Chapter- FOUR
RESEARCH
METHODOLOGY
4. RESEARCH METHODOLOGY

4.1 Introduction

This chapter deals with research design, research approach, research strategy, methods of data collection, types and sources of data, sample size and sampling method.

4.2 Locale of the Study

The locale of the study is Raigad district. Location of Raigad district is in Kokan Region of Maharashtra State. The study district includes 15 Taluka with major rural areas and small urban areas (1967 villages and 26 cities). 74.01 per cent of Raigad population is depending on agriculture for their livelihood. The district is selected purposively as it is in Kokan region and Kokan is famous for mangoes. The study was concentrated to Raigad district, which is highly productive in mangoes. It is one of the districts in Kokan Zone known for predominantly growing mangoes.

Raigad district receives a lot of rain. Available land and water resources offer high potential for irrigation development in this district. Climate of the district is hot and humid. In Raigad district the soil is clayey and red. This soil is useful for the cultivation of mangoes. Hence mango crop thrives satisfactorily in it.

Raigad district is one of the districts in Kokan region which is declared by the Government of Maharashtra as an Agri-Export Zone for Alphonso mango. This declaration has encouraged the farmers to cultivate Alphonso mango crops. But Raigad mango marketing is plagued with many constraints. Raigad mango production is on large scale but marketing in not satisfactory. The contemporary mango marketing practices in Raigad district needs improvement and reforms.

4.3 Research Purpose (Research Design)

In terms of their purpose researches are classified. And research designs are classified on the basis of information to be collected. Research designs are of three types which are exploratory research, descriptive research and explanatory research (Casual research). Exploratory research is characterized by its flexibility. It is the starting point of every research. This research design is to define research problem, collect related information and identify likely causes of the problem. As an initial step, when a problem is broad and not specifically defined, this research design is used. Goal of this research design is to formulate problems more precisely, clarifying concepts, gathering
explanations, gaining insight, eliminating impractical ideas and forming hypotheses. (Kothari C.R. 2006)

Descriptive research is used to describe the present situation or the characteristics of a group, community or consumers of a product. This research design will reveal an accurate profile of people, events or situations. Explanatory research (Casual research) is to measure and establish cause and affect relationship. It is important to show that one variable has impact or determines the values of another variable. (Michael Vaz, Kalkoti G.R., Madhu Nair, 2005)

An exploratory research was used in pilot study phase and has helped the researcher to modify the research model if it is needed. This study was designed to find out the supply chain and logistic problems in Raigad mango marketing.

4.4. Research Approach

Research questions are developed in this study. Research strategies are designed and research questions are answered accordingly. Two approaches, quantitative and qualitative were available for this research. Naturally by considering defined research problems and data requirement, research approach is selected. The qualitative approach focuses on processes and meanings that are not measured in terms of quantity, amount, intensity or frequency. And quantitative approach focuses on the measurement and analysis of causal relationships between variables.

4.5 Research Strategy

In this study ‘Survey’ as a research strategy has been used. In marketing research this strategy is most commonly used. In Survey, large amount of data is collected from sampled population in a highly economical way. Most often data is collected through questionnaire which helps to collect standardized data and comparison becomes easy. But the limitation of this method is that it is time consuming because time is consumed for designing and piloting questionnaire and for analyzing the results. Other methods of the survey category are structured observation and interviews.

This study was on contemporary events and without any control on the behaviors. So, survey strategy was appropriate for this study. Survey method was employed to find out supply chain and market logistics problems in Raigad mango marketing. Two questionnaires were designed for this purpose. One was for sampled mango farmers and other was for sampled pre-harvest contractors in Raigad district. Researcher had observed the functions like mango harvesting, sorting, loading, unloading, storing, handling etc. in
the research jurisdiction. Informal interviews of the taluka agriculture offices in Raigad district were undertaken to collect primary data.

4.6. Universe and Sample Size

Firstly, the lists of mango farmers obtained from the concerned Taluka Agriculture offices in Raigad district. The total number consisted of 47691 mango farmers among these 225 mango farmers were selected by Stratified Random Sampling method for the study purpose. And 150 Pre harvest contractors engaged in Raigad mango marketing were selected randomly.

4.7 Sampling Method

Sampling methods are divided in two types which are probability sampling methods (representative sampling) and non probability sampling methods (judgmental sampling). These methods enable the researcher to reduce the amount of data by obtaining data only be selected sample instead of collecting data from entire research universe. To select representative sample from each Taluka of Raigad district, Stratified Random Sampling Method was used to select sample.

4.8 Justification of Sampling Method

The population of interest was defined as the mango farmers and intermediaries in mango supply chain in Raigad district. Preliminary information about the study area was obtained from District and Taluka Office of Agriculture of the Raigad district to generate important information for questionnaire preparation for the formal survey and to select sample. The lists of mango farmers obtained from different Taluka Agriculture Offices in Raigad district. The Population of mango farmers in the district was estimated at 47691. Since the population is large, a sample size of 225 mango farmers was established. An attempt was made to select representative sample which consists of mango farmers’ form each Taluka of Raigad district.

