

## **Availability and Accessibility of Research outputs of CMFRI through eprints@cmfri: An Open Access Institutional Repository**

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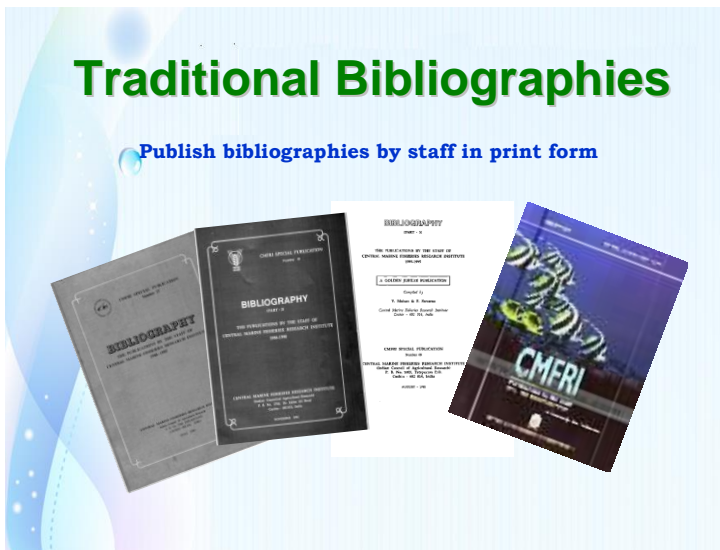
### **Introduction**

CMFRI is the oldest Marine Fisheries Research Institute in India. The main outcome of the publicly funded marine research is to publish scientific papers. One of the mandates of CMFRI is to act as clearing house of research and general information relating to marine fisheries through its publications and other information that it disseminates. These scientific papers published since 1953 are not well documented for wide spread utility of scientific community both inside as well as outside India. The research output must be applied to achieve the broader developmental objectives of the scientific society which may result in public accountability of the research. But the dissemination of research output is a major challenge and until it is known to the world the research has no meaning. The knowledge of this marine research should be made available for the public freely. The recent developments in Information Communication Technologies (ICTs) has brought drastic changes to conventional communication channels of scientific communications, information, sharing and accessing behaviour of the scholarly community. The ICTs have paved the way for the global Open movement among scholarly communities. Open Access to science and scholarship means making scholarly research articles freely available to the public online without any restrictions. Following this, CMFRI has established an Open Access Institutional Repository.

### **Traditional way of publishing Bibliographies**

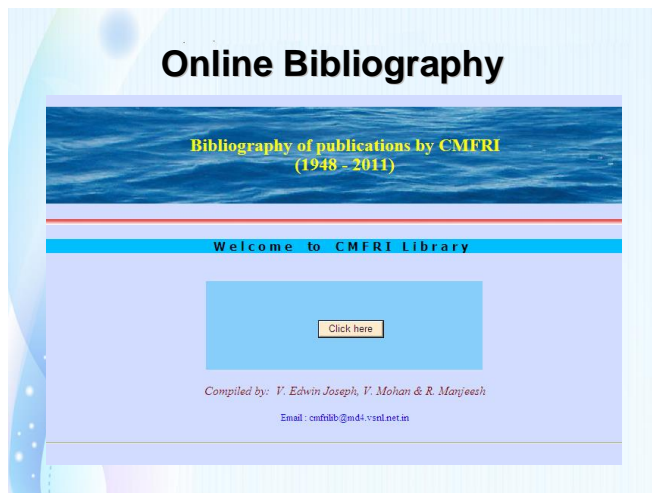
In order to bring the list of research publications in one bunch, the Institute was publishing bibliographies in print form. List of publications by the staff of CMFRI for the period from 1948 to 2006 was published in CMFRI Special Publications Nos. 27, 51, 68 and

96 at various intervals. Though we publish the list of papers in print copies of the bibliographies, the full text of the research papers was not reaching the global audience.



## Online Bibliography

Realizing the need of wide spread publicity to the scientific papers world wide and following the recent Information Communication Technologies, CMFRI Library has taken initiation to keep the bibliographical details of the papers published by CMFRI in the INTERNET. The software was developed in MS Access format with keyword search facilities to create a database for CMFRI bibliography. Online Database for CMFRI Bibliography was created for the period from 1948-2008. It was launched during 2008. This is the first online bibliographical database for the scientific papers published by our scientific staff. This may be accessed at: [http://www.cmfri.org.in/html/cmfri\\_intraSPS.html](http://www.cmfri.org.in/html/cmfri_intraSPS.html).



