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The Changing Landscape and Future of Open Access in India

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Abstract

The past few years has seen a tremendous change in information production and growth with new knowledge disciplines added into academics. With journal subscription costs increasing at 8-10% annually(Miller 2015), libraries worldwide are finding it difficult to sustain subscription costs to scholarly material. On the other hand making information and data available in interoperable electronic formats freely is a concept that is gaining momentum and OA (Open Access) holds promise to remove both price and permission barriers to scientific communication with the help of the internet. Scientists, policy makers, NGOs, government agencies and librarians are also collaborating together for OA implementation and making knowledge affordable to all. OA journals play a key role in making scholarly material immediately available on the internet.

Keywords: open access, open access movement India, scholarly publishing, predatory publishers

Introduction

The OA movement in India started by advocates like Subbiah Arunachalam is more than a decade old. It is now gaining momentum with various organizations and departments under Government of India such as the DBT (Department of Biotechnology) and DST (Department of Science and Technology) adopting OA policies in 2014. However, there is long way to go as India does not have a national OA mandate for public funded research. Few universities and institutions in this region have adopted an OA mandate on university-funded research. It seems that while the awareness about making research outputs publicly available has certainly increased within academia, the steep increase in the number of questionable journal publishers around the world, has created a misunderstanding about the credibility and value of adopting the OA publishing route. This paper attempts to provide an account of the changing landscape of OA in India and proposes recommendations that can be taken to improve the adoption of OA in India.

DOAJ (Directory of Open Access Journals):-
The DOAJ (Directory of OA Journals) provides a valuable service by providing and maintaining a curated and authoritative index of quality peer-reviewed OA journals and aims to be the starting point for all information searches for quality OA journals. In this context, This paper makes an attempt to highlight the history of OA in India, the current strides made by the OA movement in India through the adoption of new media and some of the issues raised by questionable publishers exploiting the author-pay OA model.

History of OA in India

Various authors have documented the events and activities related to OA movement in India. Notable report among them is 'OA to Scholarly Literature' by Arunachalam and Muthu (2011). Here is a summary of the time line of events on OA in India. Apropos to the Budapest OA Initiative (14 February, 2001), the IISc (Indian Institute of Science) had established the country's first OA repository known as ePrints@IISc which went live on 22nd August 2002 (as per the archive.org). This historical event may be regarded as the landmark initiative of OA in India. The year 2003 marks the first addition of OA journals into the DOAJ. The Indian Academy of Sciences' journal, Pramana: Journal of Physics was the first journal to be added into DOAJ. Later in 2004, the INSA (Indian National Science Academy) and the MSSRF (MS Swaminathan Research Foundation) organized workshops on OA and Institutional Repositories in Delhi and Bangalore respectively. In the same year, the INSA signed the Berlin Declaration on OA to Knowledge in the Sciences and Humanities. The SJPI (Scientific Journal Publishing in India) Project was carried out at National Centre for Science Information at the IISc from October 2004 to March 2007 with the partnership of the PKP (Public Knowledge Project) during which the first OA journal using OJS (Open Journal Systems), the Journal of the Indian Institute of Science was hosted (Abraham and Minj, 2007). And the year 2006 had seen notable activity towards OA. During the 93rd Indian Science Congress held at Hyderabad in January, 2006 an 'Optimal National OA Policy for India' was proposed, and the country's first mandated OA policy was adopted by NIT, Rourkela in May 2006. With the support of the Open Society Institute, a workshop on Electronic Publishing and OA was held at Indian Institute of Science (November 2006). This was followed by the National Knowledge Commission's recommendation of Open Educational Resources and OA in November 2007. The INSA also organized brainstorming meeting on OA, FOSS (Free and Open Source Software) and Copyright Law for Scholarly Communications and Literary Works at Delhi in 2008. In the year 2011, CSIR (Council of Scientific and Industrial Research) adopted OA mandate and made all its journals as OA journals. In the same year (2011), the INFLIBNET (Information and Library Network) centre had launched 'Shodhganga', an electronic thesis and dissertations portal following the UGC (University Grants Commission) regulations 2009. On 8 July 2011, 'OA India', an online community of practice advocating OA, Open data, Open education in India was formed. In January 2012, the National Data Sharing and Accessibility Policy (NDSAP) was adopted by the Government of India and data.gov.in an Open Government Data (OGD) platform for India was built. The year 2013 marked the launch of a National Repository of Open Educational Resources (NROER) in August whose contents are licensed under CC BY-SA (Creative Commons Attribution-Share Alike). It was followed by the adoption of OA policy by the Indian Council of Agricultural Research (ICAR) in September 2013, and in December 2014 the Department of Biotechnology (DBT) and the Department of Science and Technology (DST) jointly adopted an OA policy and launched 'ScienceCentral.in' portal in 2015 for hosting centralized Institutional Repositories for DST-DBT supported institutes.

