Chapter: III

RESEARCH METHODOLOGY

III.1. Research Design
III.2. Sampling Design
III.3. Research Methods/Techniques
“There are several areas where we are likely to see more research attention. ... One ... is increased attention to the inferential challenges facing all survey methods in a changing society. Another is that the Web itself is changing. ...we need to figure out what this will mean for traditional surveys and how we can use the increased interactivity of the Web to improve measurement.”

- - - - - Couper and Miller

Research refers to a search for knowledge. It can also be defined research as a scientific and systematic search for pertinent information on a specific topic. The Advanced Learner’s Dictionary\(^1\) of Current English lays down the meaning of research as “a careful investigation or inquiry especially through search for new facts in any branch of knowledge.” Redman and Mory\(^2\) define research as a “systematized effort to gain new knowledge.” In short, the search for knowledge through objective and systematic method of finding solution to a problem is research.

There is a difference between Research Methods and Research Methodology. Research methods may be understood as all those methods/techniques that are used for conducting of research. Research methodology means the study of research methods. It may be understood as a science of studying how research is done scientifically. 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.

**III.1. Research Design:**

The main objective of the present study is to understand the effects of beedi rolling on health and education of working children and to reckon the magnitude of exploitation of the children engaged in beedi industry. To conduct the study,

\(^1\) The Advanced Learner’s Dictionary of Current English, Oxford, 1952

Murshidabad district of the State of West Bengal has been selected purposively. Two blocks namely, Suti-II & Samserganj of the district have been chosen purposively on the basis of highest concentration of the beedi industry and data has been collected from four villages, two villages from each block through some structured questionnaire during the year 2003 – 2004.

Criteria for Selection of the District

Murshidabad is a historical place, live fossil of many historical events. Once upon a time it was the capital of Bengal. But now it has lost its glory. In relation to Human Development Indicators (2004), Murshidabad is placed in 15th position in West Bengal and poor district also (43.31%, 6th highest in the state as per BPL Survey, 2002). As per Census 2001, 87.51% people live in rural areas and they are deprived from basic needs like health, education, nutritious food, etc. They believe in many superstitions, which negatively affect the development indicators. The district has placed 1st position in West Bengal in case of workforce engaged in the household Industry. As per 2001 Census, 20.42% (7.23% male and 64.66% female) people are engaged in the household sectors and beedi industry is the predominated one. As per 2001 Census, 55 Beedi Companies are running in the Murshidabad district and 3 lakhs household workers are engaged. As per the study of Jasodhara Bagchi & Ashim Mukhopadhyay (1996) out of total beedi workers 65% were women, 20% male and 15% were children.

Criteria for selection of the Sub-Division

The Jangipur Sub-Division is situated in the north part of the district and covers seven community development blocks namely, Raghnathganj–I, Raghnathganj–II, Suti–I, Suti–II, Samserganj, Sagardighi and Farakka. Near almost 33 beedi companies are situated in the Jangipur Sub-Division out of total 55 beedi companies in the district and 2.5 lakhs beedi workers engaged in the Jangipur Sub-Division out of total 300000 beedi workers in Murshidabad district. A survey conducted by the Murshidabad

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4 Jasodhara Bagchi, Ashim Mukhopadhyay (1996): Child labour in beedi industry, Murshidabad district in West Bengal, School of Women Studies, Jadavpur University in Calcutta
Authority for Elimination of Child Labour (1996 & 1999) has estimated 88,000 child workers in beedi industry alone\(^5\). So, the Sub-Division is highly concentrated with beedi industries and home based beedi workers including child workers.

\[\textbf{Criteria for selection of blocks}\]

The blocks – Suti-II & Samserganj of Murshidabad district are selected for the study considering the following criteria:

I. Literacy rate, especially female literacy rate of the blocks is the lowest in the district. As per Census 2001, literacy rate of Suti-II was 42.64% of which female literacy rate was 32.47% (second lowest in the district) and literacy rate of Samserganj was 40.07% of which female literacy rate was 29.96% (lowest in the district)

II. Population engaged in household industry (household workers to total Workers) is quite high in these blocks. As per 2001 Census, Suti-II:70.60% (second highest in the district) and Samserganj:72.59% (highest in the district)

III. Basic public amenities and facilities, particularly public health & sanitation facilities are miserable in these two blocks. As per the district statistics of the Total Sanitation Programme (2002-03)\(^6\) Suti-II covered only 10.44% household and Samserganj covered 8.84% household only, which ranked 13\(^{th}\) and 10\(^{th}\) positions respectively from the lowest.

