

Information Sources and Services at Agriculture Library, Mekelle University: A User Study

Prakash B. Dongardive

Assistant Professor, Department of Information Science, CNCS, Mekelle University, Tigray, Mekelle City, Ethiopia

Email id: prakash.dongardive@gmail.com

Received: 12-03-2019; Accepted: 17-07-2019

ABSTRACT

The study examines the use of services by Agriculture PG students at Agricultural Library, Mekelle University, Ethiopia. Well-structured questionnaires were used to identify the impressions of Agriculture PG students towards the Agricultural library sources and services. 81 questionnaires were distributed among the PG students from Department of Land Resource Management and Environmental Protection, at College of Dry Land Agriculture and Natural Resources in Mekelle University main campus and a total of 81 questionnaires were received back. The questionnaires were checked, and totally 81 questionnaires were found fit for analysis. The study demonstrates and elaborates various aspects of Agriculture Library collections uses the available resources, frequency, and purposes of visit, user satisfaction within library services and information sources. A further attempt has also been made to highlights the findings of the study and suggestions have been given based on the findings. The study also discussed different types of information sources and services history, uses standards, ethics, principles and current issues. Thus the article not only provides a finding of the study but also present the depth of knowledge about information sources and their use in libraries.

Keywords: Information Sources and Services, User Need, Information Need, Library Strength, Agriculture Library Mekelle University Ethiopia.

INTRODUCTION

Information is symbolic elements for communicating scientific and technical knowledge it available in textual, numerical and symbolic form. Information is considered a basic resource. This is as essential as minerals and other natural resources. Libraries are the only source of information sources and services in the academic arena and to make the library and information services effective, an adequate knowledge about the users, their needs, wants, and demands are necessary. The research article has been designed to provide an empirical approach that needs the analytical aspect to explore the results in more elaborate manner. Hence, the study gives an analytical approach to the data collected from 81 PG

students at Department of Land Resource Management and Environmental Protection, college of Dry land Agriculture and Natural Resources and results found out from the investigations. Agriculture library has a comprehensive collection of agriculture field and is offering services to the agricultural academic community in Mekelle University main campus and also acts as a referral Centre and clearing house for the best utilization of the existing collection of agriculture firm in the university. Agriculture research and development is the most important as a basic source of the country. Therefore, the need assessment of agriculture student about their library services and resources was very important to improve the collection and services in the agriculture library at Mekelle University.

Statement of the Problem

The problem for the present research study that, there was a less use of Information resources and serviced by agriculture PG students. It was known by the pilot survey for instance; informal meetings and discussions with agriculture PG students and agriculture library working staffs, library attendance, library statistical report and the annual report shows that there was less use of agriculture information resources as well as services in the library. Therefore there was a vibrant need to find out the barriers to the less use of library materials and services from agriculture PG students at Department of Land Resource Management and Environmental Protection, at College of Dry Land Agriculture and Natural Resources in Mekelle University main campus.

Research Questions

(1) Do agriculture PG students aware of agriculture library in Mekelle University campus? (2) Do agriculture PG students have any frequencies to visit the library? (3) Do agriculture PG students have different time ratio to spend in the library? (4) Are agriculture PG students satisfied with agriculture library working hours? (5) Do agriculture PG student satisfied with available agriculture material in the library? (6) Do agriculture PG students satisfied with available reference material in the library? (7) Do agriculture PG student with available text book collection in the library? (8) Do agriculture PG students preferred different document formats? (9) Do agriculture PG student able to find study materials on the shelves in the library? (10) Do the agriculture library reference staffs able to satisfied students information need? (11) Do agriculture PG students have to vary purpose of visiting the library? (12) Do agriculture PG student aware about agriculture thesauruses in the library? (13) Do agriculture PG student preferred to use NAL and USAD Agriculture data base for information? (14) Do agriculture PG students use e-resources subscribed by Mekelle University digital library management?

Significance of the Study

Academic libraries are the heart of universities and colleges. Academic libraries are engaged in providing a variety of services to the academic community. But these days academic community; teaching faculties and university students have a variety of information sources and services need in an electronic era so the academic libraries must be capable of fulfilling the raising need of university students. University library must have sufficient text books and scholarly journals, references sources, periodicals and must subscribed e-resources for having access to e-journals as well as university library must have experienced, professional, competent library staff to provide quality services to the academic community. The present research study titled 'Information Sources and Services at Agriculture Library, Mekelle University, Ethiopia: A User Study, examines the need for agriculture PG students about their satisfaction and preferences about agriculture resources and library services at the Agriculture Library in Mekelle University, Ethiopia. Thus to improving the quality resources like scholarly journals, text book collection, periodicals as well as changing overall states like; study room environment, catalogue, arrangement of book in proper order in the selves in Agriculture Library in Mekelle University main campus so agriculture students and faculty members can use the library and improve their academic status. Thus the present research study is very important.

Objectives of the Study

The purpose of the library survey may briefly be stated as follows:

- To know the awareness of students about agriculture library
- To know the frequency of user's visit.
- To know the time spent in the library
- To find out opinion about satisfaction with the library hours
- To identify the purpose of user's visit to the library

- To find out general opinion about the reading materials available in the library
- To find out the opinion about journals mostly used
- To identify the use of reading materials (print/non-print collection)
- To know the arrangement of the materials on the shelves
- To find out opinion about quality of reference materials
- To find out the awareness about agriculture thesaurus
- To find out awareness about NAL and USAD agriculture
- To find out the use of Mekelle University subscribed databases for information by agriculture PG students.

Assumption of the Study

1. University students have a variety of new information sources and services need in this electronic age.
2. University libraries are the only sources to provide adequate and competent services and sources as well as access to new electronic information world via e-databases to our academic community.

Limitation of the Study

Due to the wide spread, this study is restricted to only 81 PG students from Department of Land Resource Management and Environmental Protection, at College of Dry Land Agriculture and Natural Resources in Mekelle University main campus as a case study. Therefore, the extent to which the findings of this study meet the need of all others departments, Colleges and Institutions at all the Ethiopian Universities and entire academics in global arena are the limitation of this study.

LITERATURE REVIEWS

In the present highly developed modern information world, there are divers' information need demanded by

research scholars and faculty members at academic libraries mostly to highly paid full-text databases and e-resources from quality publishers from each branch of knowledge thus, the libraries and information centers are facing growing challenges to meet the diverse needs of the users. To examine the real problems, quite a good number of studies have been conducted by researchers to know the information needs and use patterns by agricultural scientists, researchers, and students. The study of Singh *et al.* (2005) traces the use of primary and secondary periodicals. The study reveals that 42.42% of scientists prefer to use indexing and abstracting periodicals and 78.4% scientists prefer to use primary periodicals.

