CHAPTER-III

Research Methodology
3.1 Introduction:

Serious attempts have been made to evaluate the impact of the industries and mines on quality of environmental and human health after the industrial revolution. Awareness must be needed to reduce the pollution and its impact on life which is present on the planet earth. The development is the only agenda for modern world, but in the name of development most of parts of the world has forgotten the quality of the environment and its impact on health of the life. Fortunately, Scientific and educational facilities are available to us to reduce the pollution which is emitted from the industries and local mining activity. This technology is not coping with the social changes, this is provided huge amount of the pollution in to our surroundings.

The methodology is one of the important component in any research and its plays significant role in determining different stages of research work. The researcher always try to find the gap in the area where he want to do research and for this purpose the researcher is looking for and all aspects of the study are carefully designed before the data is collected. Research methodology is a systematic way to solve a problem. It is a science of studying how research is to be carried out. Essentially, the procedures by which researchers or observer has go about their work of describing, explaining and predicting phenomena are called research methodology. It is also defined as the study of methods by which knowledge is gained. Its aim is to give the work plan of research.

Research methods are the various procedures, schemes and algorithms used in research. All the methods used by a researcher during a research study are termed as research methods. They are essentially planned, scientific and value-neutral. They include theoretical procedures, experimental studies, numerical schemes, statistical approaches, etc. Research methods help us
collect samples, data and find a solution to a problem. Particularly, scientific research methods call for explanations based on collected facts, measurements and observations and not on reasoning alone. They accept only those explanations which can be verified by experiments.

The objective of quantitative research is to develop and employ theories, various models of mathematics, and/or hypotheses subjected to selected research topic. When proper to a study of methodology, such processes constitute a framework; thus they may be broken down in sub-processes, combined, or their sequence changed. The true research will be considered the scientific way of approach to achieve the aim and objectives of the any research work. So accordingly a research has to give more concentration on the methodology to achieve the objectives of the selected research problem.

3.2 NEED OF THE STUDY:

Well for example there's a little stream behind our houses and we would never try to think of it a main reason being that people use pesticides on their lawns, and cars in the city give off a lot of toxins like motor oil etc. It doesn't classify primarily as industrial pollution perhaps. It's definitely a result of the technology we use. we live in a urban city’s so it's worse.

Then another thing we see directly is that there's not much forest around us. Some of this is due to overdevelopment due to the housing industry, so we think maybe we could call the extra houses and yards a kind of industrial pollution since housing is an industry.

Then there are more standard applications where industrial manufacturing results in pollution of air, land, water, and the biosphere (the biomass of all plant and animal matter) when resources are processed in a lot of different ways. Agribusiness is one aspect of this. An example in news a few times recently is nuclear energy, which is a fine example of an industry,
unarguably. Coal has been controversial since they destroy some mountains in the Appalacians that others are trying to live on. Probably every heavy industry (involving metals, mining, building, etc) has done a big amount of pollution with issues you can research more closely.

Another possible effect is less wildlife and changes in the ecosystem of plants and animals since some plants and animals can be poisoned, their population numbers changed, when their environment is affected by industrial pollution. (When we say less wildlife we mean fewer of the wild animals and trees we are used to noticing. When the foxes and oaks etc. are under stress it adds to invasive species' ability to move in. Lower life forms like fungus might defeat an oak here and there.) This is also hard to measure since the causes and effects are very difficult to sort out. Global warming (although Congress is being paid not to believe it) is threatening to change a lot of the ecosystem this way (some species threatened with extinction or actually extinct since they can't move to cooler areas the way they need to.) One effect is warmer nights, which allows fungus on oaks to grow more readily. (we just remember reading about that, maybe a few years ago, we think in a New York Times article.) Of course that's an effect of all the industries together, using oil and gas cement and coal for an energy source.

Thus the researcher made an attempt in the present research study to investigate the perception and knowledge of respondents on different types of environmental pollution, its cause and consequences apart from its impact on human health at risk due to the large extent of exposure with polluted environment at our surroundings.

Health problems, further adding to the burden on healthcare resources. Many of these health effects are already evident. The world health organization (WHO) has quantified the annual impact of global warming on some health outcomes WHO hs estimated that global warming was responsible for 166,000
deaths in the year 2000 along, due to additional morality from malaria malnutrition, diarrhea, and drowning. In additional, WHO estimated that in 2000 global warming caused increase in diarrhea malaria cardiovascular disease, and malnutrition that led to the loss of more than five million life years to disability from illness premature death 23. The health burden of global warming already large is predicted to increase. The predicted health effects of global warming, the mechanisms that would drive these effects and the populations most vulnerable to their implications.

3.3 OBJECTIVES OF THE STUDY

Keeping in mind the current research problem the few significant aims of the study are framed and those as follows.

