

# **Digital Library in Forestry**

[Final Report of Project KFRI 530/2007]

**N. Sarojam**

**K.H. Hussain**

**K. Sankara Pillai**

**K.F. George**

**T.K. Lijesh**



**Kerala Forest Research Institute**

(An Institution of the Kerala State Council for Science, Technology and Environment)

**Peechi 680 653, Thrissur, Kerala**

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## PROJECT DETAILS

- a. Project Number      KFRI 530/2007
- b. Title                      Digital Library in Forestry
- c. Funding Agency      KFRI Plan Grant
- d. Duration                April 2007 – March 2010 (Extended up to March 2013)
- e. Objectives
  1. To make a digital collection of documents on forestry by digitizing documents in the library.
  2. Download documents on forestry from the internet.
  3. Develop a database of these documents and make available to search and retrieve through the library portal to be developed.
- f. Investigators        Sankara Pillai, K. (PI) - April 2007- May 2008  
Sarojam, N. (PI) - Jun 2008 - 2013  
Hussain, K.H.  
George, K.F.
- g. Project Assistant    Lijesh, T.K.
- h. Expected Output    Digital collections of documents on forestry and make it available to search and retrieve.

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## **ABSTRACT**

Quantity of information is emerging at an exponential manner, where it is difficult to trace the information for a specific purpose. The vast amount of information being generated in an exponential manner makes it difficult to collect and organize. Adding to the complexity are images and multimedia content which present even more challenges for retrieval. Recent developments in information and communication technologies come to the help of organizing the vast amount of information. Digitisation of documents offers many advantages to managing a large collection of documents of any format. It is possible to preserve the documents for long term and to store systematically. It is easy to locate information stored in the library. Space of the library can also be saved. It facilitates easy access to the materials at any time from remote places. KFRI Library had initiated the work of building up a digital archive of the publications of KFRI and later other collections of the library were added. An overview of the collections brought into digital archives and how it is implemented and the benefits to the users are discussed in this report.

## **Introduction**

As a result of study and research over a period of more than a century, Forestry has evolved as a multi-disciplinary science and accumulated large amount of information in various aspects which are scattered throughout the entire spectrum of knowledge. The potential user, the scholar as producer of information and the scholar as user of the information in forestry cannot come across every piece of information he is supposed to make use of. The librarian who is acting as a link between the producer and user of information is always trying to collect and organize the information to cater to the needs of the scholars. Proper organization is very essential for the control and dissemination of the information to meet the requirements of all these users. The emergence of information and communication technologies has come to the help of organizing information in such a way to make it readily available when it is required. Recent developments in the information and communication technologies, especially the internet and web based technologies have brought significant changes in the ways of information generation, distribution, access and use. Digital revolution has brought drastic changes in information storage, access and retrieving processes. Many of the barriers which hinder the steady flow of information are removed by the digitization. Digitization means the process of transforming the printed materials into electronic format. Conventional materials are converted from analog media to digital media. This has helped librarians to scan any analog document to convert it into digital format for long term preservation and easy access. Valuable information generated by experienced foresters and researchers can be shared among researchers by this digital technology. This project as a digital library for the subject of forestry is undertaken with the purpose of providing online access to these valuable collections and services at researchers' desktop.

The books and journals in the library are the most valuable assets for which the library has already invested huge amount of money from the date of its inception and all these resources are to be preserved and shared among researchers. The electronic version of these resources can be preserved for long which helps to

aggregate all scattered resources at one location. Accessibility of precise and reliable information at the right time to the right personnel in the form most conveniently usable by him can be provided. The availability of the right type of information can trigger new directions in research, development and managerial action. It is with this purpose that the Kerala Forest Research Institute (KFRI) library initiated the programme of digitizing the valuable materials in the library for its preservation as well as for providing wider access to the collections.

Details of how this digital library technology is implemented in KFRI and the nature of the collections made available to the users in digital form, to what digitization is done in each collection and how far it is available to the users of the library.

## **Digital Resources**

KFRI has a resourceful library in forestry and the resources of the library include books, journals, proceedings, reports, theses, dissertations, reprints, paper clippings, videos, CD/DVD, photographs, manuscripts, rare books, maps, pamphlets, popular articles, etc. Various collections have been brought into electronic form at different times and in such a way to make it readily retrievable. In the beginning much importance was given to the digital archiving of KFRI publications like research reports, scientific papers, extension materials, annual reports, newsletters, information bulletins, seminar papers, monographs, handbooks, proceedings, training manuals, theses and dissertations. Library, being a store house of these publications of KFRI, a digital version of these publications is built up simultaneously by the library. Many of these publications existed only in the print format and some of the publications were aged or partially damaged. Digitization was undertaken with a view to preserve such precious knowledge.

