CHAPTER – IV

METHODOLOGY

In the preceding chapters, the method of the study, the problem, rationale, objectives, theoretical framework and review of the study etc. were discussed. The present chapter had been devoted to the method employed for the present study, carried the details of the population and sample, the tools, the design of the study and the procedure. To carry out any type of research investigation, a sound methodology with effective procedure is important to achieve the goal. The selection of research process refers to the general strategy followed in collecting and analyzing data necessary for solving the problem. The research methods are classified in three categories; historical, descriptive and experimental.

4.1 Method of the present study:

Taking into consideration of the merits of the survey method, it is used for this study. The survey method is used to understand the actual fact of the problem. The descriptive research or normative survey method has undoubtedly been the most popular and the most widely used research method in education. The survey research in education involves the collection of informations from the members of a group of the students and the teachers or other persons associated with the educational process and the analysis of this information to illuminate the importance of educational process.

The starting point for a survey is a clear statement of the questions, which the survey is designed to answer. The finishing point is a set of results which address the questions. There is a logical set of procedures, which is usually adopted in order to proceed from the questions to the results.

4.1.1 Purpose of survey:

The purposes of surveys fall into two main categories. First, survey may be used to obtain descriptive informations about the target population. Occassionally the entire population may be included in the survey as in a census centre of school enrolments. More commonly a sample is selected and results obtained from the

sample are generalized to the population. Examples include survey to provide norms for standardized tests. Second, a survey may be designed to examine relationships between various factors, typically seeking to explain differences between students, no some criterion in terms of a range of explanatory factors. For example to explain differences in the mathematics achievement of students in terms of their age or sex, exposure to the mathematics curriculum and amount of time is spent in the class on learning mathematics. Rosier's (1980) understanding surveys of the second type are conceptual models, which the researcher wishes to test with the aim of improving understanding of the network of factors influencing educational process.

4.1.2 Survey research cycle:

The methodology of survey research has now been well established under the influence of three main factors. First, the technology of the sampling in research has high level. Theoretical aspect of probability sampling has been extensively investigated and the relationship between random samples and target populations from which they have been taken may now be readily expressed quantitatively in terms of sampling errors (standard errors of sampling). Second, many techniques developed for collecting valid and reliable informations from survey respondents. Third, the availability of the computers and sophisticated survey research computer programme has facilitated the analysis of the informations. To analyse the range of components of a typical project is in terms of a survey research cycle. A detail description of one version is given in Runcal and M. C. Grath (1972). Each stage has implications for latter stage. Both in its planning and execution, a survey may be conducted more efficiently by reference to the logical demands of the circle, which are summarized.

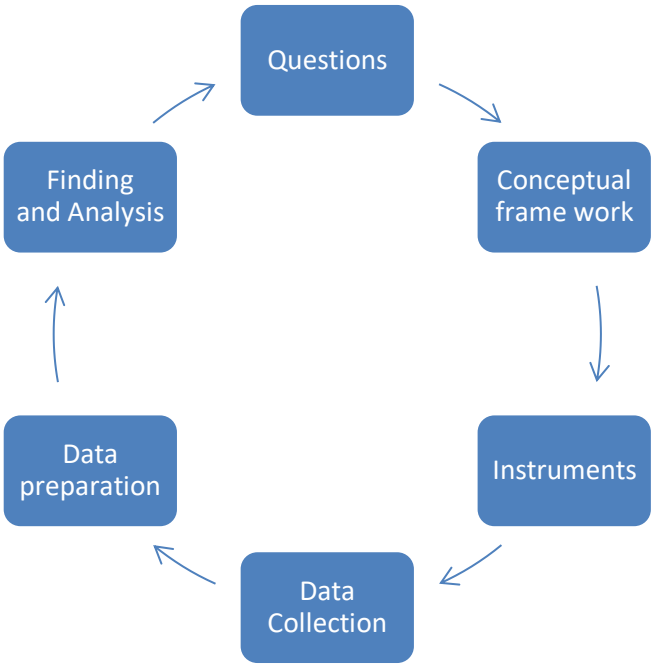

Figure 2: Survey Research Cycle

4.1.3 Questions:

The starting point of a survey is the statement of the questions to be addressed by the investigation, set in the demography, social and administrative context in which the questions are identified.

