of survey investigations may also be to provide scientifically gathered information to work as a basis for the researchers for their conclusions.

The scientific method is, thus based on certain basic postulates which can be stated as under:

a. It relies on empirical evidence;
b. It utilizes concepts;
c. It is committed to only objective considerations;
d. It presupposes ethical neutrality, i.e., it aims at nothing but making only adequate and correct statements about population objects;
e. It results into probabilistic predications;
f. Its methodology is made known to all concerned for critical scrutiny are for use in testing the conclusions through replication;
g. It aims at formulating most general axioms or what can be termed as scientific theories.

Thus, “the scientific method encourages a rigorous, impersonal mode of procedure dictated by the demands of logic and objective procedure.” Accordingly, scientific method implies an objective, logical and systematic method, i.e., a method free from personal bias or prejudice, a method to ascertain demonstrable qualities of a phenomenon capable of being verified, a method wherein the researcher is guided by
the rules of logical reasoning, a method wherein the investigation proceeds in an orderly manner and a method that implies internal consistency.

6.9 Research Process

Before embarking on the details of research methodology and techniques, it seems appropriate to present a brief overview of the research process. Research process consists of series of actions or steps necessary to effectively carry out research and the desired sequencing of these steps.

The points given below, indicates that the research process consists of a number of closely related activities. But such activities overlap continuously rather than following a strictly prescribed sequence. At times, the first step determines the nature of the last step to be undertaken. If subsequent procedures have not been taken into account in the early stages, serious difficulties may arise which may even prevent the completion of the study. One should remember that the various steps involved in a research process are not mutually exclusive; nor are they separate and distinct. They do not necessarily follow each other in any specific order and the researcher has to be constantly anticipating at each step in the research process the requirements of the subsequent steps. However, the following order concerning various steps provides a useful procedural guideline regarding the research process:

1. Formulating the research problem;
2. Extensive literature survey;
3. Developing the hypothesis;
4. Preparing the research design;
5. Determining sample design;
6. Collecting the data;
7. Execution of the project;
8. Analysis of data;
9. Hypothesis testing;
6.10 Title of the Research

Title: “A Study of Export Marketing Management of Grapes with special reference to Nasik District”

6.10.a Introduction

Grape cultivation has been a major agricultural profession among farmers of Nasik district. Grape cultivation took pace after the 18th century in Nasik district. By the end of 20th century Nasik district was the hub of grapes for the nation, especially in 1990’s and 2000’s first decade Nasik district has shown tremendous growth and potential exporter for India. Many inventions by farmers themselves and also with support from government agencies, Nasik district has been successfully contributing to the highest level to Indian economy though high amount of grape exports to European Union.

With this background and seeing potential growth and also exploitable potential skill remaining, the researcher has found a suitable area for study.

In Nasik district Niphad Taluka has been highly potential taluka for export of grapes. Talukas like Dindori, Nasik, Baglan, Chandwad have also developed full potential to contribute towards export of grape fruits.

India has the credit of highest yield in grape fruits when compared to Chile or Brazil or China.

There are skill problems with Indian export quantity goods. This study enables us to understand the deep potential of Nasik grapes, its potential, contribution to national income and also and on how to help through research, the grape farmers to
inculcate the professional approach to develop international standard quality grapes for international market.

So, to fulfill the above aim, the researcher has selected certain talukas like Niphad, Baglan, Nasik, Dindori and Chandwad as samples for study to understand the problems of farmers and to guide them through research to attain professional approach for achieving desirable targets and profits in their grape farming.

6.11 Objectives of the Research Study

The study has the following objectives

1. To decide the area of study in terms of agriculture commercial produces of Nasik district.
2. To study the cropping pattern in Nasik district
3. To study the local as well as traditional markets for agriculture commercial produce.
4. To know and analyse the present as well as the future challenges for the international markets for selected agricultural produce (grape)
5. To find the problems as well as challenges for the marketing of grapes domestically as well as internationally.
6. To understand the role and importance of various agencies involved in export marketing of grapes.
7. To study the role of government in terms of marketing of agriculture produce.
8. To identify the potential for export of grapes and exporters in Nasik district.
9. To study the cultivation practices for export of grapes
10. To study the benefits and challenges for Indian grapes from globalization.
6.12 Scope of the Research

The scope of the study underlines the following aspects.