### **Research Reports**

KFRI undertakes multidisciplinary research through time bound research programmes sponsored by various states, national and international agencies. The primary output of these researches is the research reports. A compilation, which was developed in CDS/ISIS, an open source software, of these reports was brought out in the year 2000 and periodically updated subsequently. When the digital technology was introduced in 2001, the first attempt was to digitize the collection of research reports. These digitized reports were brought out in a CD with searchable facility. The CD was then distributed among the forest officials. After that both printed and digital versions of these reports were organized in the library. So far, 510 research reports have been published. From 2010 onwards reports are being collected in digital form as and when it is published and linked to the database. The library portal, developed in the year 2010, gave a platform where all these research reports are made available for digital access.



## **Scientific Papers**

Scientific papers published based on the work carried out at KFRI which include both published in National and international journals, chapters in books and the papers presented in seminars. Compilation of these papers have been brought out in the year 2000 with a collection of 1520 papers. Digitisation of scientific papers started in the year 2003 and a digital version of these papers can be accessed from the library portal.

A separate collection of the reports of extension and consultancy projects of KFRI is also maintained separately.

## **Theses**

KFRI is a research centre of Forest Research Institute (FRI) Deemed University, Calicut University, Mahatma Gandhi University and Cochin University of Science and Technology (CUSAT). A separate collection of the theses submitted based on the work done at KFRI is maintained in the library and its digital version developed can be accessed from the library portal. A total of 100 theses and 25 dissertations are available in the collection currently.

## **Information Bulletins**

A collection of Information Bulletins published on different subjects like wood preservation, vegetative propagation, seed storage, etc as part of different ongoing projects maintained in the library is brought to digital format. Many of these publications are printed both in English and Malayalam. A digital version of these information bulletins published so far is build up.

## **KFRI Newsletter: *Evergreen***

KFRI News letter *Evergreen* is being published twice in a year from the year 1975 onwards. Research programmes carried out by KFRI scientists in various times is depicted in the issues of *Evergreen*. All the issues are kept bound and its digital version is also built up as part of this program. Digital version of all the issues so far published can be accessed from the library portal. It is possible to search the contents by author or subject.

## **EBooks**

KFRI library houses more than 17000 books related to various subjects like Forestry, Ecology, Environment, Botany, Zoology, Wildlife, Biodiversity, Biotechnology, Entomology, Economics, Computer Science, Statistics, etc. and its Online Public Access Catalog (OPAC) in KOHA, an open source integrated library management software, is possible to access by the users. The rich and valued collections built over four decades in the library have some of the rare reference materials. A digital collection of these rare and important books in the subject forestry is built up and made available for using from the library portal. So far 843 books are made available in digital form which includes the ebooks downloaded from different sources especially from the institutional websites. E-Books are bookmarked to facilitate internal navigation. Acrobat 6.0 is used for content creation. Database of the contents of books of multivolumes, seminar proceedings, annual reviews and books in different series is also being developed and to be made available for searching.

## **Journals**

A total of 85 very important journals are subscribed in the library on forestry, environment, botany, wildlife, soil science, etc. Out of 41 foreign journals, 36 are in online and out of 165 Indian journals, 9 are in online. Access to all these online journals subscribed in the library is possible from the portal. Each journal with its archives can be searched and articles downloaded. The back volume collection of the library is a precious resource which include the volumes of certain core journals in the field of forestry. Back volumes of the subscribed journals come to 11000 and the catalogue of these volumes are also made available in online. Search of contents of many of these back volumes are also made possible by author, title and subject.