1) To study the knowledge attitude and practice among the respondents related to different types of pollutions.
2) To understand the human health risk due to cement dust exposure among the respondents.
3) To analyses the quality of water, soil and air of the studied area from the prospective of habital destruction.
4) To explore the ecosystems friendly measures undertaken by the public and private organization (study area) keeping the city neat clean and green.

3.4 HYPOTHESIS OF THE STUDY

In order to meet the above stated objectives of the present research quite a relevant hypothesis are developed to have the in depth investigation of the concept.

1) The concept of K.A.P related to the subject of different type of pollution may differ among the studied respondents in connection with their societal background characteristics.
2) The human health condition of the (wadi localaits) studied respondents may be poor who resides nearer to the cement factory than that of those who stay away at a reasonable distance, from the factory.
3) The workers of lime stone mines or from a cement factory may be suffering from chronicle and different type of disease in comparisons to their non-working neibouherers

4) As for as the quality of drinking water, soil and climate of study area is concerned it may be non-eco friendly in comparison to other cities which situated well at distance, from the industrial area.

5) The private, public and NGO’s may be working at the study area and might have under taken certain amount of preventive and sustainable measures in keeping the climate eco friendly to have the pollution free environment.

3.5 STUDY AREA:

Gulbarga (officially Gulbarga, also known as Kalaburagi) district is one of the backward district in the state of Karnataka, India. It is the administrative headquarters of the Gulbarga District of the North Karnataka region. Gulbarga is 623 km north of the state capital of Bengaluru and 220 km from Hyderabad. Although previously part of Hyderabad State, it was incorporated into a newly formed Mysore State (now known as Karnataka) through the States Reorganisation Act in 1956. Gulbarga is famous for toordal and the limestone deposits are more in Gulbarga District. As per data released by Govt. of India for Census 2011, Gulbarga is an Urban Agglomeration coming under category of Class I UAs/Towns. Gulbarga city is governed by Municipal Corporation and is in Gulbarga Urban Region.

3.6 RESEARCH DESIGN:

In the chapters, an attempt has been made to elaborate various methods adopted or engaged various suitable techniques employed in carrying out during the study period. Particular reference is made to the tools and techniques used in collecting the data, procedure followed in drawing the sample and finally to the methods of analysis of data for arriving at generalizations. As has been mentioned at the outset, the main thrust of the study is to probe into the realities pertaining to the impact of industries and
mining on environment and human health part of the country. The present study also intends to study about social profile among people who are living the areas where industries or mining activity is carrying.

The study also focused on to identify the knowledge of the people regarding mining activity and its impact on health status of the local people. Keeping in view these objectives and the type of respondents, the variety of tools and techniques that suit best for the present study are employed and are discussed in the present chapter.

3.7 SOURCES OF DATA:

The data source will plays a significant role in the carrying of the research work. For this purpose, in the present study, involved in collecting data from all the sources which can be useful for the support the study results and used for discuss of the obtained results from study.

Secondary Data: The secondary data source is a document or maintained that relates or discusses information originally existed elsewhere. A secondary data source contrasts with a primary data source, which is an original source of the information being discussed; a primary source can be a person who has knowledge or information of a situation, or a document created or modified by such an individual.

Secondary data sources involve mainly generalization of the data, analysis of the data, synthesis of the data, interpretation of the data, or evaluation of the original information. Primary and secondary are relative terms, and some sources may be classified as primary or secondary, depending on how it is used. In some context, the tertiary sources were consisting of a broad introductory overview of a topic of the desired area of research such as encyclopaedia or dictionary. The secondary data on the working physically challenged persons were collected from the leading peer-reviewed research
journals, books, web sites, etc. These data sources formed for understanding the concepts for the present study.

**Primary Data:** Primary sources are original materials or information that have not been altered or distorted in any way. Information for which the writer has no personal knowledge is not primary source. In the study of history as an academic discipline, a primary source or original source or evidence is an artefact, a document, a recording, or other source of information that was created at the time under study. It serves as an original source of information about the topic. Primary sources care easily separated from secondary sources, which can build upon primary sources.

Collection of primary data is a most important stage in every investigation. The researcher visited household and working places, where the physically challenged people are there and collected data or needed information according to the objectives of the study by personal interviewing them. It is observed that the respondents are from all backgrounds (from low to high) educated, the researcher personally interacted with the respondent and collected information on their personal, educational, occupational, socio-economic, awareness, problems, challenges, type of support they are getting and attitudinal aspects.

**3.8 SAMPLING AND TECHNIQUES:**
Keeping in view nature of study and limitations of the researcher show both sampling method has been applied to select the respondents.

**3.9 SAMPLE SIZE AND SAMPLE SELECTION PROCEDURE:**
In view of the limitations of the study and researcher, all the factors were considering such as, time factor, nature of the research and the other factors, it was planned to study a total sample of 800 residents of the selected places where mining and industries are existed and working of the study area.
It has been already noted in previous sections that, due to the limitations of the present study, only 800 respondents were selected from all the backgrounds of the study area. During the study period, best suitable efforts like purposive of sampling method were used to collect information from respondents, all of them as provided information with reference to their opinion.

