CHAPTER- 03
PROBLEM, PLAN AND
RESEARCH METHODOLOGY

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PROBLEM, PLAN AND RESEARCH 
METHODOLOGY

3.0. INTRODUCTION:

This chapter deals with the problem, Plan and Research Methodology. University library is an asset to the institution, which attached in particular to run research programmes, it has very significant role to play. To achieve the standards of higher education and also to improve quality and adequate library services, the faculty and researcher has taken the topic for research as below.

The study being empirical in nature, descriptive survey method well is used to elicit information on the information seeking behaviour form the faculty and research scholars in agricultural education in agricultural universities library of Gujarat. It will also include ascertaining facilities for information gathering and search provided to them by their libraries (Rohilla, 1974)

The study will also concentrate on finding the sources other than libraries used by the faculty and research scholars to satisfy their information needs. This present study main purpose use of users has library e-resource services in internet and other digital resources for information seeking.

The present study has various aspects. One is the assessment of the present states of Agricultural University libraries of Gujarat, and to find out the scope for resource sharing through information seeking behaviour, with the help of questionnaire method. A comparative study of the four Agricultural University Faculty and Research Scholars and library services profile study in Gujarat. The main data collection basis questionnaire is available of the present study. Sampling method will be used for collecting the data from the respondents of Agricultural Universities Libraries in Gujarat.

3.1. RESEARCH METHODOLOGY:

Research has become the most remarkable modern phenomena of development, scientific discoveries, technological achievements and scholarly publications, are all the faculty and researchers of the agricultural university libraries and library and information science which developed as an independent and a vital discipline in the present century, also needs and information seeking behaviour
verification, improvement and constant development through research by letters in the agricultural field.

Research method and research techniques are two basic sources of survey. Questionnaire has survey as well as the case study approach has been employed in the said study. As the concept of information seeking behaviour in the faculty and researcher in Agricultural University libraries is new to the library and information filed, their applications have been studied in other fields through literature search. The present status of Agricultural University libraries in India has been reviewed through a literature search, for the study of Agricultural University libraries of Gujarat. The proposed research work based on the data collection and work is carried out by the following different research methods such as: (1) Questionnaire and Interview, (2) Observation and Analysis. In-depth literature search on topic related to the research work was carried out in the libraries of Gujarat. Internet and CD-ROM database were other sources for the literature search. Beside, collection of the data through questionnaire based case studied and structured interview, as slated above, have been also followed; The questionnaire method as well as the personal visit of Agricultural University librarians, faulty members and researchers of these libraries.

Questionnaire have been design based on the study of literature and modified based on discussion held and testing done with all Agricultural University faculty and research scholars and librarians of Gujarat. Data analysis done by using excel and SPSS packages. A structured questionnaire having mainly closed ended questions will be used for the faculty and research scholars and librarians, on the basis of the objectives and hypothesis. A comprehensive review of literature with in the field of information seeking behaviour and comments from the experts will be solicited while designing the questionnaire. Statistical techniques will be used as per the requirement for data analysis.

Another is that the present state of Agricultural University libraries and information centers of India and regarding information published on information seeking behaviour in the faulty and researcher related has also been studied on the basis of literature.

The research methods in library and information science have been classified as under:
1. Historical Method
2. Survey Method
3. Case Study Method
4. Delphi Method
5. Statistical Method

The method of survey research has been defined simply as gathering information about a large number of people by interviewing a few of them.
The survey is an important tool together evidences relating to certain social problem.
A survey is a systematic collection of data concerning a system, its activities operations, person involved in that system, also person who are benefiting from that system.

3.1.1. Planning of the Survey:
It involves a number of stages of work, these are:
1. Defining the objective of the survey.
2. Coverage or scope of survey.
3. Choice of the timing.
5. Collection of the sample of users.
6. Pre-testing.
7. Full scale survey itself.

The main aim is to collect and interpret the data and facts regarding the information seeking behaviour of the faculty and researcher of Agricultural University of Gujarat.

The present study is based on both literature survey and field survey.

3.1.2. Literature Survey:
The survey was conducted by taking the help of primary and secondary reference tools and physical verification of the relevant literature pertaining to the service of library of Agricultural University of Gujarat.