The Rise of Questionable Publishers in India

The advocates and champions of OA in the world had facilitated e-infrastructure facilities for the success of the OA movement in the world. However, with the gaining momentum of the movement in India, it is also witnessing the rapid growth of questionable publishers which are called 'predatory publishers' as per the Beall's list (Beall2016). Questionable publishers are those who take the advantage of the author-pay model in making articles OA and abuse it by soliciting articles and publishing them with little or no peer-review and editorial services. These publishers often spam prospective authors' emails to solicit papers, have fake editorial boards and sometimes hide the APC (Author Publishing Charges) until after the author receives the manuscript. Recent years have also seen an increase in these

questionable journals displaying fake impact factors (sometimes more than one)and misleading metrics on the journal website to enhance their so called credibility and take advantage of researchers who wish to publish their research in prestigious journals. A study conducted by Shen and Bjork (2015) shows that 27% (largest group in the distribution for the sample used) of predatory publishers and 35% are the authors originated from India(**Fig. 1(a) and 1(b)**). The proliferation of unethical publishing implies that while the academic community seems to be aware of the OA movement, they are unaware of authoritative indexes on quality OA journals such as DOAJ. These 'predatory journals' exploit researchers need to publish for tenure and promotion. This demands the need of community-driven open metrics and quality control mechanism to avoid the country from facing a big threat in the production of quality literature on scientific research.
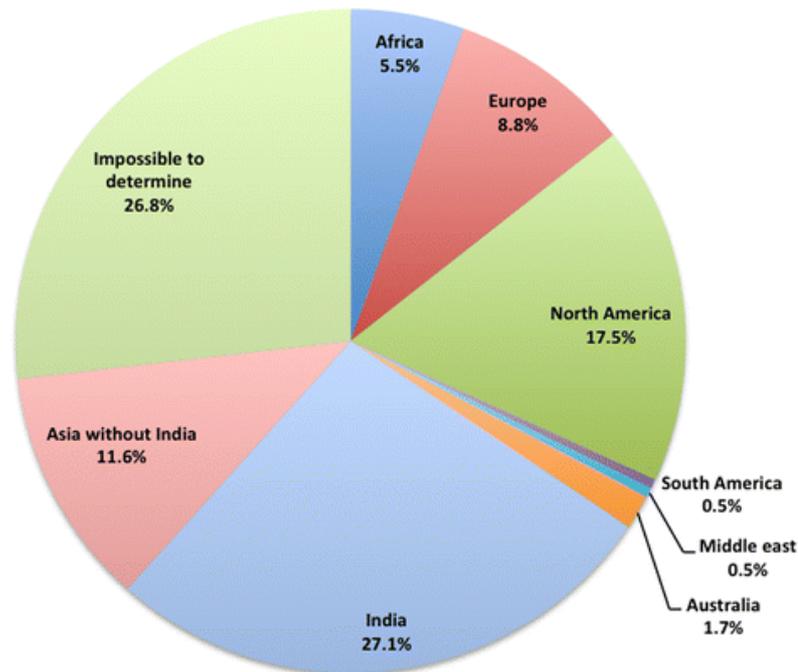

