OPEN ACCESS INITIATIVES: A COMPARATIVE STUDY OF NATIONAL RESEARCH CENTRE FOR BANANA AND NATIONAL RESEARCH CENTRE FOR LITCHI

Sumit Ranjan
Senior Research Fellow
Department of Library & Information Science
Babasaheb Bhimrao Ambedkar University, Lucknow-226025
E-mail: ranjsumit@gmail.com

Dr. R. K. Choudhary
Assistant Professor & Supervisor
Department of Library & Information Science
Babasaheb Bhimrao Ambedkar University, Lucknow-226025
E-mail: rkclis@yahoo.co.in

Abstract: This study aims to find out the status of open access initiatives, to find out the available infrastructure and trained manpower to provide fluent open access services in both the libraries selected for study.

Methodology: Questionnaire has been prepared and distributed to concern librarians.

Findings: Both the libraries were facing lack of budget for providing open access services. They also have lack of trained staff and lack of expertise. Both the libraries should have more collection of non-print materials which helps in providing open access services and for providing smooth open access services there should be written open access policy in both the libraries.

Keyword: Open Access Initiatives, National Research Centre, Open Access Publishing.

Abbreviation: NRCB- National Research Centre for Banana, NRCL- National Research Centre for Litchi, I C A R - I n d i a n   C o u n c i l   o f   A g r i c u l t u r a l   R e s e a r c h .

1.0 Introduction The term open access was first coined in 2002 at Budapest Open Access Initiatives and further explained in Bethesda statement of Open Access publishing in June 2003 and Berlin declaration on Open Access to Knowledge in the Sciences and Humanities in Oct 2003. According to Budapest open access initiatives open access is defined as "There are many degrees and kinds of wider and easier access to this literature. By 'open access' to this literature, we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited."

This study is a comparative study between National Research Centre for Banana and National Research Centre for Litchi. In this paper we find status and opportunities of open access services in these libraries of National Research Centers. Questionnaire has been formulated and distributed to librarians of NRCL and NRCB for their response. After getting responses data has been analyzed and presented in tables and graphs.

2.0 Literature Review

Klump, et. al. (2006)[7] discussed application of Berlin declaration of open access in data publication in their paper "Data Publication in the Open Access Initiative." The 'Berlin Declaration' was published in 2003 as a guideline to policy makers to promote the Internet as a functional instrument for a global scientific knowledge base. According to them, Data publication needs to offer authors an incentive to publish data through long-term

repositories. Data publication also requires an adequate license model that protects the intellectual property rights of the author while allowing further use of the data by the scientific community.

Ghosh and Das (2007)[11] in their case study, open access and institutional repositories in developing countries in the special context of India they discussed the usefulness of open access among various institutions in India. They find that various open access initiatives have been undertaken and are operational, many are in the developmental stage, and some initiatives have also been taken in the area of metadata harvesting services. They concluded that future of open access in India was dependent upon a proper policy and developing a proper framework.

Roy, Biswas and Mukhopadhyay (2003)[8] studies and highlights the current state of open access institutional digital repositories (IDRs) of India. It describes and compares characteristics of all institutional digital repositories regarding content types, repository type, the number of records, software used; disciplines covered, languages, technical and operational issues, and policy matter. Lastly, key findings have been highlighted along with suggestions for further development of IDRs in the Indian context.

Pandita (2013)[9] in his paper growing trend towards open access publishing at the global level he undertakes the view to assessing the growing trend towards the open access publishing. He finds out that authors and good writers gradually overlook conventional means of publishing. This study revolves around the data taken from Directory of Open Access Journals (DOAJ), it is one of the largest open access databases.

3.0 Aims and objectives The following aims and objectives are formulated for this study:

1. To evaluate and assess the status and policies of open access initiatives in libraries of NRCB and NRCL.
2. To identify the type of documents and services that is open accessed.
3. To ascertain the availability of infrastructure and budget for open access.
4. To find out various services provided through open access.
5. To find out the various challenges and hurdles in open access.

4.0 Hypothesis
1. Open access services are provided to the users and both the libraries have a policy for open access.
2. Both National Research Centres libraries are providing open access services for online journals and have an institutional repository.
3. As ICAR is a very prominent institution of government of India there is no lack of budget for open access services.
4. Lack of technical manpower is the hurdle in open access.

5.0 Significance of the study: National Research Centre's are very prominent institution and very important part of ICAR. It plays a vital role in research and development in India. This topic is chosen to evaluate and assess the status and policies of open access initiatives, to identify the type of documents and services that is open accessed, to ascertain the availability of infrastructure and budget for open access in both the libraries selected for study. Previously no study has been conducted on this topic.

6.0 Scope of the study
There are 14 National Research Centre's of ICAR in India out of which 2 were selected for comparative study. These are:
1. National Research Centre for Banana, Tiruchirapalli, Tamil Nadu.
2. National Research Centre for Litchi, Muzaffarpur, Bihar.

7.0 Methodology The problem is taken as "Open Access Initiatives: A comparative study of National Research Centre for Banana and National Research Centre for Litchi". Survey method has been used for this study. Closed ended questionnaire has been prepared and distributed to librarians or library in-charge of both the libraries. Data collected through the questionnaires was organized, analyzed, tabulated and interpreted by using simple statistical method.

8.0 Results and Discussions

8.1 General information about the organization

This section gives information about name of institutions selected for study their URL and year in which they established.

Table 8.1

Sr No.	Institution Name	URL	Year of Establishment
1.	NRCB, Trichy	www.nrcb.res.in	1993
2.	NRCL, Mzp	www.nrclitchi.org	2001

Table 8.1 shows URL and year of establishment of selected National Research Centres. National Research Centre for Banana is older than National Research Centre for Litchi.

