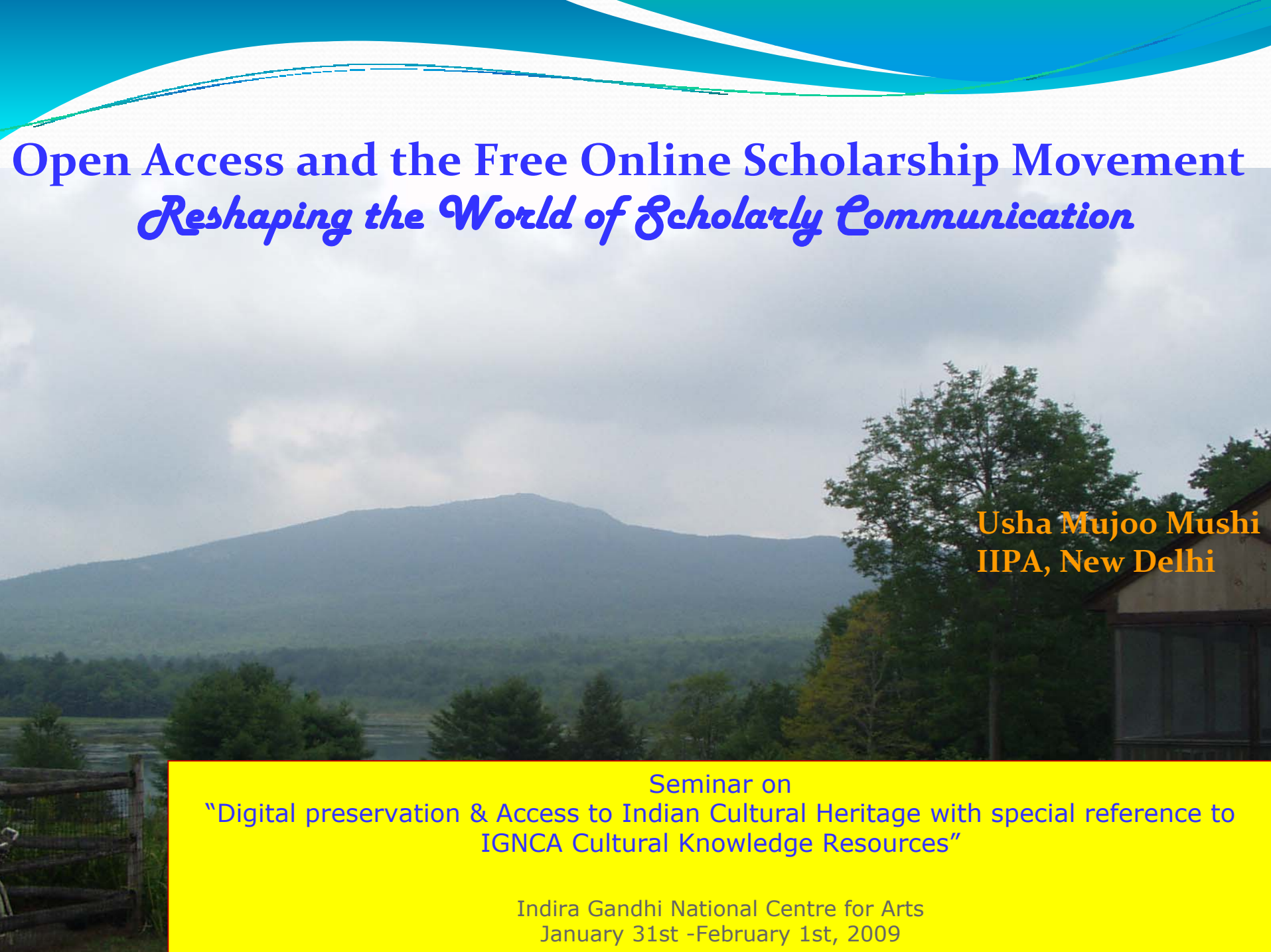
Open Access and the Free Online Scholarship Movement

Reshaping the World of Scholarly Communication



Usha Mujoo Mushi
IIPA, New Delhi

Seminar on
"Digital preservation & Access to Indian Cultural Heritage with special reference to IGNCA Cultural Knowledge Resources"

Indira Gandhi National Centre for Arts
January 31st -February 1st, 2009

What is Open Access?

- Free

- ☑ Immediate
- ☑ Full Text
- ☑ Online access
- ☑ Limited or no copyright restrictions.

(Source: http://en.wikipedia.org/wiki/Open_access)

Definition

Budapest definition

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. (Open Society Institute, 2002)

See http://www.soros.org/openaccess/

Berlin definition

- Definition of an Open Access Contribution

  Establishing open access as a worthwhile procedure ideally requires the active commitment of each and every individual producer of scientific knowledge and holder of cultural heritage. Open access contributions include original scientific research results, raw data and metadata, source materials, digital representations of pictorial and graphical materials and scholarly multimedia material.

See http://www.zim.mpg.de/openaccess-berlin/berlindeclaration.html

Why Open Access for authors?

- Most research articles accessible by only a few
- Online managed, permanent database of scholarly output
- Open Access (OA) maximizes:-
  - research *visibility, usage and uptake*
  - research *applications, impact and citation*
  - research *productivity, progress and funding*
  - research *manageability and assessability*
  - ***By maximising research accessibility!***

Why Open Access for universities?

- There is an ethical argument that research funded by the public should be available to the public.
- To maximise, measure & reward the uptake, usage, applications and impact of a university's research output
- To collect, manage & showcase a permanent record of the university's research output.

Open Access Movement & initiatives

Promoting OA and OA Advocacy : A number of Initiatives

Statements & Declarations

- Berlin Declaration on Open Access to Knowledge in the Sciences & Humanities October 22, 2003
- Bethesda Statement on Open Access 20 June 2003.
- Budapest Open Access Initiative 14 February 2002
- NEAR
- OECD Final Communique
- Tempe Principles
- Washington DC Principles for Free Access to Science
- Wellcome Trust Position Statement and Research Reports
- World Summit on the Information Society Declaration of Principles and Plan of Action
- Other

Open Access Statements:
http://www.digital-scholarship.org/oab/2statements.htm

OA Routes & Roads

Open Access 'Routes'

GOLD = authors publish in OA journals that make their articles freely accessible online immediately upon publication. OA journals are peer-reviewed. Depending on the model, authors may have to pay publishers a fee to publish.

GREEN = authors publish in a subscription journal, but also make their articles freely accessible online, usually by depositing them in either an institutional repository or central repository (either peer-reviewed postprints or non-peer-reviewed preprints).

OA Roads

Publishers' archiving Policies

- **GREEN** = can archive pre-print and post-print
- **BLUE** = can archive post-print (ie final draft post-peer-review)
- **YELLOW** = can archive pre-print (ie pre-peer-review)
- **WHITE** = archiving not formally supported

(source: http://www.sherpa.ac.uk/romeoinfo.html#colours)

International/National Initiatives: Open Access to Research

SHERPA http://www.sherpa.ac.uk/ SHERPA is investigating issues in the future of scholarly communication. It is developing open-access institutional repositories in universities to facilitate the rapid and efficient worldwide dissemination of research.

ROAR tracks the growth of existing OA Arch

OpenDOAR Directory of Open A
(http://www.opend

OpenDOAR has over 1300 listings!

ROARMAP tracks the growth of institutio

ROMEO tracks journal/publisher "green" po
Publisher's copyright & archiving policies (http://www.sherpa.ac.uk/romeo/)

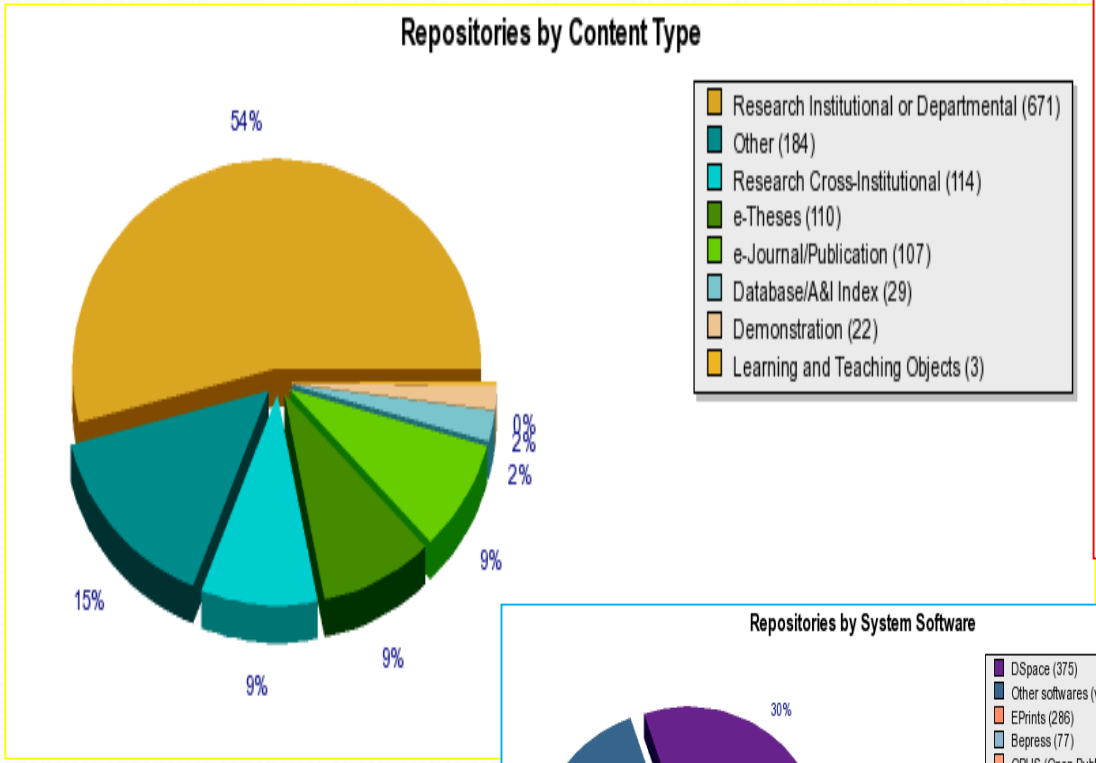
JULIET - Research funders archiving mandates and guidelines (http://www.sherpa.ac.uk/juliet/index.php)