1. **Primary:** Periodical Thesis, Dissertation etc.
2. **Secondary:** Dictionaries, Encyclopedia, Handbook, Gazetteer, Reference Book, Subject Book etc.

3. **Field Survey:** It includes the survey of information seeking behaviour and their full fill meant of faculty and researcher of Agricultural University of Gujarat with regard to the Library Personal, Finance, Building, Collection, Technical, Reference, Automation and Network etc.
3.2. METHOD OF DATA COLLECTION:

The data about the information and management and handling activities of the four Agricultural University faculty and research scholars and librarians was carried out among the different types of users of the library to collect the relevant data.

Structured questionnaire was prepared and administered to the different types of faculty and researcher and librarian of Agricultural Universities of Gujarat. A pilot study of the questionnaire was carried out to find out the reliability and validity of the instrument. Necessary modifications were made to the questionnaire before the final administration of the same. The purpose of the questionnaire was to find out the frequency of visit, length of time spent, information access pattern used, search engines used, use pattern of the information sources, awareness level of the existing facility, the ease with which the users can handle the e-resources and the purposes for which they were accessed and the like.

3.2.1 Selection of Respondents:

The questionnaires were served to a sample of respondents selected from the different faculty and researcher and librarian of agricultural university. In keeping view of scope and limitation of the study researcher has select four Agricultural University faculty and research scholars and librarians are libraries which university approved or recognized by Indian Council of Agricultural Research (ICAR). As per ICAR norms Agricultural University have to established library since at the time of inception of the University. Faculty and Researcher have a send questionnaire to all four Agricultural University faculty and research scholars and librarians of Gujarat by personal visit.

3.2.2 Questionnaire Method:

The present study research data collection is questionnaire consisted of is following parts aspects such as:

1. General Information
2. Library Profile
3. Research Area
4. Library Collection
5. Information Sources
6. Information Services
7. Financial Managements
8. Organizational Structure
9. Library Services
10. Technical Services
11. Automation Services
12. Suggestions.

The faculty and researcher made personal visit to Agricultural University of the Gujarat, to distribute the questionnaire and observe the prevailing conditions of the libraries.

1. General Information:-

Collected general information as to whether the respondent is a Faculty member and Research Scholars or Librarian. If Faculty whether Assistant Professor, Associate Professor, Professor and if whether he/she is a Research Scholars and Librarian.

2. Library Profile:-

The present study has been general information of the library profile has name of the library, establishment, area and section of the library.

3. Research Area:

The research area of the study has been work are research paper presentations Conference/Seminar/Workshop, in national and international.

4. Library Collection:-

The present study collected by library Information material is books, journal, references, and Audio-Visual materials etc. information collection are mention of the study.

5. Information Sources:

The studies are use pattern of the information sources like standards, core journals, general periodicals, textbooks, encyclopaedias/dictionaries, theses/reports, Internet/web resources, CD-ROM and online databases, e-journals and e-books. This part ventures to investigate for what purpose the sources listed above are used: academic purpose, research purpose, course work, to take up competitive examinations, to keep up to data.

6. Information Services:

Goes on to find the frequency of visit to the library by the respondent and the time spent by him/her daily to browse e-journal and e-resources in the library.

7. Financial Management: The present study has been library developing are main concept of financial problem solution management of the study.
8. Organizational Structure:
   The present study has been mention of University library organization structure maintains of the study.

9. Library Services:
   The present study has been library member has faculty and researcher may be provided to the library services are: Circulation, Abstracting, Indexing, Photocopy, SDI, CAS, References, Internet, and Online etc.

10. Technical Services:
    The university library has been library users are faculty and researcher has library collection material provided to mention of the study.

11. Automation Services:
    The present study has been faculty and researcher of the university library member is information collection has provided to Internet and Networking services are study.

12. Suggestions:
    The present study has been obtaining suggestions from the users to develop the library as to its services and resources.

    By analyzing the information received from the respondents to the different questions raised under these headings, the faculty and research scholar aims to bring to light the awareness level of resources available in the library, which uses them the most, reasons for low usage of facilities and suggestions to improve the utilization of the facilities and resources of the library.