Stratified Random Sampling Method was used for this. The purpose was to select items from each stratum (each Taluka of Raigad District) to constitute a sample. And to get more precise estimates for each stratum and by estimating more accurately each of the component parts, to get a better estimate of the whole. There are 15 Taluka in Raigad District. From each Taluka (stratum), 15 mango farmers selected randomly.
It was difficult to determine as to how many intermediaries are engaged in Raigad mango marketing, hence as per the reference given by the mango farmers and known people 150 pre harvest contractors selected randomly.

4.9 Classes of Respondents

Data was collected from the following respondents

1. Mango farmers in Raigad district.
2. Intermediaries involved in supply chain of Raigad mangoes.

4.10 Types and Sources of Data

In order to address the objectives of the study, both primary and secondary data were collected. The primary data was collected through Questionnaire, observation and Interview. The primary data collected from mango farmers focused on factors affecting mango market supply, mango varieties cultivated, types of distribution channel adopted, market information, credit access, infrastructure facilities, access to market, sales promotion measures, returns, and demographic characteristics. Moreover, primary data collected from pre-harvest contractors focused on constraints in mango marketing, market information, contract system, logistics, demographic characteristics, marketing costs etc.

Congruently, lack of record keeping by Raigad mango farmers and pre-harvest contractors was a challenging task to collect relevant information. Thus, key informants and secondary sources are used to complement preliminary information and to understand rationality behind the status of the market chains.

Secondary data was collected from different sources, such as: government institutions, the District and Taluka Agricultural Office, bulletins in regional newspapers and websites. The books and research articles and papers related to marketing, marketing management, modern marketing, research methodology, agricultural marketing, horticulture marketing and mango marketing etc. are referred.

4.11 Methods of Data Collection

The fieldwork was conducted in Raigad district. Looking for intermediaries in the entire mango supply chain the areas of research were both rural and urban in Raigad district. A well designed questionnaire for sampled mango farmers (using a five point Liker scale with the options strongly agree, agree, undecided, strongly disagree, disagree) was prepared. The questionnaire for sampled mango farmers consists of two parts. The first part gathered general information about respondents’ gender, age, education and
their other demographic information. The second part asked the respondents to answer thirty five questions. Questions in all parts of the questionnaire were assessed using a five point Liker scale (except the general information in the first part) with end points of ‘strongly disagree’ and ‘strongly agree’.

A well designed and pre tested questionnaire with close ended and open ended questions is prepared for sampled pre harvest contractors to collect descriptive data regarding logistical and supply chain problems in Raigad mango marketing. This study assumed participatory action while pre testing and administering the Questionnaires. Pilot test was then conducted in order to assess the questionnaire’s comprehension and eliminate potential problems.

Before data collection, the questionnaire was pre-tested on five pre-harvest contractors to evaluate the appropriateness of the design, clarity and interpretation of the questions, relevance of the questions and time taken for an interview. Accordingly appropriate modifications and corrections were made on the questionnaire. The filled-in questionnaires were thoroughly checked for completeness and exactness. Questions were asked to the pre-harvest contractors by creating informal environment. Additional questions are also asked to them to collect additional and related data.

In this research so much time was spent in order to gain access and reach to pre-harvest contractors in Raigad district and collect questionnaires. A clear account of purpose and type of access required was provided by introducing the purpose of this research in brief. Demonstrating the clarity of the research purpose helped the researcher to establish credibility. The usual respondents’ “concern about time or resources” was overcome by trying to simplify the questionnaire and explain to each respondent personally and face-to-face to reduce time needed for understanding the questionnaire. Some respondents were not interested to provide financial information about mango contract price, profit margin, cultivation cost, distribution cost etc. Except that the response rate was high.

Similarly, informal discussions were held with agriculture officers and mango consumers in Raigad district to obtain additional supporting information for the study. Telephone interviews of Commission agents from APMC in Mumbai and Pune were conducted. But these people were so busy in mango season hence limited time was given by them to answer the questions. The data generated at various levels was supported by field observations.
The researcher has observed the marketing functions like mango plucking, handling, storing, packing & packaging, transporting etc. in mango season. The intention of observation was to see utilization of available infrastructure facilities and problems while using those facilities. Regional newspapers like Raigad Times, Navakal, Mumbai Sakal (Raigad supplement) etc. referred to know the marketing intelligence related to Raigad and Kokan mango marketing. The articles in Kisanshakti, Shetkari etc. magazines are referred to know current trends in agriculture marketing. Literature in Ph. D. theses and research papers related to mango marketing was reviewed.