4.1.4 Conceptual framework:

The next stage of the circle, the factors or components included in the original questions should be defined more preciously in conceptual terms. Where an explanatory survey is being undertaken, the hypothesized relationships between concepts should be expressed in terms of a conceptual framework.

4.1.5 Instruments:

The term "instrument" refers to the range of questionnaires, tests, attitude scale and use for the collection of data in a survey. The instruments should be linked to the concept included in the conceptual framework. They should be selected or designed for the collection of data suitable for conservation into variables for subsequent analysis.

4.1.6 Data collection:

The Data collection stage of the research cycle involves identifying the respondents and collecting the informations from them. In a survey, information is collected from persons in their natural surroundings, for example from students in their normal classes.

4.1.7 Target population:

Prior to preparing plans for selecting respondents, it is necessary to define the target population carefully in order to set the administrative limits for the survey as well as specifically the population to which the results of the survey may be generalized. Where the primary schools are to be the unit of sampling, a typical population may be initially defined as all primary schools.

4.1.8 Sample selection:

A sample is a small proportion of a population selected for observation and analysis. It is a collection consisting of a part or subset of the objects or individuals of the population which is selected for the express purpose of representing the population. For the present study, a total of 100 sample schools are randomly selected from each district (i.e. 100 schools from Kamrup district and 100 schools from Barpeta district) on the literacy basis. These 100 schools of each district include 50 provincialised and 50 recognized schools which are selected from the urban and rural areas. The total number of sample schools from the two districts is 200. The data are collected from the headmasters, assistant teachers and guardians, which is further reflected as follows:

4.2 Selection of final sample of the present study:

The present descriptive research investigation was carried out on the primary schools taken from the selected districts. The final sample was selected through the following three phases:

4.2.1 First phase:

Out of 27 districts of Assam in North East Region (As per Census: 2011), only two districts were selected on the basis of high literacy rate and low literacy rate of Assam.

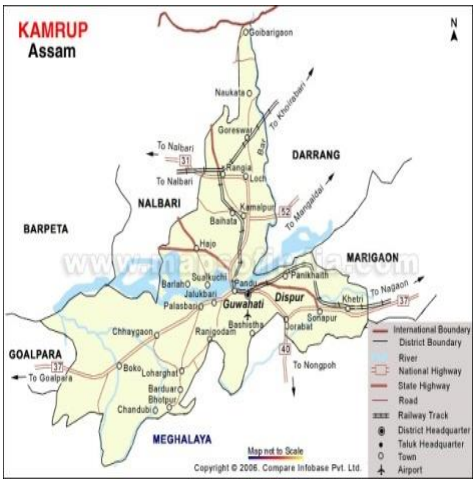

Figure 3: Maps of Assam, Kamrup and Barpeta districts

4.2.2 Second phase:

At the second phase, the investigator selected 100 primary schools (consisted of 50 provincialised and 50 recognized primary schools) from Kamrup and 100 primary schools (consisted of 50 provincialised and 50 recognized primary schools) from Barpeta district, particularly from the urban and rural areas of both the districts of Assam. Out of 50 provincialised schools, 25 schools from urban and

25 schools from rural areas were selected and the same procedure was followed in the selection of schools in case of both the districts. Also, out of 50 recognized schools, 25 schools from urban area and 25 schools from rural area were selected and the same procedure was observed in the selection of the schools of both the districts.

The simple random sampling procedure was followed for the selection of the schools of both the districts.

4.2.3 Third phase:

At the third phase, the investigator selected 800 respondents, whereas 400 respondents of each district were the headmasters, assistant teachers (who had minimum 10 years teaching experience in the schools) and guardians who were closely related to the school activities and knew the school records from the past 10 years. In the district of Kamrup, out of 400 respondents, headmasters were 100, assistant teachers were 100 and guardians were 200 from the selected sample schools. According to the headmasters, maximum of the guardians were poor, labour class and busy in daily works and were not willing to interact with the investigator. So, according to the suggestions of the headmasters, two guardians were taken from one sample schools. In Barpeta district also, out of 400 respondents, headmasters were 100, assistant teachers were 100 and guardians were 200 from the sample schools, where the design of the study is reflected in the following Table.