3.3. SAMPLE SELECTION:

    The facilities at the Agricultural Universities Library of Gujarat are used mainly by the Faculty and Researcher of the University. Though, others like faculty and researcher from neighboring department of universities also visit the library. They form a very small percentage of the total users and hence the study focused only on two major users namely Faculty and Researcher of Agricultural Universities of Gujarat.

1. Faculty includes:
   1. Professors
   2. Associate Professors or Readers
   3. Assistant Professors or Lecturers
2. Researchers include:

Present research study of primary data collection factors have been following:

1. M. Phil Research Scholars
2. Ph. D. Research Scholars

Considering the volume of data that will be generated while collecting information from faculty and researcher regarding different aspects of their usage of library services, clear borders were drawn with regard to the scope and coverage of the subject. Series of discussions were conducted to arrive at this. This study will mainly highlight the current information seeking behaviour of faculty and researchers. The study will list and assess the efficiency of and the utilization of the different services provided by the library. The information needs of the faculty and researchers will be collected and tabulated which will be the basis for future expansion and management of the library.

The Universities has a total number of 168 Faculty and 102 Researchers members. Table 5.2.2 shows the strength of the Faculty members, department-wise and Table 5.2.11 shows strength of the Researchers, department-wise.

**Table 5.2.2 Faculty Strength – Department-wise**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Faculty</th>
<th>Professor</th>
<th>Associate Professor</th>
<th>Sr. Assistant Professor</th>
<th>Assistant Professor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Agriculture</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>Veterinary Science</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>Animal Husbandry</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td>Dairy Science</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>Food Processing Technology</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>6</td>
<td>Bio-energy</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>7</td>
<td>Agriculture Engineering</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>8</td>
<td>Agri. Business Management</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>S. No.</td>
<td>Department</td>
<td>Research Scholars</td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------</td>
<td>-------------------</td>
<td>-------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>M. Phil</td>
<td>Ph. D.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Agriculture</td>
<td>1</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Veterinary Science</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Animal Husbandry</td>
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<td>4</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Dairy Science</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Food Processing Technology</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Bio-energy</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Agriculture Engineering</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Agri. Business Management</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>I. T. in Agriculture</td>
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<td>4</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.2.11 Researcher Strength –Department-wise
The following were the steps followed in selecting the respondents to whom the questionnaire was administered.

**STEP 1**

As deciphered from Table 200 there are 40 Professors, 40 Associate Professor and 40 Sr. Assistant Professors and 40 Assistant Professors. Initially 100 % of the Faculty in each category was selected at random and administered the questionnaire distribution was done, this time to a larger set, i.e., 84 % of the Faculty population. Out of these 32 Professors, 38 Associate Professor, 40 Sr. Assistant Professor and 58 Assistant Professors returned the completed questionnaires.

The University has a total of 120 Research Scholars divided between 40 M. Phil Research Scholars and 80 Ph. D. Research Scholars. Approximately 100% of research scholars from each category were selected at random and administered the questionnaire. The sample population has been tabulated for easy references in Table 5.2.11 and illustrated in Figure 5.2.11.

**Table 5.2.11 Sample Population by Types of Users**

<table>
<thead>
<tr>
<th>Types of Users</th>
<th>Frequency</th>
<th>Percent %</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Phil Research Scholars</td>
<td>32</td>
<td>31.38%</td>
</tr>
<tr>
<td>Ph. D. Research Scholars</td>
<td>70</td>
<td>68.62%</td>
</tr>
<tr>
<td>Total</td>
<td>102</td>
<td>100.00%</td>
</tr>
</tbody>
</table>
Figure 5.2.11 Sample Population by Types of Users

A total of 168 respondents took part in the survey. Of this 168 (84%) are Faculty and 102 (85%) are Research Scholars. Out of the 168 Faculty who were part of the study, Assistant Professor 58 (34.52%), Sr. Assistant Professor 40 (23.82%), Associate Professor 38 (22.62%), and Professor 32 (19.04%) as illustrated in Figure 5.2.2.

Figure 5.2.11 Distribution of Faculty Respondents

Out of the 102 Researchers who were part of this study, 32 (31.38%) Researchers in four Agricultural Universities of Gujarat State were M. Phil Research Scholars and 70 (68.62%) Researchers were Ph. D. Research Scholar Figure 5.2.11.

