Chapter 3

Research Design and Methodology

The purpose or goal of social science is to empirically examine human activity in order to ascertain the behavioral nature and functions of the person. Social science proceeds from works through and is validated by empirical methodology because social science strives to discover what is actual and real in human activity (Yadav and Jain, 2007)

Research does not simply happen. It has to be planned to be in advance. This planning is called research design. Designing a research project involves translating general ideas and concerns into specific and researchable topics. The focus of interest is narrowed down to something that can actually be investigated in an empirical study.

Research design involves decision about many different aspects of research process. The researcher must be clear about the purposes of the research, the methods that will be used, the ways in which these methods are combined into particular style of research and the strategy through which these will be tied together into coherent project. Research design involves making decisions in a relation to each of four issues: research purposes, research methods, research styles and research strategies. (Fulcher and Scott, 2007)

Research design is a plan, structure and strategy of investigation conceived so as to obtain answers to research questions and control variance. The plan includes everything the investigator will do from writing the hypothesis and their operational implications to the final analysis of data (Sharma and Jain, 2004)
All research begins with the selection of a problem. In formulating the problem and putting it in reasonable term, the researcher makes several crucial decisions. Initially, the main concerns are
1. What entities (e.g., individual, people, groups, formal organizations, and nations) are to be situated?
2. What aspects or characteristics of these entities are of interest?
3. What kinds of relationships among the characteristics are anticipated making decisions about these concerns is the object of research design (Singleton et al. 1998)?

The research design results from certain decisions taken and ordered in a certain sequence by a scientist. The major design decisions are in reference to the following aspects:
   a) What the study is about?
   b) Why the study is being made?
   c) Where the data needed can be found?
   d) Where or in what area the study will be carried out?
   e) What periods of time the study includes?
   f) What bases will be used for selection of cases?
   g) How much material and how many cases will be needed?
   h) What techniques of gathering data will be adopted?
   i) How will the data be analysed?
   j) How best can these above questions be decided upon the decisions articulated (Bhandarkar and Wilkinson, 2009)

Scientific method is based on logic and it predicts accurately. Logic develops a number of serials of consequences. It includes experimentation and survey investigation. It ultimately enables to verify qualities of phenomenon related to research problem.

Research methodology provides a better training facility in gathering information, collection of data, arranging in chronological way, participating in the field work, use of statistical tools, designing questionnaire, recording evidences etc. (Babu, 2008)
The problem of studying social situation and social phenomenon is different from that is analyzing situation and conditions concerning physical and natural environment and the social scientist is required to take in to consideration the limitation of the applicability of scientific methods for the study of the social life and social problem.

The social researchers and investigators need prepare a plan of systematic and scientific enquiry for studying social problem. The very plan is known methodology and study design. The study design is not uniform for all types of social problems. Therefore the social scientists have broadly divided the study design into four types known as – descriptive study design, exploratory study design, diagnostic study design and experimental study design. All these study designs are not applicable to all social situations for the study of social problems. A particular study design may be quite suitable in one situation but inadequate and irrelevant for the study of some other problems. The appropriateness and applicability of the study design depends upon the nature of problem to be studied and objectives of study design.

Thomas R. Black (1999) has mentioned the stages of designing and carrying out a study, including interactions for modifications and improvement during planning.
The present study relates to Nepali workers working in the unorganized sector of Nainital district. With reference to their sociological analysis. It particularly focuses upon the socio – economic dimensions of the workers. The study is entirely empirical depending on primary source of data. In order to collect data, interview schedules have been applied by the researcher. Behind the selection of interview method for data collection the prime reason was the low educational status of the workers. In this regard any other method of data collection could hardly be a much appropriate as interview. For recording data through the device the researcher formulated questions covering the various issues like socio – economic aspect, living and working conditions, problems and challenges, pull / push factors and interaction pattern relating to the workers. In order to structure schedule both types of questions viz: open ended as well as closed ended have been included. The research design followed by the researcher for current study is descriptive which aims at describing the characteristics of Nepali workers exploring the hidden facts relating to them. A cargan (2008 ) says – Descriptive studies are usually exploratory in nature and subsequently tend to develop a theoretical framework or an exploration for the finding after data collection.

