CHAPTER 2

MATERIALS AND METHODS
2.1 Introduction

The success of any community information study always depends upon a well controlled sample and a defined methodology for collecting the relevant data. In other words designing of a good research project always depends upon the choice of the sample as well as a defined methodology for both collection and interpretation of data. The most important methods of research involving persons especially in the fields of social sciences are (i) user studies (ii) questionnaire (iii) interviews (iv) diary methods and (v) direct observation and analysis of data (Wood, 1969). Of course, individual methods do not give any objective assessment of the situation and there is therefore, a tendency for use of several methods jointly. The success of a good research project on community information depends upon the choice of a suitable sample for the purpose. The size of the sample varies greatly in different works. For example, Chen and Hernon (1982) have considered a total sample of 2400 people from six states of New England while studying the information seeking behaviour of the community whereas in a study of community orientation and newspaper reading Cobbey (1980) has collected data from 2003 individuals, representing 46 separate towns, cities and metropolitan subareas of Minneapolis and its environs. On the other hand Amey (1983) has considered only a sample of 292 persons representing all levels of
academic achievement and socio-economic status in a study of information seeking activities of adolescents of different socio-economic classes in a Canadian urban centre whereas the report of Beal (1979) on publics' information needs includes only 206 respondents of different information seeking situations. While studying the reading interests of older adults, Grubb (1982) has considered 304 adults of 65 years of age and older for comparison purposes with a sample of 200 adults of 24 to 64 years of age. On a study of information seeking by users of a Citizens Advice Bureau, Australia, Williamson (1986) has considered a sample of 130 males and 242 females (Altogether 372 persons) and while studying the information seeking patterns and resource use by Baptist Leaders in three Central American Countries, Allen (1987) has considered a sample of 606 persons of which only 56.7 percent responded to the survey. Even as less as 45 male and female participants who ranged in the age from the twenties to the mid-seventies in a study on adult reading behaviour and ego-stage development were considered by Levenson (1979). In India, Ballarsingh and Mahapatra (1985) have interviewed 215 persons of which 107 were literates and 108 were illiterates for identifying the current information needs and their providers in a semi-urban community. They have also taken the same sample while making a survey on literacy and library consciousness of the community (Ballarsingh and Mahapatra, 1988 a). Thus the sample size in the studies of information needs of the communities vary greatly in the published literature.
In the present investigation the sample consisted of 809 persons working in 5 major departments of the Rourkela Steel Plant, Rourkela, Orissa.

Regarding data collection, the most popular method in a survey is the questionnaire (Grubb, 1982; Amey 1983; Allen 1987), English (1983) Kilpatrick (1982), Khanna (1981) and many others have used mailed questionnaires for collecting data in their studies. However there are difficulties in using the mailed questionnaires as the principal source of data collection. One such difficulty is question wording bias which is to be avoided, otherwise it may mislead the survey to wrong results (Bennion, 1982). Next to the questionnaire most of the surveys are made on personal interviews either directly meeting the respondents or contacting them over telephones. Personal interviews, allowing a high response rate, direct interaction between the surveyor and the surveyed, question clarification and the elaboration of data through the minimization of unclear answers, is conceptually the superior form, of study technique (Chen & Hernon, 1982). A combination of questionnaires and personal interviews was adopted by Simon & Amaral (1989), Harris & Tague (1989) in their works for the purpose of data collection. The primary drawback of personal interviews is the highest and longer time involvement even in a sample population of moderate size. A combination of the questionnaire and personal interview was adopted in this investigation for the purpose of data collection. Each of the respondents of the sample was personally
interviewed at their working place with the help of a designed questionnaire. The questionnaire was filled up by the investigator in most of the cases. In the light of the size of the sample considered by earlier workers as evidenced from the published literature wherever personal interviews were made as methods of data collection, the present sample population of 809 respondents considered for this investigation seems to be adequate for a project of this type. Therefore in an Indian situation, a combination of the personal interviews and the structured questionnaires seem to be the most useful medium of data collection (Das, 1991; Pati, 1989; Baliarsingh, 1989) which is followed in this investigation.

2.2 The setting

Assessing the community information needs is a very complex process. Its success depends upon the community under consideration. Specific communities have specific requirements, especially rural, urban and communities with industrial environment which are so unequal to each other in India that a generalization may not be easily achieved. Therefore the choice of the communities is of paramount importance in these studies. For this investigation an industrial community set within one of the major industries in India i.e. the Rourkela Steel Plant, Rourkela, Orissa is taken as the setting. Brief descriptions about the Rourkela steel plant is provided in the following paragraphs.
2.2.1 The PLANT

Rourkela Steel Plant abbreviated as the PLANT in this investigation is located at 413 kilometers by rail from Calcutta on the Howrah-Bombay main line in the state of Orissa. Rourkela region covering an area approximately 200 sq. kms. is situated amidst picturesque surroundings with hills and rivers. On the north is the river Koel and on the west is the river Sankh. Both find their confluence in river Brahmani. It is at an altitude of 219 metre from the sea level, with a summer temperature of 45.3°C (max) a winter temperature of 7°C (min) and with a yearly average rainfall of 128.8 Cm. The mutation of Rourkela Steel Plant from a calm sleepy village to a dynamic centre for growth forms a glorious chapter in the history of India's economic development. It is the first integrated steel plant to be set up in the public sector. It was set up in collaboration with the Federal Republic of Germany. The construction of Rourkela Steel Plant was envisaged during the second Five Year Plan. The steel plant was built in the year 1955-56.

