

CHAPTER-III

METHODS AND METHODOLOGY

1.1. Introduction:-

Research methods and Methodology may be understood as all those methods or techniques that are used for conduction of research. Research methods refer to the methods, the researcher use in performing research problem. It may be understood as a science of studying how research is done systematically. It is studied various steps that are generally adopted by a researcher in studying research problem along with the logic behind them.

For study the Topic “Role of College Libraries in a Changing Information Context for Promoting Higher Education in Assam with Special Reference to Lakhimpur district, a Study”. The nature of the study required the data to be collected from different colleges to find out the prevailing situations. In order to study the assigned subject, keeping the above objective and scope in mind, following methods have been applied for solving the research problem. These are survey or descriptive method has been adopted and questionnaire along with observation have been chosen as appropriate tools for collecting data. An interview method also followed to know the present situation and conditions of college librarians under study. The selected college libraries of the Lakhimpur district were visited for this purpose. To collect necessary information a set of questionnaire have been set and distributed among the librarians and college authority and users also. A set of questionnaire with 36 questions were designed. A good response has been found from the librarians, college authority and users. At the time of interview a clear picture of college libraries have been visualized. The secondary data are collected from institutions websites, home page; annual reports etc. some experiments have also been carried out to observe the functions of libraries after introducing IT and to derive conclusions. Taking in to consideration and advantages and feasibility of survey method, it has been decided to administer mainly this method of research in the study. The study covers limited areas of libraries i.e., collection and services, development of ICT infrastructure in designing the, users satisfaction, daily user of the library, problems of modernization of libraries etc. The findings of this study would be helpful in designing the questionnaire and hypothesis

for comprehensive survey of higher learning educational institutions. In this context the study has been given more importance for promoting higher education in the college libraries of Lakhimpur district. The researcher has developed some personal interest, which developed an important role in the selection of the topic. The result obtained from the present study can be made applicable to other district of similar states and may be beneficial and useful for all library and information professionals in Assam.

The research problem having been formulated in clear terms, the researcher will be required to prepare research design have to state the conceptual structure within which research would be conducted. The preparation of such a design facilitates research to be as efficient as possible yielding maximum information. In other words, the function of research design is to provide for the collection of relevant evidence with optimum effort, time and expenditure.

3.2. Design of sample survey: - All items under consideration in the research field constitute “Universe ‘or “Population”. A complete enumeration of all items in the population is known as census inquiry or census survey. When field studies are undertaken in practical life ,considerations of time and cost almost invariably lead to a selection of respondents i.e.- selection of only few items. The selected respondents constitute what’s technically called “Sample” and the selection process is called “Sampling technique”. The survey conducted is known as “Sample survey”

A sample design is a definite plan for obtaining a sample from a given population. It refers to the technique or the procedure the researcher would adopt in selecting items for the sample. Sample design may as well as lay down the number of items to be included in the sample i.e. –the size of the sample. Sample design is determined before data are collected. The main steps of sampling design are as follows:-

1.-The first step of sampling design is too definite the objectives of survey are clear and concrete terms.

2. Size of Sample: - This refers to the number of items to be selected from the universe to constitute a sample. The size of the sample should be optimum. An optimum sample is one which fulfills the requirements of efficiency, representativeness, reliability and flexibly.

3.3. Types of Sampling Design:-

The methods of selecting a sampling is of fundamental importance depends upon the nature of data and investigation .The techniques of selecting a sample are classified as “**Non –probability sampling**” and “**Probability sampling**”.

3.3.1. Non Probability Sampling: - Non probability sampling in that sampling procedure which does not afford any basis for estimating the probability that each item in the population has of being included in the sample .Non probability sampling is also known as deliberate sampling, purposive sampling etc. Item for the sample are selected deliberately by the researcher.