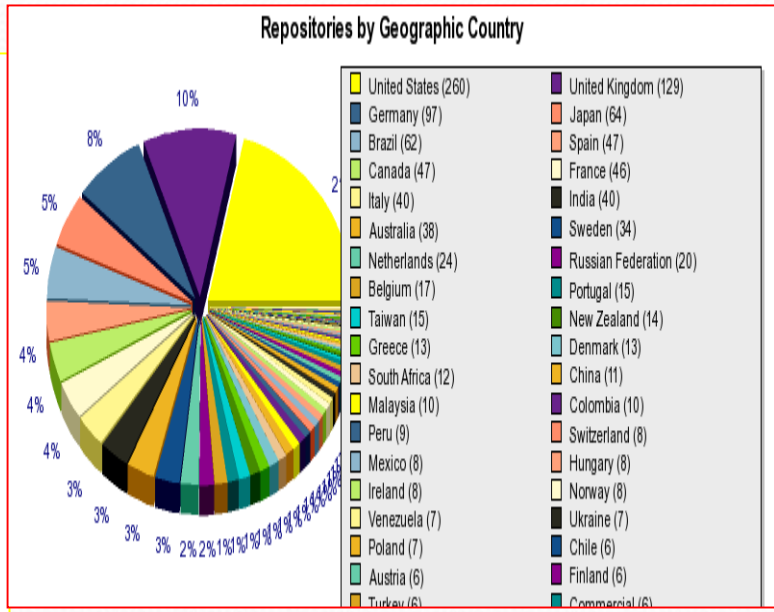
Statistical Analysis
For an indication of how UK research funders have implemented Open Access policies and level of funds affected, please see: Selected research funders' grant expenditure available at http://www.sherpa.ac.uk/juliet/financialstats.html.)

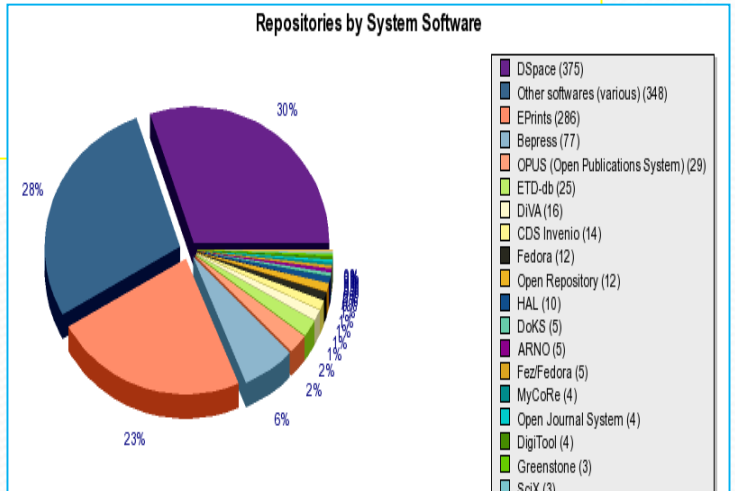
Let us take a look at some stattistics associated with some of these