## Eprints@CMFRI: An Open Access Institutional Repository

The Online bibliography compiled by CMFRI was useful only for knowing the bibliographical details of the papers published by the Institute. Though CMFRI has published more than 10000 scientific papers since 1954, the full text of these articles has not reached the global audience. As a result, citations for these scientific papers are poor. The value of a scientific paper is rated by the citation index. Realising this, CMFRI leadership strongly felt a institutional repository be established to provide open access to the Institute's scientific publications. CMFRI Library took the lead in implementing the IR for Institute's publications. The aim of the IR at CMFRI is to provide an effective means of ensuring the disclosure of and access to the scholarly work research of this Research Institute. As a first phase of IR, full print copies of scientific papers were collected from the scientists published since 1947. Interestingly the authors were reluctant to deposit their scientific papers in the repositories. The reasons could be:

- Uncertainty and fear on copyright issues
- Reservations regarding who and how the material would be used
- Uncertainty about who gets attribution impact and scholarly credit
- Myth of low quality materials in IR

However, these apprehensions were overcome and that finally started the scanning process of the papers since 1947. The digitization work was started during 2009. More than 4 lakh papers have been scanned and these scanned images were converted into PDF and were arranged yearwise.

To enable this repository in the INTERNET, the Open source software developed by the University of Southampton, UK is installed in Library server. The CMFRI IR is given a name an eprints@cmfri. The scanned 9500 scientific papers centering 5 lakh pages have been uploaded as on August 2013. It may be accessed through website: <http://eprints.cmfri.org.in>

Interested users can freely download and use documents as most of them are directly accessible and full-text downloadable. 'Request copy' forms can be used for documents to which direct full-text download is restricted due to publisher embargo. The following types of publications of CMFRI are uploaded /self archived by CMFRI Scientists who do research on fisheries and related areas.

- Article
- Book
- Book Section
- Conference or Workshop Item
- Dataset (Fisheries Statistics, Census etc)
- Monograph
- Other (Annual Reports, News letters etc)
- Teaching Resource (Training manual, Lecture notes etc.)
- Thesis



## Global Visibility of CMFRI Repository

Realising the importance of the global indexing and search services our eprints only have been registered with the undermentioned international data bases.

- Google
- Google Scholar
- Oaister
- Base
- Scientific Commons and
- Scirus
- AVANO – a Marine and Aquatic Science Open Access Repositories, USA  
<http://www.ifremer.fr/avano/>

## Inauguration of Eprints@CMFRI

Knowing the importance of this repository, Honorable Dr. S. Ayyappan, Secretary DARE & the Director General, ICAR launched CMFRI Institutional Repository on 26<sup>th</sup> November 2010 in a function held at CMFRI.



## Benefits of CMFRI Open Access Repository

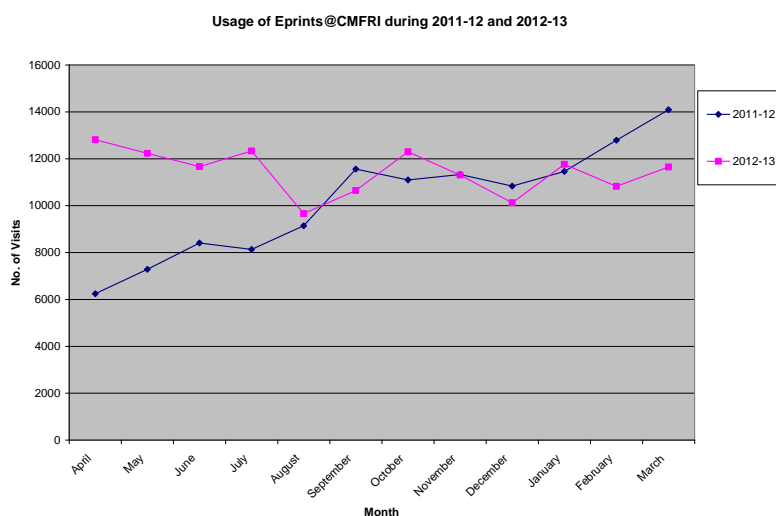
- Prestige of the Institute will be raised when a staff paper is included in Eprints@CMFRI
- Enhances the professional visibility of scientists of the institute
- Serves to demonstrate the breadth and depth of research output of CMFRI
- Open Access Repositories like Eprints@CMFRI offer the widest possible dissemination of scientific findings
- Research has demonstrated that open access online articles have appreciably higher citation rates than traditionally published articles
- Serves to establish priority of ideas and intellectual property, i.e. registering the work with a date stamp and identifier
- The centralized system of documenting the papers manages and presents the research output of the Institute in an organized fashion
- Students/Scientists can easily access faculty papers via Eprints@CMFRI. This provide easier access to the entire publications of CMFRI
- Preserves and provides long-term access to the scholars' research output
- All institutes' papers in one roof will facilitate the policy makers to select the non priority areas in Marine Fisheries
- Scientific output of institute is reaching the global audience immediately

