

CHAPTER 3

INTRODUCTION

Research refers to the systematic methods consisting of enunciating the problem, formulating a hypothesis, collecting the facts of data, analyzing the facts and reaching certain conclusions either in the form of solutions toward the problem concerned or in certain generalization for some theoretical formulation. So research methodology is a way to systematically solve the research problem. This chapter has elaborated the research methodology and research design used in the study. From the point of view of the purpose, this study is primarily descriptive in nature. The researcher has tried to present a scientific description of a variety of facts pertaining to the various dimensions of ESIC while dealing with the ESI Scheme, the employers and the insured persons in particular.

The research design includes developing sample frame, practical procedures for examining the respondents of the research, and the methods used for data collection and analysis. This chapter describes the methodology with the following sections-

- Framing of the Objectives & Hypothesis.
 - Sampling frame and samples
 - Survey Instrument used
 - Data Collection
- Data Analysis Methods

OBJECTIVE OF THE STUDY

The available literature on ESIC does not provide in depth knowledge about certain facts of the Corporation. This study is planned to probe in to these unknown facts of the Corporation of the state of Assam only. The broad objectives of the study are to

assess the role of the ESIC and also to specify the experiences being faced by the beneficiaries in Assam.

More specifically, the objectives of the study are-

- a) To assess the working of various mechanisms of the Corporation for the administration of the ESI schemes
- b) To assess the effectiveness of the benefits provided to the beneficiaries registered under the ESI scheme.
- c) To examine the fund operation and management of the Corporation for the ESI scheme.
- d) To offer some suggestions for the proper and suitable implementation of the scheme on the basis of the findings of the study.

HYPOTHESIS

On the basis of the above objectives the following null hypotheses are drawn:

Ho 1: There is no difference between the level of satisfaction expected and level of satisfaction experienced on the mechanisms for the administration of the ESI schemes among the beneficiaries (the Insured Persons) and owners (Employers) of factories and establishments.

To test this Hypothesis and in order to arrive at the objective (s), the following sub-hypothesis are formed-

- ✓ **Ho1.1** there is no difference in the level of satisfaction in the working of the machinery (Inspectorate & Revenue Recovery Machinery) for the administration of the ESI Scheme among the employers' in factories and establishments

- ✓ **Ho1.2** there is no difference in the level of satisfaction in the working of the machinery (EI Court & Grievances Redressal Cell) for the administration of the ESI Scheme among the insured persons and employers.

Ho 2: There is negative relationship between the level of satisfaction expected and level of satisfaction experienced in the services and facilities provided in the ESI dispensaries for medical care among the beneficiaries (the Insured Persons) of factories and establishments.

To test this Hypothesis and in order to arrive at the objective (s), the following sub-hypothesis are formed-

- ✓ **Ho2.1** There is no difference in the level of satisfaction concerning the measures of the Corporation for providing information on the ESI Scheme among the insured persons in factories and establishments
- ✓ **Ho2.2** There is no difference in the level of satisfaction among the insured persons in factories and establishments with regard to the services and facilities provided in the ESI **Dispensaries**.
- ✓ **Ho2.3** There is no difference in the level of satisfaction among the insured persons in factories and establishments with regard to the services and facilities provided in the ESI **Hospitals**.

Ho 3: There is no difference between the level of satisfaction expected and level of satisfaction experienced as to the settlement of the cash benefits among the beneficiaries (the Insured Persons) of factories and establishments.

VARIABLES USED FOR THE STUDY

Gumber (2001) in a paper based on a primary household survey undertaken in Ahmedabad district of Gujarat in 1998–99 on health insurance status has taken some

variable to understand the varying health needs, access to health services, treatment pattern and the types of benefits received by sample households under the different health insurance environment. The sample canvassed from each settlement included about equal numbers of households from the ESIS, SEWA, and uninsured categories¹. Following Gumber the following variables are taken into account for the proposed study-

1. To assess the working of the machinery of the ESI Corporation for the administration of the ESI Scheme, the following variables are taken into consideration-

Performance and attitude of Inspectorates personnel, Performance and attitude of working of the Revenue Recovery Machinery, Performance and awareness of Employees' Insurance Courts, Performance , working and awareness of Grievances Redress Cell, Representation of employees and employers in various council, boards, committees etc.