List of Foreign Journals - 2016		
S.NO.	TITLE NAME	STATUS
1	<a href="#">Agricell Reports</a>	Activated - Print Only
2	<a href="#">Annals of Forest Science</a>	Activated - Print Only
3	<a href="#">Annual Reviews of Ecology, Evolution and Systematics</a>	Activated
4	<a href="#">Annual Reviews of Entomology</a>	Activated
5	<a href="#">Annual Reviews of Genetics</a>	Activated
6	<a href="#">Annual Reviews of Phytopathology</a>	Activated
7	<a href="#">Annual Reviews of Plant Biology (Formerly Annual Review of Plant Physiology and Molecular Biology)</a>	Activated
8	<a href="#">Biological Invasions</a>	Activated
9	<a href="#">Biotropica</a>	Activated
10	<a href="#">Blumea</a>	Activated
11	<a href="#">Curator: The Museum Journal</a>	Activated
12	<a href="#">Conservation Genetics</a>	Activated
13	<a href="#">Dendrochronologia</a>	Activated

Fig. 1 Partial list of foreign journals in online

## Databases

Databases include both developed in the library and the online databases subscribed in the library. It is possible to search the databases developed for bamboo, teak and rattan through the links provided in the library portal. As access is provided in the library portal, it is possible to search the online databases of CABI Abstracts and EBSCO's Environmental Science subscribed in the library.

The screenshot displays the CABI CAB Direct search interface. At the top, the CABI logo and 'CAB Direct' are visible. Below the logo, there are search options: 'Keyword', 'Advanced', 'Browse all contents', and 'Thesaurus'. A search bar contains the word 'bamboo', with a 'clear search' link and a 'Search' button. Below the search bar, there are navigation tabs: 'Search results', 'Selected records', 'Search history', 'My CABI', and 'My Projects'. A 'Save search' button and an 'Edit Search' dropdown are also present. The search results section shows 'Search Results: 14,652 results (approx.)'. There are 'Actions' icons and a 'Sort by: Relevance' dropdown. The 'Show: 25' and 'Page: 1 of 587' are displayed. A 'Results by Year' section includes a slider for 'From 1915 To 2016' and a bar chart showing the number of abstracts over time. The first search result is titled '1. Rapid determination of chemical composition and classification of bamboo fractions using visible-near infrared spectroscopy coupled with multivariate data analysis.' The background text of this result discusses the conversion of bamboo into biofuels and chemicals, and the need for efficient prediction methods. The author(s) listed are Yang Zhong, Li Kang, Zhang MaoMao, Xin DongLin, and Zhang JunHua. The publisher is BioMed Central Ltd, London, UK. The journal article is 'Biotechnology for Biofuels' 2016 Vol 9 No 35 pp (9 February 2016) ref 37.

Fig. 2 CABI database sample search

## **CD/DVDs**

This collection includes the databases subscribed in the library, digital archives of journals, publications of international organizations, CD published along with books, CD/DVD published by KFRI like *Flowering plants of Kerala*. It is possible to access the digital archives of journals like Indian Forester, Journal of Bombay Natural History Society, Indian Phytopathology, Unasylva, etc. from the library portal.

## **Eprints**

As forestry is an interdisciplinary subject, subscribing all the journals required for research at KFRI was impossible. Instead journal articles required for research from different sources like its authors, other libraries and National Institute of Science Communication and Information Resources (NISCAIR) were collected in the past. Reprints collected from various sources at different times now form a huge collection. It is possible to access the catalogue of these reprints, developed in CDS/ISIS from the library portal. Links to eprints is provided in the database. So far, 2500 eprints are made available for search and retrieve.

## **Websites**

Links to the two websites developed by KFRI, one for Indian Forestry Abstracts and another for BIC-India are provided in the library portal. Work of indexing documents which include the papers published in various journals, seminar proceedings, reports and books, is progressing. So far, 6067 documents are indexed and these documents can be searched by author, title and subject. Short abstract is also provided to each document. This work is started in the year 2012 and it is updated every month. Full text articles are also downloaded/digitised and these are also added to the eprint collection. Database of BIC India website which includes mainly the bibliography on bamboo can be searched by author, title and subject. Full text of these documents collected from different sources are also part of the digital resources of the library.

## **Other Publications**

Other major collections of the library is of Indian Forest Records, Published books of KFRI, popular articles and an archive of miscellaneous literature including pamphlets, paper clippings, etc.