3.1 Universe of the Study

Universe refers to the total of the items or units in any fields or research investigation. It undertakes all aspects and all units of the elements into consideration. All units in any field of inquiry constitute universe. The universe can be finite or infinite ( Babu , 2008 )
As far as present study is concerned, the universe is the total number of Nepali workers working in the seven different urban centres (viz: Nainital city, Bhimtal, Haldwani, Kathgodam, Lalkuan, Ramnagar, Bhawali) of Nainital district, which constitutes 6500. The universe of the study was discovered by the researcher himself carrying out an intensive pilot survey enumerating the workers in the above mentioned urban centres prior to research work. Below is given the urban centrewise statement of universe.
<table>
<thead>
<tr>
<th>Uran Centres</th>
<th>Porters</th>
<th>Domestic workers</th>
<th>Workers in hotels and establishments</th>
<th>Construction workers</th>
<th>Rickshaw pullers</th>
<th>Guards</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nainital</td>
<td>2268</td>
<td>8</td>
<td>21</td>
<td>216</td>
<td>45</td>
<td>27</td>
<td>52</td>
<td>2637</td>
</tr>
<tr>
<td>Haldwani</td>
<td>986</td>
<td>30</td>
<td>68</td>
<td>41</td>
<td>13</td>
<td>25</td>
<td>43</td>
<td>1576</td>
</tr>
<tr>
<td>Bhimtal</td>
<td>785</td>
<td>26</td>
<td>97</td>
<td>54</td>
<td>-</td>
<td>3</td>
<td>7</td>
<td>972</td>
</tr>
<tr>
<td>Bhawali</td>
<td>618</td>
<td>6</td>
<td>36</td>
<td>31</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>691</td>
</tr>
<tr>
<td>Rammagar</td>
<td>-</td>
<td>7</td>
<td>81</td>
<td>48</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>138</td>
</tr>
<tr>
<td>Kathgodam</td>
<td>56</td>
<td>3</td>
<td>27</td>
<td>44</td>
<td>-</td>
<td>10</td>
<td>6</td>
<td>146</td>
</tr>
<tr>
<td>Lalkuan</td>
<td>-</td>
<td>-</td>
<td>32</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>32</td>
</tr>
<tr>
<td>Ramgar</td>
<td>117</td>
<td>51</td>
<td>30</td>
<td>72</td>
<td>-</td>
<td>4</td>
<td>24</td>
<td>298</td>
</tr>
<tr>
<td>Total</td>
<td>4830</td>
<td>131</td>
<td>392</td>
<td>506</td>
<td>58</td>
<td>71</td>
<td>502</td>
<td>6490</td>
</tr>
</tbody>
</table>
3.2 Sampling Procedure and Units of Study

A sample is a representative part of universe. There is a vital and decisive role of sampling in any research work. Almost all kinds of research works accept sampling as their integral part because study of the whole universe does not seem practicable in all situations. As Pratt and Loizes (2009) say – Usually there is not enough time or money to interview everybody in the target population; you will need to pick out a part it – a smaller group which will be similar to the total population. This selection of representative people or units is called a sample.

A sample, as the name implies, is a smaller representation of larger whole. The observation of some phenomenon in complete detail would involve such a mass of data that analyse large quantities of material is a wasteful when a smaller amount would suffice (Goode and Hatt, 1986). Statistical data can be collected either by census enquiry or by sample enquiry. In a census enquiry all the units of a universe have to be studied whereas in a sample enquiry only selected numbers of units are observed and conclusions are drawn about the universe of the study (Sharma and Jain, 2004).