Rourkela Steel Plant produces exclusively flat products (i) wide and Heavy plates - 280, 000 T/yr. (ii) Hot rolled sheets, light plates and strips - 260, 000 T/yr. (iii) Electrolytic Tin plates - 150, 000 T/yr. (iv) Galvanised sheets - 160, 000 T/yr. (v) Electrical steel sheets - 50,000 T/yr (vi) ERW pipes - 75, 000 T/yr. (vii) Spiral welded pipes - 55, 000 T/yr. (viii) CRGO - 37, 500 T/yr (ix) CRNO - 36, 000 T/yr.
With the commencement of production in Rourkela in February 1959, the requirement for organising the sales of the company in a co-ordinated manner was realised. A beginning was made by creation of sales units in Rourkela in February 1959 and a commercial division at Head office at Ranchi. Export and By-products Division were started at Calcutta. Initially the branch sales office of CMO were opened in October/November 1963. The joint plant committee is the co-ordinating agency appointed by the Govt. of India for pricing and distribution of iron and steel materials.

2.2.2 Organisation and structure

Entire Rourkela Steel Plant is divided into five major departments like Works, Fertilizer plant, General Administration, Township and Project. Each major departments includes number of constituent units. They are provided in Table 2.1

2.2.3 Libraries

The PLANT has four major libraries i.e. (i) IGH (Ispat General Hospital) Library (ii) Gopabandhu Library (iii) Training and Development Centre Library and (iv) R & C (Research and Control) Laboratory Library.

(i) Ispat General Hospital Library

The library is special type in nature. Total members of the library are 300 (medical persons only). Total books and bound volume of
periodicals are approximately 14 thousands. Current periodicals available are 100.

Finance allocated is Rs. 6 Lakhs (Yearly) for books, journals etc. Opening hours of the library are 10 A.M. to 5 P.M. on week days. On Saturdays it is from 10 A.M. to 1.30 P.M.

The library is managed by two technically qualified persons and 1 post is lying vacant.

(ii) **Gopabandhu Library**

The library is public in nature. It has 5478 members. Total book collection accounts to approximately 38,000 in different languages like English, Oriya, Hindi, Bengali, Telugu, Malayalam, Urdu, Kanada, Punjabi and Gujarati etc. 50 journals in different languages are subscribed by the library.

Finance allocated is Rs. 2 lakhs for books and periodicals annually.

Ground floor of the library consists of Nehru Study Circle-cum-Reference Section. It has one conference hall.

The issue counter is in the 1st floor. Separate rooms are allotted for issue of books of different languages.

Opening hours of the library are from 8.30 A.M. to 11.30 A.M. and 4.30 P.M. to 7.30 P.M. It is closed on Sundays.
It is managed by 9 persons which includes one Librarian. Two
Asst. Librarians, three Junior Assts. and three Attendants.

(iii) Training and Development Centre Library

The training and development centre was established to impart
professional training to new entrants and the employees of the organisation.
The centre maintains a separate library with about 20,000 books on
various technical subjects. 35 technical journals on different engineering
as well as professional subjects are subscribed.

Total number of users are 3,600 excluding trainees. Yearly finance
allocation amounts to Rs. 50,000 for books and 17,000 for periodicals
approximately. Opening hours are same as those of library. The
library is managed by 5 persons. It is supervised by an officer-in-charge.

(iv) R & C Laboratory Library

R & C Laboratory library is a special type of library. The users of
the library are both executives and non-executives. It consists of 18,836
books, 20 foreign journals, 25 Indian journals and different standards like
The budget of the library is Rs. 1,38,000 for books, Rs. 10,000 for standards, Rs. 1,35,000 for foreign journals and Rs. 10,000 for Indian Journals.

Working hours of the library is same as those of IGH Library. The library is managed by 3 persons. It is also supervised by an officer-in-charge.

2.2.4 Facilities

There are two categories of employees in Rourkela Steel Plant i.e. Executives and Non-executives. Different grades among executive and non-executive employees are based on pay structure. The non-executives are again classified into two groups i.e. general non-executives and ministerial non-executives. Nature of different grades are mentioned below.

Executives: Based on salary structure the executives are graded from E0 to E9.

The grades are given below:

- E0 - Junior executives
- E1 - Junior managers, Assistant executives
- E2 - Assistant managers
- E3 - Deputy managers
- E4 - Managers
E5 - Superintendents

E6 - Chief Superintendent, Assistant General Managers

E7 - Deputy General Manager

E8 - General Manager

E9 - Executive Director

In this investigation the executives are grouped into two categories, i.e.