2. To examine the effectiveness of benefits provided to the beneficiaries under the ESI Scheme, the following variables are taken into consideration –

Awareness of the ESI benefits, Sources of the awareness of the ESI benefits, Knowledge about the formalities of claiming the ESI benefits, Quality of the medical benefits; such as institutional preference, facilities in ESI Dispensaries and Hospitals, beneficiaries availing the cash benefits, Amount of cash benefits, Delay in disbursing the cash benefits, Co-operation and services of the employers etc.

3. To assess the fund management of the ESI Corporation for the ESI Scheme, the following variables are taken into consideration-

Sources of funds, Utilizations of funds, Surplus and Deficit of the funds, Reserve fund investment, Return on reserve fund investment etc.

AREA OF STUDY

The Assam region has been selected for the study because in the NE State there are altogether 14 branch offices and out of that in Assam itself 10 branch offices are present. Therefore, to have a large and efficient number of samples the area of study was selected in Assam. Moreover, Assam was the first place in the North East to have been the first implemented centers of the ESIC.

POPULATION OF STUDY

The population covered under the ESI Scheme as the beneficiaries (insured persons) in Assam is 85102 as on 31-03-2013. Therefore it quite a good population to have a realistic study on the operation of the ESI Scheme in the Assam region.

SAMPLING FRAME AND SAMPLE

It is very much essential to have a proper sample frame through which the researcher can move forward with his/ her study. Similarly, selection of the adequate number of the sample is also as important as the sample frame because the entire findings of the study are drawn depending upon this samples.

SIZE OF THE SAMPLE

Determination of appropriate sample is also a point to ponder. If the desired accuracy level can be achieved by the smaller sample then larger sample size means wastage of resources and time. On the other hand, sometimes very small sample does not serve the desired purpose properly. In this regard Roscoe ²(1975:163) and Abranovic ³ (1997:307-308) suggested that sample should not be less than thirty or more than 500 respondents. Krejcie and Morgan 1970 stated “ as the population

increases sample size increased at diminishing rate and remain relatively constant at slightly more than 380 cases.”

SELECTION OF SAMPLE

For selecting the respondents (the insured persons and employers) for the study, a multistage sampling framework was followed. In the first stage, the branch offices (offices to which the enterprise in a specified area covered under the ESI Scheme are allotted) of the ESI Corporation was selected. In the second stage, the enterprises (employers) were selected from the branch offices. In the last stage, insured persons were being selected from the sample enterprises.

i) SELECTION OF SAMPLE BRANCH OFFICES

In Assam there are altogether 10 no. of branch offices. From these offices a total number of six branch offices are selected representing Upper Assam, Lower Assam, Central Assam, South Assam and the branch office containing the highest number of employers as well as beneficiaries to have an empirical evaluation of the employers and beneficiaries Accordingly, the branch offices selected are Tinsukia, Jorhat, Bongaigaon, Tezpur, Silchar and Guwahati respectively.

ii) SELECTION OF SAMPLE ENTERPRISES

The required number of the sample enterprises for the study is **100** and this was selected proportionately from the proposed branch offices for study. Moreover, the enterprises selected consist of both **factories and establishments**. They were selected in the ratio of the total number of the factories and establishments in the respective branch offices, thus the enterprises selected consist of **60 factories** and **40 establishments**. Table below simplify this-

Table 3.1: Enterprises Selected from the Branch Offices for the Study

Branch office list of Assam taken for the Study	No. of enterprises in the Branch Office			No. of enterprises selected for the study		
	Factory	Establishment	Total	Factory	Establishment	Total
BONGAIGAON	73	48	121	2.8	1.8	4.6 (=5)
GUWAHATI	1038	692	1730	39.9	26.6	66.5(= 67)
JORHAT	112	75	187	4.3	2.8	7.1 (=7)
SILCHAR	64	42	106	2.4	1.6	4.0 (=4)
TEZPUR	53	35	88	2.0	1.3	3.3 (= 3)
TINSUKIA	219	146	365	8.4	5.6	14.0 (= 14)
Total	1559	1038	2597	59.8(=60)	39.7(=40)	99.9 (=100)