IV. Population density per square Km. (Census, 2001) is the highest in Samserganj with 2516 and second highest in Suti-II with 1919 in the district. The population density of Samserganj is also the highest among the state.

V. Out of 20 schools under the National Child Labour Project (NCLP) in the, 16 schools (80%) are located in these two blocks (Suti-II:6 & Samserganj:10). So, it indicates that the blocks are highly concentrated with child labour in beedi industry.

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\(^6\) Murshidabad Zilla Gazetteer, 2003
VI. The blocks are highly flood-prone, bordering Jharkhand on the West and International border of Bangladesh on the East.

Criteria for selection of villages

For the study a survey was conducted in the 2 villages (one Most Developed village and other one Least Developed village) from each block Suti – II and Samsorgenj of Murshidabad district. The criteria for Most Developed village (MDV) and other one Least Developed village (LDV) have been selected on the basis of some predetermined indicators, which are mentioned below.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Criteria of Most Developed Village (MDV):</th>
<th>Sources of Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>Literacy rate is at least equal to the district literacy rate</td>
<td>Census 1991</td>
</tr>
<tr>
<td>II.</td>
<td>Higher Female literacy rate than the district average</td>
<td>Census 1991</td>
</tr>
<tr>
<td>III.</td>
<td>Higher enrolment &amp; lower dropout rate in Primary schools</td>
<td>Education Deptt.</td>
</tr>
<tr>
<td>IV.</td>
<td>Standard of living is high in comparison to backward Village, e.g. Pucca house etc.</td>
<td>Gram Panchayat</td>
</tr>
<tr>
<td>V.</td>
<td>Availability of basic amenities like Electricity, ICDS Centre, Sub-Centre, Drinking water &amp; Sanitation, better condition of road etc.</td>
<td>Gram Panchayat</td>
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<tr>
<td>VI.</td>
<td>Occupation in tertiary sector</td>
<td>Gram Panchayat</td>
</tr>
<tr>
<td>VII.</td>
<td>Better implementation of various Rural Development Programmes</td>
<td>Gram Panchayat</td>
</tr>
</tbody>
</table>

| Criteria of Least Developed Village (LDV): |
|------------------------------------------|-----------------------------------------|
| I. | Literacy rate is much lower than the district literacy rate | Census 1991 |
| II. | Lower Female literacy rate | Census 1991 |
| III. | Big family size and poor coverage of Immunization | ICDS & Health |
| IV. | Standard of living is low in comparison to Developed Village, e.g. Kacha house etc. | Gram Panchayat |
| V. | Less availability of basic amenities like Electricity, ICDS Centre, Sub-Centre, drinking water & Sanitation, linkage road etc. | Gram Panchayat |
| VI. | Less coverage of various Rural Development Programmes | Gram Panchayat |
| VII. | The list of backward villages published by the P&RD Deptt., Govt. of W.B. | D.R.D.C. |
III.2. Sampling Design:

In statistics, a sample is a subset of a population. Sometimes, the entire population will be sufficiently small, and the researcher can include the entire population in the study. This type of research is called a census study or complete enumeration because data is gathered on every member of the population. Usually, the population is too large for the researcher to attempt to survey all of its members. A small, but carefully chosen sample can be used to represent the population. The sample reflects the characteristics of the population from which it is drawn. This process of collecting information from a sample is referred to as sampling. Since survey research is always based on a sample of the population, the success of the research is dependent on the representativeness of the population of concern.

Sampling methods are classified as either probability or nonprobability. In probability samples, each member of the population has a known non-zero probability of being selected. Probability methods include random sampling, systematic sampling, and stratified sampling. In non-probability sampling, members are selected from the population in some nonrandom manner.