8.2 General information about the library

This section deals with general information about the libraries of National Research Centres.

Table 8.2

Sr. No.	Institution Name	Name of Library
1.	NRCB, Trichy	ICAR-NRCB, Library
2.	NRCL, Mzp	Central Library, NRCL

Above table 8.2 shows the name of selected research centres library.

8.3 Strength of Users

Table 8.3

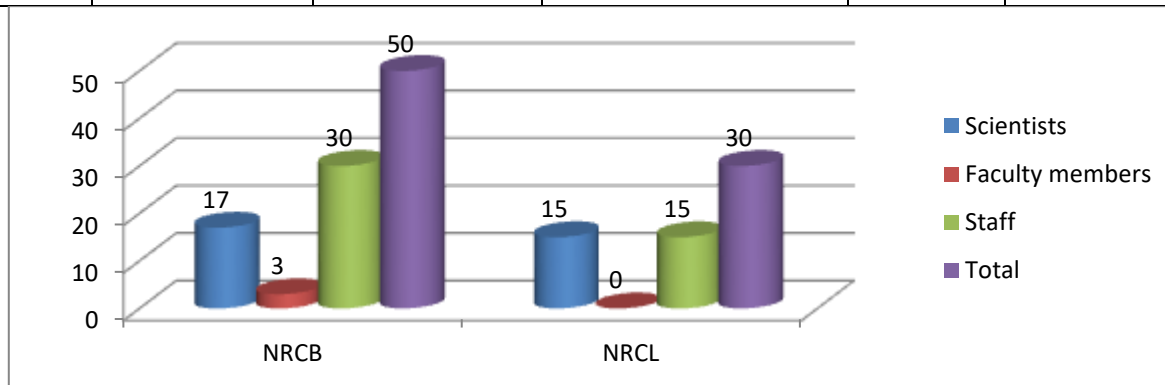| Sr. No.	NRC's	Scientists	Faculty member	Staff	Total
1.	NRCB	17	3	30	49
2.	NRCL	15	-	15	30

Fig. 8.1

Table 8.3 and Fig. 8.1 show the strength of users in both the libraries selected for study. NRCB has more numbers of scientists in comparison of NRCL. NRCB has 3 faculty members and 30 staffs whereas NRCL has 15 staffs using the library.

Infrastructure and Resources

This section deals with available infrastructure and resources in selected libraries of NRC's. Section further divided in subheadings like learning resources, technical infrastructure and financial infrastructure.

8.4 Learning Resources
Table 8.4 Learning Resources Available in Library (Print Material)

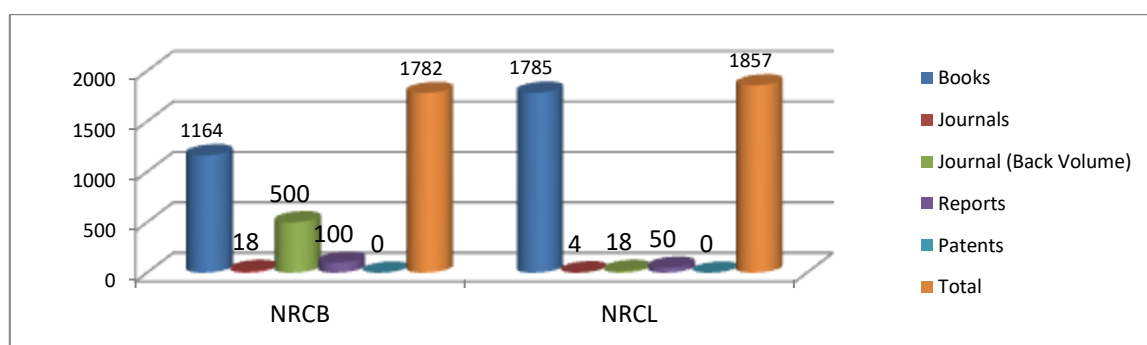| Sr. No.	Research Centres	Books	Journals (Current Volume)	Journal (Back Volume)	Reports	Patents	Total
1.	NRCB	1164	18	500	100	00	1782
2.	NRCL	1785	4	18	50	-	1857

Fig. 8.2

Above table 8.4 and fig. 8.2 shows learning resources (Print) available in NRCB and NRCL. National Research Centre for Litchi has more books (1785) than compare to National Research Centre for Banana (1164). In terms of back volumes journals National Research Centre for Banana is far ahead with 500 back volumes journals. National Research Centre for Litchi has only 18 back volumes journals. NRCB has 18 Journals and NRCL has only 4 journals subscribed. Both the research center libraries has no patents in their libraries.

Table 8.4A Learning Resources Available in Library (Non-Print Material)