## Statistics of the eprints@cmfri

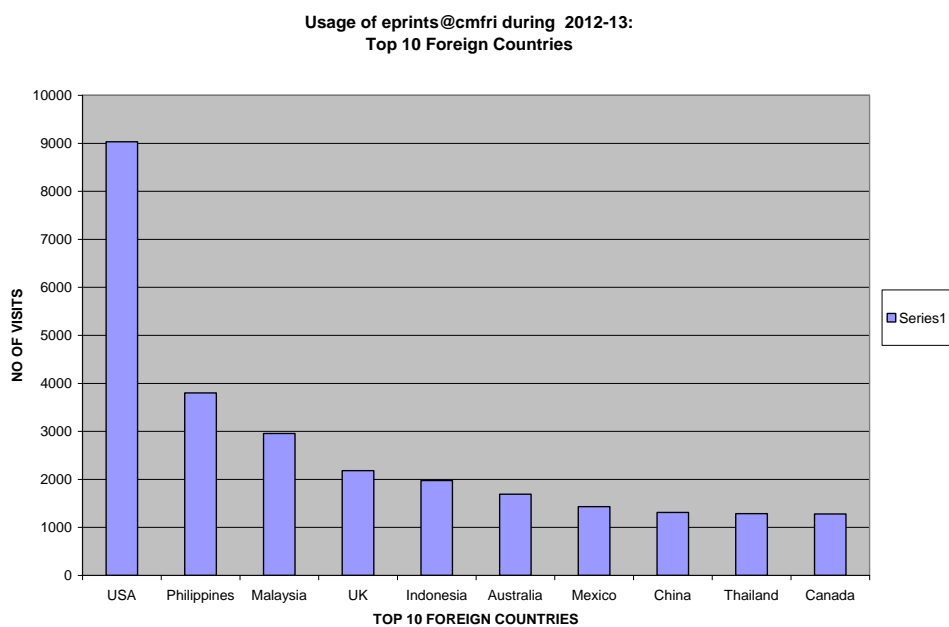
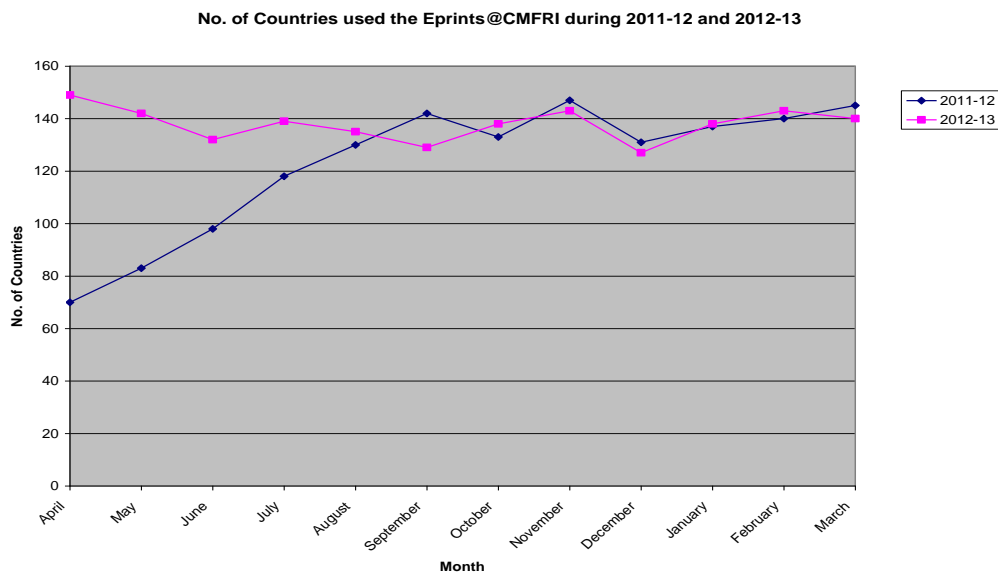
The Library & Documentation Centre has developed its Open Access Institutional Repository viz: eprints@cmfri for Institutional publications, now recognized world wide as a leading research information centre. The Institutional repository facilitates browsing by year of publication, author, department, subject category and document type. Advanced search is possible by author, title, subject and with many options. Our IR has reached 198 countries in the world. More than 350 full text articles contributed by the scientists and staff of CMFRI were uploaded during the period 2012-13, and are available in 'Eprints@CMFRI'. We have uploaded more than 9650 scientific papers.