Source: Regional Office of the ESIC, Guwahati

From the table it is seen that Guwahati constitute the highest number of enterprises and hence the highest number of enterprise selected for the study is from Guwahati Branch Office itself. The lowest enterprise selected was from the Tezpur Branch Office.

iii) TYPE OF ORGANIZATION

Of the 100 enterprises selected (consisting of factory and establishment) for the intensive study, 40 were sole proprietorships, 33 were partnerships and 19 were private limited companies. The sample enterprises also include 4 public limited companies, 2 Government Companies and 2 Co-operative Societies. These 100 samples were taken both from the factories and the establishments. The details are shown in the following **Table 3.2-**

Table 3.2: Type of Organization of the Enterprises

Enterprises						
Types of Organization	Factory		Establishment		Total	
	No.	Percent	No.	Percent	No.	Percent
Sole Proprietorship	19	32	21	53	40	40
Partnership	18	30	15	37	33	32
Private Limited Company	15	25	04	10	19	19
Public Limited Company	04	07	-	-	04	04
Government Company	02	03	-	-	02	03
Co-operative Society	02	03	-	-	02	02
Total	60	100	40	100	100	100

Source: Field Study

iv) **SELECTION OF SAMPLE INSURED PERSONS**

Similarly the beneficiaries from each of the sample enterprises were selected by using the Krejcie and Morgan's formula of "Determining Sample Size for Research Activities" ⁴. The formula is

$$s = X^2 NP (1 - P) \div d^2 (N - 1) + X^2 P (1 - P). \text{ Where,}$$

s = required sample size.

X = the table value of chi-square for 1 degree of freedom at the desired confidence level

(3.841). N = the population size. P = the population proportion (assumed to be .50 since this would provide the maximum Sample size). d = the degree of accuracy expressed as a proportion (.05).

v) **DETERMINATION OF THE SAMPLE SIZE**

Following the methodology by Cochran (2008) ⁵, thus the numbers of sample beneficiaries are **382** and then the method of stratified sampling proportional allocation is used to each of the six (6) branch offices.

The determination of the sample size by using the Krejcie and Morgan's formula is shown in the following **table 3.3**:

Table 3.3: Determination of the Sample Size

Branch office list of Assam	No. of enterprises (Factory / Establishments)	Sample size of enterprises (by using Proportional Allocation)	No. of Insured Persons	Sample size of Insured persons (by using Stratified Sampling Proportional Allocation)
BONGAIGAON	121	4.65	4866	29.19
GUWAHATI	1730	66.61	37471	224.81
JORHAT	187	7.20	5312	31.87
SILCHAR	106	4.08	1597	9.58
TEZPUR	88	3.38	1523	9.13
TINSUKIA	365	14.05	12901	77.40
	2597	99.97 (approx 100)	63670	
			Now, Sample size of Insured persons (by using the formula of finite population) is 381.70(=382)	

DISTRIBUTION OF SAMPLES

A brief profile about the Insured Persons (IPs) and their socio-economic conditions, such as factors like gender, age, education, marital status, number of dependents, place of residence, period of service, and monthly income are found to be interesting in carrying the study. The sample for the study consists of 100 enterprises (Employers) covered under the ESI Scheme and 382 insured persons selected from these enterprises. The profile of these samples is assessed as under-

Table 3.4: Distribution of Samples by various Socio-Economic Factors

Enterprises where the IPs work						
GENDER	Factory		Establishment		Total	
	No.	Percent	No.	Percent	No.	Percent
Male	152	66	111	73	263	69
Female	77	34	42	27	119	31
Total	229	100	153	100	382	100
AGE						
Below 25 years	24	11	20	13	44	12