Open Access to Research

ROAR Registry of Open Access Repositories resulted in 1241 repositories

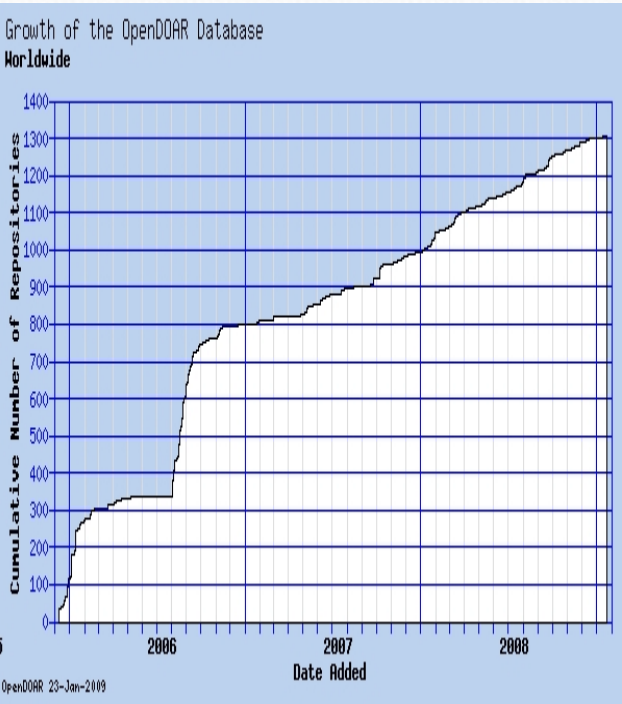


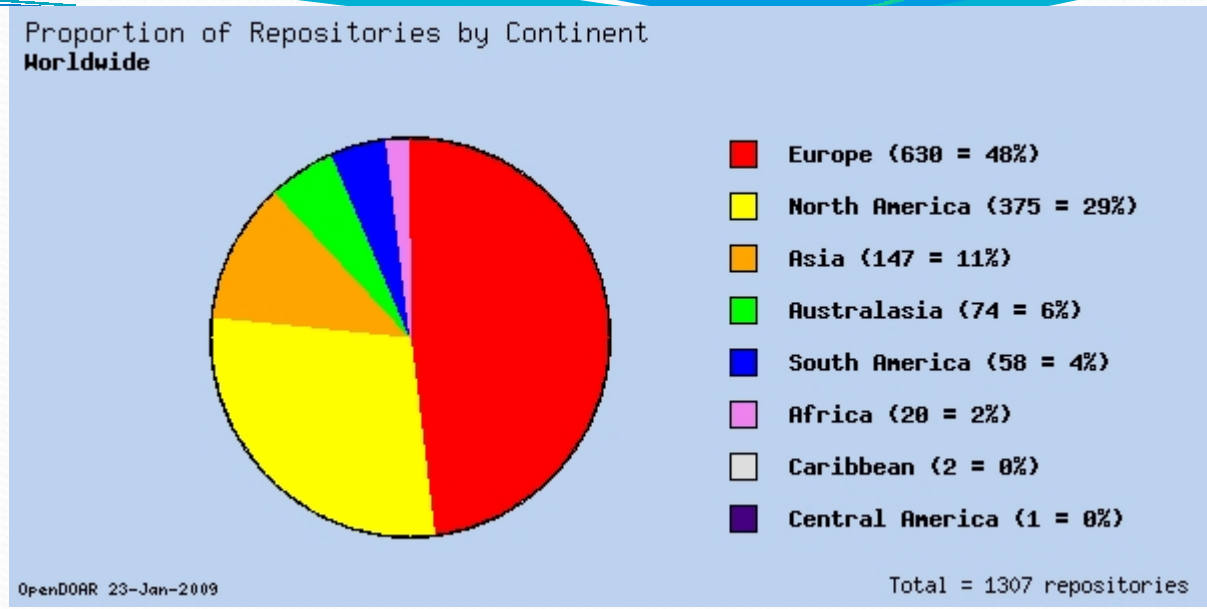




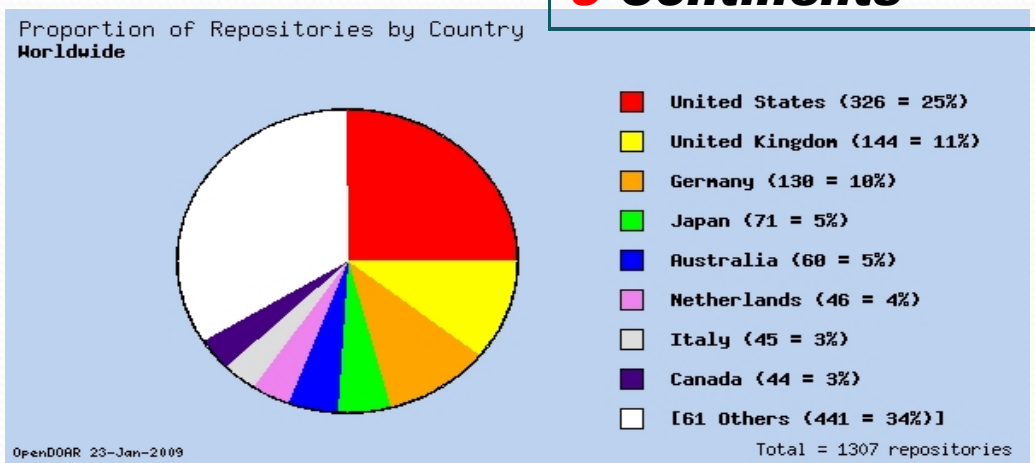
Open Access to Research

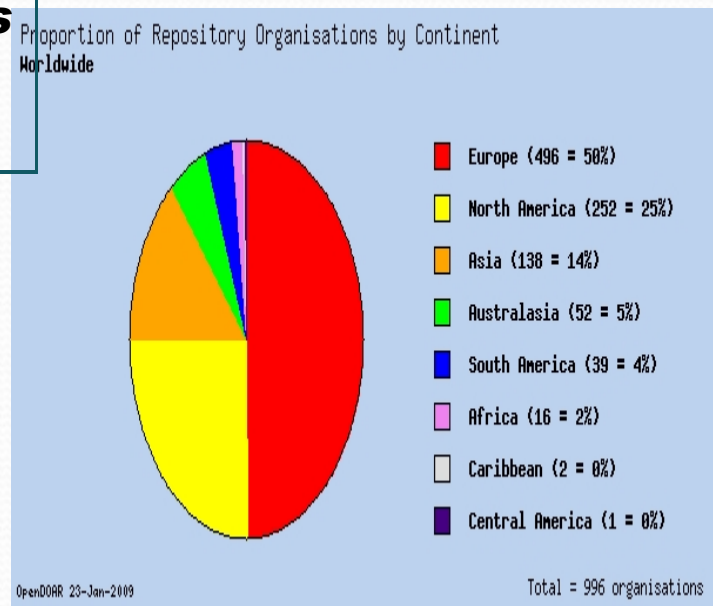
OpenDOAR

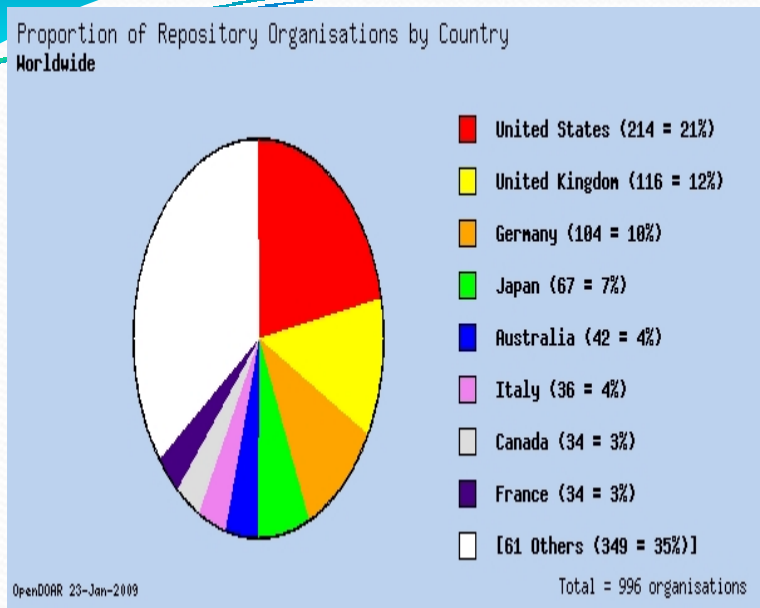


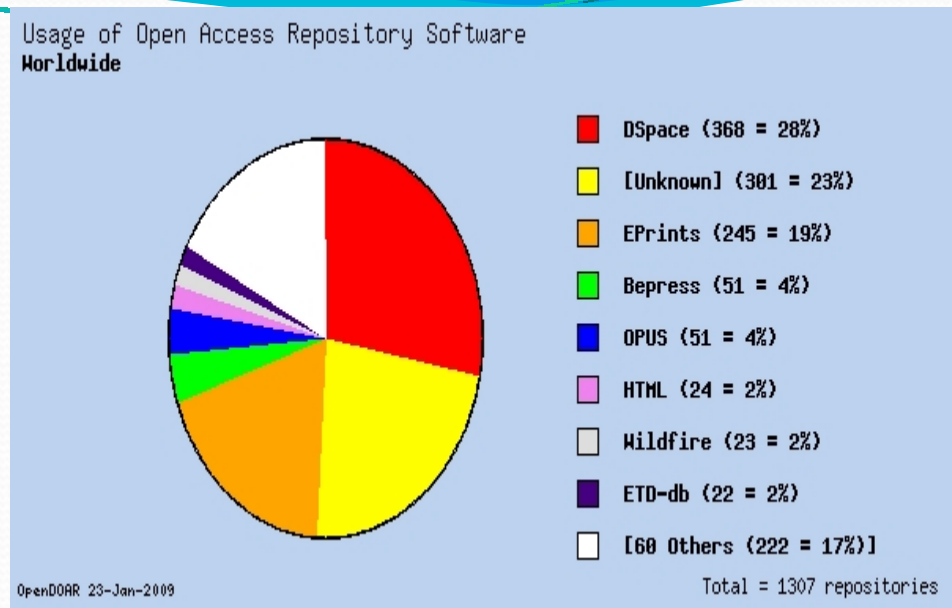


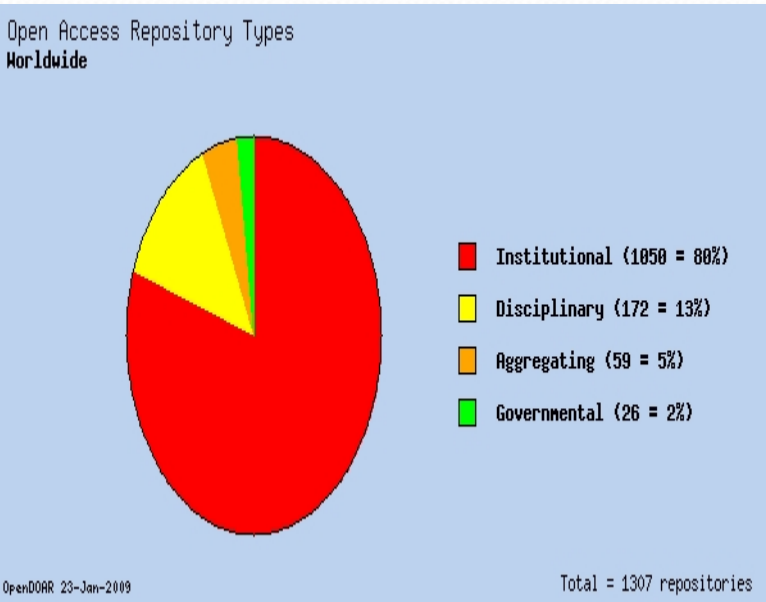
1307 repositories
996 Organisations
96 countries
8 Continents

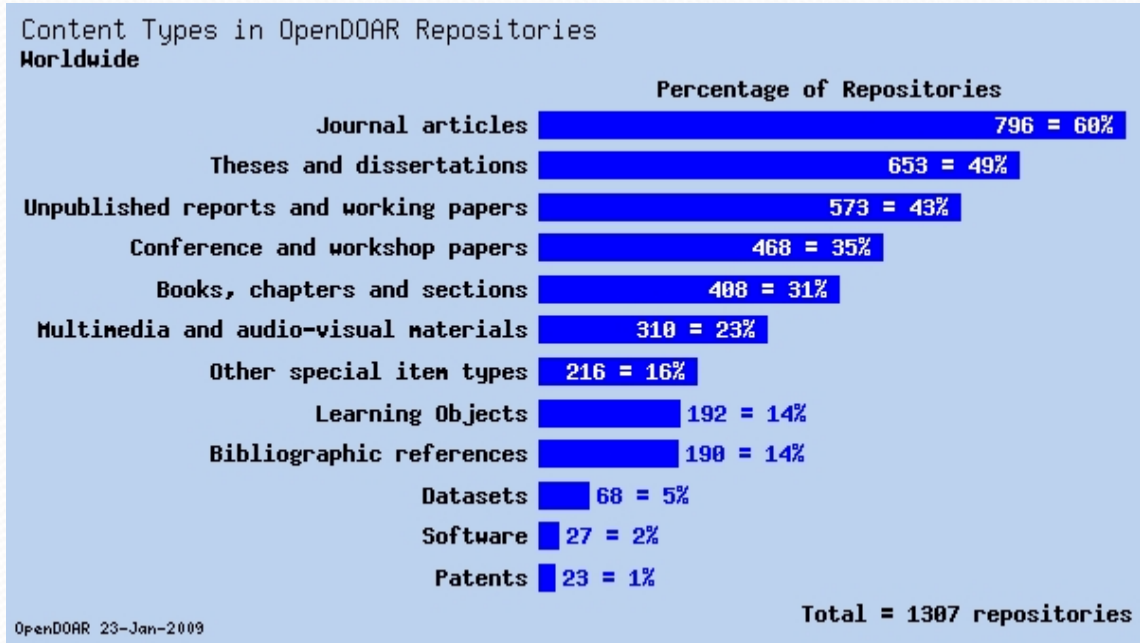





Proportion of Repository Organisations by Country
Worldwide
United States (214 = 21%)
United Kingdom (116 = 12%)
Germany (104 = 10%)
Japan (67 = 7%)
Australia (42 = 4%)
Italy (36 = 4%)
Canada (34 = 3%)
France (34 = 3%)
[61 Others (349 = 35%)]
OpenDOAR 23-Jan-2009
Total = 996 organisations