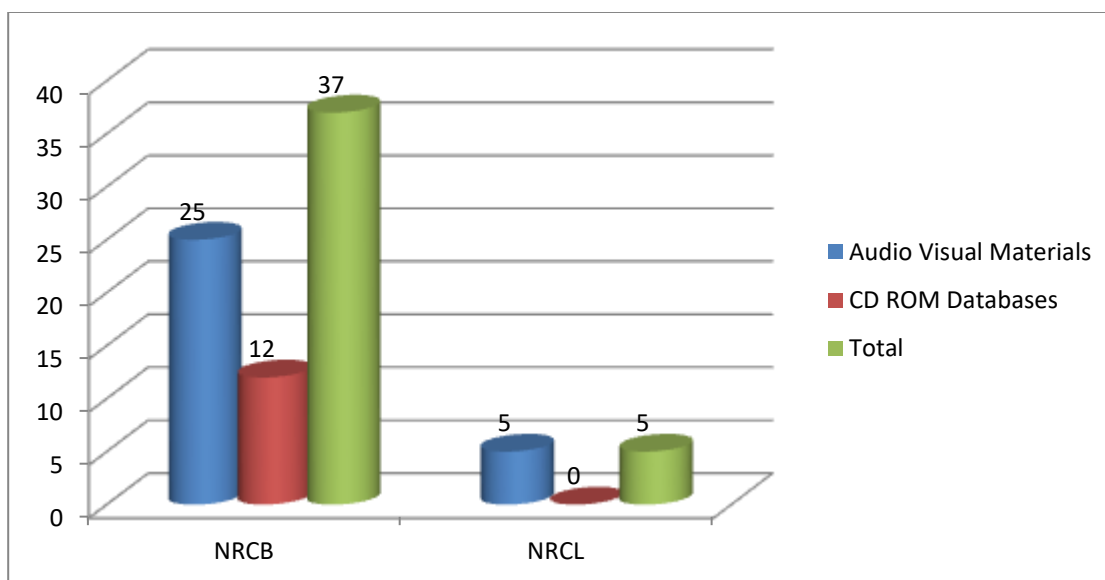| Sr. No.	Research Centres	Audio Visual Materials	CD ROM Databases	Total
1.	NRCB	25	12	37
2.	NRCL	5	-	5

Fig. 8.3

Table 8.4A and fig. 8.3 is showing availability of non-print materials in concern libraries. NRCB has maximum audio visual materials in compare to NRCL library. NRCB has 25 audio video materials whereas NRCL has only 5 audio visual materials. NRCB has 12 CD-ROM databases whereas NRCL has no CD-ROM databases.

8.5 Technical Infrastructure

Table 8.5 Available IT infrastructure for performing open access initiatives through the library.

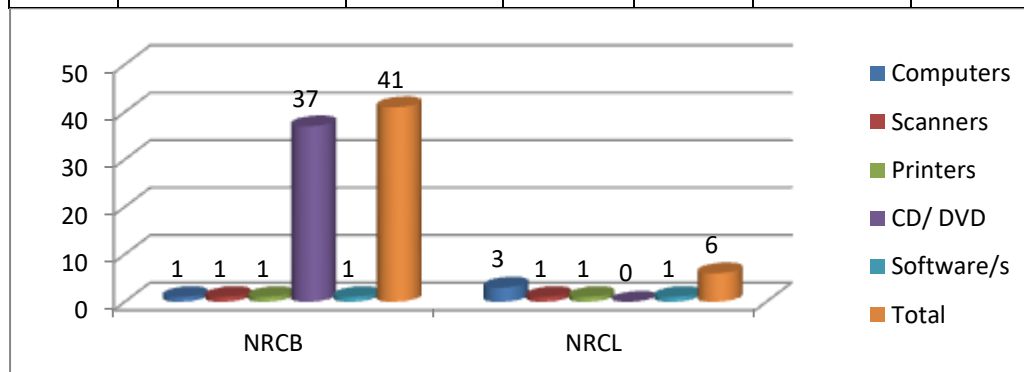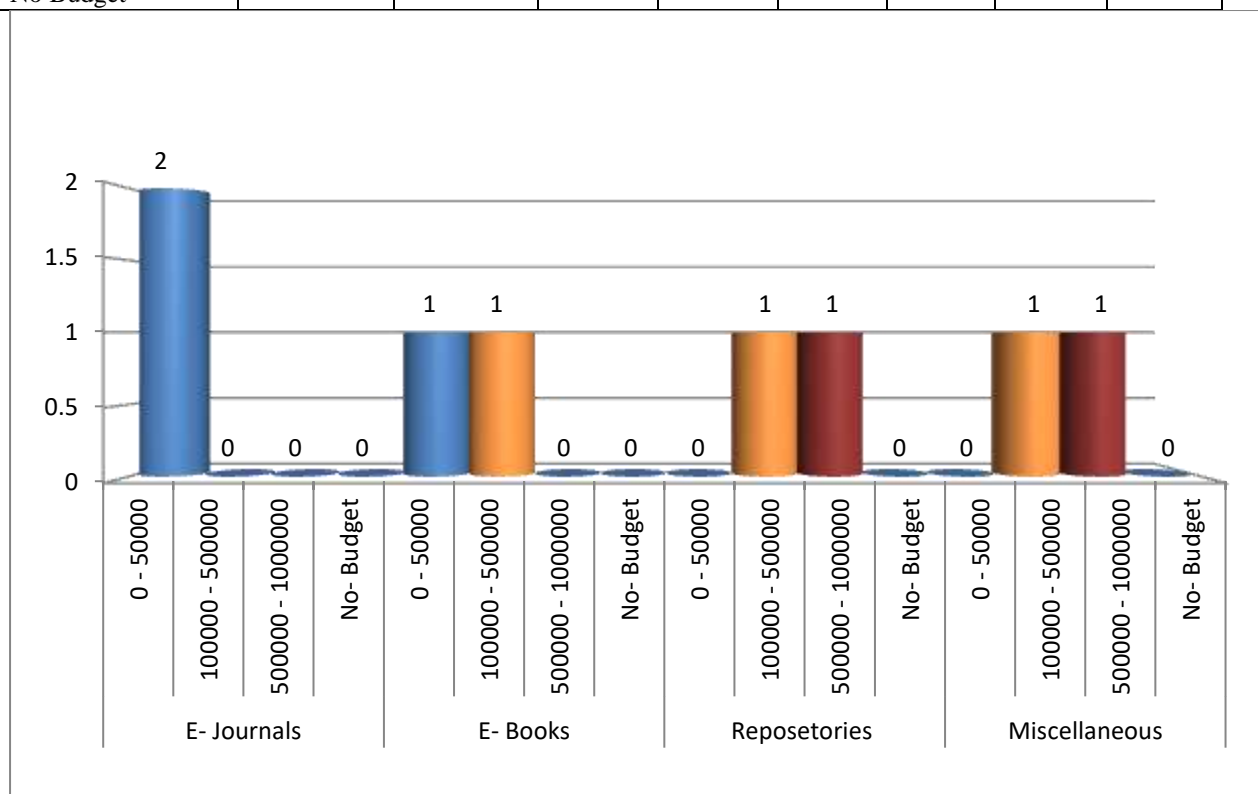| Sr. No.	Research Centres	Computers	Scanners	Printers	CD/ DVD	Software/s	Total
1.	NRCB	1	1	1	37	1	41
2.	NRCL	3	1	1	-	1	6