Between 26 to 35 years	43	19	26	17	69	18
Between 36 to 45 years	58	25	32	21	90	23
46 years and above	104	45	75	49	179	47
Total	229	100	153	100	382	100
EDUCATION						
Below HSLC	22	10	6	4	28	7
HS	81	36	37	24	118	31
Graduate	109	47	55	36	164	43
Others*	17	7	55	36	72	19
Total	229	100	153	100	382	100
*Others include – post graduate, technical diploma holder, degree from open schooling & open universities etc.						
MARITAL STATUS						
Married	160	70	115	75	275	72
Unmarried	61	27	29	19	90	24
Others*– [Divorced, separated, Widow]	8	3	9	6	17	4
Total	229	100	153	100	382	100
NUMBER of DEPENDENT						
	No.	Percent	No.	Percent	No.	Percent
Less than 2	83	36	50	33	133	35
Two to Four	112	49	88	57	200	52
Five to Seven	21	10	6	4	27	7
Eight & above	13	5	8	6	21	6
Total	229	100	153	100	382	100
PLACE of RESIDENCE						
Rural	75	33	62	41	137	36
Urban	154	67	91	59	245	64
Total	229	100	153	100	382	100
PERIOD of SERVICE						
Less than 1 Year	13	6	28	18	41	11
1 to 10 Years	135	59	84	55	219	57
10 to 20 Years	62	27	27	18	89	23
20 Years and above	19	8	14	9	33	9
Total	229	100	153	100	382	100
MONTHLY INCOME						
Less than 2000	7	3	4	3	11	3
2000 to 4000	31	14	10	7	41	11
4001 to 6000	54	23	44	28	98	26
6001 to 8000	75	33	49	32	124	32
8001 and above	62	27	46	30	108	28
Total	229	100	153	100	382	100

Source: Field Study

Table 3.4 shows that 66% in factories and 73% in establishments were males. On the other hand, 34% of the insured persons in factories and 27% in factories were females. Thus, the overall male and female percentage of the sample IPs are 69% male and 31% are female respectively. The age wise breakup of the insured persons shows that 47% of the insured persons came under the age group of 46 years and above. 23% were in the age group of 36-45 years, 18% were between 26-35 years and 12% were below 25 years. It is observed that 10% of the insured persons in factories and 4% in the establishment are educated upto class X or they are below HSLC level. The insured persons who passed HS were 36% in factories and 24% in establishment. The percentages of graduate were 47% in factories and 36% in establishments. However, 7% of the insured persons in factories and 36% in establishments were under the other category. Thus as a whole, graduate qualification consists of the highest number, i.e., 43% of the sample IPs. The table shows that most of the insured persons (72%) selected for the study was married and leading family life. Those who were unmarried came to 24%. Moreover, a small percentage also comes under others category, i.e. only 4%. Again, majority of the insured persons (52%) have 2 to 4 dependents and 35% of them have less than 2 dependents. While 7% of the insured persons have 5 to 7 dependents and 6% are having dependents number 8 and above. The table also reveals that a large number of the insured persons (64%) were residing in urban areas and 36% in rural areas. The above table also shows that 57% of the insured persons have a service of 1 to 10 years and 23% have 10 to 20 years of their service experiences in a particular enterprise. The insured persons having a service of less than one year is 11% and more than 20 years is 9% are negligible compared to the rest two. The table further depicts that the monthly income from employment was less than Rs 2000 for 3% of the insured persons and it was Rs 2000 to 4000 for 11%.

26% of the insured persons were getting a monthly income of Rs 4000 to 6000 and 32% were getting Rs 6000 to 8000. Again, the IPs having monthly income 8001 and above is 28%. Thus, it is seen that person having less income is very negligible.

SURVEY INSTRUMENT USED

The survey instrument (i.e., questionnaire) was developed by focusing on general information of the beneficiaries, employers, other office bearers of the corporation as well as the factory and establishments that come under the corporation etc. A pilot study and focused group interviews was conducted to test comprehensiveness and validity of the instruments. The final questionnaire was designed based on the feedback from pilot study and divided in to five major parts.

The **part-A** consisted of questions relating to awareness of the ESIC benefits. The questions are developed with multiple choices with five point scale.