1. To understand and develop modern cultivation practices related to the grapes.
2. To develop the scope for special cultivation, irrigation, pest and fertilizer management practices.
3. To develop the scope for quality cultivation practices to assure quality assurance from global markets
4. To develop and search untapped export markets in the world for grapes.
5. To understand the limitations of export marketing and to overcome those limitations.
6. To promote more and more farmers for export quality grape cultivation

6.13 The Research Period

The period of ten years from 1999-2000 to 2008-09 has been taken into consideration for research study.

6.14 Hypothesis of the Study

In view of the above said presentation and objectives of the study the following hypotheses are listed for testing.

1. The quality of grapes to be exported depends upon the quality of root-stalks, cultivation practices, irrigation methods, pest management, size of fruits, acidity and sugar contents of grapes etc.
2. Marketing agencies involved in the grape export have a dominant role to play in the grape exports.
3. Knowledge about foreign markets is essential for export marketing management.
4. Policies of the government may be favourable or unfavorable for promoting exports.
5. The AOA (Agreement on Agriculture) under WTO has its own impact on export of grapes.

6.15 Sample Selection

The sample selection in this study is completely random and as per the research methodology recommendations. At the end of 1999-2000 there were total of 25 exporting farmers and this strength grew up to 215 by the end of 2008-09 in Nasik district. As the talukas like Nasik, Niphad, Dindori, Baglan and Chandwad have shown more production and have more number of exporting farmers, this talukas have been considered as the base area for sample selection. The Nasik district has a total of 72 private and 4 government agents who are involved in export business of grapes.

The table-A below shows the grape growing talukas with total number of villages, grape growing villages, selected villages, total exporters in selected villages and samples selected.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Taluka</th>
<th>Total villages</th>
<th>Grape growing villages</th>
<th>Selected villages</th>
<th>Total exporters in selected villages</th>
<th>Samples selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Niphad</td>
<td>90</td>
<td>14</td>
<td>12</td>
<td>25</td>
<td>25 (100%)</td>
</tr>
<tr>
<td>2</td>
<td>Baglan</td>
<td>171</td>
<td>26</td>
<td>20</td>
<td>30</td>
<td>30 (100%)</td>
</tr>
<tr>
<td>3</td>
<td>Chandwad</td>
<td>91</td>
<td>11</td>
<td>10</td>
<td>10</td>
<td>10 (100%)</td>
</tr>
<tr>
<td>4</td>
<td>Dindori</td>
<td>121</td>
<td>28</td>
<td>25</td>
<td>25</td>
<td>25 (100%)</td>
</tr>
<tr>
<td>5</td>
<td>Nasik</td>
<td>65</td>
<td>09</td>
<td>05</td>
<td>05</td>
<td>05 (100%)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>95</td>
<td>95 (100%)</td>
</tr>
</tbody>
</table>

So, a total of 95 export farmers were considered as sample units for primary data collection. Out of the total existing population of exporting agents which consist of
72 Private agents and 8 government agencies, for the research purpose 20 private agents and 4 government agencies were selected as sample units.

The selection criteria for the sample units was entirely based on amount of area cultivated, production and export potential. As these five talukas have large number of villages under grape cultivation and highest number of export farmers so the samples were selected from these five talukas only.

6.16 Sources of Data Collection

6.16.a. Primary data Collection

Primary data was collected through the questionnaires supplied to every sample farmer and sample agent for collection of detailed information that is required for testing hypothesis. Along with the questionnaires personal interviews were conducted for government agents, private agents and export farmers spread over these five talukas.

6.16.b. Secondary data Collection

The secondary data was collected through various sources like libraries, journals, newspapers and internet services.

6.17 Method of Analysis

For the research work the researcher has used statistical, qualitative, quantitative, comparative analysis methods for analyzing the data and this data was interpreted through tables and graphs.
6.18 Testing of the Hypothesis

The conclusions drawn from the study of selected samples are the representative data for the whole district of Nasik. The statistical data derived from the research work proves the hypothesis as follows:

1. There is a positive change which leads to increase in grape cultivation in production of export quality grapes.
2. There is great influence of international market conditions in the minds of the farmers for getting export registration and thus export potential build up.
3. The knowledge of export quality produce and awareness of international market has increased in the minds of farmers.
4. The government and private agents are educating the farmers to gain knowledge about quality aspects which thereby is helping whole community for a profitable business.
5. Over all export potential for grapes in Nasik district has been fully utilized by export business community.