EI - Which includes executives from E0 to E4 grades

EII - Which includes executives from E5 to E9 grades

Non-executives: Based on salary structure the non-executives are graded from LI to L10. The grades are given below:

L1 - Khalasiyes, Messengers

L2 - Helpers

L3 - Fitters, Electricians, Chargemen, Instructors, Inspectors

L4 - Operators, Assistant Rollers, Shippers, Junior Quality control Assistants.

L5 - Technicians, Nursing Sisters, Assistant Store keepers

L6 - Senior Technicians, Supervisors, Senior Instructors, Junior Chemists, Planners, Yard Masters.
In this investigation, the non-executives are grouped into two categories:

- **L1**: Which includes non-executives from L1 to L5 grades
- **LII**: Which includes non-executives from L6 to L10 grades

**Ministerial non-executives**: Ministerial non-executives are graded from ML1 to ML4 based on salary grades. The grades are given below:

- **ML1**: Design Assistants, Secretarial Assistants, Dairy Assistants, School teachers, Office Assistants, Executive Assistants.
- **ML2**: Receptionists,
- **ML3**: Senior design assistants, Senior executive assistants, Private Secretaries, Safety Inspectors, Post-Graduate Teachers, Senior Masters.
- **ML4**: Social welfare organisers

In this investigation all the ministerial non-executives are grouped into one category, i.e. ML group.

The grades are designed to facilitate promotion among the staff. In the promotion policy for non-executives the grades are divided into clusters.
This facilitates the management that within the clusters employees are promoted after completion of four and half years in a particular grade.

Besides an employee is promoted from one cluster to another after passing through trade test, Job test, Literacy test and subject to vacancy in higher grade.

In case of executives the employees have to complete three years in a particular grade to be promoted against a particular vacancy.

The PLANT has approximately 20,000 quarters for its employees in different categories. They are distributed in different sectors in the city of Rourkela.

Rourkela Steel Plant also provides other privileges to its employees like educational facilities, adequate medical care and electrical and water supply to its employees for their better maintenance of life.

It has one main hospital, 10 primary health centres, 2 occupational health service centres which provide free treatment to the employees and their dependents. There are two parks in the centre of the city. There are 16 community centres, 2 recreational centres, 2 social homes and central auditorium, civic centres etc. to meet the social and cultural needs of its employees.

Sports and games activities receive priority attention and support from the management of Rourkela Steel Plant. Sports stadium and wide
stretchen of play grounds provide ample opportunity for the employees and their children not only to entertain themselves but to develop their talents.

Besides, the employees enjoy LTC (Leave Travel Concession), LLTC (Local Leave Travel Concession), Conveyance Allowance, Night Shift Allowance, Vehicle Loan, House Building Loan, Festival Advance, Canteen Facility, Transport Facility, Life Insurance Facility etc.

For the convenience of all category of employees one of the library i.e. Gopabandhu Library which is public in nature, is centrally located in the heart of the city facing the ring road near central Ispat Market. Ispat General Hospital Library is located within the campus of the Medical as it is away from plant premises. Other libraries are located within the main plant building.

Training and Development Centre of Rourkela Steel Plant imparts training activities for skill and efficiency development, flexible working, training for sister units, training abroad with all kinds of facilities necessary for conducting different types of training programme to enable employees to gain proficiency in Job/position in a cluster as well as prepare them for higher cluster.

2.3 Choice and Identification of the Sample

The PLANT has five major departments i.e. Works, Fertilizer Plant,
General Administration, Township and Project and the employees are categorised as Executives and Non-executives. Total numbers of employees in terms of both executives and non-executives working in each department are provided in Table 2.2.

Altogether 29,817 employees are engaged in the PLANT which include 3325 (11.15%) executives and 26,492 (88.85%) non-executives. Since the number of employees in each category was large, a sample of 10% of executives and 2% of non-executives was considered as sample for this investigation. Departmentwise number of executives and non-executives in the sample is provided in Table 2.3.

Total sample included 861 employees of which 333 (38.61%) were executives and 528 (61.33%) were non-executives. Maximum employees in the sample belonged to the Works department followed by those of General Administration.

The individuals in the sample were identified from the Employees Registers which are maintained in each department of the PLANT. For example, every 10th employee in the serial among the executives from the Employees Register of each department was noted and was contacted personally in his/her office for the survey. Similarly every 50th employee in the serial among the non-executives was considered.

809 persons of the total sample of 861 were actually taken for this study. Departmentwise distribution of the actual sample is provided in
Table 2.4. The rest of the persons could not be taken into the study due to various reasons such as (i) non-availability (ii) non-co-operation in answering questions (iii) transfer cases etc. during the survey.