Fig. 8.4

Table 8.5 and fig. 8.4 shows available IT infrastructure for performing open access initiatives. NRCB has 37 CD/DVD and NRCL has no CD/DVD in their library. NRCB has 1 computer, 1 scanner, 1 printer and 1software, whereas NRCL has 3 computers, 1 scanner 1 printer and 1 software.

Table 8.6 Allocation of Library Budget.

Library Budget (Approximate) Rs	E-Journals		E-Books		Repositories		Miscellaneous	
	NRCB	NRCL	NRCB	NRCL	NRCB	NRCL	NRCB	NRCL
Below 50,000	✔	✔		✔				
50,000-1,00,000								
1,00,000 - 5,00,000			✔			✔		✔
5,00,000 - 10,00000					✔		✔	
10,00,000-15,00,000								
Above 15,00000								
No Budget								

Fig. 8.5

Above table 8.6 and fig. 8.5 shows allocation of budget on different heads. NRCB and NRCL both are getting budget below Rs 50000 for E-journals. For e-book NRCL is getting below Rs 50000 and NRCB is getting Rs 1lakhs to 5 lakhs. NRCL is getting Rs 1 lakhs to 5 lakhs for repositories whereas NRCB is getting Rs 5 lakhs to 10 lakhs. NRCL is getting Rs 1 lakhs to 5 lakhs budget for miscellaneous heads and NRCB is getting Rs 5 lakhs to 10 lakhs.

Table 8.7 Adequacy of library budget for providing open access services.

Sr. No.	Research Centers	Sufficient	Can't say
1.	NRCB		✔
2.	NRCL	✔	

Table 8.7 shows adequacy of library budget for providing open access services. For National Research Centre for Litchi budget is sufficient for open access services.

Digitization Status

Table 8.8 Digitization Status of library collections.

Sr. No.	Research Centers	Yes	No	No but plan for digitization
1.	NRCB			✓
2.	NRCL		✓	

Table no. 8.8 shows digitization status of both the libraries. There is no digitization in National Research Centre library and National Research Centre for Banana is planning for digitization.

Table 8.9 Reasons for not digitized.

Sr. No.	Research Centers	Lack of skills/expertise
1.	NRCL	✓

.

Above table 8.9shows that lack of skills and expertise is the reason behind non digitization of the library.

Table 8.10 Mission and Purpose of Open Access

Sr. No.	Research Centres	NRCB	NRCL
1.	**Exchange Information**	✓	✓
2.	**Set Standards**	-	-
3.	**Educate**	-	✓
4.	**Promote Innovation**	-	✓

Table 8.10 shows the mission and purpose of open access initiatives. Both the libraries National Research Centre for Banana and National Research Centre for Litchi main purpose are to exchange information through open access initiatives.

Table 8.11 Key Open Access Initiatives/Services of the Library

Sr. No.	Research Centres	Institutional Repository	Other
1.	NRCB	✓	-
2.	NRCL	✓	-

Table 6.12

Above table 8.11 shows key open access initiatives services of the library. Both the libraries provide institutional repository service.

8.5 Open Access Policy

Table 8.12 Written Open Access Policy

Sr. No.	Research Centres	Yes	No
1.	NRCB	-	✓
2.	NRCL	-	✓

Above table 8.12 shows availability of written open access policy in selected libraries of NRC's. There is no written open access policy in both NRCB and NRCL.

Table 8.13 Measures to control copyright/digital rights of E-Resources

Sr. No.	Research Centres	Special security measures	Anti-plagiarism software	Any other
1.	NRCB	✓	-	-
2.	NRCL	-	✓	-

Above table 8.13 shows measures to control copyright/digital rights of e-resources. Copyright is very important element in open access initiatives. National Research Centre for Banana applies special security measures for copyright and digital rights. National Research Centre for Litchi applies anti-plagiarism software for copyrights and digital rights.

Table 8.14 Organization of Archives

Sr. No.	Research Centres	Selected articles	Organize by category	As issued originally
1.	NRCB	✓	-	-
2.	NRCL	-	✓	✓

Archiving is a very important service performed by institutions in their repositories. National Research Centre for Banana organised their archives by selected articles. National Research Centre for Litchi was organised their archives by category and as issued originally.

Table 8.15   Member of Indian Consortia Initiatives

Sr. No.	Research Centres	CERA (Consortium of Electronic Resources in Agriculture)	ICAR e-consortia	HELNET Consortium
1.	NRCB	-	-	✓
2.	NRCL	✓	-	KOHA e-granth

Both the NRC's are also member of other Indian consortia initiatives. National Research Centre for Banana is member of HELNET and National Research Centre for Litchi is member of CeRA and KOHA e-granth.