Another study conducted by Keshava and Savanu (2004) on collection and services of agricultural university libraries of Dharwad and Bangalore. It shows that the majority of faculty members are very happy with the existing collection and services and they rated the services as very good.

Veeranjaneyulu conducted by agricultural scientists of Andhra Pradesh reveals that 83% of the agricultural scientists are not happy with the collection of books and periodicals available in the agricultural libraries. Articles using both obtrusive and unobtrusive methodologies were included in the research sample, which presented difficulties assessing population choice. Unobtrusive studies are considered as one of the best ways to determine the quality of reference services, hence user satisfaction. As some studies point out, the better the quality of the reference answer the more users are satisfied with the reference service in general (Nilsen, 2004).

RESEARCH METHODS

Research Design

The descriptive survey method was adopted because it seeks to explore the use of Information Sources and Services at Agriculture Library, Mekelle University, Ethiopia. The data have been collected for information to know the use of information sources and services by

81 PG students from the Department of Land Resource Management and Environmental Protection, at College of Dry Land Agriculture and Natural Resources in Mekelle University main campus.

Population of the Study's

The estimated population for this study was 81 PG students from the Department of Land Resource Management and Environmental Protection, at College of Dry Land Agriculture and Natural Resources in Mekelle University main campus.

Sample and Sampling Technique

Cluster sampling was used for the present research study. Cluster sampling making the sampling procedure relatively easier and increased the efficiency of field work. Thus in this study the cluster of 81 Agri PD students were selected from the Department of Land Resource Management and Environmental Protection (Program: Tropical Land Resources Management), out of 405 total PG students from four departments of CDANR; Department of dry Land Crop and Horticulture Science (79); Department of Animal, Rangeland and Wildlife Sciences (80); Department of Land Resource Management and Environmental Protection (81); Department of Natural Resource Economics and Management (Rural development 82 and Agroecology and sustainable development 83).

Research Instrument

The questionnaire titled Information Sources and Services at Agriculture Library, Mekelle University, Ethiopia: A User Study. Questionnaires were used as data collection instrument for this study. The questionnaires have provided data on purpose of visiting the library, opinion about library working hours, time spending in the library, opinion about library collection; text book and reference sources, opinion about using different document format; print or electronic etc., about the awareness of agriculture thesaurus and the preference to use NAL and USAD e-collection as well

as the use of e-database or e-journals subscribed by Mekelle University digital library. Thus the present research instrument aimed at answering questions by 81 PG students from the Department of Land Resource Management and Environmental Protection, at College of Dry Land Agriculture and Natural Resources in Mekelle University main campus.

Method of Data Collection

The questionnaires were sent out to 81 PG students at the Department of Land Resource Management and Environmental Protection, at College of Dry Land Agriculture and Natural Resources in Mekelle University main campus. The researcher employed the service of research assistants to administer the questionnaire one-on-one to the faculties, and their responses collected immediately. This method has been preferred so as to achieve a high response rate.

Method of Data Analysis

The simple percentage method has been adopted for the calculation of result. The result has been presented in the tabular, and the frequencies of respondents have calculated the percentage of item 2=4 and 17=70. The percentages have been calculated by using the following formula of Kothari, (2004).

$$N = \frac{X}{Y} \times \frac{100}{1}$$

Number of Responses 100

Total number of Responses 1

“Where N=simple percentage, x= Number of Responses, Y= total number of Responses, while the Lickert method of, strongly agree.”

DATA ANALYSIS AND INTERPRETATION

Data collected from 81 PG students from the Department of Land Resource Management and

Environmental Protection, at College of Dry Land Agriculture and Natural Resources at Mekelle University, Ethiopia by using questionnaires and a total of 81 questionnaires were distributed to respondents and were successfully retrieved giving a total 81 in the sense (100%) rate of return. Questionnaires were analyzed using frequency counts and simple percentage.

Research question 1: what was the awareness level about agriculture library among PG students at DLRMEP/CDLANR?

The results of the analysis are presented in Figure 1.

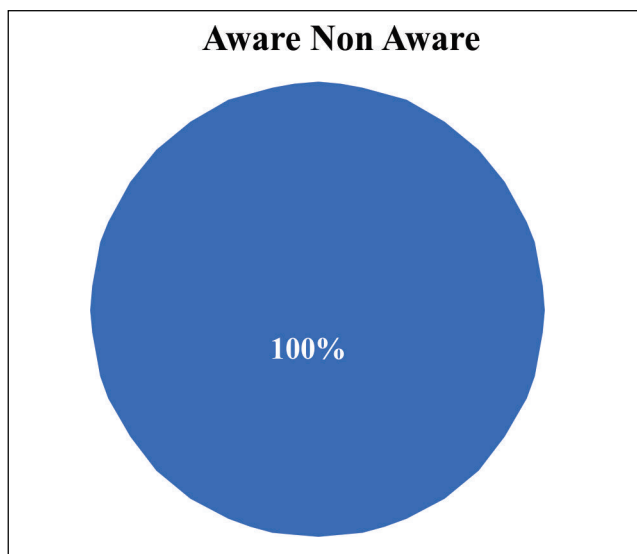


Figure 1: Level of Awareness about Agriculture Library among PG Students at DLRMEP/CDLANR

Agriculture library stand for providing services and sources mostly for agriculture college community in Mekelle University main campus, in this study, it was necessary to discover the awareness about agriculture library among agriculture PG students. The above pie figure shoes that, the total majority 100% students were aware of agriculture library at DLRMEP/CDLANR, Mekelle University.

Research question 2: What was the frequency to visit the agriculture library among PG students at DLRMEP/CDLANR?

The results of the analysis are presented in Figure 2.

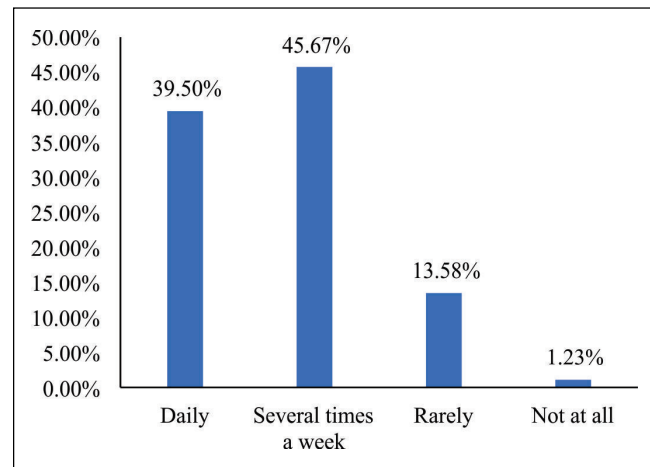


Figure 2: The Level of Frequency to Visit the Agriculture Library

It was discovered that there was diversity in frequency to visit the Agriculture Library among PG students at DLRMEP/CDLANR. The majority 45.67% respondents were visiting agriculture library 'several times a week' 39.50% were visiting daily, 13.58% were visiting rarely, and it was also found that the least 1.23% respondents were marked for 'Not at all' for visiting agriculture library.