The total sample of 809 persons are categorised into different grades based on their status. (Table 2.5). Among the executives 227 (72.75%) belonged to EI category and 85 (27.25%) to EIi category. EI executives amounted to 28.05% of the total sample and EIi executives to 10.51% of the same. Among the non-executives 53 (10.66%) belonged to LI category and 109 (21.93%) to LII category. They amounted to 6.55% and 13.48% of the total sample respectively. The 335 ministerials non-executives i.e. ML category amounted to 67.41% of non-executives and 41.41% of the total sample considered in this investigation.

2.4 Methods

2.4.1 The Questionnaire

Keeping the purpose of the investigation in view a questionnaire was designed and with the help of the questionnaire each respondent of the sample was interviewed at his/her office. The questionnaire was filled up by the investigator while interviewing the respondents. Brief notes regarding the working environment, socio-economic background, his/her approach and attitudes in answering as well as his/her co-operation in the interviewing process were noted after the interview. Brief descriptions regarding different aspects of the questionnaire are given in the following paragraphs.
The questionnaire (Appendix - A) was designed to collect data from the respondents on the following aspects:

(a) Identification and socio-economic attributes of the respondents.

(b) Reading habits and utilization of leisure time.

(c) Information providers pertaining to different day-to-day problems.

(d) Knowledge and attitudes of the respondents towards the library services.

Brief discussions regarding each of the above mentioned sections are given below.

(A) Identification and socio-economic attributes

The purpose of this section is to identify the respondents in the community and to determine their socio-economic background in their respective areas. The questions of this section have dealt with the following aspects:

(i) Age, Sex & Marital status

(ii) Knowledge on different languages

(iii) Maximum educational attainment

(iv) Nature of appointment and experience

(v) Nature of family, number of persons and family headship.

(iv) Nature of residence / accommodation.
(B) Reading habits and utilization of leisure time

The purpose of this section is to find out the reading interests of the respondents and the means of utilization of their leisure time. The questions of this section have dealt with the following aspects:

(i) Reading of Newspapers

Subscription of newspapers, names of the preferred newspapers, preference to the different portions of the newspapers etc.

(ii) Reading of magazines.

Subscription of magazines and names of the preferred magazines.

(iii) Reading of books.

Nature of books, purchase of books etc.

(iv) Preferred time for reading newspapers/magazines/books.

(C) Information providers pertaining to different day-to-day problems

The purpose of this sections is to assess the day-to-day information needs of the respondents. To do this the questions were asked to them rather in an indirect way and their answers were analysed to determine
the nature of potential information providers to each day-to-day problem. Two examples of the questions are given below:

**Example - 1**: Suppose your name is not enlisted in the voters list, what would you do?

**Example - 2**: Suppose the ration you have brought from a ration shop was not good, where would you approach for a complain?

The question in example 1 was asked to assess the respondent's awareness of his/her fundamental right to vote in a community and his/her knowledge about the voters list. This question relates to a political situation. Analysis of the respondent's answer would not only show his/her knowledge on the voters list but also indicate the potential sources which he/she would approach for getting such information. On the other hand, this would help us to determine the information needs of the respondents towards the information on voters list and their fundamental political rights. Similarly the question in example - 2 was asked to assess the respondent's knowledge on the possible solutions for low quality of ration or at least his/her source of information for a complain.

Likewise the questions of this section have dealt with the following day-to-day information seeking situations:

(i) Quality of ration supplied
(ii) Demands for more price on a specific commodity by the salesman

(iii) Searching for better employment

(iv) Knowledge about the voters list

(v) Whereabouts of a good doctor

(vi) Handling of neighbour's disturbances

(vii) Willingness to join a political party

(viii) Local information about a person/place/organisation.

(ix) Admitting children in a good school

(x) Intention to purchase a plot/house

(xi) Intention to construct a house.

(D) Knowledge and attitudes of the respondents towards the library service

The purpose of this section is to find out the respondents' frequency/purpose of visit to PLANT libraries; suggestions for the improvement of the library; visit to the libraries other than PLANT libraries; their willingness to accept the services of the library, if offered to them for satisfying their reading interests or even solving their day-to-day
problems. The questions of this section have dealt with the following aspects:

(i) visit to PLANT libraries, their frequency and purpose.

(ii) suggestions for the improvement of the library.

(iii) knowledge about good libraries other than PLANT library.

(iv) willingness to read books if delivered at their residences.

   (a) If yes, their willingness to pay a nominal price for the service.

   (b) If not, then the reasons for unwillingness.

(v) willingness to accept advices to solve the day-to-day problems if available within the locality.

   (a) If yes, then willingness to pay a nominal price for each advice and if necessary willingness to travel a distance for such advice.

   (b) If not, then the reasons for unwillingness.

2.4.2 Personal Interviews

With the help of the questionnaire each of the respondent was interviewed personally and their answers were noted in the questionnaire by the investigator. Answers to few questions were filled up after the
interview but before beginning a new one. The serial number of the interview, Code number, the date and the time were noted with remarks if any in the record sheets which were kept for future references.