## Materials and Methods

Digitization facilitated online access to the valuable archives owned by the library to scientists, researchers, teachers and students. First the attempt was to build a digital collection of institutional repositories like research reports, scientific papers, papers presented in seminars, theses, newsletters, information bulletins, annual reports, etc. Later digitization of the collections of library books, reprints, Indian Forest Records, pamphlets, etc was done. In the case of books very rare and widely circulated books on forestry are scanned to build digital collection. All forest working plans and management plans in the library, and also books collected from different sources are also added to this collection which include very important and rare books selected from the collections handed over by former directors like Dr. Ganapathy, Dr. C. Chandrashekharan and Dr. K.K. Nair. Collections of books and proceedings of Bamboo Information Centre - India (BIC - India), books available on teak, canes, sacred groves and books which are out of stock but published by KFRI. Scientific Papers published by the scientists and the papers presented at the seminar are also digitized. Reprints collected by the library for various research programmes and the reprints collected for the BIC-India, teak museum, downloaded for different purposes, collections handed over by former directors like Dr. Ganapathy, Dr. C. Chandrashekharan and Dr. K.K. Nair and the retired scientists like Dr. P.V. Nair, Dr. P.K. Muraleedharan, Dr. C. Renuka, Dr. Muktesh Kumar, Dr. George Mathew, etc. Indian Forest Records (old series and new series), Indian Forest Bulletins and Pamphlets, publications of Forest Research Institute. There is much demand for these publications which are sometimes very rare, old and brittle, not available anywhere else. Small and rare, but useful pamphlets that are brought to digital form for future reference are now part of the collection. The database of reprints and Indian Forest Records were developed in different times.

Many of the earlier databases were developed in CDS/ISIS and these databases were brought to Comma Separated Values (CSV) file and then to Access database to check for duplication and other corrections. Again it is brought to CDS/ISIS for formatting in such a way to get a pleasing user interface and to limit the search in the fields of

author, title and subjects. Database of each collection is developed separately for convenience. The digitized files are brought to pdf format and linked to the database.

Steps involved in digitization process are: hardcopy > scanner > scanned image > digitized file > metadata and archival. Equipment like computer systems with good storage capacity, scanner, and a server are basically used for content generation. Scanners like flatbed scanner, planetary scanner, photocopier are used for imaging the pages of documents.

### KFRI Library Portal

Library portal is a window through which all scientists and researchers can access the online journals and the databases and sharable digital resources of the library from all locations of KFRI. It is developed in Wordpress and links to each collection are provided separately.

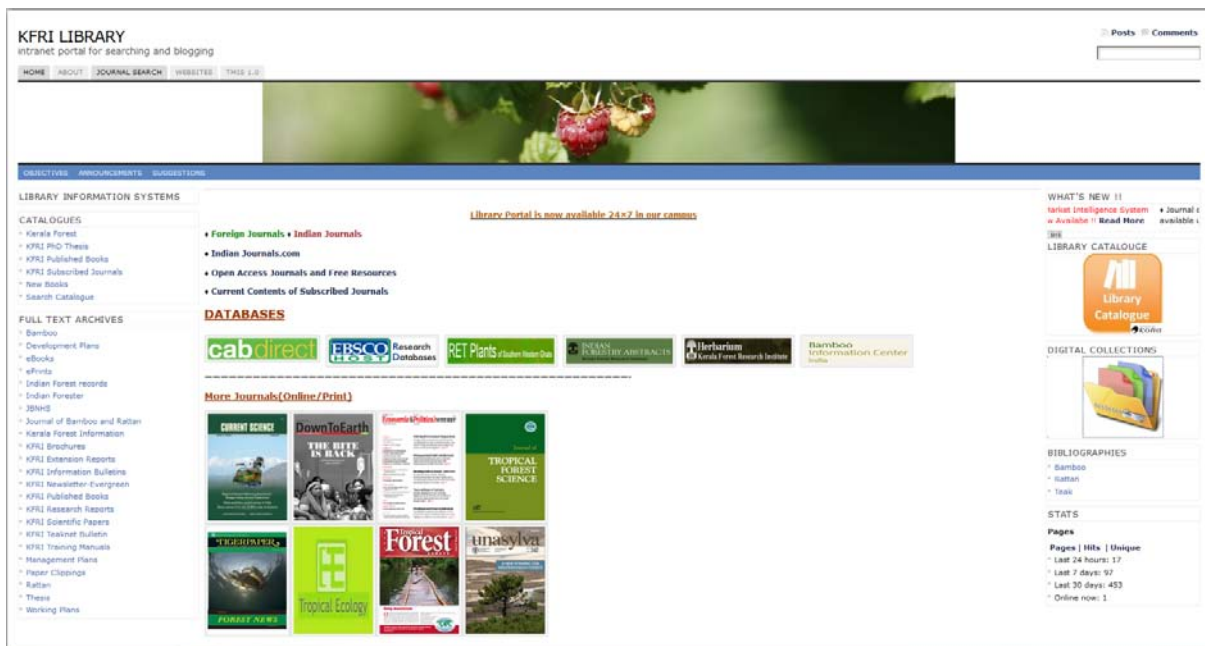


Fig. 3 KFRI Library Portal

The database developed in CDS/ISIS used in the initial stages of data compilation is transferred to Access database and then to CSV (Comma Separated Values) format to implement in website. Free and open server technology of APACHE-PHP is used for website development. The main components of WAMP are Windows, Apache,