Research question 3: What was the ratio of time spending in Agriculture Library among PG students at DLRMEP/CDLANR?

The results of the analysis are presented in Figure 3.

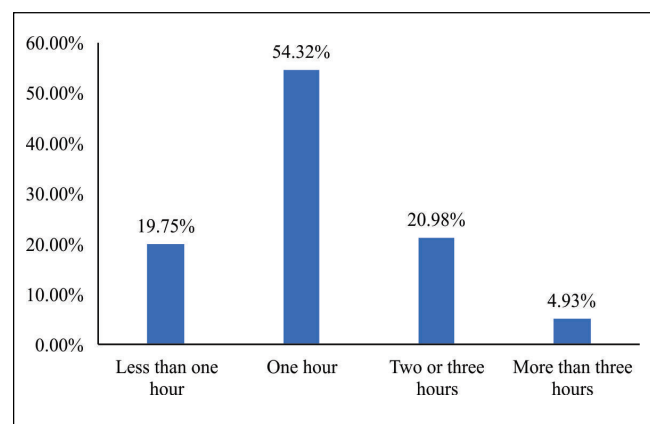


Figure 3: The Ratio of Time Spending in Agriculture Library among PG Students at DLRMEP/CDLANR

Students spending more time in the library and it is always good for improving their academic performance, here for measuring students study habits and the use of the library, it was essential to know agriculture PG students ratio of time spent in the library. Figure 3 shows that the majority 54.32% respondents were spending 'one hour' in the library, 20.98% and 19.75% respondents were spending 'two or three hours' and 'less than one hour' time in the library respectively. It was also found that the least 4.93% respondents were spending 'more than three hours' in the agriculture library in Mekelle University main campus.

Research question 4: What was the DLRMEP/CDLANR PG student's satisfaction level with the agriculture library working hours?

The results of the analysis are presented in Figure 4.

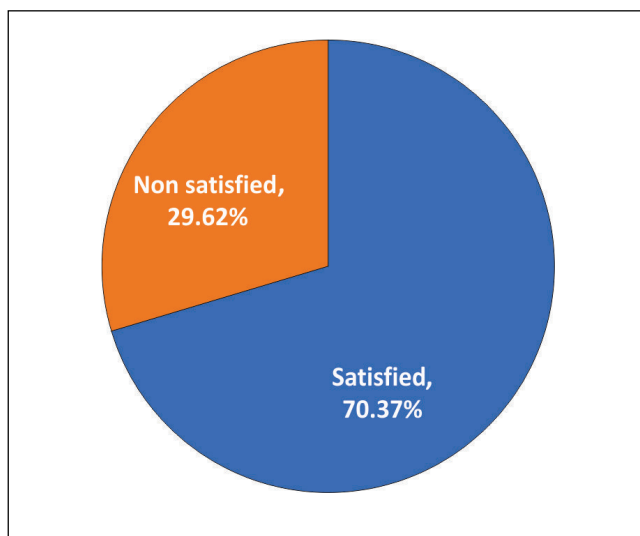


Figure 4: Student's Satisfaction Level with the Agriculture Library Working Hours

Academic libraries services for instance library working hours affecting students study habits and accordingly their academic performance, this it was necessary to know students satisfaction with the library working hours. Here it was found that, the majority of 70.37% respondents were satisfied with library working hours and still 29.62% respondent was not satisfied with agriculture library working hours.

Research question 5: What was the DLRMEP/CDLANR PG student's satisfaction level with the available subject reading materials in the agriculture library collection?

The results of the analysis are presented in Figure 5.

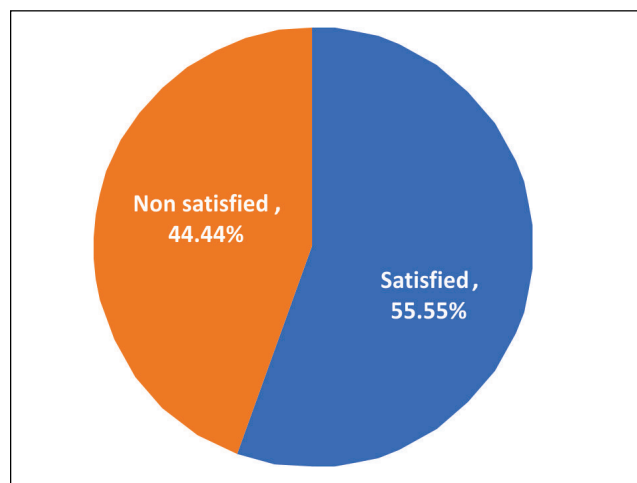


Figure 5: Student's Satisfaction Level with the Available Subject Reading Materials

Academic library collection strength is mostly affecting student's study habits and their academic performance. Figure 5 shows that the majority 55.55% respondents were found satisfied with available agriculture resources and it was also found that, still 44.44% respondents were not satisfied with agriculture library resources at Mekelle University.

Research question 6: What was the DLRMEP/CDLANR PG student's opinion about the quality of reference collection in the Agriculture Library?

The results of the analysis are presented in Figure 6.

The reference collection is playing very important role in academic libraries to fulfil user's variety of information need and Inadequate reference collection in academic libraries affecting on students study habits and their academic performances. In present research study, the respondents were asked about their satisfaction with available reference collection in agriculture library. The majority 49.38% respondents have opined that reference collection was 'very good'; 25.92% were marked for

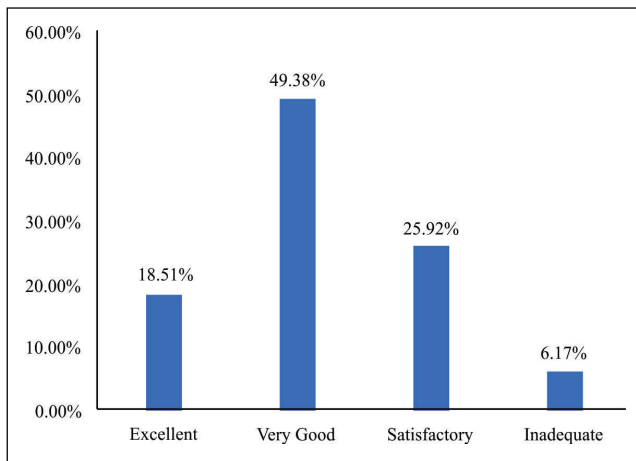


Figure 6: Student's Opinion about the Quality of Reference Collection

'satisfactory'; 18.51% respondents were marked for 'excellent' and the least 6.17% respondents were observed that the available reference collection in Agriculture Library at Mekelle University was 'Inadequate.'