Random sampling is the purest form of probability sampling. Each member of the population has an equal and known chance of being selected. When there are very large populations, it is often difficult or impossible to identify every member of the population, so the pool of available subjects becomes biased. Random sampling is used when researcher wants his findings to be representative of some larger population to which findings can be generalized.

In statistics, a Simple Random Sample is a subset of individuals (a sample) chosen from a larger set (a population). Each individual is chosen randomly and entirely by chance, such that each individual has the same probability of being chosen at any stage during the sampling process. This process and technique is known as simple random sampling.

In small populations and often in large ones, such sampling is typically done "without replacement" i.e., one deliberately avoids choosing any member of the population more than once. Sampling done without replacement is no longer
independent, but still satisfies exchangeability, hence many results still hold. Further, for a small sample from a large population, sampling without replacement is approximately the same as sampling with replacement, since the odds of choosing the same individual twice is low. Sampling is called “with replacement” when a unit selected at random from the population is returned to the population and then a second element is selected at random. Whenever a unit is selected, the population contains all the same units. A unit may be selected more than once. Although simple random sampling can be conducted with replacement instead, this is less common and would normally be described more fully as simple random sampling with replacement. In case of the present study, the simple random sampling with replacement technique has been followed.

Sample size is an important consideration in qualitative research. Typically, researchers want to continue sampling until having achieved informational redundancy or saturation -- the point at which no new information or themes are emerging from the data. As Sandelowski (1995)\textsuperscript{7} points out, “determining adequate sample size in qualitative research is ultimately a matter of judgment and experience” and researchers need to evaluate the quality of the information collected in light of the uses to which it will be put, and the research method, sampling and analytical strategy employed.

In the present study, total 200 households from four villages (52 households from each village) have been covered randomly with replacement basis for the survey. A flow chart of the sampling process is furnished below.

\textsuperscript{7} Sandelowski, M. (1995). “Sample size in qualitative research.” Research in Nursing and Health
III.3. Research Methods/Techniques:

There are various methods of data collection. A ‘Method’ is different from a ‘Tool’. While a method refers to the way or mode of gathering data, a tool is an instrument used for the method. For example, a schedule is used as a tool for interviewing method. The important methods are (a) Observation, (b) Interview, (c) Case study (d) PRA/PLA etc. No method is universal. Each method has its unique features and should be judged against the needs and conditions of the study and thus the choice of the methods should be critical.
Every study follows some prescribed methods for collection of data. The study will be based on the following methods.

1. Observation method
2. Interview method
3. Case Study
4. Participatory Rural Appraisal (PRA)

Some secondary data will also be collected from various Government houses like Gram Panchayat Office, Block Office, Hospital, District Industrial Centre, Regional EPF Office, Beedi Company, District Statistical Bureau and other Govt. & Non-Govt. institutions.

Observation Method

Observation, for many years, has been a hallmark for both anthropological and sociological studies. In recent years, the field of education has seen an increase in the number of qualitative studies that include observation as a way to collect information. Qualitative methods of data collection, such as interviewing, observation, and document analysis, have been included under the umbrella term of "ethnographic methods" in recent years.

Observation is a tool of gathering data by watching behaviour, events, or noting physical characteristics in their natural settings. Observation may be defined as a systematic viewing of a specific phenomenon in its proper setting or the specific purpose of gathering data for a particular study. Observation as a method includes both 'seeing' and 'hearing.' Marshall and Rossman (1989) define observation as "the systematic description of events, behaviours, and artifacts in the social setting chosen for study" (p.79). Observations enable the researcher to describe existing situations using the five senses, providing a "written photograph" of the situation under study. Participant observation is the process enabling researchers to learn about the activities of the people under study in the natural setting through observing and participating in

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those activities. It provides the context for development of sampling guidelines and interview guides.

Observation may be classified in different ways. With reference to the investigator’s role, it may be classified into (a) participant observation, and (b) non-participant observation. In terms of mode of observation, it may be classified into (c) direct observation, and (d) indirect observation. With reference to the rigour of the system adopted, observation is classified into (e) controlled observation, and (f) uncontrolled observation.