Table 8.16 Maintaining Institutional Repository

Sr. No.	Research Centres	Yes	No
1.	NRCB	-	✓
2.	NRCL	-	✓

Maintaining institutional repository is a primary function under open access initiatives. Both the NRC libraries were not maintaining any institutional repository from their side because ICAR has their own institutional repository known as CeRA.

8.7 Attitude towards Open Access Initiative

This section describes the attitude of librarian/library in-charge towards open access initiatives. The section consist awareness of open access publishing, awareness of any initiative in country to promote open access publishing, opinion on cost effectiveness of open access publishing model and opinion on the effect of the quality of the scholarly publishing.

Table 8.17 Awareness of Open Access Publishing

Sr. No.	Research Centres	I'm not aware of OA publishing	Three years	More than three years
1.	NRCB	✓	-	-
2.	NRCL	-	-	✓

This study relates to status of open access initiative in 2 different national research centres of ICAR. So to know the awareness of open access publishing model is must. Table 8.17 shows that librarian of National Research Centre for Banana is not aware of OA publishing. National Research Centre for Litchi is aware about open access publishing from more than three years.

Table 8.18 Awareness of any initiatives in country to promote Open Access publishing

Sr. No.	Research Centres	Yes
1.	NRCB	✓
2.	NRCL	✓

As shows in table 8.18 both the librarians were aware of initiatives in country to promote open access publishing.

Table 8.19 Opinion on the contention that Open Access publishing model will be more cost-effective to the academic research community in the long run than the current subscription-based model.

Sr. No.	Research Centres	Strongly agree	Agree	Disagree	Don't know
1.	NRCB	-	-	✓	-
2.	NRCL	-	✓	-	-

Open Access publishing model would be successful when it will be more cost effective to the academic community. National Research Centre for Banana is disagreeing with the statement. National research Centre for Litchi is agree with the statement that open access publishing model will be more cost effective to the academic research community in the long run.

Table 8.20 Opinion on cost effectiveness of Open Access Publishing model

Sr. No.	Research Centres	Publishing costs will reduce	Publishers' profits will reduce	Didn't Know
1.	NRCB	✓	-	-
2.	NRCL	✓	-	-

Table 8.20 shows opinion on cost effectiveness of open access publishing model. National Research Centre for Banana and National Research Centre for Litchi were experiencing that publishing costs will reduce after open access publishing model.

Open Access model becomes more widely accepted, publishers may compete for work on the basis of price as well as the strength of their journal brands and quality of service. Opinion on the affect of the quality of the scholarly publishing process by this type of price-based competition.

Table 8.21

Sr. No.	Research Centres	In a positive way	In a negative way	Don't know

| 1. | NRCB | - | ✓ | - |
| 2. | NRCL | ✓ | - | - |

After applying open access model, publishers may compete for work on the basis of price as well as the strength of their journal brands and quality of service. Above table 8.21 shows opinion on the effect of the quality of the scholarly publishing process. National Research Centre for Banana librarian says that it affects in a negative way and National Research Centre for Litchi said that it affects the quality of the scholarly publishing process in a positive way.

8.8 Impact of Open Access Initiatives
This sections deals with impact of open access initiatives. This is further divided in 6 sections with different sub headings.

Table 8.22 Impact on library image after introduction of open access services

Sr. No.	Research Centres	Improved	Decreased	No. Change
1.	NRCB	✓	-	-
2.	NRCL	-	-	-

National Research Centre for Banana says the image of library is improved after introduction of open access services. National Research Centre for Litchi was not given any response on this question.

Table 8.23 Impact on number of users after introducing open access Services

Sr. No.	Research Centres	Increased	Decreased
1.	NRCB	-	✓
2.	NRCL	-	-

Number of users in National Research Centre for Banana is decreased after introducing open access services. National Research Centre for Litchi was not given any response on this question.

Table 8.24 Impact of open access initiative on annual budget of selected libraries.

Sr. No.	Research Centres	Yes	No
1.	NRCB	-	✓
2.	NRCL	-	-

Table no. 8.24 shows the impact of open access initiatives on annual budget of libraries. National Research Centre for Banana has no impact on annual budget of library. National Research Centre for Litchi was not given any response on this question.

Table 8.25 Opinion on significant move to Open Access publishing may disrupt the established system of scholarly publishing.

Sr. No.	Research Centres	Very concerned	Concerned	Not very concerned	Not at all concerned	Don't know
1.	NRCB	-	✓	-	-	-
2.	NRCL	-	-	-	✓	-