Usage of Open Access Repository Software
Worldwide
DSpace (368 = 28%)
[Unknown] (301 = 23%)
EPrints (245 = 19%)
Bepress (51 = 4%)
OPUS (51 = 4%)
HTML (24 = 2%)
Wildfire (23 = 2%)
ETD-db (22 = 2%)
[60 Others (222 = 17%)]
OpenDOAR 23-Jan-2009
Total = 1307 repositories


Open Access Repository Types
Worldwide
Institutional (1050 = 80%)
Disciplinary (172 = 13%)
Aggregating (59 = 5%)
Governmental (26 = 2%)
OpenDOAR 23-Jan-2009
Total = 1307 repositories


Content Types in OpenDOAR Repositories
Worldwide
Percentage of Repositories
Journal articles
796 = 60%
Theses and dissertations
653 = 49%
Unpublished reports and working papers
573 = 43%
Conference and workshop papers
468 = 35%
Books, chapters and sections
408 = 31%
Multimedia and audio-visual materials
310 = 23%
Other special item types
216 = 16%
Learning Objects
192 = 14%
Bibliographic references
190 = 14%
Datasets
68 = 5%
Software
27 = 2%
Patents
23 = 1%
OpenDOAR 23-Jan-2009
Total = 1307 repositories

Open Access to Research

OpenDOAR + India 33 repositories

Not registered in celestial
Either the OAI-PMH interface is not working or it is awaiting action by ROAR editor

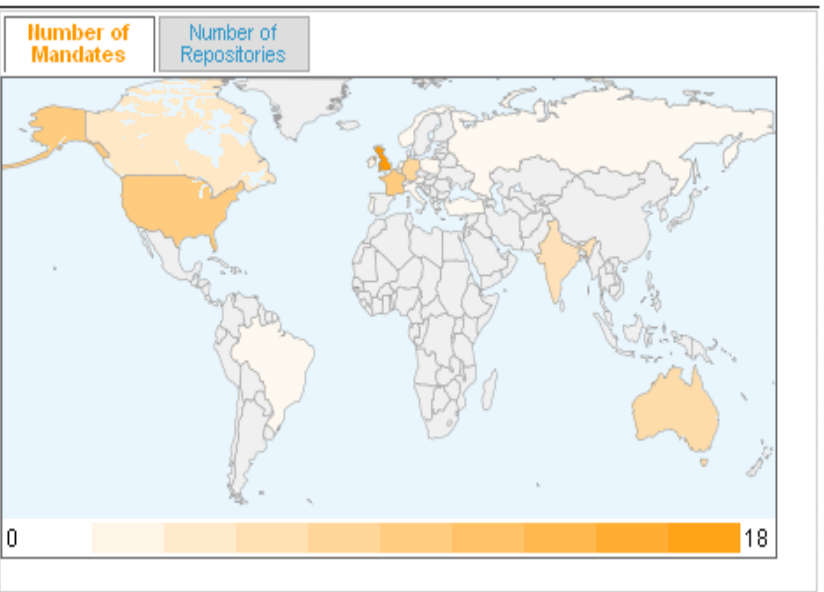
India:

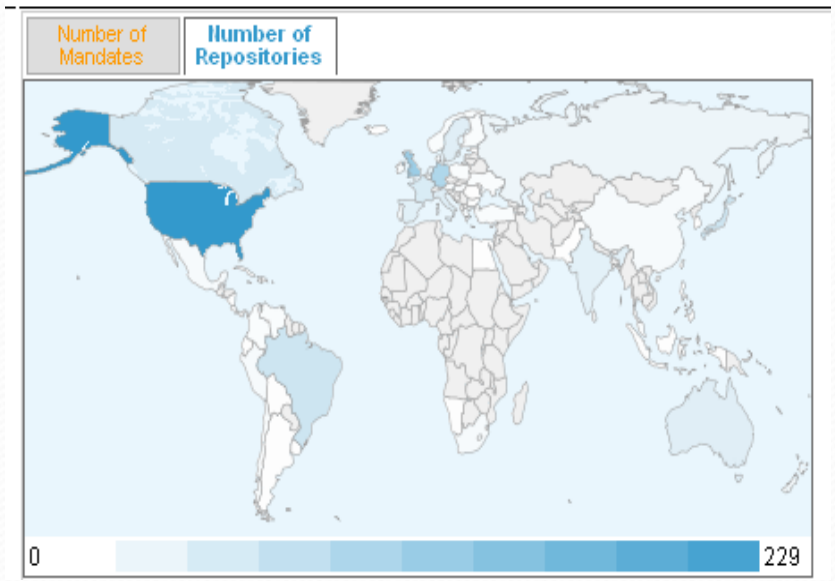
Indian Institute of Science, Bangalore, India (20093 records)
National Institute Of Oceanography, India (2088 records)
National Institute of Technology, Rourkela, India (727 records)
National Center for Antarctic Research , Goa , India (532 records)

ROARMAP (Registry of Open Access Repository Material Archiving Policies)

Register your Institutional Policy **in ROARMAP**

also register your Institutional Repository **in ROAR**





Open Access to Research

Mandates : World Over

Summary By Type			
27	INSTITUTIONAL Mandates	1	Proposed INSTITUTIONAL Mandate(s)
4	DEPARTMENTAL Mandates	4	Proposed MULTI-INSTITUTIONAL Mandates
30	FUNDER Mandates	5	Proposed FUNDER Mandates
61	TOTAL Mandates	10	TOTAL Proposed Mandates

Policy Details

http://www.eprints.org/openaccess/policysignup/

Mandates : India

Total : 3

INSTITUTIONAL Mandates - 2

- National Institute of Technology, Rourkela (http://dspace.nitrkl.ac.in/dspace)
- Bharathidasan (University (http://dspace.bdu.ac.in/)

Proposed Funder Mandate

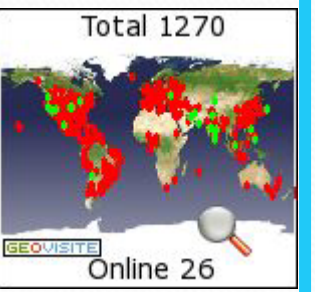
- National Knowledge

Policy Details

- http://www.eprints.org/openaccess/policysignup/fullinfo.php?inst=National%20Institute%20of%20Technology%2C%20Rourkel
- http://www.eprints.org/openaccess/policysignup/fullinfo.php?inst=Bharathidasan%20University%20

Open Access to Research

Directory of Open Access Journals : http://www.doaj.org/



As on 24.01.2009

- Service covers free, full text, quality controlled scientific and scholarly journals (more or less) cover all subjects and languages.

- Aim to increase the visibility and ease of use of open access scientific and scholarly journals thereby promoting their increased usage and impact

3833 journals

1358 journals searchable at article level.