Observation methods are useful to researchers in a variety of ways. They provide researchers with ways to check for nonverbal expression of feelings, determine who interacts with whom, grasp how participants communicate with each other, and check for how much time is spent on various activities.

**Interview Method**

Interviewing is one of the major methods of data collection. Interviewing involves face-to-face conversation between the investigator and the respondent. It may be defined as two-way systematic conversation between an investigator and an informant, initiated for obtaining information relevant to a specific study.

Interviewing may be either a main method or a supplementary one in studies of persons. Interviewing is the only suitable method for gathering information from illiterate or less educated respondents. It is useful for collecting a wide range of data from factual demographic data to highly personal and intimate information relating to a person's opinions, attitudes, values, beliefs, past experience and future intentions. When qualitative information is required or probing is necessary to draw out fully, then interviewing is required. Where the area covered for the survey is a compact, or when a sufficient number of qualified interviewers are available, personal interview is feasible. Interview is often superior to other data-gathering methods. People are usually more willing to talk than to write. Once rapport is established, even confidential information may be obtained. It permits probing into the context and reasons for answers to questions.
It involves not only conversation, but also learning from the respondents’ gestures, facial expressions and pauses, and his environment. Interviewing requires face-to-face contact or contact over telephone and calls for interviewing skills. The interviews may be classified into: (a) structured or directive interview, (b) unstructured or non-directive interview. It is done by using a structured schedule or an unstructured guide. In the present study, mainly ‘Structured Interview Method’ has been followed for data collection and a well designed Questioner/Schedule has been developed for this purpose.

**Participatory Rural Appraisal (PRA)**

The magic word ‘PRA’ was used during late 1980’s as a method of data collection through two parallel events – one in Kenya and other in India. In a short period of time, PRA as a method has attracted attention and strengthened itself through its emphasis on people’s capabilities, field-based learning and innovations. Many experts have realized that the time has come for reversing their roles, as facilitators of development, where the weak, deprived and marginalized people are able to express their own views and do their own analysis in their own ways with the help of PRA process and methods. A wide range of applications of PRA have proliferated over the years and it is still evolving. Chambers (1997)\(^9\) mentioned that most applications of PRA are in three areas, namely topical investigation and research, training and PRA proper as an empowering process of appraisal, analysis, planning, action, monitoring and evaluation.

Due to extraordinary features and expertise of PRA method, some tools of this method have been utilized to carry out the present study. There are a number of PRA tools, but considering the objective of the study and field situation, only four tools namely; (I) Livelihood Analysis (II) Pie Diagram (Income-Expenditure Analysis) (III) Well-Being Ranking Method, (IV) Body Mapping and (V) Force Field Analysis have been applied in this study.

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(I) **Livelihood Analysis** – Livelihood Analysis is used to examine and depict the livelihoods of individuals or groups. The focus is on income, expenditure, food consumption, coping with crisis, occupation and employment related issues, livestock, agricultural production etc. This kind of analysis becomes very relevant for rural agricultural communities, self employed artisans and other non-salaried people who do not get a fixed income every month. Seasonal and other changes, even to a small extent, have a significant impact on their well-being. Literally, livelihood analysis is not a method but uses various methods to do a detailed analysis of the livelihood pattern of an individual, households or community. In livelihood analysis, various PRA methods can also be used to identify the changes in the livelihood patterns. Depending on the objective of the study, any method can be used for livelihood analysis; however, the seasonal diagram, time line, trend analysis, matrix and well-being ranking are occasionally used for livelihood analysis. A detailed livelihood analysis of the representative households can be carried out to get an overall understanding of livelihood in the locality. Livelihood analysis touches upon areas that are personal and considered sensitive. In a few cases, the participants may not open up due to shyness. They may hide certain information which they feel will put them in an adverse light and deprive them of certain benefits. Hence it needs to be handled carefully. In the present work livelihood analysis has been done with utmost care.