Research question 7: What was the DLRMEP/CDLANR PG student's opinion about the quality of text book collection in the Agriculture Library?

The results of the analysis are presented in Figure 7.

Text book is a most useful source for students in teaching learning process, therefore, there should be adequate subject text book available in the library. Thus, it was

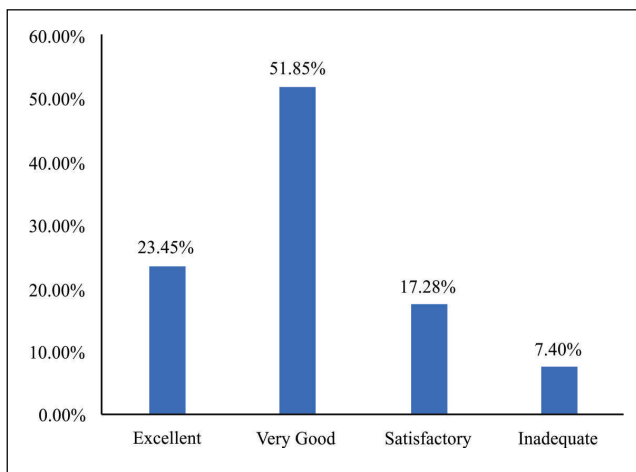


Figure 7: Student's Opinion about the Quality of Text Book Collection

essential to assess agriculture library text book collection by user satisfaction at Mekelle University. It was discovered that, the majority 51.85% respondents were opined that the available text book collection in agriculture library was 'very good', 23.45% were marked for 'excellent', 17.28% respondents were observed text book collection was 'satisfactory' and the least 7.40% respondents were observed text book collection was 'inadequate' at agriculture library at Mekelle University.

Research question 8: What document format do the DLRMEP/CDLANR PG students were preferred to use?

The results of the analysis are presented in Figure 8.

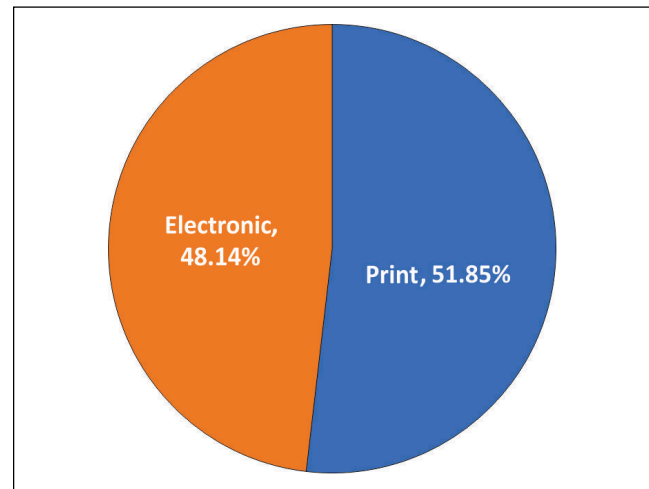


Figure 8: The Ratio of Student's Preferences about Using Document Format

Scholarly publications available in both document formats print and electronic. Document format is also affecting students study habits and accordingly their academic performance thus it was necessary to know students preferred document format which they are using for reading scholarly publications. Here 51.85% respondents were preferred print document format and 48.14% respondents were preferred electronic format for reading scholarly publication.

Research question 9: What was DLRMEP/CDLANR PG student's opinion about finding materials in the library shelves?

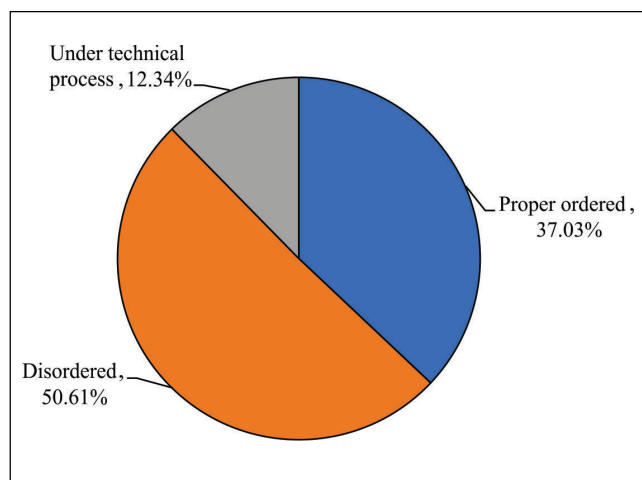


Figure 9: The Level of Student's Opinion about Finding Materials in the Library Selves

The results of the analysis are presented in Figure 9. Figure 9 shows that, the majority 50.61% respondents observed that, the library materials are arranged in 'proper order' in the selves, 37.03% observed 'disordered' and the least 12.34% respondents were observed that the library material was 'under technical process' in agriculture library at Mekelle University which was inconvenient to access study material for the students and which was affecting on their study habit and academic performances.

Research question 10: What was DLRMEP/CDLANR PG student's opinion about working staff at Agriculture Library Mekelle University?

The results of the analysis are presented in Figure 10.

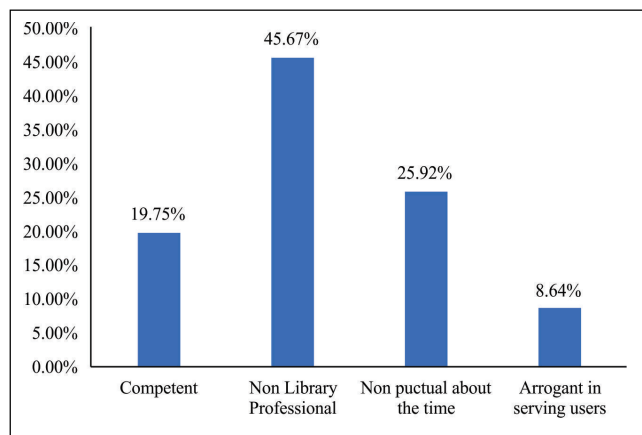


Figure 10: The ratio of student's opinion about working staff

Library management and skilled library staffs are important factors of any library and information centres. The quality of library staffs affecting students studies bait and academic performance. Thus it was very important to assess library staff quality by student's opinion at agriculture library Mekelle University. The majority 45.67% respondents were opined that, the library staffs were 'non-library professional' 25.92% was observed that Agriculture Library staff were 'non-punctual about time' 19.75% were marked for 'competent' and the least 8.64% respondents were observed that library staff were found 'arrogant in serving users' in the library.