Mysql and PHP. WAMP refers to a set of free (open source) applications, combined with Microsoft Windows, which are commonly used in Web server environments. All these are open source packages except Windows. A local server has been installed for institutional users. In the case of LAMP Linux is used instead of Windows.

The entry point of this system is index.php. This displays title and its menu. The menu is connected to a .PHP or .htm file, which will open a data base and display its contents. Apache, the public domain webserver program, installed in a local server along with the database such as MySQL and PHP compiler. When the user clicks on search button, a box for entering the search term will appear. The search string will be collected and parsed by the programme search php. The keyword will be passed to each of the databases sequentially. Hit records will be displayed on the screen.

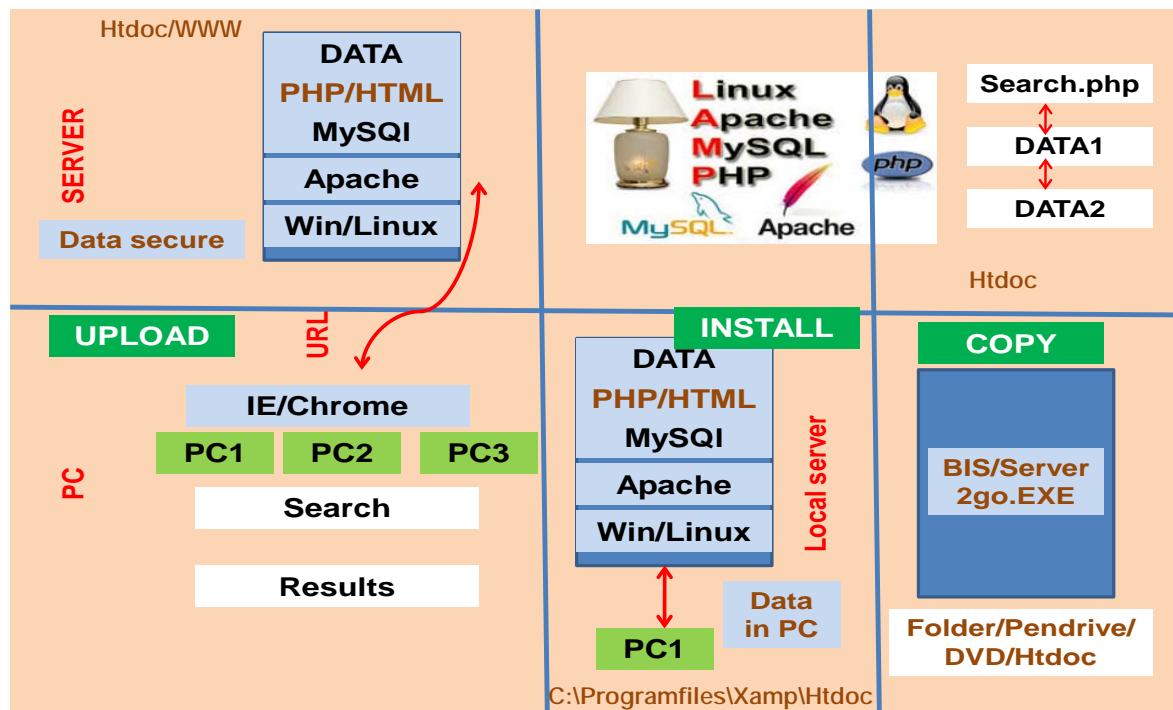


Fig. 4 Components of the digital library developed for forestry

Digital Library Software-Dspace was later used to build the KFRI in-house repository of digital resources and linked with the existing digital library. Dspace is selected, as it is open source software for digital library and is designed for digital preservation of documents. It is capable of searching and retrieving items by using basic or advanced search options. It is also possible to browse items by title, author,