3.10 PREPARATION OF INTERVIEW SCHEDULE:

According to the objectives of the present study a good interview schedule was prepared both in Kannada and English. The Interview Schedule is prepared by using different scales like multiple choices, descriptive manner. In addition to this, the researcher adopted personal observation technique to ascertain the attitudes, knowledge and about environment of respondents of the study area, along with government, other organization actions and polices towards minimise the pollution and protection of the environment or nature, etc. While preparing the interview schedule, discussed with the guide and eminent professors with constant interaction with the respondents from different caste backgrounds have deep insights into the subject. The schedule was constantly modified before being given finalizes the interview schedule.

To make the survey and to collect the primary data interview schedule was used. It is assumed that majority of the respondents are from rural background, low social and economic profile, hence, interview schedule is a suitable tool for collection of primary data. The primary data collected through the Interview Schedule is represented in the form of annexure. The tables are analyzed with the percentages, so as to make analytical study and also help for comparison of different kinds of the data. Further, on the basis of collected data certain generalizations are stated as findings and conclusion.
3.11 PILOT STUDY:

The interview schedule was primarily structured so as to render the data gathered through it easily amenable for further statistical interpretation of the data. The interview schedule is so planned, it consisted different sections in logical sequence to guarantee the fluency in the collection of the data and at the same in analyzing the collected data in a scientific and sequence manner. The sections of the interview schedule are presented in the following paragraphs.

3.12 DATA COLLECTION:

Data was collected by employing the interview method. The respondents were contacted at their home or work places. On an average every day 6 respondents were contacted and their interviews were completed. The fieldwork took about six months to complete.

3.13 THE FIELD EXPERIENCE:

As mentioned in the statement of the problem the present study focused on impact of industries and mining activity on health status of the local people in Kalaburagi district, Karnataka state. The field work for the present study was carried out in very systematic way spread over a long period of time.

In the first stage of the data collection, the investigator personally visited respective government department and submitted the forwarding letter for collecting of required information regarding total population of the study area of the present study and actions taken or facilities provided to the people for their protection against the pollution which is emitting from the nearer mining activity or industries of the study area. After getting the first hand information from the respective officers of the study area, investigator had visited the across the district to interview the local resident people of the study area.
3.14 CODING AND DATA ENTRY:

The data was manually coded by the researcher. Coding was checked and verified for perfection. The data collected through the Questionnaire pertaining to the educational profile, academic problems, social problems, economic problems, health-related problems, help seeking behaviour and needs of physically challenged people were analyzed quantitatively as well as qualitatively. For the close ended items frequencies and percentage was counted while for the open ended items content analysis was employed. Coding was done to the collected data and data entry was made in SPSS software package and frequency & percentage were counted.

3.15 DATA CLEARING AND DATA QUALITY CHECK:

The collected data was carefully sort-out for further processing through the various analysis. For this, all the variables were arranged in very systematic way in order to get accurate results. The quality of the data has been check several times by cross verification of the data. And the various stats software were employed in the checking of quality of the data at various levels of the analysis

3.16 VARIABLES STUDIED:

Keeping the objectives in mind, it was planned to have maximum information on various background characteristics i.e. demographic, cultural, socio-economic, attitudinal, behavioural, etc of all the respondents were collected. However, the variables which have been taken into account in this study are based on relevant theoretical and logical grounds. However, for a clear understanding of the nature of these variables further, made on different groupism of variables was done. In the justification for the selection of the useful determents and their hypothesized relationship is well illustrated.

**Demographic Variables:** The important demographic characteristics of the respondents of the study area are included such as, the age, gender, members of
the family, number of children of the respondents. These characteristics were considered to be most valuable to evaluate the qualitative aspects of the study.

**Economic Characteristics:** The major important economic variables of the respondents were undertaken for the selected study, which are includes Family Occupation, working members in the family, economic status of the family etc.

**Social Characteristics:** The major social characteristics of the respondents of the present study are: residence of the respondents, their religion, their caste, nature of family, number of members in family, level education, etc also collected.

**Behavioural Variables:** The most significant behavioural variables of the respondents of the present study, considered to be like attitudes such as opinion, decision making in family and other related matters

**Personal Background:** For this purpose, some of the questions were designed to elicit information regarding age, caste, schooling other related variables of the respondents.

**3.17 PLAN OF ANALYSIS:**

The data gathered from the field are primarily qualitative. Using suitable coding and scoring techniques, the same data are transformed into quantitative data, to render them amenable for diverse types of statistical analysis leading to valid and verifiable generalizations. This quantification of qualitative data is also considered necessary for the descriptive interpretation of the findings of the present study.

In short utmost care is taken to see all the scientific principles and procedures of data collection and analysis are meticulously followed to ward-off unwarranted generalizations and false interpretations.