Research question 11: What was DLRMEP/CDLANR PG student's purpose to visit Agriculture Library Mekelle University?

The results of the analysis are presented in Table 1.

Students are visiting libraries for their variety of information need and purposes. Here majority 56.79% and 45.67% of the respondents were visiting libraries for consult e-database and consult reference materials

Table 1: The Ratio of Student's Purpose to Visit Agriculture Library Mekelle University

Book lending	22 (27.16%)
Consult e-databases	46 (56.79%)
Consult reference materials	37 (45.67%)
Consult referral services	24 (29.62%)
Consult these and dissertations	13 (16.04%)
Finding research materials	25 (30.86%)
Patents services	21 (25.92%)
Read news papers	22 (27.16%)
Reading text books	16 (19.75%)
Reprography services	18 (22.22%)
SDI/CAS	21 (25.92%)
To use study room facility	19 (23.45%)
Use Agri technical report, proceeding of Agri conference, seminars, synopsis	20 (24.69%)
Use online journal	25 (30.86%)
Use print journal	20 (24.69%)
User Advisory	15 (18.51%)
Other please specify	0 (0%)

respectively. It was also found that the equal majority 30.86%, 27.16%, 25.92% and 24.69% respondents were visiting libraries for finding research materials, using online journals; book lending, read newspapers; patents services, SDI/CAS; and Use Agri technical report, proceeding of Agri conference, seminars, synopsis/use print journal respectively. 29.62% and 23.45% respondents were visiting agriculture library for consult referral services and to use study room facility. 22.22%, 19.75%, and 18.51% respondents were visiting the library for reprography services, rendering services and user advisory services in agriculture library Mekelle University respectively. The least 16.04% respondents were visiting the library for consult thesis and dissertations, and no respondents were specified any other purpose of visiting agriculture library at Mekelle University.

Research question 12: What were DLRMEP/CDLANR PG student's preferences for using an Agricultural thesaurus?

The results of the analysis are presented in Figure 11.

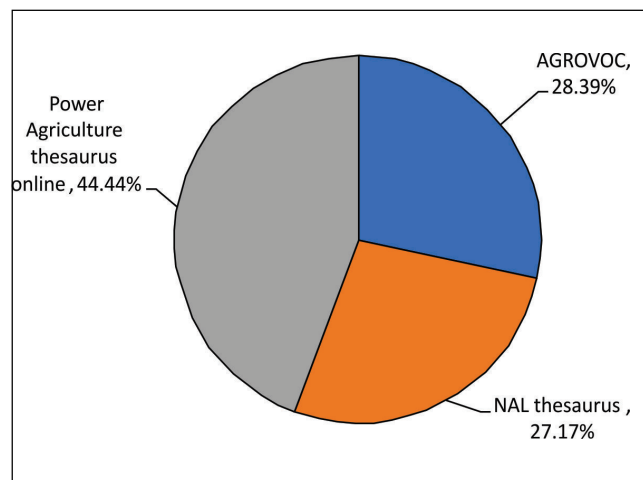


Figure 11: Student's Preferences for Using Agricultural Thesaurus

There are some popular thesauruses in agriculture field which student prefers to use for getting knowledge about agriculture important terms and concepts. Therefore, it was important to know students preferences about their preferred agricultural thesaurus. Here it was discovered

that the majority 44.44% respondents were preferred to use 'Power Agri online thesaurus' 33.33% was preferred to use 'NAL thesaurus,' 28.39% were preferred 'AGROVOC' thesaurus and no students were specified any other name of Agri thesaurus at DLRMEP/CDLANR, Mekelle University.

Research question 13: What were DLRMEP/CDLANR PG student's preferences for using Agricultural databases?

The results of the analysis are presented in Figure 12.

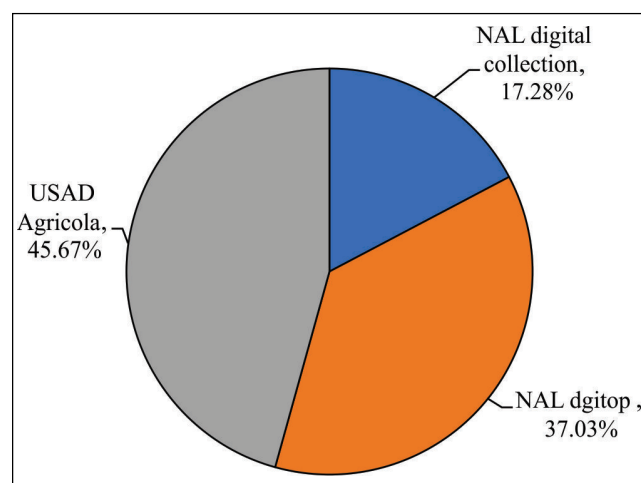


Figure12: The Ratio of Student's Preferences for Using Agricultural Databases

There are many important databases and digital archives providing current information for research and development in agriculture field which has not been still subscribed or not accessible by Mekelle University library. Thus it was very important to ask the students preferences about such databases. Here 45.67% respondents were preferred to use 'USAD Agricola'; 37.03% respondents were preferred 'NAL Digitop'; 17.28% respondents were preferred to use 'NAL digital collection,' and no respondents were specified any other database in agriculture.

Research question 14: Which following Mekelle University databases DLRMEP/CDLANR PG students do use?

The results of the analysis are presented in Table 2.