Monthly statistics of the access of eprints@cmfri during 2012 to 2013

Month & Year	No. of Visits	No. of Countries
April 2012	12810	149
May-12	12230	142
June-12	11666	132
July-12	12331	139
August-12	9656	135
September-12	10642	129
October-12	12295	138
November-12	11303	143
December-12	10119	127
January-13	11760	138
February-13	10823	143
March-13	11644	140
	<b>137303</b>	<b>1655</b>







The usage of eprints@cmfri for the period April, 2012 to 31st March 2013 has been recorded. More than 198 countries used the repository and 137303 times visited and downloaded full text of scientific papers. Notably, visits from India are highest with 80,563 times followed by USA 9030, Philippines 3801, Malaysia 2953, UK 2181, Indonesia 1975, Australia 1692, Mexico 1431, China 1311, Thailand 1286 times and so on.

## India's Best Institutional Repository Award 2012

Registry of Indian Open Access Repositories, a part of Open Access Journals Search Engine ([www.oajse.com](http://www.oajse.com)) had conducted a survey to get Best Institutional Repository in India. After proper verification and evaluation of various parameters, Eprints@CMFRI, the Institutional Repository of Central Marine Fisheries Research Institute (<http://eprints.cmfri.org.in/>) has been selected for the India's Best Institutional Repository Award 2012.

## World Rank

Consejo Superior de Investigaciones Cientificas (CSIC), the largest public research body in Spain is ranking the World Web IRs, this Institute has released the rank of the world IRs. We are glad to write that our Eprints@CMFRI gets 304<sup>th</sup> International Rank, 90<sup>th</sup> rank in Google Scholar and 1<sup>st</sup> rank among ICAR and 3<sup>rd</sup> in the Indian IRs.

WORLD RANK	REPOSITORY	COUNTRY	POSITION			
			SIZE	VISIBILITY	RICH FILES	SCHOLAR
301	University of Canterbury Research Repository		390	631	137	84
302	King Saud University Repository		469	460	409	156
303	Memorial University Newfoundland Digital Archive		114	255	319	912
304	Eprints Central Marine Fisheries Research Institute		295	653	167	90
305	Australian Defence Science and Technology Organization Repository		377	432	371	382
306	Biblioteca Digital Jurídica do Superior Tribunal de Justicia		261	581	380	99
307	ProdINRA Publication de l'INRA		280	496	340	355
308	DIGIBUG Repositorio Institucional Universidad de Granada		279	523	237	397
309	Prince of Songkla University Knowledge Bank		195	349	200	821

## Conclusion

Having a mandate of ICAR for an Open Access which was released on 13<sup>th</sup> September 2013, the CMFRI could rise up to the expectations with its institutional repository gateway. There was articulated interest among several researchers to publish in open source platforms but researchers remained initially reluctant. With the establishment of



eprints@cmfri, it is possible to provide the researchers with substantial and subject specific information on Open Access and with the institutional repository, CMFRI is able to implement a simple and easy solution for Open Access. Therefore our researchers could project their intellectual products and other research outputs and draw an attention among their counterparts over the globe. Finally, it can be concluded that greater visibility of our public funded research reaches the global audience through our eprints@cmfri.

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**ICT -oriented Strategic Extension for Responsible Fisheries Management**  
**5-25 November 2013**

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