The main reasons that samples are used are to save time and money for the research. Sampling is a useful shortcut, leading to results that can be almost as accurate as those for a full census of the population being studied but for a fraction of the cost. (Gorard, 2003)

The sampling procedure, which ensures that the sample statistics will be correct within certain limits, are referred to as “representative sampling plan”. Here, the usage of the word representative does not qualify sample, but sampling plan. A representative sampling plan ensures that the selected sample is sufficiently representative of the
population to justify our running risk of taking it as representative (Kidder, 1981)

In sampling procedure a researcher has to be very much careful to obtain a sample that would be the true representative of the target population. To be representative means to provide a close approximation of certain characteristics of the universe. For this purpose he / she have to take a wise decision to the way of selecting a sample. It is popularly known as sampling design. Sample design is the most important factor in determining the collections of data. There are several methods of sampling viz: simple random, deliberate, area, systematic, quota, stratified, complex and multi stage sampling methods etc. Among these different methods, the researcher has to select the method which is the most suitable in accordance with the nature of universe.

In the context of present research work the researcher has adopted the stratified random sampling (regular marking) method. In order to give a proportionate representation to all the seven homogenous sub groups 10% workers have been selected from each strata which makes 650 sample units in aggregate. The Strata’s were created out of the universe on the basis of the nature of vocation adopted by the workers. As G. Ramesh Babu (2008 ) says – Stratified random sample is useful when the population does not constitute a homogenous group. Hence, the researcher will apply this technique to obtain a representative sample from population. In this method, the population is divided into a number of non – overlapping subpopulation or strata. The sample items are selected from each stratum on random basis. It is called as stratified random sampling method. Likewise, Pratt and Loizos (2009) are also of the opinion that a stratified random sample uses existing information to divide the target population into non – overlapping sub group (called
strata). A random sample is taken from each sub group. Members of each sub groups should be similar to each other in some way.

Keeping in view the heterogeneity in the nature of occupation of the workers, the researcher has taken a decision to apply the stratified random sampling method. The detail sampling plan is depicted in the table below

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Total no. of workers</th>
<th>Sampling Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porters (coolies)</td>
<td>4830</td>
<td>483</td>
</tr>
<tr>
<td>Construction workers</td>
<td>506</td>
<td>50</td>
</tr>
<tr>
<td>Workers in hotel and</td>
<td>392</td>
<td>40</td>
</tr>
<tr>
<td>establishments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic workers</td>
<td>131</td>
<td>14</td>
</tr>
<tr>
<td>Guards</td>
<td>71</td>
<td>7</td>
</tr>
<tr>
<td>Rickshaw pullers</td>
<td>58</td>
<td>6</td>
</tr>
<tr>
<td>Other</td>
<td>502</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>6490</td>
<td>650</td>
</tr>
</tbody>
</table>

3.3 Tools and Techniques of Data Collection

Research work is an enquiry to unknown truth from universe. In the enquiry process data collection tools and techniques have a significant
role to make the findings factual, true and reliable. The authenticity and validity of the finding entirely depends on the data collected through various devices viz: questionnaire, interview schedule, observation, case study and written personal / public documents. If the tools and techniques of data collection are not selected wisely by the researcher, it does not lead him / her to real outcome. Hence, the researcher should be much far – sighted in order to select the appropriate tools and techniques of data collection which leaves a far reaching impact in the whole research work.

As Babu (2008) says – “A combination of different kinds of numerical information is called data collection. Data consist of full information regarding a particular aspect. The procurement of numerical information from different sources of information or a single object is known as collection of data.

One of the important stages in the research process is data collection. While the initial stages in the research project decide the ways in which data collection procedures have to be carried out the remaining stages i.e. data processing and analysis, mainly depend on it. From which source do we gather information about the phenomenon under study? What means are used to collect data? (Das, 2004)

The two main sources of data are social science research is people and paper. The responses to questions put to people constitute the major sources of data in social research. The source is known as primary source of data. A large amount of data is already available in the form of paper sources. This includes documents, historical records, biographies, statistical records and the like. The paper sources are commonly known as secondary sources of data.
When a researcher decides to collect data through primary source, he has mainly three options namely – observation, interview and questionnaire. And he/she has to choose any one of them.