Above table 8.25 shows opinion on significant move to open access publishing may disrupt the established system of scholarly publishing. National Research Centre for Banana is concerned on this disruption whereas National Research Centre for Litchi is not at all concerned on this type of disruption.
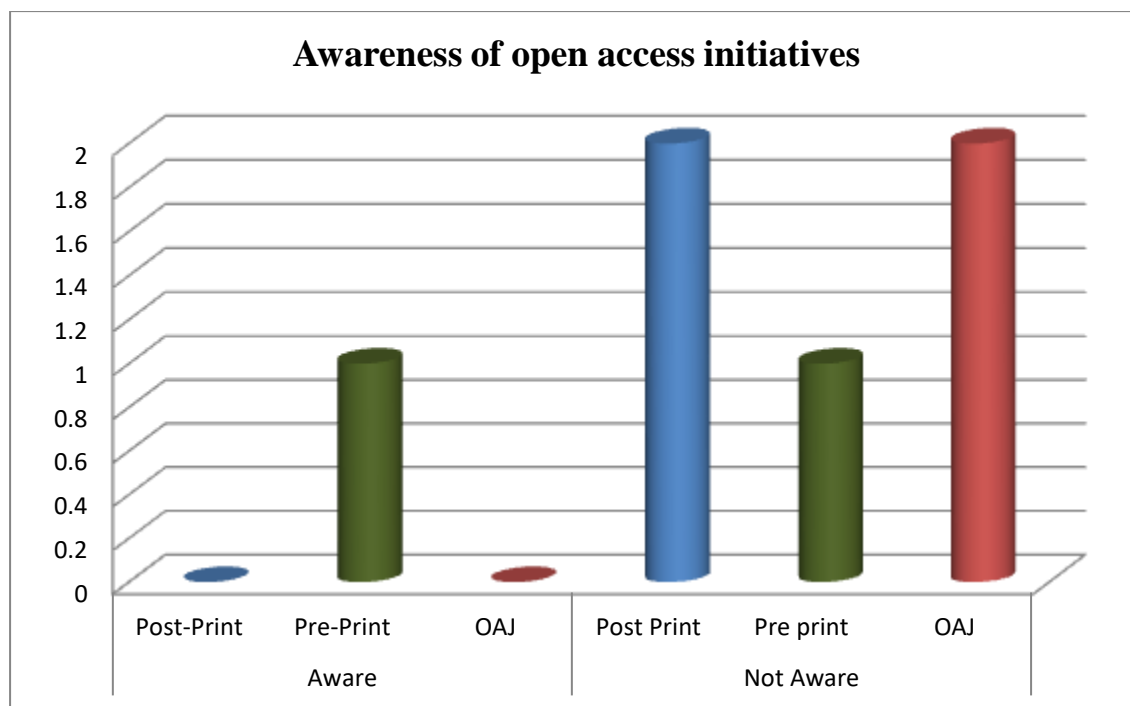
Table 8.26 Opinion about the efficiency of your library staff regarding handling Electronic Information Sources and Services.

Sr. No.	Research Centres	All are efficient	Majority are efficient	Majority are not efficient	Can't say
1.	NRCB	-	-	-	✓
2.	NRCL	-	-	✓	-

Handling of electronic information sources and services by library staff should be very much efficient for providing satisfactory library service. Table 8.26 shows the efficiency of library staff of NRCB and NRCL. National Research Centre for Banana can't say anything on this opinion whereas majority of library staffs are not efficient in handling electronic information sources and services in library of National Research Centre for Litchi.

Table 8.27 Awareness of open access Initiatives.

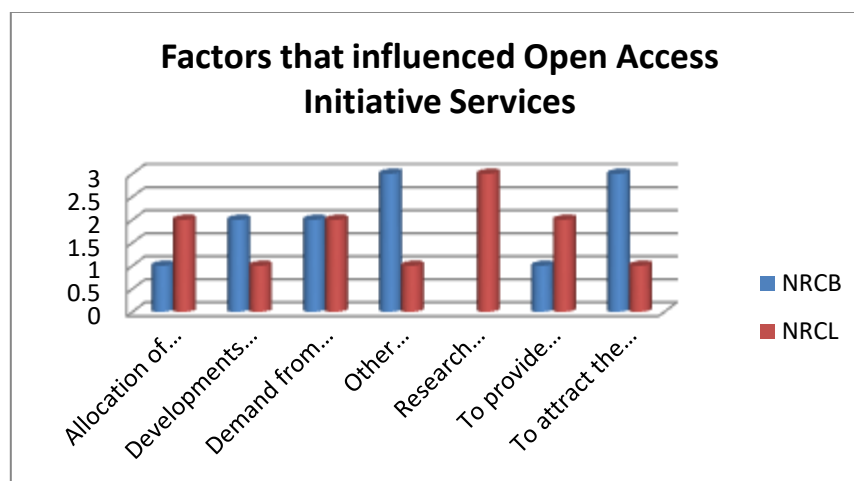| Open Access Initiatives	Aware		Not Aware	
	NRCB	NRCL	NRCB	NRCL
Post Print	-	-	✓	✓
Pre-Prints	✓	-		✓
Open Access Journals	-	-	✓	✓

Fig. 8.6

Above table 8.27 and Fig 8.6 shows the awareness of open access publishing in concern libraries of NRC's. Open access initiatives are further divided into post-print, pre-print and open access journals. NRCB and NRCL both were not aware of post- print open access initiatives whereas NRCB is aware of pre-print open access initiatives on the other hand NRCL is not aware of pre-print open access initiatives. NRCB and NRCL libraries were also not aware of open access journals in context open access initiatives.

8.9 Librarian's Opinion regarding Open Access Initiatives

This section deals with opinion of librarians of selected NRC's selected for study on different aspects of open access initiatives. It is described into 3 tables factors that influenced open access initiatives factors, challenges and barriers in open access initiatives and different software's used in libraries.

Table 8.28 Factors that influenced the Open Access Initiatives Services in your library.
(Rating scale: 1= Strongly agree; 2= Agree; 3= Undecided; 4= Disagree; 5= Strongly disagree).