Table 2: The Ratio of MU Databases use by Students

S.No.	Electronic Information Resources	Utility
1	Acoustical Society of America http://scitation.aip.org/JASA	36 (44.44)
2	AERA SIG Communication of Research http://aera-cr.asu.edu/ejournals/	66 (81.48)
3	AGORA http://www.aginternetwork.org/en/	18 (22.22)
4	American Chemical Society http://pubs.acs.org	28 (34.56)
5	American Institute of Physics http://www.aip.org/pubs/	25 (30.86)
6	American Physical Society http://prola.aps.org/search	27 (33.33)
7	American Society of Agricultural & Biological Engineers (ASABE) https://elibrary.asabe.org/	23 (28.39)
8	American Society of Civil Engineers http://www.ascelibrary.org	32 (39.50)
9	Animal Health and Production Compendium http://www.cabi.org/ahpc/	20 (24.69)
10	Annual Reviews http://www.annualreviews.org/	22 (27.16)
11	Aquaculture Compendium http://www.cabi.org/ac/	24 (29.62)
12	Cambridge University Press (CUP) http://journals.cambridge.org	20 (24.69)
13	Canadian Science Publishing (was NRC Press) www.nrcresearchpress.com	28 (34.56)
14	Cochrane Library (Web) www.thecochranelibrary.com/	19 (23.45)
15	Cornell University Library http://arxiv.org/	21 (25.92)
16	Crop Protection Compendium http://www.cabi.org/cpc/	24 (29.62)
17	Directory of Open Access Books. http://www.doabooks.org/	24 (29.62)
18	DOAJ (Directory of Open Access Journals) http://www.doaj.org/	14 (17.28)
19	Duke University Press www.dukejournals.org	34 (41.97)
20	EBSCO Host http://search.ebscohost.com	45 (55.55)
21	Econport http://www.econport.org	23 (23.45)
22	Edinburgh University -direct from EUP http://www.eupublishing.com/	22 (27.16)
23	Emerald Group publishing ltd EM120 www.emeraldinsight.com	21 (25.92)

Table 2 contd.....

S.No.	Electronic Information Resources	Utility
24	Forestry Compendium http://www.cabi.org/fc/	18 (22.22)
25	Free books for medical doctors http://www.freebooks4doctors.com/	16 (19.75)
26	Gale CENGAGE learning: expanded academic resources www.cengage.com/gale	19 (23.45)
27	Gale CENGAGE Learning: health and wellness Resources http://www.gale.cengage.com/Health/HealthRC/more.htm	10 (12.34)
28	Geological Society http://www.lyellcollection.org/	16 (19.75)
29	Geology, Earth Science http://www.aip.org/pubs/	25 (30.86)
30	HINARI Access to Research in Health Program www.who.int/hinari	18 (22.22)
31	Institute for Operations Research and Management Sciences (INFORMS) http://journals.informs.org/	14 (17.28)
32	Institute of Electrical and Electronics Engineers [IEEE] (ASPP, POP) http://ieeexplore.ieee.org/	21 (25.92)
33	Institution of Engineering Technology (IET) http://digital-library.theiet.org/	22 (27.16)
34	International journal of Teaching and Learning in Higher Education www.isetl.org/ijtlhe/	21 (25.92)
35	IOP science (Journals from Institute of physics) http://iopscience.iop.org/	24 (29.62)
36	JSTOR www.jstor.org	22 (27.16)
37	Law and public policy www.jhrp.oxfordjournals.org/	26 (32.09)
38	Mary Ann Liebert http://www.liebertonline.com/	20 (24.69)
39	NPG – Nature http://www.nature.com	20 (24.69)
40	NPG - Palgrave Macmillan Journals http://www.palgrave-journals.com/pal	24 (29.62)
41	OARE www.oaresciences.org/en/	22 (27.16)
42	On-line books http://onlinebooks.library.upenn.edu/	22 (27.16)
43	Open Access Dissertations and Theses (PQDT Open) http://pqdtopen.proquest.com/	24 (29.62)
44	Optical Society of America (OSA) http://www.opticsinfobase.org/	25 (30.86)
45	Organization for Economic Cooperation & Development (OECD) http://www.oecd-ilibrary.org/	19 (23.45)
46	Over 4000 journals (All Subject) http://search.ebscohost.com/	5 (6.17)

Table 2 contd.....

S.No.	Electronic Information Resources	Utility
47	Oxford University Press E-journals http://www.oxfordjournals.org/	39 948.14)
48	PLOS (public library of science) http://www.plos.org/	37 945.67)
49	Policy Press http://www.ingentaconnect.com/content/tpp	21 (25.92)
50	Project MUSE http://muse.jhu.edu	26 (32.09)
51	Royal College of Physicians http://www.ingentaconnect.com/content/rcop/cm	19 (23.45)
52	Royal Society http://www.royalsocietypublishing.org/journals	21 (25.92)
53	Royal Society of Chemistry Archive http://www.rsc.org/Publishing/Journals/DigitalArchive/available.asp	21 (25.92)
54	Royal Society of Chemistry http://pubs.rsc.org/	20 (24.69)
55	Sage http://www.sagepub.com/journalsIndex.nav	19 (23.45)
56	Sage IMechE (was PEP) http://journals.pepublishing.com/home/main.mpx	25 (30.86)
57	Scientific Commons http://scientificcommons.org/	16 (19.75)
58	Springer Basic Package 1349 titles www.springerlink.com	31 938.27)
59	Springer Lecture Notes in Computer Science series (per institution) (annual subscription), http://www.springerlink.com/	20 (24.69)
60	Symposium Journals http://www.symposium-journals.co.uk/	23 (23.45)
61	Taylor & Francis Journals www.tandfonline.com	22 (27.16)
62	Teeal (on LAN) http://digitallib.mu.edu.et/greenstone/cgi-bin/library.cgi	19 (23.45)
63	The International Publishers Association (IPA) http://www.internationalpublishers.org/	24 (29.62)
64	The Ptolemy project http://www.ptolemy.ca/open_access.htm Health and Medical Journals	24 (29.62)
65	University of Chicago Press www.journals.uchicago.edu	29 (35.80)
66	University of Wollongong www.uow.edu.au/	22 (27.16)
67	WHO for Africa (world health organization) www.afro.who.int/	27 (33.33)
68	Wiley Online Library full collection (1,360 titles) http://onlinelibrary.wiley.com/	22 (27.16)
69	World Bank e-library, http://elibrary.worldbank.org/	41 (50.61)
70	World Bank: World Development Indicator (WDI)/ World Development Finance (GDF)/ African Development Indicator (ADI)/ Global Economic Mentor (GEM) http://data.worldbank.org/	27 (33.33)