There are varied dimensions relevant to data generation and abstract typology involving stimuli, responses and setting for data collection. Data in social sciences, as in other sciences are based on our sense observations. The word observation is used here includes all forms of perception used in recording responses as they impinge upon our sensor. But responses are not a datum. A response is some manifest kind of action, where as datum is the product of the process of recording the response. The continuum from response (which is observed) has been presented by Johan Galtung as under (Bhandarkar and Wilkinson, 2009).

The stimulus to datum sequence

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation</td>
<td>manifestation</td>
<td>perception</td>
</tr>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Impression</th>
<th>5. Datum</th>
</tr>
</thead>
<tbody>
<tr>
<td>recording</td>
<td>d</td>
</tr>
</tbody>
</table>
Further, Bhandarkar and Wilkinson present the setting of data collection bringing the categories of stimuli and responses together as under

The main forms of data collection responses.

<table>
<thead>
<tr>
<th>Stimuli</th>
<th>Non-verbal</th>
<th>Oral – verbal</th>
<th>Written - verbal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal setting</td>
<td>Participant Observation</td>
<td>Conservations, use of informants</td>
<td>Letters, articles, biographies</td>
</tr>
<tr>
<td>Formal Unstructured Setting</td>
<td>Systematic Observation</td>
<td>Interview unstructured</td>
<td>Questionnaire open ended</td>
</tr>
<tr>
<td>Formal Structured Setting</td>
<td>Experimental techniques</td>
<td>Interviews structural</td>
<td>Questionnaire Structured</td>
</tr>
</tbody>
</table>

Unsystematic  Systematic

Unsystematic Informal Formal unstructured setting  So far as present study is concerned.

Systematic Impossible Formal structured setting

The researcher has followed interview schedules in order to elicit required information from the sample workers. Interview schedule is an instrument which is used by the interviewer and filled by him in face to face situation with respondents. As Goode and Hatt say – “Schedule is the name usually applied to a set of questions which are asked and filled in by an interviewer in face to face situation with another person”. A research interview is the one of the devices of data generation in which the researcher directly interacts with the respondents. Stimulus is provided to the interview in the form of questions. It is followed by a
schedule which is known as interview schedule and used by the researcher for recording the responses.

In course of structuring the schedule several relevant and essential questions were designed viewing the nature of research as per the guidance of supervisor. The questions included in the schedule were closed ended as well as open ended type. Open ended questions were formulated with a view to give place to the respondents for their original opinions and experiences. As Das (2004) also says – “Interview has been a widely used method of data collection so far as information about the social background, opinion, attitudes and changes in relations are concerned.”

In the present research work interview schedule could only be the most appropriate tool for data collection because the educational level of most of the workers was very low. Besides, interview could also explore other facts and information relating to the workers during the time of interaction. And its flexibility was also advantageous. Mishra (2002) also admits it and says – The interview is a most widely used method of gathering information in the field. He further says no other approach enables the investigator to glean so much information and yet remains so flexible. Bernard (2008) also agrees that the concept of interviewing covers a lot of ground. He again adds that there is a vast literature on how to conduct effective interview, how to introduce an interview and how to end one.

As afore stated by Bernard, the researcher has also established good rapport with the respondents before the schedules were filled up. Prior to have an interaction with them in a friendly environment even some sticks of cigarette had also to be offered to some of the respondents
sometimes. However, having been acquainted with the language and social background of them, it was not much difficult for the researcher to get their proximity and co-operation to get the schedules filled. Yet, a bit problem was experienced with the aged and illiterate respondents as their responses were ambiguous and not clear to meet the demand of some questions.