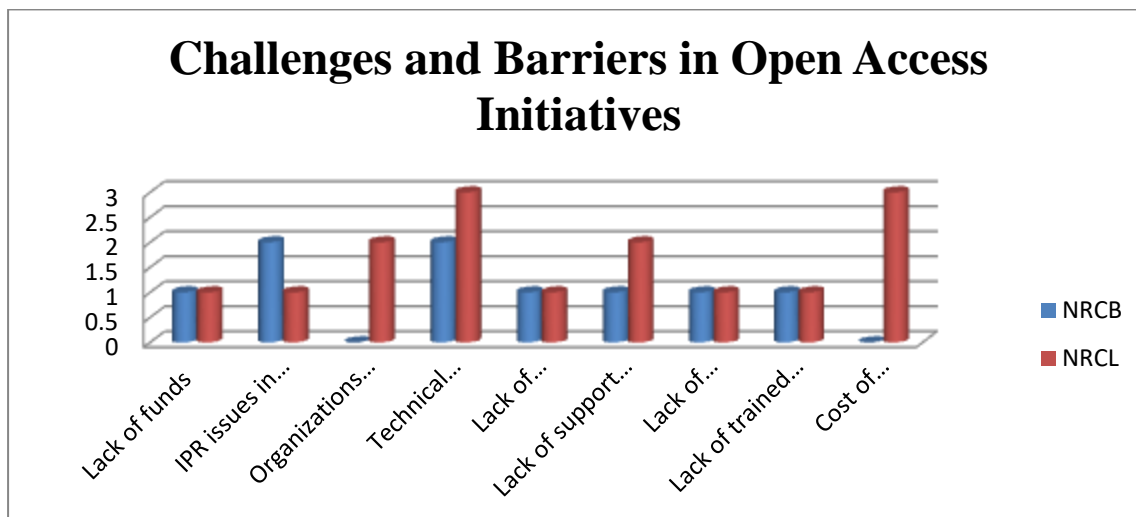|	Allocation of funds	Developments in the field ICT	Demand from the users	Other institutions repositories and consortiums	Research centre administration interest	To provide advanced services to users	To attract the attention of higher authority
NRCB	1	2	2	3		1	3
NRCL	2	1	2	1	3	2	1

Fig. 8.7

Above table 8.28 and fig. 8.7 shows the factors that influenced open access initiative services through ratings from 1 to 5. National Research Centre for Banana is strongly agree that allocation of funds and to provide advanced services to users are factors that influenced open access initiatives. NRCB is agree that development in the field of ICT and demand from the users are factors that influenced open access initiatives. NRCB is undecided on other institution repositories and consortiums and to attract the attention of higher authority. NRCL is strongly agree that development in the field of ICT, other institution repositories and consortiums and to attract the attention of higher authority are factors that influenced open access initiatives. NRCL is agree that allocation of funds, demand from the users and to provide advanced services to users are factors that influenced open access initiatives. NRCL is undecided that research center administration interest is the factor that influenced open access initiatives.

Table 8.29 Challenges and Barriers in Open Access Initiatives.
(Please use this rating scale: 1=Strongly agree; 2= Agree; 3= Undecided; 4= Disagree; 5= Strongly disagree)

Challenges and Barriers	NRCB	NRCL
Lack of funds	1	1
IPR issues in performing open access	2	1
Organizations open access policy	-	2

Technical hurdles to accessing data	2	3
Lack of knowledge to use open access resources among library users	1	1
Lack of support from the Administration	1	2
Lack of infrastructure facilities	1	1
Lack of trained staff	1	1
Cost of providing open access services is high, and users make less use of them	-	3

Fig. 8.8

For effective implication of any initiative it is important to know the challenges and barriers in open access initiatives.

Table 8.30 Software used in the library

Sr. No.	Research Centres	Software
1.	NRCB	Nirmal Lib. S/W
2.	NRCL	KOHA

Table 8.30 shows the software's used in selected libraries. National Research Centre for Banana is using Nirmal library software whereas National Research centre for Litchi is having KOHA in their library.

9.0 Result, Findings and Suggestions
This section deals with the findings of this study followed by suggestions.

9.1 Findings of this study are as follows:
➢ NRCB is the oldest institution among both the national research Centers.
➢ NRCB library is known as ICAR- NRCB library whereas NRCL library is known as central library, NRCL.
➢ NRCB has the maximum number of library users in their library. There are 17 scientists, 3 faculty members and 30 staff.
➢ NRCL has larger collection of print materials than of NRCB. But in terms of non-print materials NRCB has largest collection than NRCL.
➢ It terms of allocation of budget on different heads both NRCB and NRCL were allocated less than Rs. 50000 on e-journals. NRCB is allocating Rs. 1 lakh to 5 lakh and NRCL is receiving less than Rs. 50000 for e-books. For repositories NRCB is getting Rs. 5 lakhs to 10 lakhs. For miscellaneous head NRCB is getting Rs 5 lakhs to 10 lakhs and NRCL is getting Rs. 1 lakhs to 5 lakhs.
➢ NRCL finds the library budget is sufficient for providing open access services.

- NRCL library is not digitized because of lack of expertise and NRCB library is planning for digitization.
- Purpose of open access in NRCB is to exchange of information and in NRCL to educate and promote innovation.
- Institutional repository is the key open access initiatives service in both NRCL and NRCB libraries.
- There are no written open access policies in both the libraries.
- For controlling copyright/digital rights of e-resources special security measures were taken by NRCB and anti-plagiarism software is used by NRCL library.
- NRCB is organizing archives by selected articles. NRCL is organizing by category and as issued originally.
- NRCL is member of CeRA and KOHA e-granth whereas NRCB is member of HELNET consortium.
- NRCB librarian is not aware of open access publishing whereas NRCL librarian knows from more than three years.
- NRCL librarian is agreeing on the statement that "open access publishing model will be more cost effective to the academic research community".
- Both librarians said that publishing cost will reduce after implication of open access publishing model.
- NRCB said that the image of library is improved after introduction of open access services.
- Numbers of users were decreased after introducing open access services in NRCB library.
- There is no impact on annual budget of NRCB after implementing open access initiatives.
- NRCB is concerned on significant move to open access publishing that may disrupt the established system of scholarly publishing.
- In NRCL library majority of staff were not efficient in handling of electronic information sources and services.
- NRCB is aware of pre-print open access initiatives and not aware of post-print and open access journals. NRCL is not aware of post-print, pre-print and open access journals.
- NRCB is strongly agreed that allocation of fund is influence the open access initiatives services. Development in the field of ICT is the factor in NRCL library that strongly influenced open access initiatives services.
- Lack of fund is the big challenge in front of open access initiatives in both the libraries. IPR issues and lack of infrastructure are other barriers.