At the end of each interview a dairy was written showing respondent's working environment, interest and patience in the work, attitudes in answering as well as his/her co-operation in the interviewing process. Each interview was serially maintained with date, the time duration, extent of success of the interview etc. For example, in the attempt no. 457 where the respondent was fully co-operative and the interview was successful, the following entry was made in the field dairy:

Attempt no - 457 : E1/124, 21-7-94, 11.45 A.M.
Male, 37 yrs, manager.

The respondent was co-operative and hospitable. Calm and quiet atmosphere was prevailing in the office. Every thing was arranged systematically in his room. Had every interest and patience in the work. Responded the questions with confidence without facing any difficulty, pleasing behaviour and wished the interviewer success in her mission. Interview was successful. Sl. no. 425

2.4.3 Recording and tabulation

The data collected from these personal interviews were categorised
and recorded in separate sheets. Tables were prepared for each problem of investigation based on their percentage of responses. Wherever a comparison of average percentage were required two types of methods were adopted: (i) standard deviations to assess the amount of deviation of each average from the other and (ii) V-test (i.e. the variability test or the co-efficient of variation) to measure the variability among the means and the standard deviation. The V-value is calculated according to the formula.

\[ V = \frac{\text{Standard deviation} \times 100}{\text{Mean}} \]

2.5. Sample Characteristics

2.5.1 Age-wise distribution of the sample

The respondents are grouped into four age groups i.e. upto 29 yrs, from 30-39 yrs, 40-49 yrs and 50 to 58 yrs. The distribution of the sample among four age groups are provided in Table 2.6.

Maximum respondents among the executives belonged to the age group of 50 to 58 yrs (101; 32.37%). followed by the respondents belonging to the age group of 40 to 49 yrs (97; 31.09%). Similarly maximum respondents among the non-executives belonged to the age group of 50 to 58 yrs. (181; 36.42%) followed by the respondents belonging to the age group of 40 to 49 yrs (161; 32.39%). It can be
noted from the Table 2.6 that in case of both the categories of respondents as the age increased, the numbers of respondents in the particular age group also increased.

2.5.2 Sex-wise distribution of the sample.

Sex wise distribution of the sample indicated that the number of male employees were much more in comparison to female employees. Among the executives 303 respondents' (97.12%) were males and only 9 (2.88%) were females. Among the non-executives also the males (454; 91.35%) dominated over the females (43; 8.15%)

2.5.3 Distribution of sample by length of experience

The respondents are divided by taking into consideration the year of their appointment. The year of appointment of the respondents started from 1954 onwards and are categorised into 4 clusters i.e. 1954 to 1963, 1964 to 1973, 1974 to 1983 and 1984 onwards (Table 2.7)

Maximum respondents among the executives were appointed during the period of 1974-1983 (108, 34.62%) whereas those of non-executive during the period 1964-73 (162, 32.60%).

2.5.4 Educational attainment of the sample

The educational attainment of the respondents are categorised into four groups i.e. (i) upto H.S.C. (ii) Under graduates (iii) Graduate and above and (iv) professional/Technical qualifications (Table 2.8)
Maximum respondents among the executives (282, 90.38%) and non-executives (290, 58.35%) possessed professional/technical qualifications. Among the executives very few had qualification upto graduation (3, 0.96%) and post-graduation (27, 8.65%) whereas among the non-executives they were comparatively more.

2.5.5 Membership in Clubs/Unions/Associations/Societies etc.

(i) Executives

Membership in clubs/unions/associations societies etc. among the executives are provided in Table 2.9. It can be noted from the Table that maximum of them (155, 49.68) are the members of the Rourkela Steel Plant Executive Association (RSPEA). Other important organisations are Indo German Club (IGC) (57, 18.27%), Rourkela Club (55, 17.63%), Institute of Engineers (21, 6.73%), Computer Society of India (16, 5.13%) and Co-operative Society (16, 5.13%). 59 respondents (18.9%) had suggested that they were not members in any organisation. Of these persons, maximum belonged to the age group of 50 to 58 years.

(ii) Non-executives

Membership in clubs/unions/associations, societies etc among the non-executives are provided in Table 2.10. It can be noted from The table that maximum of them (225, 45.27%) are members of Rourkela Mazdoor Sabha (RMS) followed by the cultural association (73, 14.69%).
Other important organizations are cooperative society (50, 10.06%), religious organizations (15, 03.02%) Diploma Engineer's Association Rourkela (DEAR) (14, 02.82%) and Rourkela Shramik Sangha (RSS) (10, 02.01%) in which the non-executives, are the members. 184 respondents (37.02%) had suggested that they were not members of any organisation. Of these persons, maximum belonged to the age group of 50 to 58 years.