The information was collected from the headmasters, assistant teachers and guardians for both the periods—before implementation of Sarva Siksha Abhiyan (BSSA) for five years (from 1996 - 2000) and after implementation of Sarva Siksha Abhiyan (ASSA) for five years (from 2006 – 2010). For the period of ASSA, the duration from 2001 to 2005 was not taken in this study, because during this period, Sarva Siksha Abhiyan had not properly constituted its various centres and committees in the urban and rural areas of the districts of Assam to execute the scheme. So, the duration from 2006 to 2010 was considered for ASSA of this study to get a complete picture of primary education in both the districts by SSA.

Design of the study:

Table 4.2.1

Sample taken from Kamrup and Barpeta districts:

Sample	**Kamrup District**				**Sample**	**Barpeta District**			
Schools (100)	Provincialised Schools (50)		Recognized Schools (50)		Schools (100)	Provincialised Schools (50)		Recognized Schools (50)	
Headmaster (100)	Urban	Rural	Urban	Rural	Headmaster (100)	Urban	Rural	Urban	Rural
	25	25	25	25		25	25	25	25
Asstt. Teacher (100)	25	25	25	25	Asstt. Teacher (100)	25	25	25	25
Guardian (100)	25	25	25	25	Guardian (100)	25	25	25	25

4.3 Description of the field:

The description of the field – Kamrup and Barpeta districts is given as follows:

4.3.1 Kamrup district:

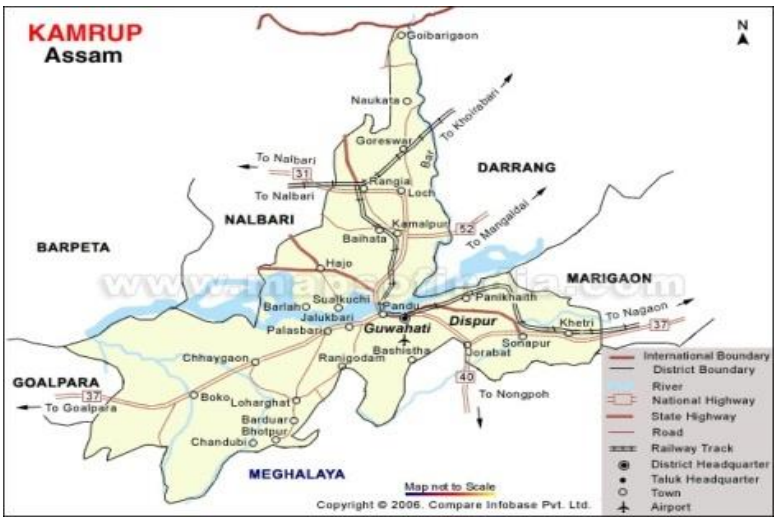

Figure 4: Map of Kamrup district

Kamrup is a district of Assam having an area of 4, 3 45 Sq.Kms, which lies towards the north side and south side of the river Brahmaputra. Kamrup district is located in western region of Assam between the 25.75 to 27.230 latitude and $91^{0}0$ E to 92 $^{0}10$ latitude. The area is bounded by several regions namely Bhutan hill and Nalbari district in the north, Meghalaya in the south, Darrang and Morigaon district in the east and Goalpara, Barpeta and Nalbari district in the west. The general topography of the area is plain, cultivated land and hills.The chief crops like paddy, tea, mustard seeds, betelnuts, banana, papaya, orange, pineapple, coconuts and others are produced. The river Brahmaputra and its tributaries such as Nuna, Barolia, Puthimari, Sesa, Digaru, Bharalu, Kalong, Kulsi and Singara etc. are the important rivers which are flowing through this district.

The area is inhabited by the different castes, creeds, tribes, minorities and different linguistics and religious people. The total population of Kamrup district according to Population Census, 2001 was 25, 15, 0 30. The literacy rate of the district was 74.69 percent in 2001.

4.3.2 Barpeta district:

Figure 5: Map of Barpeta district

The present Barpeta district, which derived its name from the Headquarter town of Barpeta, was one of the three civil sub-divisions of undivided Kamrup district, created in 1841 by the British ruler, John Batlor was the first administrative officer of the erstwhile Barpeta sub-division.