STEP 2

The sample selected for the study was given a questionnaire which collected the following information.

1. Name of the University, Library and Department.
2. Frequency of Age group in Faculty and Researchers.
3. Frequency of Male and Female Faculty and Researcher group.
4. Frequency of visit to the library.
5. Use pattern of the Formal, Informal and E-resource etc Information Sources.
6. Use pattern of the Information services provided.
8. Purpose of access to periodicals.
9. Use pattern of conferences/ seminars/ workshop/ lectures related Information to your subject.
10. Awareness of the availability.
11. Preferences of document formats
12. Types of Accesssed to E-resources
13. Preferences of Internet services
14. Frequency of M. Phil. and Ph.D. Research Scholars.
15. Preferences of Age and Sex of the Research Scholars.
16. Purpose of accessing e-resources.
17. Preferences of Library Staff Strengths.
18. Difficulties experienced to access and use e-resources.
19. Difficulties to identify information in the library.
20. Difficulties encountered by the users to refer the resources of library.
21. Suggestions to improve the library.

STEP 3

The above raw data was further analyzed using MS EXCEL software and Statistical Package for Social Scientists (SPSS), software viz., Pie Chart and Tables. It contains method in which there will sample and data collection, designing of research and tool development.

STEP 4

Discussions were undertaken with Faculty and Researcher data analyst and universities to ascertain whether parameters like (a) Awareness level (b) Usage level and (c) Difficulty level of the respondents could be generated based on their answers to the questionnaire and these variables were generated.

STEP 5

The major headings under which the information seeking behaviour and usage pattern were analyzed:

1. Difference between Faculty and Research Scholars
2. Between different types of Faculty
3. Between different types of Research Scholars
4. Between Group based on their frequency of visit to the library
5. Between group based on the average time spent by them at the library.

STEP 6: The data analyses done were carefully categorized and inferences drawn and reported accordingly.

3.4. ANALYSIS OF THE DATA:

The data collected through questionnaire were tabulated and data collected were analyzed, with the help of Microsoft Excel and SPSS, Version-13. Interpretations were drawn based up on the analysis. The findings and observations were the result and outcome of the interpretations made during the course of analysis. The following statistical analyses are carried out.

1. ANOVA
2. Category Analysis
3. Chi-square
4. Descriptive Statistics
5. Standard Deviation
6. 't' test
3.5. CHAPTERISATION:

Chapter –I Introduction: Provide an introduction highlighting the features of the study including information seeking behaviour of the faculty and researcher in agricultural universities library of Gujarat, definition and basic concepts.

Chapter – II Review of Literature: Provides a review of literature related to this study. Review of Literature of foreign and Indian studies drawn from journals, conference proceedings and e-resources related to the problem under study are included.

Chapter –III Problem, Plan and Research Methodology: Describes the problem, plan and research methodology adopted for this study. This chapter includes the research problem, need, objective, scope of the study, research method, and facets of questionnaires, sample selection, data collection and analysis of the study.

Chapter –IV Development of Agricultural University Libraries in Gujarat: This chapter includes the introduction, development of Indian region in agriculture, agriculture education, education in India and Gujarat, universities system, agriculture libraries in India and four agricultural universities libraries information Gujarat limitation of the study.

Chapter –V Data Analysis and Interpretations: This chapter present study has been presents the data analysis and interpretation of the collected data on Faculty and Research Scholar in the Agricultural Universities Libraries of Gujarat.

Chapter –VI Conclusion and Suggestions – provides findings, conclusion and summary and suggestions of the areas for future studies. The report ends with a copy of the Questionnaire provided in Appendix 1, Appendix 2, Appendix 3, and References.

3.6. CONCLUSION:

This study basically aims of finding out whether there are differences in the information seeking behaviour of the Faculty and Research Scholars used utilize the different facilities of the library. Apart from studying these faculty and researcher is also aimed at finding out whether the different categories of faculty (Professor, Associate Professor and Assistant Professor) and Researcher (M. Phil and Ph.D. Research Scholars) differ amongst them in the usage level, awareness level, problems faced and the like.