A comparison of two tables i.e. Table 2.9 and Table 2.10 indicated that the interests of the executives and non-executives completely differ as regards to their membership in different organisations are concerned. The names of prominent organisations in which they were the members completely differed in both the tables. However, the percentage of non members in any organisations among the non-executives are much more than those of executives.
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Major Departments</th>
<th>Constituent Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Works</td>
<td>Coke oven, Blast Furnace, Steel melting shop, Foundries, Plate Mill, Cold Rolling Mill, ERW pipe plant, Silicon Steel Mill, Design, Project Engineering, Research &amp; control Laboratory, PPC, Traffic, Refractories etc.</td>
</tr>
<tr>
<td>2.</td>
<td>Fertilizer Plant</td>
<td>Fertilizer plant, Safety Engineering, F.P. &amp; CCD., Civil Engineering (F.P.) Accounts (F.P.), Finance (F.P.) purchase (F.P.), personnel (F.P.) etc.</td>
</tr>
<tr>
<td>4.</td>
<td>Township</td>
<td>Town Administration office, Social welfare, Estate, Education, Horticulture, Land, Civil Maint (Town) Water Supply (Town), Medical, Public Health etc.</td>
</tr>
<tr>
<td>5.</td>
<td>Project</td>
<td>Project and moderinsation, F &amp; A (Project), Purchase (Proj.) etc.</td>
</tr>
</tbody>
</table>
### TABLE - 2.2
Total number of employees engaged in each department of PLANT

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Name of the Departments</th>
<th>Total no. of executives</th>
<th>Total no. of non-executives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Works</td>
<td>1955</td>
<td>19,574</td>
</tr>
<tr>
<td>2.</td>
<td>Fertilizer plant</td>
<td>160</td>
<td>1251</td>
</tr>
<tr>
<td>3.</td>
<td>General Administration</td>
<td>729</td>
<td>2522</td>
</tr>
<tr>
<td>4.</td>
<td>Township</td>
<td>292</td>
<td>2924</td>
</tr>
<tr>
<td>5.</td>
<td>Project</td>
<td>189</td>
<td>221</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>3325</td>
<td>126,492</td>
</tr>
<tr>
<td></td>
<td>Grand Total</td>
<td>29,817</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE - 2.3
Departmentwise number of executives and non-executives in the sample

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Name of the Departments</th>
<th>10 % of Executives</th>
<th>2% of Non-executives</th>
<th>Total No s.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Works</td>
<td>196</td>
<td>391</td>
<td>587</td>
</tr>
<tr>
<td>2.</td>
<td>Fertilizer Plant</td>
<td>16</td>
<td>25</td>
<td>41</td>
</tr>
<tr>
<td>3.</td>
<td>General Administration</td>
<td>73</td>
<td>50</td>
<td>123</td>
</tr>
<tr>
<td>4.</td>
<td>Township</td>
<td>29</td>
<td>58</td>
<td>87</td>
</tr>
<tr>
<td>5.</td>
<td>Project</td>
<td>19</td>
<td>04</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>333</td>
<td>528</td>
<td>861</td>
</tr>
</tbody>
</table>
### TABLE - 2.4
Departmentwise distribution of the actual sample considered in this study

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Name of the Departments</th>
<th>Executives</th>
<th>Non-executives</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Works</td>
<td>175</td>
<td>365</td>
<td>540</td>
</tr>
<tr>
<td>2.</td>
<td>Fertilizer Plant</td>
<td>16</td>
<td>25</td>
<td>41</td>
</tr>
<tr>
<td>3.</td>
<td>General Administration</td>
<td>73</td>
<td>45</td>
<td>118</td>
</tr>
<tr>
<td>4.</td>
<td>Township</td>
<td>29</td>
<td>58</td>
<td>87</td>
</tr>
<tr>
<td>5.</td>
<td>Project</td>
<td>19</td>
<td>04</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>312</strong></td>
<td><strong>497</strong></td>
<td><strong>809</strong></td>
</tr>
</tbody>
</table>

### TABLE - 2.5
Distribution of the sample by status

<table>
<thead>
<tr>
<th>Status</th>
<th>No. of respondents</th>
<th>% of Category</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EI</td>
<td>227</td>
<td>72.75</td>
<td>28.05</td>
</tr>
<tr>
<td>EII</td>
<td>85</td>
<td>27.25</td>
<td>10.51</td>
</tr>
<tr>
<td>Non-executives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LI</td>
<td>53</td>
<td>10.66</td>
<td>6.55</td>
</tr>
<tr>
<td>LII</td>
<td>109</td>
<td>21.93</td>
<td>13.48</td>
</tr>
<tr>
<td>ML</td>
<td>335</td>
<td>67.41</td>
<td>41.41</td>
</tr>
</tbody>
</table>
### TABLE - 2.6
Agewise distribution of the sample

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Age group</th>
<th>No.</th>
<th>%</th>
<th>% of the Total</th>
<th>No.</th>
<th>%</th>
<th>% of the Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Upto 29 yrs</td>
<td>27</td>
<td>8.65</td>
<td>3.34</td>
<td>36</td>
<td>7.24</td>
<td>4.45</td>
</tr>
<tr>
<td>2</td>
<td>30-39 yrs</td>
<td>87</td>
<td>27.88</td>
<td>10.75</td>
<td>119</td>
<td>23.94</td>
<td>14.71</td>
</tr>
<tr>
<td>3</td>
<td>40-49 yrs</td>
<td>97</td>
<td>31.09</td>
<td>11.99</td>
<td>161</td>
<td>32.39</td>
<td>19.90</td>
</tr>
<tr>
<td>4</td>
<td>50-58 yrs</td>
<td>101</td>
<td>32.37</td>
<td>12.48</td>
<td>181</td>
<td>36.42</td>
<td>22.37</td>
</tr>
</tbody>
</table>