Table shows that the majority 81.48%, 55.55% and 50.61% of respondents were using 'AERA SIG Communication of Research' EBSCO Host and 'world bank e-library' respectively. 48.14%, 45.67%, 44.44%, 41.97%, 39.50% and 38.27% respondents were using 'Oxford University Press E-journals, PLOS (public library of science), Acoustical Society of America, Duke University Press, American Society of Civil Engineers and Springer Basic Package 1349 titles,' respectively at Mekelle University library web portal. 35.80% respondents were using 'University of Chicago Press.' It was also found that the equal majority 34.56% respondents were using 'American Chemical Society' and 'Canadian Science Publishing (was NRC Press)' respectively. The equal majority 33.33% respondents were using 'American Physical Society, WHO for Africa (World Health Organization) and World Bank: World Development Indicator (WDI)/ World Development Finance (GDF)/ African Development Indicator (ADI)/ Global Economic Mentor (GEM)' respectively. The equal majority 32.09% respondents were using 'Law and public policy and Project MUSE' respectively. The equal majority 30.86% respondents were using 'American Institute of Physics, Geology, Earth Science, Optical Society of America (OSA), Sage IMechE (was PEP)' as well as equal majority 29.62% respondents were using 'Aquaculture Compendium, Crop Protection Compendium, IOP science (Journals from Institute of physics), NPG - Palgrave Macmillan Journals, Open Access Dissertations and Theses (PQDT Open), The International Publishers Association (IPA) and The Ptolemy project' respectively. The same equal majority 28.39% respondents were using; American Society of Agricultural & Biological Engineers (ASABE), Econport, Symposium Journals as well as equal majority 27.16% respondents were using 'Annual Reviews, Edinburgh University -direct from EUP, Institution of Engineering Technology (IET), JSTOR, OARE, On-line books, Taylor & Francis Journals, University of Wollongong and Wiley Online Library full collection (1,360 titles)' databases respectively. Again the equal majority 25.92% respondents were using 'Cornell University Library, Emerald Group publishing ltd EM120,

Institute of Electrical and Electronics Engineers (IEEE) (ASPP, POP), International journal of Teaching and Learning in Higher Education, Policy Press, Royal Society, Royal Society of Chemistry Archive' databases as well as the equal majority 24.69% respondents were using 'Animal Health and Production Compendium, Cambridge University Press (CUP), Mary Ann Liebert, NPG – Nature, Royal Society of Chemistry, Springer Lecture Notes in Computer Science series (per institution) (annual subscription),' databases successfully which subscribed by Mekelle University digital library. The equal majority 23.45% respondents were using 'Cochrane Library (Web), Gale CENGAGE learning: expanded academic resources, Organization for Economic Cooperation & Development (OECD), Royal College of Physicians, Sage and Teal respectively. another equal majority of 22.22% respondents were using 'HINARI Access to Research in Health Program, Forestry Compendium, and AGORA databases respectively. The least equal majority of 19.75% and 17.28% respondents were using Free books for medical doctors, Geological Society, scientific commons and DOAJ (Directory of open access journals), Institute for Operations Research, Management Sciences (INFORMS)' respectively. The least 12.34% and 6.17% respondents were using Gale CENGAGE Learning: health and wellness Resources and Over 4000 journals (All Subject) respectively.

FINDING OF THE STUDY

1. The total majority 100% of students were aware of Agriculture Library at DLRMEP/CDLANR, Mekelle University.
2. The majority 45.67% of the respondents were visiting Agriculture Library 'several times a week', 39.50% were visiting daily, 13.58% were visiting rarely and it was also found that, the least 1.23% respondents were marked for 'Not at all' for visiting agriculture library.
3. The majority 54.32% of respondents were spending 'one hour' in the library, 20.98% and 19.75%

respondents were spending 'two or three hours' and 'less than one hour' time in the library respectively. It was also found that, the least 4.93% respondents were spending 'more than three hours' in the agriculture library in Mekelle University main campus.

4. 70.37% of respondents were satisfied with library working hours and still 29.62% respondent was not satisfied with agriculture library working hours.
5. 55.55% of respondents were found satisfied with available agriculture resources and it was also found that, still 44.44% respondents were not satisfied with agriculture library resources at Mekelle University.
6. 49.38% respondents were opined that reference collection was 'very good', 25.92% were marked for 'satisfactory', 18.51% respondents were marked for 'excellent' and the least 6.17% respondents were observed that the available reference collection in agriculture library at Mekelle university was 'inadequate'.
7. 51.85% respondents were opined that the available text book collection in agriculture library was 'very good', 23.45% were marked for 'excellent', 17.28% respondents were observed text book collection was 'satisfactory' and the least 7.40% respondents were observed text book collection was 'inadequate' at agriculture library at Mekelle University.
8. 51.85% of respondents were preferred print document format and 48.14% respondents were preferred electronic format for reading scholarly publication.
9. 50.61% respondents observed that, the library materials are arranged in 'proper order' in the selves, 37.03% observed 'disordered' and the least 12.34% respondents were observed that, the library material was 'under technical process' in agriculture library at Mekelle University which was inconvenient to access study material for the students and which was affecting on their study habit and academic performances.
10. The majority 45.67% respondents were opined that, the library staffs were 'non library professional' 25.92% was observed that agriculture library staff were 'non punctual about time' 19.75% were marked for 'competent' and the least 8.64% respondents were observed that library staff were found 'arrogant in serving users' in the library.
11. 56.79% and 45.67% of respondents were visiting libraries for consult e-database and consult reference materials respectively. It was also found that the equal majority 30.86%, 27.16%, 25.92% and 24.69% respondents were visiting libraries for finding research materials, using online journals; book lending, read newspapers; patents services, SDI/CAS; and Use Agri technical report, proceeding of Agri conference, seminars, synopsis/ use print journal respectively. 29.62% and 23.45% respondents were visiting agriculture library for consult referral services and to use study room facility. 22.22%, 19.75% and 18.51% respondents were visiting library for reprography services, rending services and user advisory services in agriculture library Mekelle University respectively. The least 16.04% respondents were visiting library for consult thesis and dissertations and no respondents were specified any other purpose to visit agriculture library at Mekelle University.
12. 44.44% of respondents were preferred to use 'Power Agri online thesaurus' 33.33% were preferred to use 'NAL thesaurus', 28.39% were preferred 'AGROVOC' thesaurus and no students were specify any other name of Agri thesaurus at DLRMEP/CDLANR, Mekelle University.
13. 45.67% of respondents were preferred to use 'USAD Agricola', 37.03% respondents were preferred 'NAL Dgitop' 17.28% respondents were preferred to use 'NAL digital collection', and no respondents were specified any other database in agriculture.