3.3.2. Probability Sampling:--Probability sampling is also known as Random sampling or choice sampling, under this sampling design, every item of the universe has an equal chance of inclusion in the sample .Random Sampling ensures the law of statistical regularity which states that if on an average the sample is a random one, the sample will have the same composition and characteristics as the Universe.

3.4. Brief Description of the Important Sample Designs is as Follows:-

3.4.1. Deliberate Sampling:--Deliberate sampling is also known as purposive or non probability sampling. This sampling method involves purposive or deliberate selection of particular units of the universe for constituting a sample which represents the universe. When population elements are selected for inclusion in the sample based on the ease of access, it can be called convenience sampling.

3.4.2. Simple Random Sampling :--Simple Random Sampling from a finite population refers to that method of sample selection in which gives each possible sample combination an equal chance of being included as sample.

3.4.3. Complex Random Sampling Designs:--Some complex random sampling designs, which are the mixture of probability and non-probability sampling methods, are given below:-

3.4.4. Systematic Sampling:--The most practical way of sampling is to select every item on a list Sampling of this type is known as systematic sampling.

3.4.5. Stratified Sampling: - If a population, from which a sample is to be drawn, does not constitute a homogenous group, stratified sampling technique is generally applied

in order to obtain a representative sample. Under stratified sampling the population is divided into several sub-populations, that are individually more homogenous than the total population and then we select items from each stratum to constitute a sample.

3.4.6. Cluster Sampling :- If the total area of interest happens to be a big one, a convenient way in which a sample can be taken is to divide the area into a number of smaller non overlapping areas and then to randomly select a number of these smaller areas or clusters. In case the Cluster sampling units do not have the same number or approximately the same number of elements. It is considered appropriate to use a random selection process where the probability of each cluster being included in a sample is proportional to the size of the cluster.

3.4.7. Multi -Stage sampling: - Multi stage sampling is a further development of the principle of cluster sampling .Multi stage sampling is applied in a big inquires extending to a considerable large geographical area, say, the entire country.

3.4.8. Sequential Sampling:-This is somewhat a complex sample design where the ultimate size of the sample is not fixed in advance but is determined according to mathematical decisions on the basis of information yielded as survey progress.

3.4.9. Quota Sampling: - In stratified sampling the cost of taking random samples from individual strata is often so expensive that interviews are simply given quota to be field from different strata, the actual selection of items for sample being left to the interviewer's judgment. This is called quota sampling.

3.5. Sources of Data:-

Having decided the methods for collecting data for the researcher it has been important to take a decision about the sources of data for the study from which the information can be obtained or collected. The present study, survey method has been adapted to collection of data. The present study has been selected for investigation mainly on college libraries of Lakhimpur district. The application of IT is much more important in college libraries to meet users, various changing demand.

3.6. Data to be Collected:-

The decision about the type of data to be collected has been taken keeping in view of the nature, objectives the scope of the survey, the time, finances at our disposal and the degree of accuracy aimed at in the final result. Attempt has been made to eliminate

the collection of irrelevant and unnecessary data and to ensure data no important or essential information is omitted.

3.7. Data Collection Sources:-

After deciding the nature and type of data to be collected, the next step is the selection of sources from the various tools available in data collection. There are several methods of collecting primary data. The present study survey method, Interview methods has been adopted for collection of data. Some other important methods also followed by the researcher. The present study have been chosen paper resources like annual reports, census reports statistical reports, thesis, dissertations, newsletters etc. to be collected required data, websites of some colleges are also studied to collect desired data. For collection of data adopt questionnaire as a major tool. The present study requires statistical figures the questionnaire has been considered as the main tool for collection of data. Observation and interview are also used as well as supplement data collection and have been personally visited all the selected colleges of Lakhimpur district. Some library and information professionals and users interviewed to know the required data and facts.

3.8. Data Collection Tools (methods):-

3.8.1. Experiments and survey:-An experiment refers to an investigation in which a factor or variable under test is isolated and its effect(s) measured. In an experiment the investigator measures the effects of an experiment which conduct intentionally.