(II) **Pie Diagram (Income-Expenditure Analysis)** – Pie Diagram or Pie Chart has been adapted as a PRA method to represent proportions of the components in relation to the whole. It also refers to as Chapati Diagram. Pie diagram in PRA deals with both factual and perceptual data. In PRA, pie diagram is used more as a method to help the local people to arrive at the components of a whole and also their proportions rather than just as a presentation tool. Pie diagram has been used to know the proportion of the components of a whole in diverse areas e.g. land type, land holding, cropping pattern, composition of population, literacy level, general income and expenditure, relative contribution to income and expenses etc. Pie diagram is very useful in case studies, particularly in looking at the income and expenditure pattern of individuals or households. Pie diagram is very easy to use with even non-literate participants but in certain communities, the concept of proportion is often difficult to explain. The perceptual categorization and allotment of the proportions are subject to challenge by
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others and hence need to be conducted with care. In the present study to enumerate the income and expenditure proportions of the beedi worker families, the pie diagram has been used.

(III) **Well-Being Ranking Method** – Well-being ranking is a PRA method commonly used for ranking and grouping households and communities. Well-being ranking method is based on the perception of the local people. It helps to understand the local people’s conceptions and their views on socio-economic disparities between households. The method is more oriented towards quality of life. It has an economist’s bias, since it is based on measurement. Well-being ranking, however, provides a unique method for exploring local people’s thinking on well-being. Well-being ranking method has been used for different purposes including to explore issues related to livelihood, vulnerability, the good life, constraints to development as people perceive them and to design intervention strategies in line with people’s aspirations. Well-being ranking can also be combined with matrix method. Classify the household or community into various categories of well-being and the participants themselves identify the criteria for comparison. They also use visuals and symbols to depict particular aspects and score them.

(IV) **Body Mapping** – Body Mapping is a visual method used to represent People’s perception of their bodies, the functions of various parts, their concept of conception, health, etc. It has gained popularity with gender trainers and women’s groups over the decade. Body mapping is not a regular anatomical map. It depicts the body or a part of it as perceived by individuals or groups. People’s perception of the human body, its parts and their functions are quite different from the conventional scientific view. Body mapping has potential for application in a wide range of areas. Currently its application has been in three major areas. It has been used in (i) research related to health, (ii) understanding the perception of local people and communities relating to the body, (iii) in the training of health workers. Understanding the local people’s perception is very important for ensuring the effectiveness of health related interventions and extension message on health, diseases, birth control etc. The body mapping is done in small groups. Drawing the map is not an end in itself; the main purpose is to organize discussions around it. The participants in most cases are women; in the present context children participated for understanding their perception. The cultural context, the type of the group, rapport with the group and the
objectives of the exercise are some of the key determinants of this method. On the whole, body mapping is a useful method, particularly when working on health and gender related issues. Tremendous response and outcome has been obtained by using body mapping in the present work.

(V) Force Field Analysis – Force Field Analysis is a technique used to identify and analyze forces affecting a problem situation visually, so as to bring about a positive change. It is a tool with wide potential for application in PRA. Kurt Lewin (1951)\textsuperscript{10} developed the Force Field Analysis technique. According to Lewin, any situation of performance can be viewed as a state of temporary equilibrium. There are two sets of opposing forces namely, (I) driving, facilitating or positive forces which bring about change; (II) restraining, resisting or negative forces which maintain a status-quo for maintaining this equilibrium. The force field analysis has been used for (a) identifying the forces responsible for the present status for any aspect, (b) analyzing how the situation can be changed and (c) arriving at plan of action for change. Sometimes it is easier to explain force field analysis using the analogy of gas balloons and stones. Balloons represent driving forces which are acting to bring about desired change. Stones depict restricting forces thwarting change. The present situation is represented by a state of temporary equilibrium indicating ‘State of Children’, with the balloons balancing the stones. The size of the balloons and stones depict their relative strength. Planning for change amounts to identification and finalization of the process of strengthening the forces represented by balloons and weakening the forces represented by stones. Force field analysis also has its own limitations. Force field analysis can become facilitator-driven and the participants may be converted into mere respondents. Therefore, it is quite important that simple steps are followed and that the purpose of the exercise is clearly explained to the participants. The dreams and hurdles to be overcome by the child workers have been depicted through this force field analysis method.

To fulfill the objectives of the study techniques/tools have been used as per the need.

\textsuperscript{10} Lewin, Kurt (1951), Field Theory in Social Science, Harper & Row, New York.