A part from interview schedule, the researcher followed observation method also, especially in order to get the real reflection of the habits, behaviors and living and working conditions of the workers. The researcher had a strong believe that observation method could reveal some of the facts that were not possible through schedule. Goode and Hatt also underline importance of observation and say – “Science begins with observation and most ultimately return to observation for its final validation”. Sometimes the respondents may conceal some facts and hide the reality. Observation method helps to uncover the truth. Das (2004) also accepts it (the schedule) to be the basic method of obtaining information about social phenomena under investigation. He further says observation becomes a method of data collection when it is planned in accordance with the purpose of research and recorded systematically keeping in mind the validity and reliability of observed data. Especially when habit, conduct and behaviors are to be studied observation method becomes more fruitful to obtain reliable information about elements. Sharma and Jain (2004) also give their view and say – it is a systematic and deliberate study through the eyes and spontaneous occurrences at the time they occur. Its purpose is to perceive the nature and extent of significant interrelated elements within complex social phenomenon cultural patterns or human conduct:
The scientific observation may broadly be classified on three bases as follows-
1. Controlled / uncontrolled observation.
2. Structured / unstructured / partially structured observation.
3. Participant / Non participant / disguised observation.

Among the aforementioned types of observation, the researcher followed non-participant observation. As Bhandarkar and Wilkinson (2009) say, "Non participant observation involves the espousal by the observer of a detached role of the observer and recorder without any attempt on his part to experience through participation that which the observed experience". In order to get factual information about the living and working conditions of workers without letting them the chance of concealing their reality, the tool of non-participant observation was adopted by the researcher. For the purpose, the researcher visited the living place of some of the workers saw the work site and inspected the workers engaged in many different types of works in several places.

3.4 Classification and Tabulation of Data

After the collection of data, the next step to be taken by a researcher is their classification and tabulation. All research studies collect large volume of raw data which generally involves a big variety of responses to different kinds of questions asked or stimuli presented to the respondents. All responses are arranged on the basis of similar characteristics and are reduced in homogenous groups. The process of arranging data is specified group is known as classification of data. According to G. Ramesh Babu (2008) - generally the data can be classified on the following basis –
1) Geographical classification 2) Chronological classification
3) Qualitative classification 4) Quantitative classification
Regarding the present analysis, the researcher underwent the process of classification of data on the basis of their resemblance and systematic tabulation,

### 3.5 Analysis and Interpretation of Data

Data occupies an important role in research work. It contains varieties of facts regarding a specified object. After collection of data, the researcher’s task is to process the crude data into final product. The collected data may not be utilized in research work directly. Therefore they are processed, analysed and interpreted. These are important phases of research work that make the collected data understandable with further generalization of findings.

Das (2004) highlights the purpose of data analysis and says – “The purpose of data analysis is to prepare data as a model where relationships between the variables can be studied. Analysis of data is made with reference to the objectives of the study and research questions. As a matter of fact analysis and interpretation of data is a most skilled task of all in research work. Moser and Kalton (1980) also see it as a skillful task and say – certainly, analyzing and interpretation is a task calling for the researcher’s own judgment and skill, not one to be delegated to the assistants. The routine of analysis may not be difficult, but properly to guide it and accompanying interrelation requires a familiarity with the background of survey and with all its stages. He further says that – analysis is a matter of working out statistical distribution, constructing diagrams and calculating simple measures.

As far as present study is concerned, after classification and tabulation of data, the researcher has analysed them using non-quantitative analysis method. The data have been shown in several tables,
charts and diagrams with their contextual analysis and interpretation with a view to make them easily readable and understandable. And an attempt has also been made to draw conclusion covering the various issues relating to the Nepali workers working in the unorganized sector of Nainital district.

References

Babu, G. Ramesh; 2008: Research Methodology and Social Sciences, Concept Publishing Company, New Delhi

Bernard, H. Russel, 2008: Research Methods in Anthropology qualitative and Quantitative Approaches, Rawat Publication, New Delhi


Cargan, Leonard; 2008: Doing Social Research, Rawat publications Jaipur


Sharma, C.K. and Jain M.K; 2004: Research Methodology, Shree Publishers & Distributers, New Delhi

Yadav, V.S. and Jain, Mohit; 2007: Research Method in Social Science, Shree Publishers and Distributers, New Delhi