14. The majority 81.48%, 55.55% and 50.61% of respondents were using 'AERA SIG Communication of Research' EBSCO Host and 'world bank e-library' respectively. 48.14%, 45.67%, 44.44%, 41.97%, 39.50% and 38.27% respondents were using 'Oxford University Press E-journals, PLOS (Public Library of Science), Acoustical Society of America, Duke University Press, American Society of Civil Engineers and Springer Basic Package 1349 titles,' respectively at Mekelle University library web portal. 35.80% respondents were using 'University of Chicago Press'. It was also found that the equal majority 34.56% respondents were using 'American Chemical Society' and 'Canadian Science Publishing (was NRC Press)' respectively. The equal majority 33.33% respondents were using 'American Physical Society, WHO for Africa (World Health Organization) and World Bank: World Development Indicator (WDI)/ World Development Finance (GDF)/ African Development Indicator (ADI)/ Global Economic Mentor (GEM)' respectively. The equal majority 32.09% respondents were using 'Law and public policy and Project MUSE' respectively. The equal majority 30.86% respondents were using 'American Institute of Physics, Geology, Earth Science, Optical Society of America (OSA), Sage IMechE (was PEP)' as well as equal majority 29.62% respondents were using 'Aquaculture Compendium, Crop Protection Compendium, IOP science (Journals from Institute of physics), NPG - Palgrave Macmillan Journals, Open Access Dissertations and Theses (PQDT Open), The International Publishers Association (IPA) and The Ptolemy project' respectively. The same equal majority 28.39% respondents were using American Society of Agricultural & Biological Engineers (ASABE), Econport, Symposium Journals as well as equal majority 27.16% respondents were using 'Annual Reviews, Edinburgh University -direct from EUP, Institution of Engineering Technology (IET), JSTOR, OARE, On-line books, Taylor &

Francis Journals, University of Wollongong and Wiley Online Library full collection (1,360 titles)' databases respectively. Again the equal majority 25.92% respondents were using 'Cornell University Library, Emerald Group publishing ltd EM120, Institute of Electrical and Electronics Engineers (IEEE) (ASPP, POP), International Journal of Teaching and Learning in Higher Education, Policy Press, Royal Society, Royal Society of Chemistry Archive' databases as well as the equal majority 24.69% respondents were using 'Animal Health and Production Compendium, Cambridge University Press (CUP), Mary Ann Liebert, NPG - Nature, Royal Society of Chemistry, Springer Lecture Notes in Computer Science series (per institution) (annual subscription),' databases successfully which subscribed by Mekelle University digital library. The equal majority 23.45% respondents were using 'Cochrane Library (Web), Gale CENGAGE learning: expanded academic resources, Organization for Economic Cooperation & Development (OECD), Royal College of Physicians, Sage and Teal (on LAN)' respectively another equal majority of 22.22% respondents were using HINARI Access to Research in Health Program, Forestry Compendium and AGORA databases respectively. The least equal majority of 19.75% and 17.28% respondents were using 'Free books for medical doctors, Geological Society, scientific commons and DOAJ (Directory of open access journals), Institute for Operations Research, Management Sciences (INFORMS)' respectively. The least 12.34% and 6.17% respondents were using Gale CENGAGE Learning: health and wellness Resources and Over 4000 journals (All Subject)' respectively.

CONCLUSION

Academic libraries are playing very important role in provision of variety of information sources and services but in present research study it was found that some inconvenience faced by college of Dry Land Agricultural

and Natural Resource students at Mekelle University. It was known that, Agriculture PG students were not satisfied with library working hours as well as they were not satisfied with available Agricultural subject materials in the library. And most important thing was that there were no professional library staffs, therefore it is affecting on overall management of Agriculture library at Mekelle University.

Students come to library for their different purposes so library must be capable to satisfy student variety of services in the library. Student's still suffering from getting access to very important 'Agri databases' which still have not been subscribed by Mekelle University library, which e-resources are most important for improving students' academic performance in their subject area. Thus this study focuses on eliminating the unnecessary factors and improving sources and services in agriculture library and improving students' academic performance and improvement in future library management.

RECOMMENDATIONS

The following recommendations have been provided on the basis of research findings;

1. It was found that agriculture students were not satisfied with the library time and library staff services so, library management should higher library and information science professional in the library, then the professional library staff can provide better services and can understand their users, for instance; shelving books in proper orders, time punctuality, provision of library services in proper manner.
2. Library Management must improve agriculture study material and must build adequate collection development in the library for instance, text books, reference books, agriculture e-databases; bibliographical and full-text quality e-journals which being used in the library by agriculture students and faculties.

3. University Library Management should provide access to important agriculture thesaurus and important databases which have not been subscribed by University library so student can use and improve their area of knowledge.
4. Library authority should be provided a refresher course to users seeking information and introduced with new aspects of information technology. Most of the users suggested that library should provide reprography services with fewer charges.

REFERENCES

- Ahmed AO, 2012. Modern Trends in Library and Information Science Education in Nigeria: Challenges and the Way Forward. *Library Philosophy and Practice* (e-journal), 831. <http://digitalcommons.unl.edu/libphilprac/831>
- Bopp RE and Smith LC, 2001. *Reference and Information Services: An Introduction*. 3rd edn. Westport, CT: Libraries Unlimited.
- Business Dictionary. <http://www.businessdictionary.com/definition/information.html>
- Franco A, 2003. Gateways to the Internet: Finding Quality Information on the Internet. *Library Trend*, Vol. 52, No. 2, pp. 228--246.
- IFLA, 2007. Ethics for Information Service: Federal Union of German Library and Information Associations. *International Federation of Library Association and Institutions*. <https://www.ifla.org/node/6496>
- James R, 1996. *Step Two: The Global Thought Leaders on Intranets*. Sydney, Australia. http://www.steptwo.com.au/papers/kmc_effectiveim/
- Katz William A, 2001. *Introduction to Reference Work, Basic Information Services*. 8th Edn. New York: McGraw-Hill, New York
- Keshava L and Savanu K, 2004. Information Needs and Information Seeking Strategies of Agricultural Scientist. All India Library Conference (ILA). http://www.ilaindia.net/pdf/list_of_publications.pdf
- Kothari CR, 2004. *Research Methodology: Methods and Techniques*, 2nd Edn. 2, New Delhi: New Age Publishing Limited, New Delhi.
- Nilsen K, 2004. The Library Visit Study: User Experiences at the Virtual Reference Desk. *Information Research*, Vol. 9, No. 2, pp. 9-2.

- Sarojanand J, 2018. *UGC NET/JRF/SET in Library and Information Science*. Agra, India: Upkar Prakashan, Agra, India
- Singh N, 2005. Revamping Agriculture Library and Information Services in India: Retrospect and Prospect. *Annals of Library and Information Studies*, Vol. 52, No. 1, pp. 31–36.
- Veeranjaneyulu K, 1994. A Study with Reference to Information Sources and Services in Shri Venkateshwara Medical College Library, Tirupati. *International Library Movement*, Vol. 16, No. 2, pp. 93–97.

How to cite this article: Prakash B. Dongardive, 2019. Information Sources and Services at Agriculture Library, Mekelle University: A User Study. *JIM - Journal of Information Management*, Vol. 6, No. 2, pp. 63-79.