In July 1983, the erstwhile Kamrup district was divided into three separate districts viz.- (1) Kamrup (2) Nalbari and (3) Barpeta. Thus, Barpeta became a full fledged independent district. The Barpeta district consists of two sub-divisions viz.- (i) Barpeta (Sadar) sub-division and (ii) Bajali(Civil) sub-division

Covering an area of 3245 Sq.Kms., Barpeta district is bounded by the international and inter district borders i.e. Bhutan hills in the north, Nalbari district in the east, Kamrup and Goalpara district in the south and Bongaigaon district in the west. The district lies between 90'-45," and 91'-15" longitude and between 26'-5" to 26'- 49" North and 30'- 39" to 91'-17" East latitude. The general topography of the district varies from low-lying plains to elevated lands having small Hillock in the south west corner viz. Baghbor, Fulora and Chatala.

The district enjoys tropical monsoon climate having two distinct seasons-summer and winter. The summer season from March to May is followed by the Monsoon from June to September. The retreating Monsoon occurs from October to November. The winter season from December to February is characterized by cool weather and foggy mornings with temperatures remaining generally above 12.8 degrees Celsius.

The total population of Barpeta district according to 2001 Population Census was 16, 42, 4 20. Literacy rate was 47 percent and 57.35 percent according to 2001 and 2011 Population Census respectively.

4.4 Tools used:

As regards the tools used for the purpose of investigation, the following tools were developed by the investigator:

(i) Questionnaires on SSA (Before implementation and after implementation) for headmasters/ headmistresses and assistant teachers.

(ii) Interview schedule on SSA for guardians.

(iii) Information on students' enrolment and results from the office of the school records year wise.

4.5 Description of the tools: The tools which were used for the purpose of collection of data had been described below:

4.5.1 Questionnaires on SSA:

A questionnaire form is prepared and distributed to secure responses to certain questions. It is a device for securing answers to questions by using a form which the respondent fills by himself. For the present study, the questionnaires were developed by the investigator and a closed form type questionnaire was used as it keeps the respondent on the subject, more acceptable and convenient to the respondent and is fairly easy to tabulate and analyse whereas the open form type questionnaire was not used here because it doesn't get any uniformity with other responses, sometimes becomes difficult to interpret, tabulate and summarize in the research report. The two formats of questions were used in it for the purpose of the study. The first set was used for before implementation of Sarva Siksha Abhiyan and the second set was used for after implementation of Sarva Siksha Abhiyan for the respondents.

There were 25 questions developed under 4 different heads. These were infrastructure facilities, teaching- learning materials (TLMs), teaching methods and family environment of primary school children. The questionnaire on "before and after implementation of Sarva Siksha Abhiyan for headmasters/ headmistresses and assistant teachers" was modified in two phases.

In the first round of modification, the preliminary draft was given to the five concerned District Mission Co-ordinators with a request to give their comments and suggestions on the questionnaires. Almost all the experts had given their suggestions to follow the objectives of SSA to modify the questionnaires.

After the preparation of modified questionnaire, investigator developed approximate 30 questions based on objectives of SSA. The draft was given to the same experts to give their comments and the experts suggested to omit two questions namely "Do you help the students financially and do you do tution for them?"

In the final draft, the investigator selected 25 questions out of 27 questions on SSA. The two sets of questionnaires followed by same mode of questions but of these two sets, one set was used before implementation of SSA and another set after implementation of SSA. There were four heads of items in the questionnaires and these were – infrastructure facilities, teaching–learning materials, teaching methods and family environment of school children. Two scales were used for scoring key –"(i) yes and (ii) No." Out of the four heads, namely–infrastructure facilities, teaching – learning materials, teaching methods and family environment, the item "infrastructure facilities" were followed by 1—10 nos. of items from the questionnaire sheet.

The item – "teaching–learning materials" were followed by the number of items from 11- 16.Again, the item "teaching method" was followed by the number of items from 17– 21.Next, the item "family environment of primary school children" was followed by the number of items from 22 – 25. Scoring procedure was as 'yes-1' and 'No-0'.

Relibility: The test-retest reliability was used on ten teachers of primary school in Cachar district with a gap of 14 days.The reliability of the questionnaire is .86.

4.5.2 Intrview schedule on SSA for guardian of the students:

Interview schedule developed by the investigator for the purpose of the study, the investigator followed "closed type questions" used for the responding. There were two formats of questions used for the purpose of the study and these two sets used for the SSA respectively; the first set was used before the implementation of SSA and the second set was used after the implementation of SSA for the respondents.