### TABLE - 2.7
Distribution of the sample by length of experience i.e. year of appointment

<table>
<thead>
<tr>
<th>Year of Appointment</th>
<th>Executives</th>
<th>Non-executives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1954-63</td>
<td>59</td>
<td>18.91</td>
</tr>
<tr>
<td>1964-73</td>
<td>90</td>
<td>28.85</td>
</tr>
<tr>
<td>1974-83</td>
<td>108</td>
<td>34.62</td>
</tr>
<tr>
<td>1984-</td>
<td>55</td>
<td>17.63</td>
</tr>
</tbody>
</table>
TABLE - 2.8
Educational attainment of the sample

<table>
<thead>
<tr>
<th>Educational Attainment</th>
<th>Executives</th>
<th></th>
<th></th>
<th>Non-executives</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>% of the Total</td>
<td>No.</td>
<td>%</td>
<td>% of the Total</td>
</tr>
<tr>
<td>Upto H.S.C.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>5</td>
<td>1.01</td>
<td>0.62</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>3</td>
<td>0.96</td>
<td>0.37</td>
<td>117</td>
<td>23.54</td>
<td>14.46</td>
</tr>
<tr>
<td>Graduate and above</td>
<td>27</td>
<td>8.65</td>
<td>3.34</td>
<td>85</td>
<td>17.10</td>
<td>10.51</td>
</tr>
<tr>
<td>Professional/ Technical</td>
<td>282</td>
<td>90.38</td>
<td>34.86</td>
<td>290</td>
<td>58.35</td>
<td>35.85</td>
</tr>
</tbody>
</table>

(68)
<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Name of the Organisation</th>
<th>No. of Persons</th>
<th>%</th>
<th>% of Total</th>
<th>Upto 29 Yrs.</th>
<th>30-39 Yrs.</th>
<th>40-49 Yrs.</th>
<th>5 - 58 Yrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>1.</td>
<td>RSPEA</td>
<td>155</td>
<td>49.68</td>
<td>07</td>
<td>2.24</td>
<td>49</td>
<td>15.71</td>
<td>46</td>
</tr>
<tr>
<td>2.</td>
<td>IGC</td>
<td>57</td>
<td>18.27</td>
<td>03</td>
<td>0.96</td>
<td>08</td>
<td>2.56</td>
<td>32</td>
</tr>
<tr>
<td>3.</td>
<td>Rourkela Club</td>
<td>55</td>
<td>17.63</td>
<td>06</td>
<td>1.92</td>
<td>25</td>
<td>8.01</td>
<td>20</td>
</tr>
<tr>
<td>4.</td>
<td>Youth Association</td>
<td>09</td>
<td>2.88</td>
<td>02</td>
<td>0.64</td>
<td>0.4</td>
<td>1.28</td>
<td>02</td>
</tr>
<tr>
<td>5.</td>
<td>Institute of Engineers</td>
<td>21</td>
<td>6.73</td>
<td>01</td>
<td>0.32</td>
<td>06</td>
<td>1.92</td>
<td>11</td>
</tr>
<tr>
<td>6.</td>
<td>IMM</td>
<td>11</td>
<td>3.53</td>
<td>01</td>
<td>0.32</td>
<td>04</td>
<td>1.28</td>
<td>01</td>
</tr>
<tr>
<td>7.</td>
<td>IIIM</td>
<td>11</td>
<td>3.53</td>
<td>01</td>
<td>0.32</td>
<td>05</td>
<td>1.60</td>
<td>04</td>
</tr>
<tr>
<td>8.</td>
<td>Co-operative Society</td>
<td>16</td>
<td>5.13</td>
<td>—</td>
<td>—</td>
<td>08</td>
<td>2.56</td>
<td>04</td>
</tr>
<tr>
<td>9.</td>
<td>Computer Society of India</td>
<td>16</td>
<td>5.13</td>
<td>—</td>
<td>—</td>
<td>09</td>
<td>2.88</td>
<td>05</td>
</tr>
<tr>
<td>10.</td>
<td>Consumer Protection Council</td>
<td>09</td>
<td>2.88</td>
<td>—</td>
<td>—</td>
<td>05</td>
<td>1.60</td>
<td>04</td>
</tr>
<tr>
<td>11.</td>
<td>IMA</td>
<td>13</td>
<td>4.17</td>
<td>—</td>
<td>—</td>
<td>06</td>
<td>1.92</td>
<td>03</td>
</tr>
<tr>
<td>12.</td>
<td>None</td>
<td>59</td>
<td>18.91</td>
<td>13</td>
<td>4.17</td>
<td>11</td>
<td>3.53</td>
<td>12</td>
</tr>
</tbody>
</table>