Fig. 1(a). Distribution of publishers (n = 656) by geographic regions (Shen and Bjork, 2015)
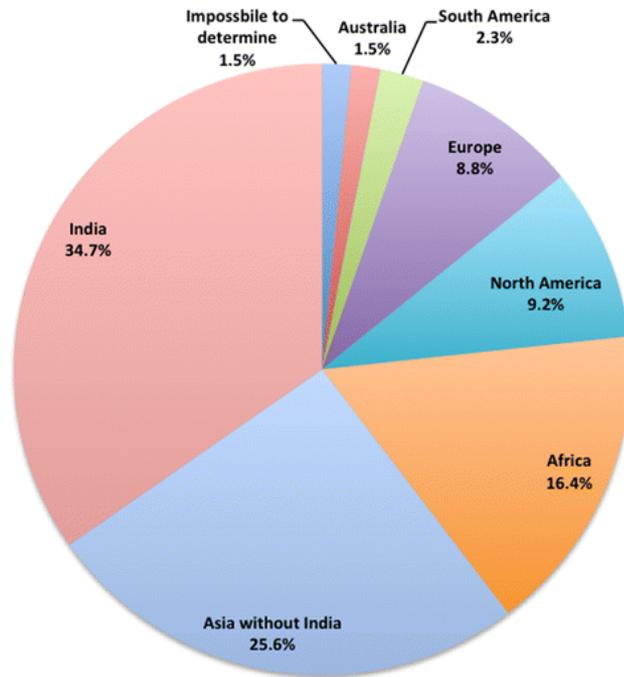
Fig. 1(b). Distribution of corresponding authors by geographic regions(Shen and Bjork, 2015)
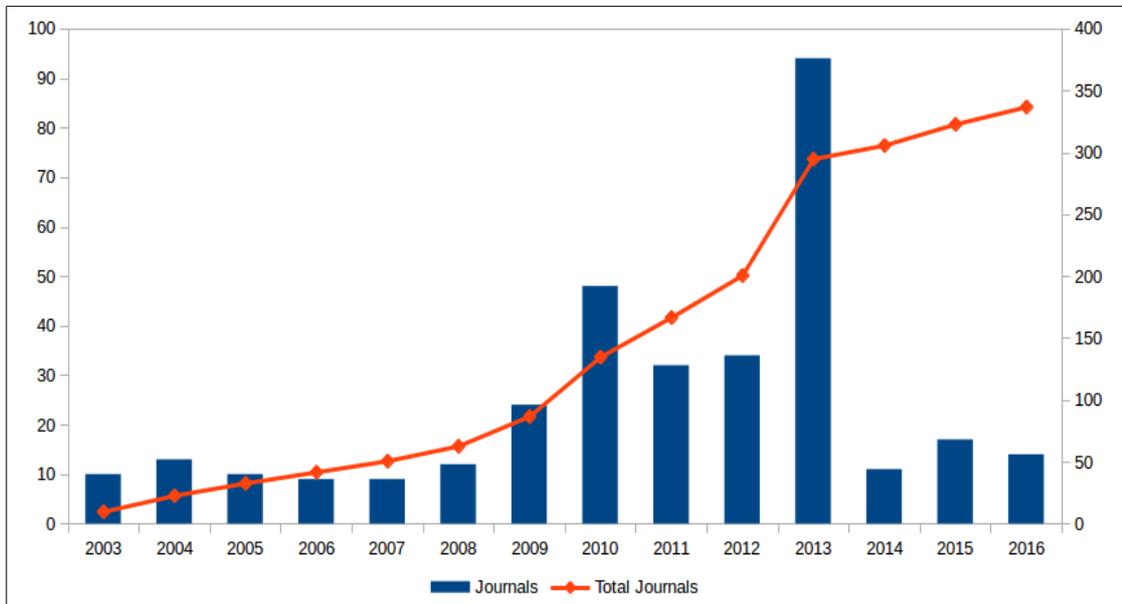