subject, etc. It provides tools for management of digital assets, and is commonly used for building institutional repositories. It helps to create, index and retrieve various types of digital contents and helps to organize photographs, films, audio/videos, presentations and other forms of contents. The collection in DSpace is organised into communities, collections and items. An item is a deposited object of any type: a published article, an image, audio, or video file , etc. Related items are grouped into collections and related collections are grouped into communities. DSpace supports descriptive metadata fields such as Author , Title, Year, Publisher, Citation, Series/Report No., Subject Keywords, and Abstract etc. It has facility to acquire material from network through the DSpace users. The system supports importing of bulk metadata/contents of digital objects, weed out and to delete items from the collection.

**കേരള വനഗവേഷണ സ്ഥാപനം**  
**ഡിജിറ്റൽ ലൈബ്രറി**

### Communities in DSpace

Choose a community to browse its collections.

Eprints	2010
Indian Forest Records	436
KFRI Research Reports	496
KFRI Scientific Papers	1489
Management Plans	11
PhD. Thesis	100
Working Plans	60

### Discover

Author	
Hosagoudar, V.B.	93
Bhat, K.M.	89
Gnanaharan, R.	68
Mohanan, C.	68
Renuka, C.	63
Mathew, George	62
Balagopalan, M.	54
Sharma, J.K.	48
Balasundaran, M.	46

Subject	
Kerala	469
Western Ghats	165
India	158
Teak	121
Thiruvananthapuram	83
Tectona grandis	81
Idukki	68
Wayanad	67
teak	65

Date issued	
2000 - 2016	2208
1900 - 1999	2303
1894 - 1899	3

## Search

Search:

for   [Start a new search](#)

Add filters:  
Use filters to refine the search results.

Title  Equals

Results/Page  | Sort items by  In order  Authors/record

Results 1-10 of 61 (Search time: 0.055 seconds).

previous **1** 2 3 4 ... 7 next

Collection hits:

### Collection Name

Bamboo

## Discover

Author	
Seethalakshmi, K.K.	16
Sankar, S.	11
Pandalai, R.C.	10
Gnanaharan, R.	8
Kumar, Mukthesh	8
Raveendran, V.P.	7
Krishnankutty, C.N.	6
Anitha, V.	5
Bhat, K.V.	5
Muraleedharan, P.K.	5

[next >](#)

### Subject

Kerala 11

Results 41-50 of 61 (Search time: 0.004 seconds).

previous 1 2 3 4 **5** 6 7 next ...

Item hits:

Issue Date	Title	Author(s)
2011	Planting stock production of selected commercial species of Bamboos	Somen, C.K; Seethalakshmi, K.K; Unni, K.K; Raveendran, V.P
2001	Survey and estimation of Bamboo resources of Kerala	Nair, P.V; Menon, A.R.R; Krishnankutty, C.N
2012	Optimizing management of Bamboo stands using growth simulation models	Jayaraman, K; Pandalai, R.C; Sujatha, M.P
1991	Establishment of a bamboosetum	Surendran, T; Chacko, K.C; Gopalakrishnan Nair, N; Muhammad, E
2012	Field performance of micro and macro propagated planting stock of five commercially important bamboo species	Seethalakshmi, K.K; Nandakumar, U.N; Muralidharan, E.M; Unni, K.K; Jijeesh, C.M
2002	Manual of Seeds of Forest trees, Bamboos and Rattans	Chacko, K.C; Pandalai, R.C; Seethalakshmi, K.K; Mohanan, C; Mathew, G; Sasidharan, N
2009	Establishment of a bamboo stand for conservation and sustainable utilization of (Arayambu) Pseudoxytenanthera bourdillonii (Gamble) Naithani	Kumar, M; Seethalakshmi, K.K

Anitha, V, Muraleedharan, P.K, Sa...	1
Anitha, V, Muraleedharan, P.K, Se...	1
Bhat, K.V, Balasundaran, M	1
Bhat, K.V, Pandalai, R.C	1

[next >](#)

### Subject

cane, bamboo; handicrafts	2
Marayur Sandal Reserves; natural ...	2
Arayambu; Pseudoxytenanthera bour...	1
Bamboo charcoal; bamboo activated...	1
Bamboo culms; Thiruvananthapuram;...	1
Bamboo handicraft industry; South...	1

Fig. 5 Search results of the term 'bamboo' from KFRI digital archives in Dspace

## Results and Discussion

Digitization of documents offers many advantages to the library users especially to manage large collections of documents. Different types of collections can be stored and managed separately and can be provided online access. Unnecessary duplication of resources can be avoided. Information from these can be accessed by users directly without the support of library staff. The users can access the library all the twenty four hours from their desktop computers. The brittle, old, and fragile documents can be preserved for long time. Searching and browsing of information is very fast and the digital resources can be searched by title, author, year or subject of the document. Sharing of information is also possible and much space of the library can also be saved. It is possible to give latest information of their interest.