**TABLE - 2.9**

Membership in clubs/unions/Associations/Societies etc. among the executives
### Membership in clubs/unions/Associations/Societies etc. among the Non-executives

<table>
<thead>
<tr>
<th>Name of the Organisation</th>
<th>No. of Persons</th>
<th>% of the Total</th>
<th>%</th>
<th>No.</th>
<th>%</th>
<th>No.</th>
<th>%</th>
<th>No.</th>
<th>%</th>
<th>5-58 yrs.</th>
<th>%</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMS</td>
<td>225</td>
<td>45.27</td>
<td>13</td>
<td>1.24</td>
<td>0.02</td>
<td>1.41</td>
<td>0.08</td>
<td>14.69</td>
<td>0.15</td>
<td>10.41</td>
<td>0.40</td>
<td>2.62</td>
</tr>
<tr>
<td>RSS</td>
<td>10</td>
<td>0.20</td>
<td>0.02</td>
<td>0.40</td>
<td>0.02</td>
<td>0.04</td>
<td>0.62</td>
<td>0.25</td>
<td>0.01</td>
<td>0.31</td>
<td>0.15</td>
<td>0.49</td>
</tr>
<tr>
<td>DEAR</td>
<td>14</td>
<td>0.28</td>
<td>0.02</td>
<td>0.40</td>
<td>0.02</td>
<td>0.04</td>
<td>0.62</td>
<td>0.25</td>
<td>0.01</td>
<td>0.31</td>
<td>0.15</td>
<td>0.49</td>
</tr>
<tr>
<td>Co-Operative Society</td>
<td>50</td>
<td>10.06</td>
<td>0.05</td>
<td>1.01</td>
<td>0.06</td>
<td>1.24</td>
<td>0.13</td>
<td>14.69</td>
<td>0.15</td>
<td>10.41</td>
<td>0.40</td>
<td>2.62</td>
</tr>
<tr>
<td>Indo-German Club</td>
<td>73</td>
<td>14.69</td>
<td>0.01</td>
<td>0.20</td>
<td>0.01</td>
<td>0.20</td>
<td>0.08</td>
<td>1.41</td>
<td>0.02</td>
<td>0.25</td>
<td>0.02</td>
<td>0.40</td>
</tr>
<tr>
<td>Rourkela Club</td>
<td>01</td>
<td>0.02</td>
<td>0.01</td>
<td>0.20</td>
<td>0.01</td>
<td>0.20</td>
<td>0.08</td>
<td>1.61</td>
<td>0.02</td>
<td>0.25</td>
<td>0.02</td>
<td>0.40</td>
</tr>
<tr>
<td>Cultural Association</td>
<td>05</td>
<td>0.10</td>
<td>0.01</td>
<td>0.20</td>
<td>0.01</td>
<td>0.20</td>
<td>0.03</td>
<td>0.62</td>
<td>0.02</td>
<td>0.25</td>
<td>0.02</td>
<td>0.40</td>
</tr>
<tr>
<td>Learned Institution</td>
<td>15</td>
<td>0.30</td>
<td>0.02</td>
<td>0.20</td>
<td>0.02</td>
<td>0.20</td>
<td>0.06</td>
<td>1.41</td>
<td>0.02</td>
<td>0.25</td>
<td>0.02</td>
<td>0.40</td>
</tr>
<tr>
<td>Religious Organisation</td>
<td>04</td>
<td>0.08</td>
<td>0.01</td>
<td>0.20</td>
<td>0.01</td>
<td>0.20</td>
<td>0.06</td>
<td>1.21</td>
<td>0.02</td>
<td>0.25</td>
<td>0.02</td>
<td>0.40</td>
</tr>
<tr>
<td>Salil Council</td>
<td>184</td>
<td>37.02</td>
<td>17</td>
<td>3.42</td>
<td>0.42</td>
<td>3.42</td>
<td>0.66</td>
<td>11.28</td>
<td>0.40</td>
<td>2.42</td>
<td>0.40</td>
<td>2.42</td>
</tr>
</tbody>
</table>

**TABLE - 2.10**

Distribution by Age group

- Upto 29 yrs.
  - No. of Persons: 225
  - % of the Total: 45.27
  - %: 13
  - Total: 1.24
- 30-39 yrs.
  - No. of Persons: 62
  - % of the Total: 12.47
  - %: 0.40
  - Total: 0.04
- 40-49 yrs.
  - No. of Persons: 77
  - % of the Total: 15.49
  - %: 0.51
  - Total: 0.10
- 5-58 yrs.
  - No. of Persons: 14.69
  - % of the Total: 29.69
  - %: 1.41
  - Total: 0.25

**SI.No.**

1. RMS
2. RSS
3. DEAR
4. Co-Operative Society
5. Indo-German Club
6. Rourkela Club
7. Cultural Association
8. Learned Institution
9. Religious Organisation
10. Youth Association
11. Salil Council
12. None