250824 articles included in the DOAJ service

Open Access Journal:
We define open access journals as journals that use a funding model that does not charge readers or their institutions for access.
From the BOAI definition [1] of "open access" we take the right of users to "**read, download, copy, distribute, print, search, or link to the full texts of these articles**" as mandatory for a journal to be included in the directory

Open Access to Research Countries : 95 http://www.doaj.org/doaj?func=byCountry

DOAJ by country

#	Country	Number of journals added into DOAJ								Total number of journals in DOAJ							
		2002	2003	2004	2005	2006	2007	2008	2009	2002	2003	2004	2005	2006	2007	2008	2009
1	United States	20	217	98	97	73	113	210	7	20	237	335	432	505	618	828	835
2	Brazil	0	8	118	48	53	61	74	2	0	8	126	174	227	288	362	364
3	United Kingdom	3	117	47	43	43	33	35	2	3	120	167	210	253	286	321	323
4	Spain	0	5	21	63	53	27	58	2	0	5	26	89	142	169	227	229
5	Germany	0	12	19	38	23	30	25	0	0	12	31	69	92	122	147	147
6	Canada	0	28	13	10	17	16	25	0	0	28	41	51	68	84	109	109
7	India	0	16	20	15	18	21	17	0	0	16	36	51	69	90	107	107
8	Turkey	0	4	9	25	13	27	25	0	0	4	13	38	51	78	103	103
9	Japan	2	21	45	23	3	0	3	0	2	23	68	91	94	94	97	97
10	Chile	0	3	41	19	13	7	13	0	0	3	44	63	76	83	96	96
11	France	0	11	6	22	13	10	19	0	0	11	17	39	52	62	81	81
12	Australia	0	19	16	14	8	10	10	0	0	19	35	49	57	67	77	77
13	Mexico	0	1	5	23	20	13	14	0	0	1	6	29	49	62	76	76
14	Italy	0	4	10	18	18	13	12	0	0	4	14	32	50	63	75	75
15	Venezuela	0	3	36	6	17	3	7	0	0	3	39	45	62	65	72	72
16	Poland	0	10	4	10	11	7	24	1	0	10	14	24	35	42	66	67
17	Colombia	0	2	2	5	19	19	18	0	0	2	4	9	28	47	65	65
18	Croatia	0	4	5	4	4	30	15	0	0	4	9	13	17	47	62	62
19	Argentina	0	0	1	10	11	17	15	0	0	0	1	11	22	39	54	54
20	New Zealand	0	4	2	7	4	12	17	0	0	4	6	13	17	29	46	46
21	Switzerland	0	9	5	7	3	2	19	0	0	9	14	21	24	26	45	45
22	Pakistan	0	0	3	15	4	11	10	0	0	0	3	18	22	33	43	43
23	Iran	0	0	0	6	7	14	11	1	0	0	0	6	13	27	38	39
24	Romania	0	5	1	0	7	5	12	6	0	5	6	6	13	18	30	36
25	Austria	0	1	0	19	4	4	8	0	0	1	1	20	24	28	36	36
26	Netherlands	1	6	1	6	5	4	5	0	1	7	8	14	19	23	28	28

Further OA to Research

WhY OA : Some Apprehensions & Impediments

'A bundle of exclusive rights which the law gives to authors and creators to control certain activities relating to the use, dissemination and public performance of their original works'

Works protected by copyright

Copyright ownership

Copyright can be shared/belong to a 3rd party:-

Contracts/Licences

- Strict conditions
- Contract law overrides copyright law
- Shrink-wrap and click-wrap contracts
- E-databases – for paid subscribers only
- Complete control over works

Authors' Rights

- To reproduce the work in any manner or form
- To publish the work if it has not been published before
- To perform the work in public
- To broadcast the work
- To cause the work to be transmitted in a diffusion service
- To make an adaptation of the work

Authors should not sign away all their rights

Author's Rights and Addendum (SPARC) - http://www.arl.org/sparc/author/.

Authors retain their moral rights

Users' Rights?

- NO user rights - only limitations & exceptions
- International agreements allow legal flexibilities
- Copyright Act, Section 12 – "Fair dealing"
- Copyright Act, Section 13 (Regulations) – for education, libraries & archives
- Analogue = use restricted
- Digital = access & use restricted

Copyright clearances

When applying for permission, obtain the following rights:-

- ☑ To reproduce whole works & convert to digital
- ☑ To create a modified or derivative work
- ☑ To display the work electronically
- ☑ To download it onto CD, DVD or other device
- ☑ To make the work accessible without technological
- ☑ restrictions to users (or to 'unlock' such restrictions)
- ☑ To have permission in perpetuity to allow migration, conversion and/or adaptation as technologies change

Need OA?

Creative Commons

- Free legal and technical tools to facilitate access to digital content (**www.creativecommons.org**)

Licences:

– Attribution (standard in all CC licences)

– Non-Commercial

– No Derivative works

– Share Alike

New! CC+ for commercial

Science Commons

- Focus areas – licensing, publishing & data
- Science Commons (**www.sciencecommons.org**) plans -
  - to evaluate & draft open, voluntary & interoperable legal solutions for databases – '**some rights reserved**'
  - to provide standard contracts and technologies for institutional-sharing and archiving

Viability of “Pushing OA" in Developing Countries ?

Buidling Argument & prompting Discussion

- India on the Big Frame
- Network infrastructure
  - Cannot speak of OA in developing countries, without also invoking bandwidth debate
  - Any OA Advocacy effort must add its voice to work being done in the overall National Research and Education arena
  - Expensive bandwidth does not imply that we should hold off on OA to content (while waiting to have cheaper bandwidth)
  - For even greater participation in OA, the “OA content” folks need to add their voices to the “we need affordable bandwidth now” arena

Building case for India

Scholarly Content Actors

R&D Infrastructure

Resources :

Institutions

Manpower

Publications

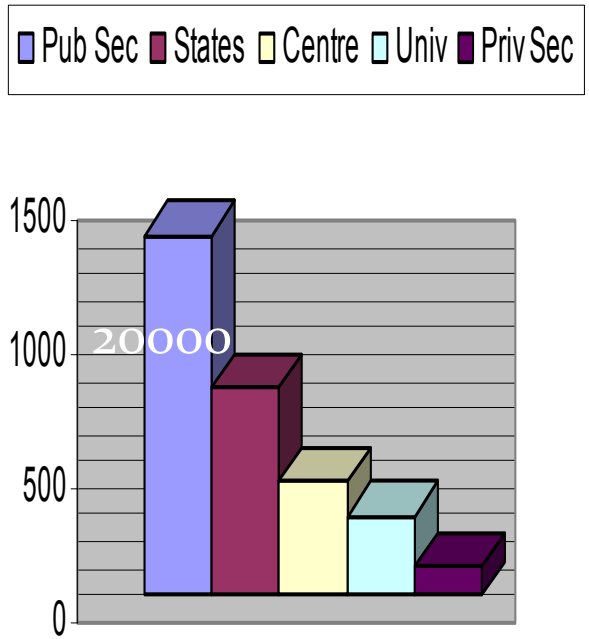
R&D Infrastructure

Resources: *Institutions, Manpower, and Publications*

R&D Institutions: *National Orgns, State Institutions, Universities, Private Secto*

3,000

National Institutions of Importance	
Universities	Over 400
Deemed Universities	89
Medical Colleges	
Engineering Colleges	88
Colleges	



Source: (R&D directory, NSTMIS, DST, 2001)

IISERs	=	3+2
IITs	=	7+6+2
IIMs	=	6+1
IISc	=	1
ISI	=	1
NITs	=	20
AIIMS	=	1
Others	=	4

PGIMER Chandigarh,

Dakshina Bharat Hindi Prachar Sabha Thyagarayanagar, Chennai,

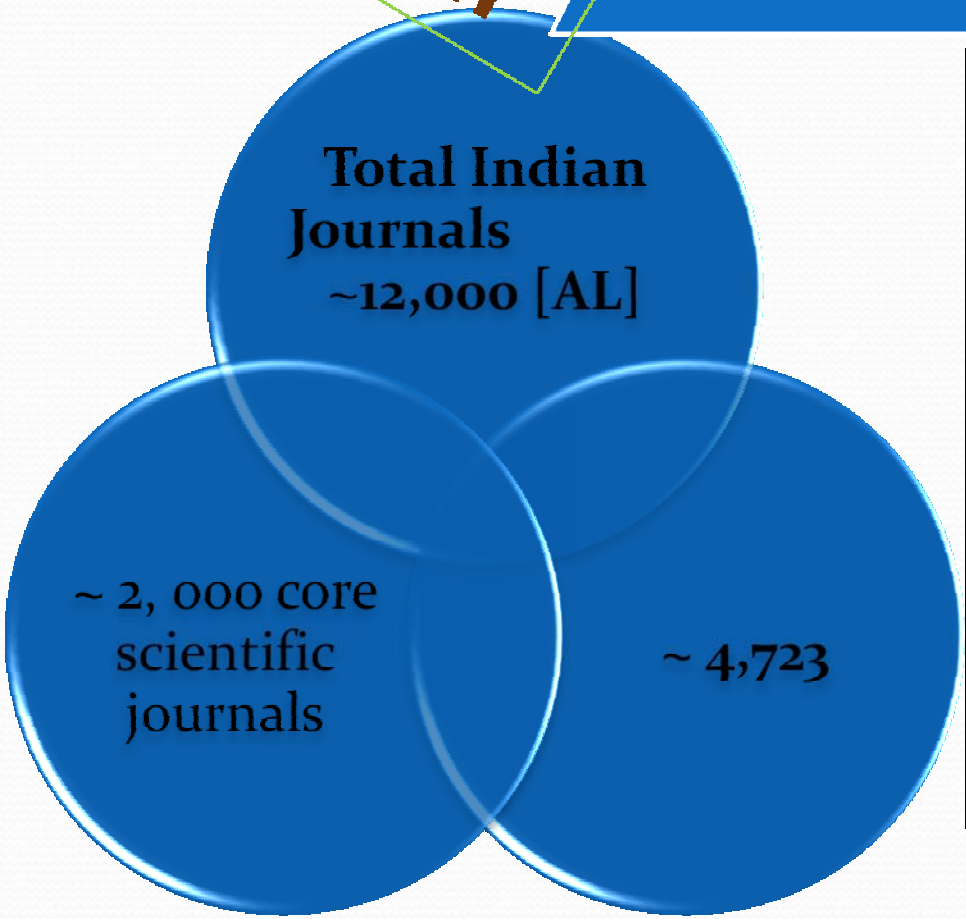
Sree Chitra Tirunal Institute for Medical Sciences and Technology Thiruvananthapuram,