There are 25 questions developed under the four different heads. These were infrastructure facilities, teaching – learning materials, teaching methods and family environment of the school children etc. The interview schedule on "before and after the implementation of SSA for the guardians" was modified in two phases.

In the first round of modification, the preliminary draft was given to the five District Mission Coordinators, those who were directly connected with the

development of SSA mission, with a request to give their comments and suggestion on the interview schedule. Almost all the experts had given their suggestions to follow the plan of SSA, specially the objectives of SSA to modify the interview schedule.

After the preparation of modified interview schedule, the investigator developed nearly 33 questions based on the objectives of SSA. The draft was given to the same experts to give their comments and the experts suggested to omit three questions namely- Are the students psychologically motivated for learning? Is educational excursion used as a method of teaching in the classroom? Do the guardians need to be politically conscious for family's good environment?

In the final draft, the investigator selected 25 questions out of 33 questions on SSA. The two sets of questions followed by same mode of questions, but of these two sets one set was used "before implementation of SSA" and another set was used "after the implementation of SSA". There were two scales used for scoring viz. (i) Yes-1 and (ii) No-0.

All the items were arranged under four heads, namely- infrastructure facilities, teaching – learning materials, teaching methods and family environment of primary school children. Out of the four heads, infrastructure facilities were followed by 1-10 nos. of items from the interview schedule sheet. The item "teaching – learning materials" was followed by the number of items from 11-16.The item "teaching method" was followed by the number of items from 17-21.And next the item "family environment of primary school children" was followed by the number of items from 22- 25.

Reliability: The test-retest method was used on ten primary school teachers with the gap of 14 days for standardization of the tool and reliability of the test is .82.

4.5.3 Information on students' enrolment and results from the office of the school records year wise:

The investigator made a field survey of the sample schools of both the districts – Kamrup and Barpeta and collected the records of students' enrolment and results year wise from the school records maintained by the headmasters/headmistresses. These records were collected for both the periods –

before implementation of Sarva Siksha Abhiyan for five years (From 1996 -2000) and after implementation of Sarva Siksha Abhiyan for five years (From 2006 – 2010). For the period of ASSA (After Sarva Siksha Abhiyan), the duration from 2001 to 2005 was not taken in this study, because during this period, Sarva Siksha Abhiyan had not properly constituted its various centres and committees in the urban and rural areas of the districts of Assam to execute the scheme. So, after the implementation of first five years (2001 - 2005) i.e. the duration from 2006 to 2010 was considered for ASSA of this study to get a complete picture of primary education in both the districts by SSA.

4.6 Procedure of the administation of tools:

The investigator made a field survey of the selected sample schools of both the districts - Kamrup and Barpeta. First, all the questions of the questionnaires schedule were verbally translated into Assamese language for their understanding and the questionnaires/schedules were distributed to the headmasters/headmistress and assistant teachers. They had been instructed to put a tick mark (response) against each question of the questionnaires/schedules, which was related to the items viz. infrastructure facilities, teaching- learning materials, teaching methods and family environment of primary school children etc. The distributed questionnaires/schedules were recollected from them.

Secondly, the investigator met the guardians who were very closely associated to the school functions, school development activities and knew the school records clearly. All the questions of the interview schedules were verbally translated into Assamese language and explained clearly each question of the schedules and instructed to give their responses either in two options, namely – “Yes” or “No” according to availability or reality of the items. At last, the responses were recollected from them by the interview schedules.

Thus, the investigator recollected all the questionnaires and interview schedules from the headmaster/headmistress and guardians from the sample schools of both the districts respectively.

4.7 Scoring:

The data collected from the headmasters, assistant teachers and guardians were tabulated and the total scores of each item were calculated. The total scores were then converted into simple percentage (Garrett, 1966). Thus, the questionnaires and interview schedules prepared for both the periods – before implementation of Sarva Siksha Abhiyan and after implementation of Sarva Siksha Abhiyan of both districts - Kamrup and Barpeta were administered and score was found.

4.8 Statistical treatment:

For statistical treatment, simple percentage (Garrett, 1966 used) was used to find out the effects of SSA on primary education between the two districts for both the periods (Before SSA and after SSA). Simple percentage technique used to get the results of such a vast area of the present study.