CHAPTER 2: RESEARCH METHODOLOGY

2.1 RESEARCH METHODOLOGY:

2.1.1 Source of Primary data
Primary data was collected using questionnaire. In order to have input from different groups of people related to the research topic, the data was collected from academicians, marketing professionals of the pesticide industry, farmers, pesticide dealers and senior management of the agrochemical companies.

2.1.2 Source of Secondary data
Books, journals, magazines, periodicals, domain specific reports prepared by experts and internet served as source of secondary data. In addition, the author has been associated with the industry for a long time and gets the opportunity to attend various seminars and conferences in India and abroad as speaker. The proceedings of these conferences and discussion with participants have served as very important source of latest information.

2.1.3 Research Design
A descriptive research and exploratory research design study have been used to study the relationship in question. Survey method has been followed for the study.

The study has tried to make an in-depth understanding of the use of pesticides in India and abroad.

2.1.4 Questionnaire
A set of six questions related to the use pesticides have been used. The respondents had to tick mark the answer which he or she thinks correct.

The aspects covered were:
- Farmer’s knowledge about pesticide
- Price of pesticides
- Investment in R&D for new products required by Indian farmers
- Land holding pattern
- Role of monsoon and the level of irrigation
- Future usage pattern of herbicides

SWOT analysis of Indian agrochemical companies was also be carried out.

2.1.5 Sample Size
It was targeted to have a sample size of at least 120.

2.1.6 Methodology used
Stratified random sampling and convenient sampling methods were be used for selection of respondents to the Questionnaire. Data collected through questionnaire was be tabulated. The conclusions were drawn on the basis of data analysis.

Statistical data on pesticide consumption worldwide and India was collected through various secondary sources including global data providers. Questionnaire was used to identify the reason for low usage of pesticides in India and other aspects. The questionnaire was administered to various knowledgeable groups like dealers, farmers, senior management from industry, marketing professionals, academicians etc.

The second part of the study was related to Indian agrochemical companies. It has done SWOT analysis and recommended competitive strategies for the Indian agrochemical companies.

For this part of the study, published data regarding different companies were used. Also, discussions were held with senior professionals from the industry and Institutes.

2.2 PROBLEM AND QUESTIONNAIRE:
The average per acre output of different crops in India is low as compared to other countries and very low when compared to the best in the class. Every year, huge quantity of crop in India is destroyed by the pests. But when we compare the use of pesticides in India with other countries, we find India is one of the lowest user of pesticide per
hectare. Scientific studies have established that there is a direct correlation between pesticide use and crop yield.

For the first part of the project, a questionnaire was prepared with the objective of finding the reason for low usage of pesticides. The questionnaire was as follows:

(a) In order to ensure increased use of pesticides, the agrochemical companies in India should spend more effort to educate the farmers on the benefits of using pesticides: Agree/Disagree.

(b) In order to ensure increased use of pesticides, the agrochemical companies in India should decrease the price of pesticides: Agree/Disagree.

(c) In order to ensure increased use of pesticides and become global leader, the agrochemical companies in India should start investing in R&D to discover products relevant to the needs of our country. Agree/Disagree.

(d) The use of pesticides in India is significantly lower than the advanced countries. One of the reasons for the same is: The land holding in India is highly fragmented”. Agree/ Disagree.

(e) One of the reasons for low usage of pesticide in India is: “The farmers in India are dependent on monsoon as the level of irrigation is low.” Agree/ Disagree.

(f) Worldwide, the use of herbicides is much higher than insecticides and fungicides. Currently, in India, the herbicide use is low. In future, due to shortage in availability of labour, the use of herbicides will increase. Agree/ Disagree.

The second part of the study was about Indian agrochemical companies. SWOT analysis of Indian agrochemical companies was carried out and competitive strategies for the Indian agrochemical companies were recommended.

For this part of the study, published data regarding different companies were used. Also, discussions were held with senior professionals from the industry and Institutes.