NIPER Mohali

http://en.wikipedia.org/wiki/Institute_of_National_Importance

Scientific Information Dissemination

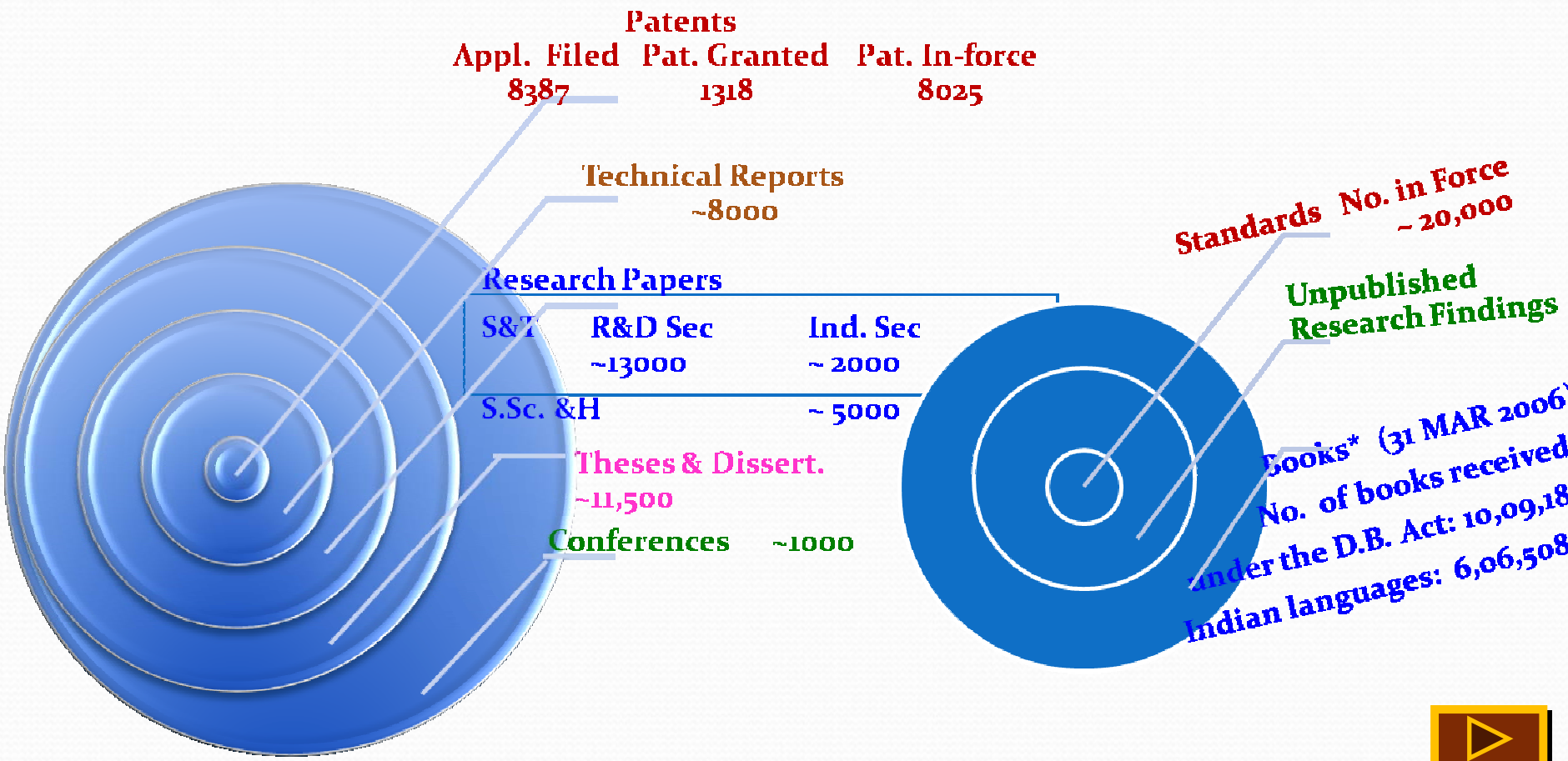
1st Indian Journal	Calcutta Gazette
Published	1784
Frequency:	weekly (in 11 vols.)
Price(s):INR	206.50



[redacted]

[Source: ULRICH'S Periodicals Directory - CD Version, R.R. Bowker, Spring 2004]

Scientific Information Dissemination



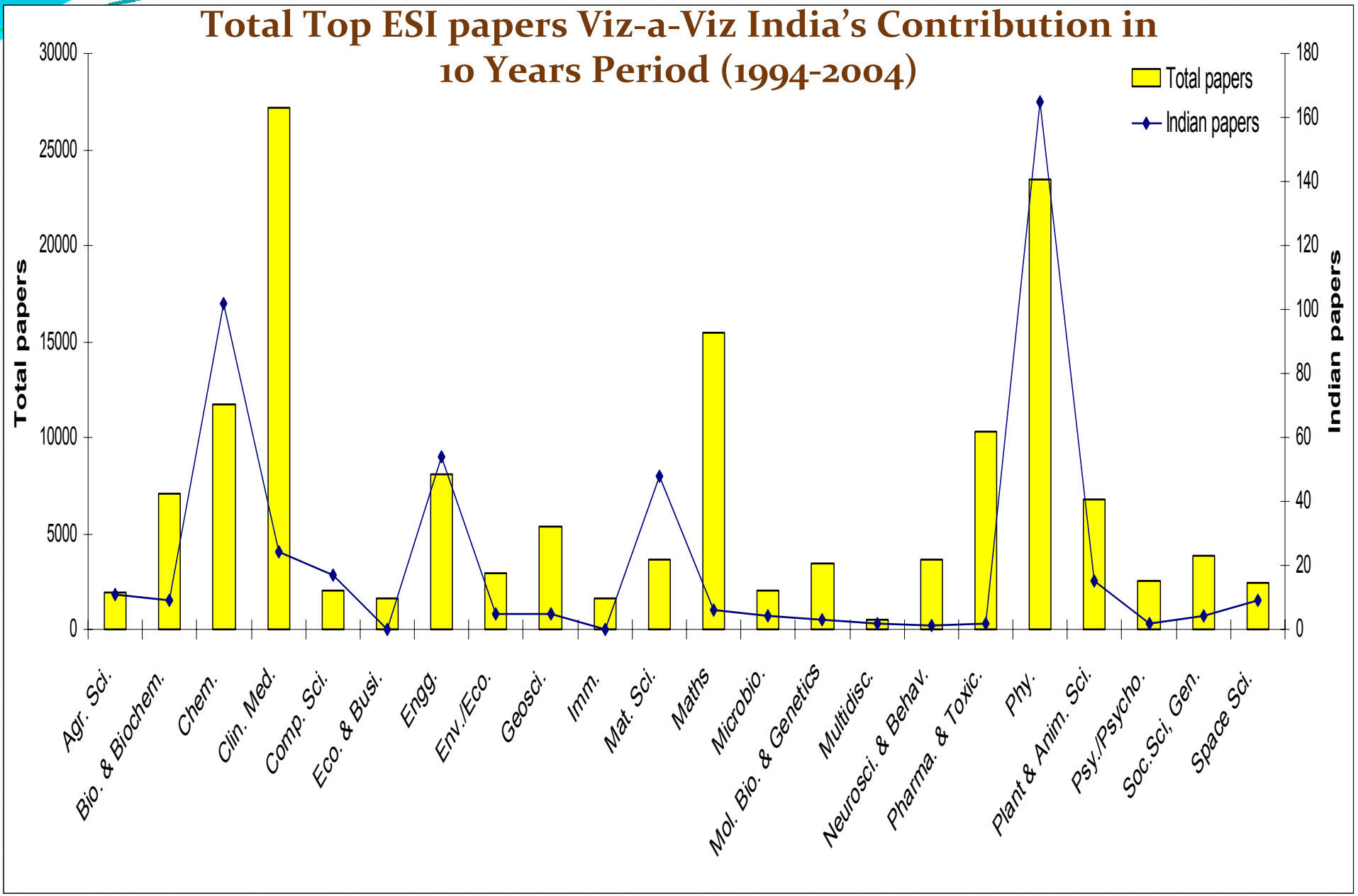
Country Rankings among All Countries and All Fields
(10 Year Rankings – Top 3 Countries Viz-a-Viz India)

Country	Papers		Citations	
	Total	Rank*	Total	Rank*
USA	2,758,037	1	34,345,536	1
Japan	699,840	2	4,922,466	4
Germany	632,261	3	5,802,656	3
India	184,086	13	595,627	21

**Rank Among ALL Countries* in terms of number of papers/Citations

Source: ESI (January 1, 1994 – August 31, 2004

Scientific Information Dissemination...