9.2 Suggestions
- Both the libraries should have more collection of non-print materials which helps in providing open access services.
- Lack of budget is a big barrier in providing open access services in both NRCB and NRCL libraries. So budget allocation need to be increased for open access initiative and equally distributed on all heads.
- Lack of expert is also another big challenge in open access initiative services. Staff should be well trained and should have sound knowledge of digitization.
- For providing smooth open access services there should be written open access policy in both the libraries.
- Librarian should have deep knowledge of open access publishing so that he can easily implement the various open access services without any disruption.

9.3 Conclusion
This study aims to find out the status of open access initiatives, to find out the available infrastructure and trained manpower to provide fluent open access services in both the libraries. Both the libraries were facing lack of budget for providing open access services. They also have lack of trained staff and lack of expertise. Both the libraries should have more collection of non-print materials which helps in providing open access services and for providing smooth open access services there should be written open access policy in both the libraries.

10.0 References

1. Anderson, T. (2015). Open Access Scholarly Publications as OER. *The International Review of Research in Open and Distributed Learninig*, 1-8.

2. Birdie, C. (2005). Library Consortia and Open Access Initiatives: Collaboration at Different Level. *SLib 2005 : Positioning Information Services Towards Organisational Excellence* (pp. 241-254). Kuala Lumpur: PETRONAS.

189 | P a g e

Sumit Ranjan and Dr. R. K. Choudhary : Open Access Initiatives: A Comparative Study Of National Research Centre For Banana And National Research Centre For Litchi

3.   Bist, R., & Mohanty, V. (2006). OPEN ACCESS MOVEMENT AND OPEN ACCESS INITIATIVES IN INDIA. *4th Convention PLANNER -2006,* (pp. 236-246). Aizawl: INFLIBNET.

4.   Bowen, E., Mattaini, M., & Groote, S. (2013). Open Access for Social Work Research and Practice. *Journal of the Society for Social Work and Research*, 31-46.

5.   Burns, C. (2014). Academic libraries and open access strategies. *Advances in Library Administration and Organization*, 147-211.

6.   Chauhan, S., & Kaur, S. (2009). A National Model for Open Access to Scholarly Literature in Networked Environment. *ICAL 2009 – VISION AND ROLES OF THE FUTURE ACADEMIC LIBRARIES* (pp. 99-104). New Delhi: University of Delhi.

7.   Davis, P., Lewenstein, B., Simon, a., Booth,, J., & Connolly, M. (2008). Open access publishing, article downloads, and citations:randomised controlled trial. *British Medical Journal*, 343-345.

8.   Gasparyan, A., Ayvazyan, L., & Kitas, G. (2013). Open access: changing global science publishing. *SCIENCE COMMUNICATION*, 403-406.

9.   Islam, M. (2013). Institutional Repositories and Open Access Initiatives in Bangladesh: A New Paradigm of Scholarly Communication. *Liber Quarterly*, 03-24.

10. Joshi, A., Vatnal, R., & A, M. (2012). Open Access Initiatives: A Boon to Academic Libraries. *Library Philosophy and Practice*, 1-12.

11. Kennan, M. (2011). Learning to share: mandates and open access. *Library Management*, 302 - 318.

12. Klump, J., Bertelmann, R., Brase, J., Diepenbroek, M., Grobe, H., Höck, H., et al. (2006). DATA PUBLICATION IN THE OPEN ACCESS INITIATIVE. *Data Science Journal*, 79-83.

13. Maio, P. (2011). Towards a Reference Model for Open Access and Knowledge Sharing, Lessons from Systems Research. *International Journal of Computer Science Issues*, 09-20.

14. Obaje, A., & Amkpa, A. (2013). Open Access Institutional Repository in the University of Jos: Issues and Challenges. *International Research: Journal of Library & Information Science*, 532-541.

15. Pandita, R. (2013). Growing Trend towards Open Access Publishing at Global Level: An Analysis of Directory of Open Access Journals (DOAJ). *International Research: Journal of Library & Information Science*, 562-578.

16. Roy, B., Biswas, S. C., & Mukhopadhyay, P. (2013). Global Visibility of Indian Open Access Institutional Digital Repositories. *International Research: Journal of Library & Information Science*, 182-194.

17. Schroter, S., Tite, L., & Smith, R. (2005). Perceptions Of Open Access Publishing: Interviews With Journal Authors. *British Medical Journal*, 756-759.

18. Shukla, P., & Singh, A. (2009). Open access initiatives for agricultural information transfer systems in India. *WORLD LIBRARY AND INFORMATION CONGRESS: 75TH IFLA GENERAL CONFERENCE AND COUNCIL.* Milan: IFLA.

19. Xia, J. (2013). The Open Access Divide. *Publications*, 113-139.

190 | P a g e

Sumit Ranjan and Dr. R. K. Choudhary : Open Access Initiatives: A Comparative Study Of National Research Centre For Banana And National Research Centre For Litchi