In the digital age, research is mainly based on what is covered by information systems and what is available with a mouse click. Materials not covered by major databases or not digitally available, due to its poor circulation and documentation fail to come to the notice of practicing foresters and researchers. The project digital library for the subject forestry is undertaken with the purpose of providing online access to these electronic collections and services at researchers' desktop. So each publication received by the institute can be brought to the attention of the public especially foresters and scientists. Researchers in the field especially from various institutions in South India visit this library for reference work.

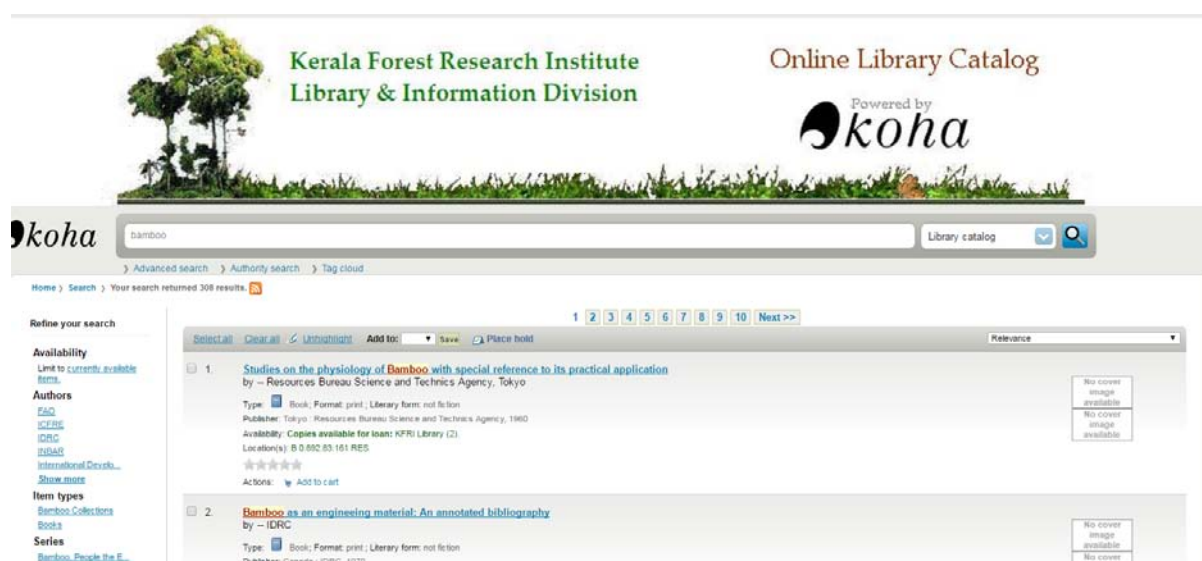


Fig. 6 Online Public Access Catalogue of Library Books

Research Reports are the primary output of the research programmes of the institute and the digital archives give a total picture of the ongoing programmes.

The screenshot shows the KFRI Research Reports database search interface. At the top, the title "KFRI Research Reports" is displayed in red. Below it, a search bar contains the text "teak" and a "Find" button. There are two radio buttons for display options: "Brief display" (selected) and "Detailed display". On the right side, the text "105 Results" is shown in green. The main content area lists seven search results, each with a numbered list item, author names, title, year, page count, and a link to the PDF file.