Important Indicators

- About 100 billion rupees being spent annually on R&D
- Investment in R&D > 1 % of GDP
- Contributing ~ 3 % of the world's publication output
- India has over 2000 core scientific journals
- Number of S&T personnel has been increasing @6%/year*

*Pursuit and Promotion of Science: The Indian Experience. Indian National Science Academy, New Delhi (p74). 2001

Open Access Initiatives

- Institutional Repositories :
  - Over 40 IR ; OSS ; multivariate content streams
- Open Access Journals
- Metadata Harvesting Services
- Open Courseware
- Digital Library Initiatives

- **Digital Archiving and Information Dissemination**

Open Access Journals

Many leading journals published in India are already open access

- Academies showed the way & set the ball rolling
- Several organisations followed
- 100 (approx) OA journals. Most of these hybrid – print + online
  - While print is against subscription
  - No Indian journal charges a fee from the authors for publishing papers,
- NIC, GOI & some private publishers publish OA jls on behalf of about 75 societies.

India's Scholarly Communication Problems

- India's scholarship has ancient roots and a glorious heritage.
- India's top scientific institutions have worldwide reputations for excellence and the country's historic contribution to cultural and scientific advances are recognised by all.

- Yet due to the way the scholarly communication system overall has developed in that time,
- India's academic output has suffered from low visibility and poor dissemination.

- At the moment, global visibility is good for Indian articles that are published in the *best* 'western' journals and
- In Indian journals indexed by the major abstracting/indexing services,
- . Moreover, for Indian articles deposited in open access collections in India or those that are co-authored with scientists in other parts of the world who have deposited them in Open Access repositories outside the continent, visibility is maximal.
- This still leaves a lot of Indian output – most of it in fact – virtually invisible to the rest of the world.
- **India's investment – intellectual, effort and cash – can never hope to gain a good return this way.**

How Open Access can help resolve these problems

- Open Access provides the means to maximise the visibility, and thus the uptake and use, of Indian research outputs.

- Authors & Scholars :Useful for not only Scholars but more so for Authors

- Funders :It is because Open Access is so much in the interest of research funders and employers that an increasing number of them around the world are introducing Open Access policies that require their funded researchers to provide

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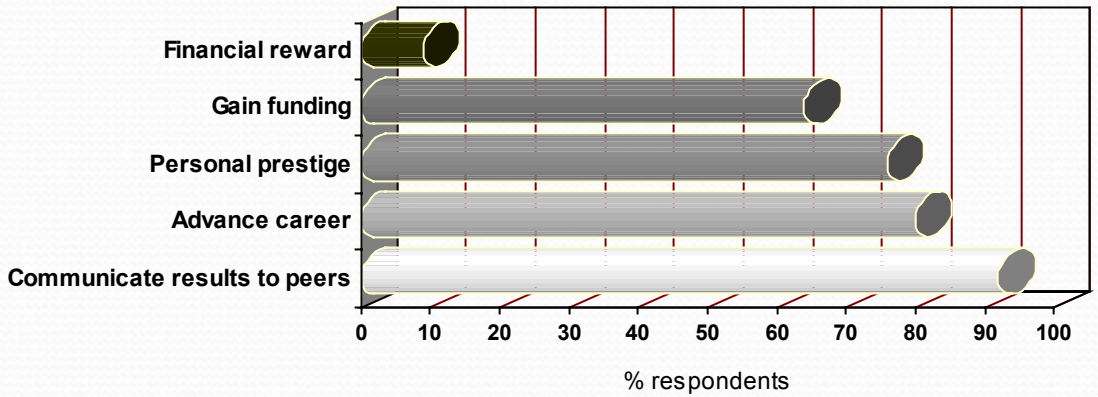
- India spends perhaps 170 billion rupees of public money annually on science and technology research.
- The return on this investment must be maximised:

We are building a Case here:

- Open Access has been demonstrated to increase citations to published research on average by over50% and
- since only 15% of research is available on this basis, this means that the remaining 85% stays hidden away in subscription-based journals that only a minority of libraries purchase, largely unread and unused.
- That 85% could be getting much better visibility and use if it were all Open Access.
- sEvidence suggests that the average increase in citations for Open Access research is 50% .In other words, India would have to spend a further 70 billion rupees on research to get the same impact on the world stage as it could currently get for no more money by making all of the country's research output Open Access.

Providing Open Access in India

Primary aim of researchers when publishing their work, which is to communicate their results to their peers



Reasons researchers consider 'very important' when publishing their work (from Swan and Brown, 2005)

Impediments to Open Access in India

- Although Open Access is clearly in the interests of the research community
- From India's top research administrators through the universities and research institutions to the individual scholar – there is a diffidence towards Open Access that needs to be swept aside.

- Partly, the diffidence is based upon a lack of awareness of the issues and advantages of Open Access. There must be more effort put into explaining the concept and how to achieve it for scholars, administrators and funders.

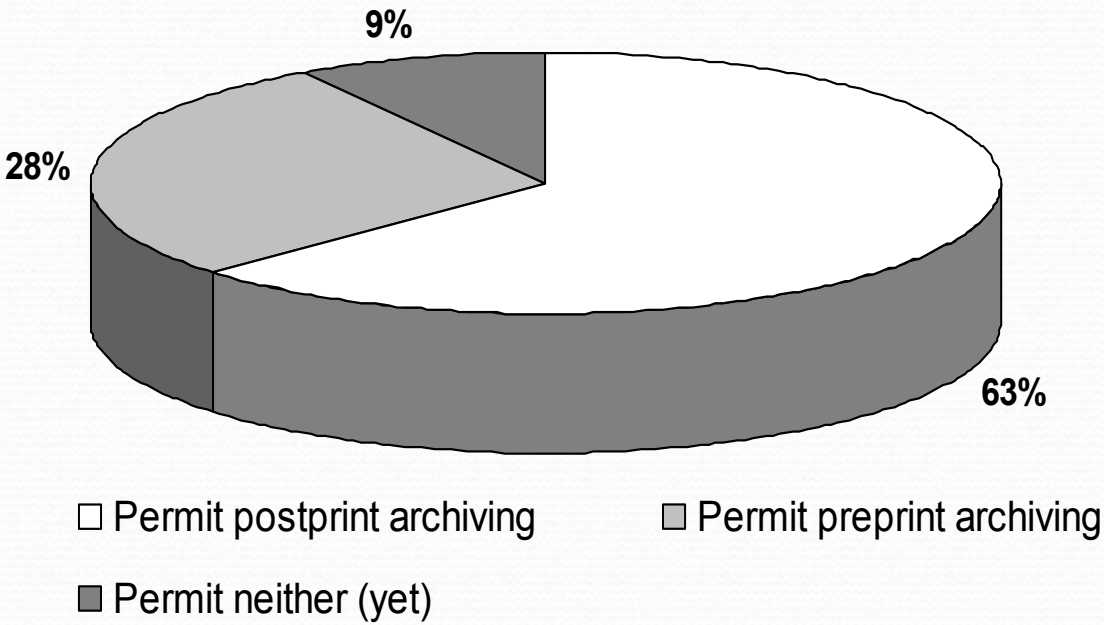
- And policy-making by research funders – and research-based institutions – is not only critical in informing scholars: it is critical in another sense, for without such policies the level of provision of Open Access is very poor.

Providing Open Access in India

Concerns & Issues

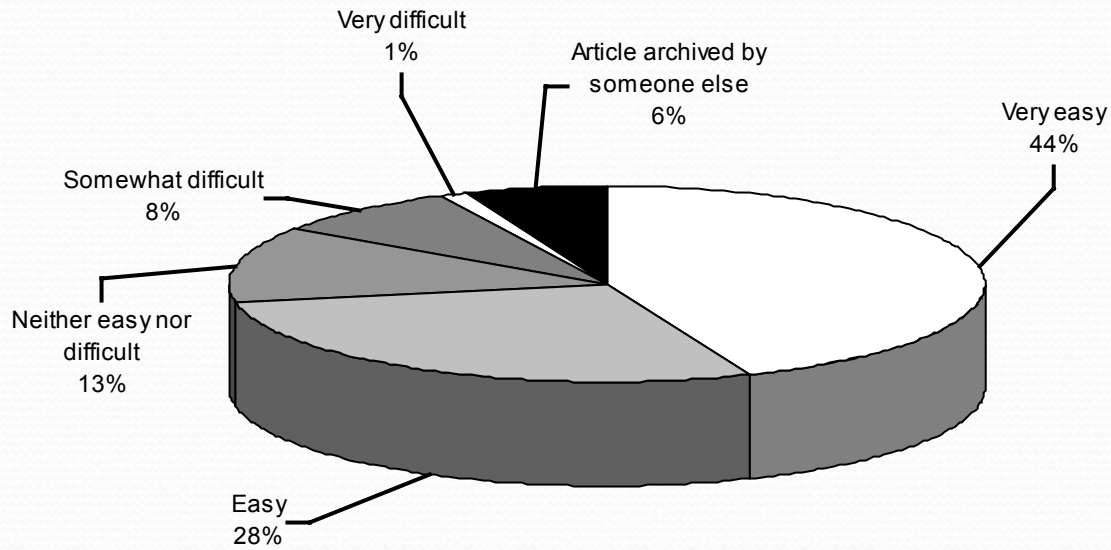
Author concerns about Open Access

- Copyright restrictions imposed by their publishers.
- OA publishers do not have any copyright restrictions : they allow the copyright to remain with the author & permit the author to do anything
- Journal permissions for self-archiving
- Authors can check these permission policies by going to the resources maintained by SHERPA