However, we do research of the descriptive type and perform surveys. Sample surveys or census surveys, then we can obtain primary either through observation or through direct communication with respondents in one form or another or through personal interviews. Survey refers to the method of securing information concerning phenomena under study from all or a selected number of respondents of the concerned colleges..

3.8.2. Description of the Questionnaires used: - This method of data collection is quite popular. This method of questionnaire is set to the persons concerned with a request to answer the questions and return the questionnaire. In the present study, two types of questionnaire have been designed to get the desired results. The important questionnaires were sent to the selected colleges consists of 32 questions with printed forms. The present study tried to know some general questions about institution ,

information about the library, year of establishment, number of staff etc, computerization of library, collection of books, journal, software used, areas of computerization and set of questions were designed for the users respect. How many users are busy at reading room? The respondent have been given answer the questions of their own institution and back .Respondent has given full response in this respect. At the time of collection of data interview methods also followed with readers. When asked about satisfaction of the library work then observation make clear that present users are interested about Google, internet, what's up face book etc. The student are not interested to study library books, journals etc. They use to search Google for new information which saves their time also.

(1)Nature, Scope and object of enquiry:-This constitutes the most important factors affecting the choice of a particular method. Primary data-or secondary data are to be collected.

(2) Availability of funds: - Availability of funds for the research project determines to a large extent the method to be used for the collection of data. Finance in fact, is a big constraint in practice and the researcher has to act within this limitation.

(3) Time factor: - Availability of time has also to be taken into account in deciding a particular method of data collection. The time at the disposal of the researcher thus affects the selection of the method by which the data are to be collected and considered at the time of selecting the method of collection of data.

(4). Precision required: -Precision required is another important factor to be the primary data have been collected a fresh and for the first time, thus happen to be original character. The secondary data already been passed through the statistical process. The methods of primary and secondary data differ since primary data are to be originally differing since primary data are to be originally collected, while in case of secondary data the nature of data collection work is merely that of compilation.

3.8.3. Collection of Secondary Data: -Secondary data that are already available i.e. they refer to the data which have already been collected and analyzed by someone else. Researcher obtain secondary data from various sources of publications of the central, state and local governments, various publications governments or of international bodies, report prepared by research scholars, Universities, different field of public

records and statistics, historical documents and other published information, institutions websites, Goggles, home page, from thesis and dissertation, annual reports etc.

3.8.4. Experiments: - The result and recommendations mentioned throughout the study are made based on experiment and observations made in practical field. During librarian's survey and user's survey researcher have found good response and they were very cooperative in answering the questions seriously.

3.8.5. Interview Method:-The interview method of collecting data can be used through personal interviews and possible through telephone interviews.

(a) **Personal interview:** - Personal interview methods also followed for collection of data. The important questions were asked through face to face contact.

(b) **Telephone interview:-**This method followed by collecting information consists in constructing respondents on telephone.

3.8.6. Observation Method: - Observation method is most commonly used method for collection of data. This method is a scientific tool and methods of data collection for the researcher.

3.8.7. Pilot Study: - It is always helpful to try out the research design on a small scale before going to the field. This pilot has been given the better idea of practical problems and troubles. The pilot study has given places more emphasis on the full analysis of a limited number of events. It is the methods of study in depth rather than breath. Thus case study is essentially an intensive investigation of the particular unit under consideration. So study also covered limited number of colleges of the Lakhimpur district. The selection of the colleges studied intensively. In respect of case study method an effort is made to know the mutual inter-relationship of causal factors.

3.9. Conclusion: - These are the appropriate methods for data collection. The researcher must judiciously select the methods. These important methods depends upon the nature of the particular problem and on the time and resources along with desired degree of accuracy and standard much depends upon the ability and experience of the researcher.

Dr A.L. Bowley's remark in this context is very appropriate when he says that "In collection of statistical data common sense is the chief requisite and experiences the chief teacher."