1. Alexander, T.G; Balagopalan, M; Thomas, T.P; Mary, M.V  
**Properties of soils under Teak. 1981 .**  
*KFRI Research Report 7: 13p*  
[KFRI-RR007.pdf](#)
2. Venkatesh, G.S; Koshy, M.P; Chacko, K.C; Indira, E.P  
**Genetic improvement of Teak (Tectona grandis L.f.) in Kerala. 1986 .**  
*KFRI Research Report 13: 21p*  
[KFRI-RR013.pdf](#)
3. Nair, K.S.S  
**Seasonal incidence, host range and control of the teak sapling borer, Sahyadrassus malabaricus. 1982 .**  
*KFRI Research Report 16: 36p*  
[KFRI-RR016.pdf](#)
4. Balagopalan, M; Alexander, T.G  
**Organic matter dynamics in Teak and Eucalypt plantations. 1983 .**  
*KFRI Research Report 20: 21p*  
[KFRI-RR020.pdf](#)
5. Ghosh, S.K; Balasundaran, M; Mohamed Ali, M.I  
**Studies on the host-parasite relationship of phanerogamic parasites on Teak and their possible control. 1984 .**  
*KFRI Research Report 21: 39p*  
[KFRI-RR021.pdf](#)
6. Nair, C.T.S; Chundamannil, Mammen; Muhammad, E  
**Intensive multiple use forest management in the tropics: A case study of the evergreen forest and Teak plantations of Kerala, India. 1984 .**  
*KFRI Research Report 22: 184p*  
[KFRI-RR022.pdf](#)
7. Bhat, K.M; Bhat, K.V; Dhamodaran, T.K  
**Wood and bark properties of branches of selected tree species growing in Kerala. 1985 .**  
*KFRI Research Report 29: 34p*  
[KFRI-RR029.pdf](#)

Fig. 7 Search results of the term 'teak' from Research Reports database

Scientific papers are the byproducts of the research work carried out at KFRI. These papers are published in different journals, which is scattered in different places. By digital archiving of these papers, all these papers could be made available at one place. As it is properly indexed, locating a paper by the name of its author, title or subject is facilitated.

The rich and valued collections built over four decades in the library have some of the rare reference materials. A digital archive of these rare and important book collection include books on teak, bamboo and rattan. Database of the contents of edited multivolume books, annual reviews, different series of books, seminar proceedings, etc developed is also made available for search and retrieve. This work is to be continued further.

The journal articles, seminar papers and book chapters collected for research purpose from various sources form a valuable collection of the library and its digital archive form a valuable asset of the library.

Results 1-10 of 240 (Search time: 0.316 seconds).

previous 1 2 3 4 ... 24 next

Issue Date	Title	Author(s)
2000	Productivity of teak plantations in Indonesia	Siswamartana, S.
1997	Key note address at the International Teak Symposium, Trivandrum, December 1991	Rao, Y.S.
1997	Teak management in Kerala	Rao, D.S.; Mehar Singh; Shivaraju, B.
1997	Elephants and teak plantations	Madhavan Pillai, N.
1997	Utilisation of teak	Vallil, G.
2000	Management of important insect pests in teak plantations in Thailand	Hutacharein, C.
2000	Teak plantations in Kerala: An economic review	Mammen, C.
2003	Status of Teak in Andhra Pradesh, India	Rao, P.S.
1997	A case study on teak structure	Mishra, H.N.
1997	Physiological assessment of germinability of teak seed	Mishra, M.; Dal, M.

Mishra, H.N. 2

Mohanani, C. 2

Shanmuganathan, K. 2

Siswamartana, Sadhardjo 2

Somaiya, R.T. 2

next >

Subject

Teak 76

Tectona grandis 63

teak 48

India 28

Kerala 22

Teak plantations 11

productivity 9

teak plantations 8

Fig.8 Search results of the term 'teak' from digital collections of documents in Dspace

Collections of Information Bulletins and training materials are also now part of the digital archives. Other than KFRI publications different collections in the library like Indian Forest Records, popular articles, pamphlets, etc. are also brought to digital archiving and made available for search and retrieval. Each collection is built separately but collections can be searched separately or in total. Most of the database is up to date. When new item is received in the library it will go to the concerned collections.

## **Conclusions**

The establishment of digital library will be of immense use for the planners, forest managers and researchers which will give timely information for decision making, management, monitoring and research in the field of forestry. Scattered resources could be aggregated at one location to some extent which helped to accelerate the research activities and save the time of the researchers. The availability of the right type of information can trigger new directions in research, development and managerial action. It will boost further research in the field of forestry.

Scientists and researchers of KFRI can access the digital archives of the library all the twenty four hours. The facility is extended to KFRI Subcentre, Nilambur also. It is extended to the officials of Kerala Forest Department also. During a demonstration of the digital library of forestry officials of the department showed interest in using the services.