Second, researchers worry about how easy it might be to deposit an article in their repository

Easy & Simple

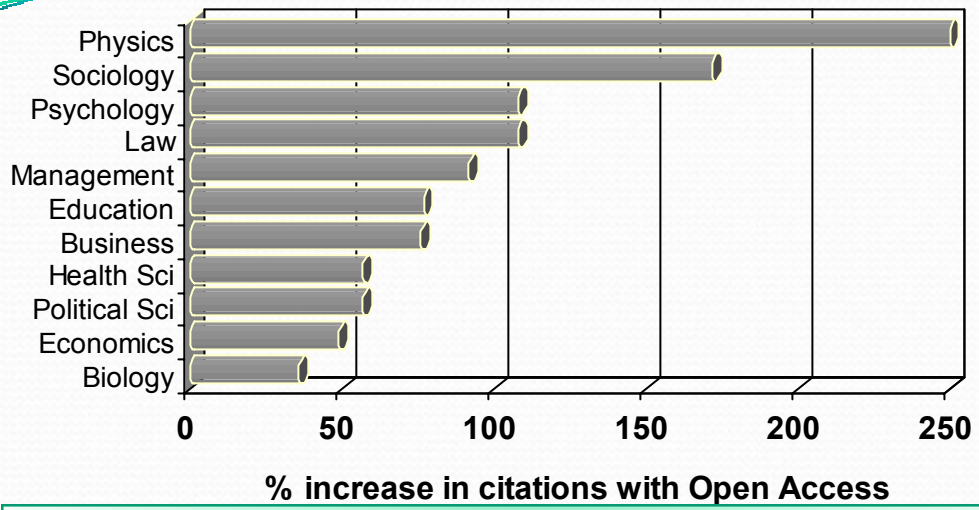


Ease of depositing an article in an Open Access repository

Encouraging Open Access

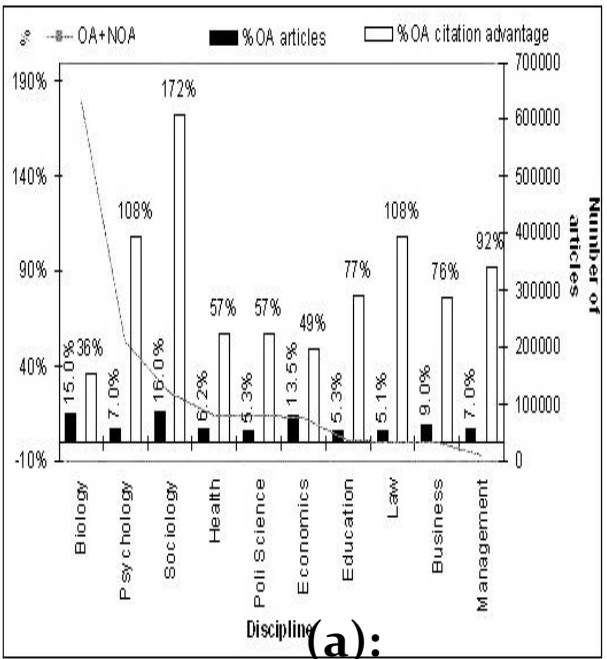
worries that authors have about Open Access. Since they are unfounded, authors must be reassured about them.

Making authors aware of the increased visibility, usage and impact their work will receive via Open Access is crucial.

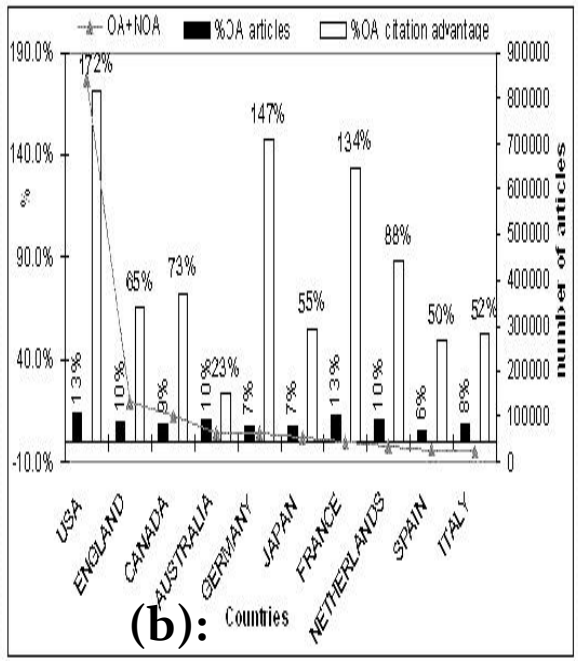


The data emphasise how far and how fast we are moving towards a new world where impact is measured at author level. Up until now, authors have remained rather obsessed by the metric known as Journal Impact Factor (JIF).

Increase in citations as a result of Open Access



(a):



(b):

(a): Open Access Citation Impact Advantage by Discipline.

(b): Open Access Citation Impact Advantage by Country.

Finally – Mandating is the MANTRA to OA Success in India

☑It is important to emphasise that ***only mandatory policies work well***.

☑Policies that just encourage or even request authors to make their work Open Access do not result in a sizeable level of compliance.

Promoting and Mandating OA

Typical examples

Mention May be made of two important Initiatives

➢INSA -**on April 26th organised brainstorming session on Open Access, FOSS and Copyright Law for scholarly communications and literary work with a view to :**

- **Draft the recommendations for changes in Policy and law to the Government of India to be tune with changing technologies in the new information era and the international developments.**

- Governmental Initiatives to Improve Access to Knowledge
- Copyright law for scholarly communication and literary work : Copyright Period

- **Meanwhile, the National Knowledge Commission has recommended mandating open access to all publicly funded research**

- Bangalore Statement (2006) The outcome was the drawing up of an optimally-worded Open Access policy for institutions and funders to use.
  - The implementation of this Commitment is exactly what India needs now, before she loses out still further in the race for visibility and impact.
    http://www.ncsi.iisc.ernet.in/OAworkshop2006/pdfs/NationalOAPolicyDCs.pdf

- **Groups like the Indian National Science Academy /Indian Academy of Sciences have also been looking deeper at the potential of OA**

IIT – Coming virtually Home : 400 courses across 5 subjects

Now that we have the tools to make global communication a reality, the research community really should embrace them.

Action? Where to focus

Stimulate

- E-Prints
  - Preprints,
  - Articles
  - Postprints,
  - working papers, etc
- Technical Reports
- Conference Papers
- Theses/Dissertations
- Datasets
  - e.g. statistical, geospatial, scientific
- Non-Institutional Research
  - Scholar in the Garden Shed'

Others (In fact whatever are the materials that reflect the core competencies of the institution)

Action? - Fast Forward

Address Issues that result in Problems and Challenges at the right Ernest

- Awareness & Availability of IR
- Copyright & IPR Issues
- Institutional policy and IR Management
- Support and Sustainability
- Mandate OA

OA Advocacy in India : Advocacy Programms (existing) bringing change

- More Concerted efforts Needed

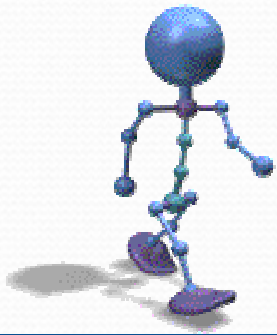
Future Endeavours

- Academics to collaborate to create cream of Indian Scholarly content
- And strive to place all papers by R&D community, on an open access archive
- Though time consuming but achievable
- Promote young scientists and researchers by promoting their R& D achievements through a Indian Knowledge portal

- **Support and promote access to**
- **scientific information by creating**
  - *Indigenous digital databases*
  - *E-journals*
  - *Institutional Repositories*
  - *Digital Libraries*

- **Facilitate access to digital resources th**
- **Protect 'fair dealing' in digital en**
- **Provide legal 'keys' to 'unl**
- **Provide access to pu** **ccess**
- **High Potenti** **n :Express interest in collaborating with othe** **d in your country . North-south and south** **lor fast growth and mutual benefit**
- **Man**
- **Unive** **ck up best guidelines and issue the mandate.**

Open Access to Research
WE NEED TO CREATE THE ENVIRONMENT IN WHICH OPEN ACCESS WILL BECOME THE NORM FOR DISTRIBUTING RESEARCH



Closed access has made Academic (Research) Environment stuffy

Let us open windows, hearts and minds to open access

To Breathe Fresh

We are Open to Your Suggestions on OA

धन्यवाद
Thank You