Part-B consisted of questions focusing on the level of satisfaction. The questions are developed with multiple choices with five point scale.

Part-C consisted of questions relating to availment of the ESIC benefits. The questions are developed with multiple choices with five point scale.

Part-D deals with the major issues relating to the effectiveness of the various machineries of the corporation and the attitudes of the beneficiaries towards them.

Here also questions are developed with multiple choices with five point scale.

Part-E consisted of questions on others aspects, such as, Reasons Preventing from Taking Treatment in ESI Dispensaries/ Hospitals, Perceptions, etc. with multiple choices for answering.

DATA COLLECTION

Based on the nature of objectives, research methodology is designed accordingly. The present research work is both descriptive and analytical research as well as the observation Method is also used. Hence, both primary and secondary data are used.

PRIMARY DATA

Primary data was collected by way of distribution of questionnaire amongst the insured persons as well as among the employers along with observation and personal interview method. All respondents were personally visited by the researcher and requested to provide needed information. Besides, discussion with officials of ESI Corporation and the discussion with the leaders of various trade unions, office bearers of the employers' association etc. were done.

SOURCES OF SECONDARY DATA

The secondary data required for the study was collected from several reading books of references, visiting dispensaries and offices, collecting information from internet sources, consulting persons of related matters, attending workshops and seminars. For this purpose the researcher visited many libraries also.

DATA ANALYSIS AND INTERPRETATION

After collecting the relevant data and the information, these were classified according to their characteristics or attribute or measurements. After classifying the data, it was arranged in statistical table to simplify the presentation of data and to facilitate comparison, further to attain the objectives of the study, these data was analyzed by applying simple analytical tools and statistical techniques/test statistics.

ANALYTICAL TOOLS

Statistical tools and techniques were used for producing the results from the collected data. Statistical tools like proportion/percentage and averages were used. Moreover,

results are also presented with the help of bar diagram, pie-diagram, charts and line graphs.

TEST STATISTICS

The test statistics basically is applied to examine the association, relationship, differences, significance of the results obtained after applying the analytical tools. In the present study, the method of chi-square test was applied by the investigator to examine the significance of variations in the opinion among the respondents. Therefore; this non-parametric test, the Chi-Square test is applied by the following formula given below:

$$X^2 = \sum \frac{(O - E)^2}{E}$$

Here, E= Expected frequencies

O= Observed frequencies

X²=Chi-square

PERIOD OF THE STUDY

The study covers a period of 10 years i.e., from 2001-2002 to 2010-2011, because it was during this period that different changes is being made in the ESI Act.

SIGNIFICANCE OF THE STUDY

The outcome of this study is expected to assist corporation, the beneficiaries as well as the government and other parties to inculcate and promote the services (more specifically, the health services) of the corporation within the state of Assam. This will be useful to address the different aspects relating to administration, effectiveness, finance, machinery etc. of the corporation. Besides, academics,

consultants, and government agencies may use the findings for conducting further research. The graduate and undergraduate students may find the study relevant for understanding the various aspects of the corporation. The findings may also be considered as important additions to enrich the existing knowledge and literature in the arena of ESIC.

LIMITATION OF THE STUDY

The study suffers from the following limitations:

1. The ESI scheme is introduced only in the organized sector, therefore the person residing within the unorganized sectors for which social security is of utmost important, are excluded.
2. Again, due to time and resource constraint, the study is confined to a particular area i.e. within the Assam region only.
3. Further, this study is limited to Government based health service schemes only.

CONCLUSION

The research methodology adopted was a sample survey method using mix method for analysis. The sample size consisted of 382 insured persons located from the six district of Assam selected for the study. Structured questionnaire was self administered for data collection and follow up was done through personal visits and interviews. Moreover, the data collected from the secondary sources and among them the Regional office of the ESI situated in Bamunimoidam, Guwahati was also considered in the study. The data collected were analysed using simple statistical techniques such as frequency distribution, cross tabulation; chi-square and also some of them are depicted in bar diagrams and pie-diagrams etc to justify the study.