Fig. 2. Number of Journals added year wise into the DOAJ (Data Source: DOAJ)
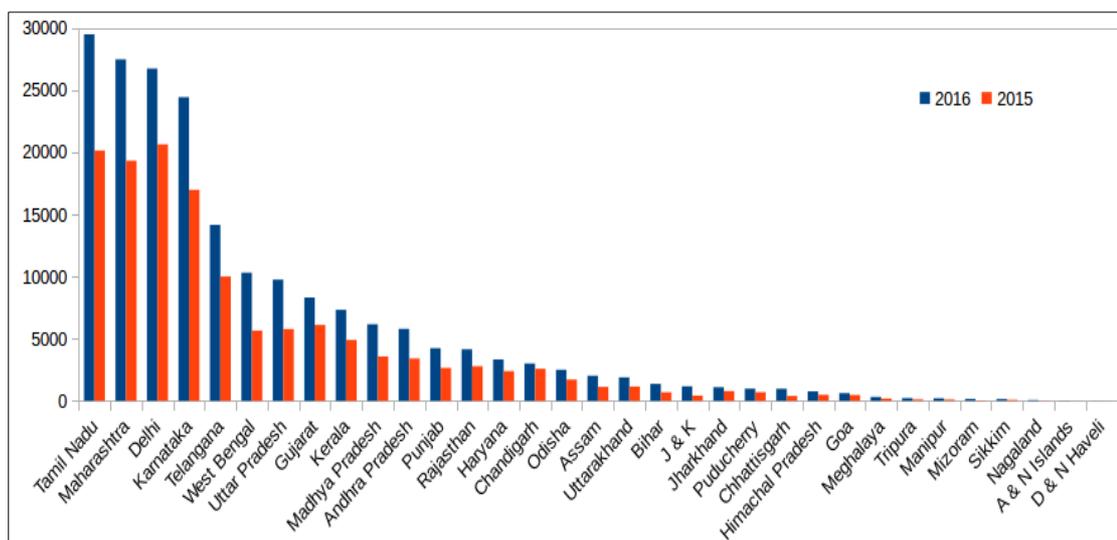
Fig. 3. Number of new users visiting the DOAJ website in 2016 and 2015(Data Source: DOAJ)

India's contribution and engagement with DOAJ

As of 2016 DOAJ lists 9100 OA journals covering all areas of science technology, medicine, social science and humanities (DOAJ 2016). On an average it receives 80 new applications every week and handles approximately 300 records every month. In order to assess the quality of an OA journal DOAJ has developed a set of quality control standards and employs a small team of permanent staff consisting of senior editors who work to keep this list updated and growing. It is also running an Ambassador program for 2016-17, targeting regions of the global south that could benefit from greater awareness of the issues surrounding OA and the importance of best practice and high publishing standards. Out of the appointed 12 Ambassadors from around the world, three are from India. In addition to this it also uses the services of approximately 100 voluntary editorial staff who review applications. From India, addition of journals into DOAJ started from 2003 and currently it has about 350 journals listed in the directory and it is growing (**Fig. 2**). Due to the quality control mechanism is in place, now many of the journals are subjected to quality editorial process. The DOAJ website not just lists the journals but also harvests the metadata of all the full-text articles of the journals indexed and it has now become the one-stop shop portal for accessing quality OA scholarly literature. As per the google analytics data of the DOAJ website, new users visiting the site is growing and on an average the new users of the top ten states had increased by 150% (data not shown). And the top five states from where there are more new users are Tamil Nadu, Maharashtra, Delhi, Karnataka, and Telangana (**Fig. 3**).

Recommendations to build the future of OA adoption in India

To curb 'predatory' publishing from becoming a critical consequence of the OA movement in India, it is vital to raise awareness of OA among the academic community. Various Indian R&D organizations and leading scientific research institutions are now taking part in the OA movement by establishing institutional and digital repositories to provide worldwide access to their research literature. Several Indian publishers have already adopted the OA philosophy for the electronic versions of their journals. The future could be to raise awareness of OA and start discussing about it during all the scientific meetings. Below are the some possible ways to achieve OA the default by 2020 in India.

- **Creation of OA Repositories:** To benefit from research published in OA journals, these resources must be easy to discover and use. Making institutional repositories publicly accessible online is one way to accelerate the OA movement in India. There are many research institutions carrying out research in India but with a closed access institutional repository. As per the MHRD (2015) report, about 700 universities and more than 35,000 affiliated colleges are enrolling more than 20 million students every year. And these students develop, create and build content as part of their course study and to ensure that content in available at one locus online, the academic institutes or universities should establish repositories. And to be discovered, it could be registered with Open DOAR, an authoritative listing of academic OA repositories. Every repository listed here is evaluated and described to include details such as subject area, content type, country and language (OpenDOAR 2016). This allows users to search for the most relevant repository. All the content in the repositories could be picked up by harvesting services such as Connecting Repositories which aggregates OA content distributed across different repository systems worldwide, benefiting researchers with higher visibility and increasing impact of their OA material(CORE 2016). It also offers a web-based search engine and provides programmable access to metadata and full-text for text mining.
- **Organizing Workshop Seminars on OA during OA Week:** As mentioned above that in India, there are about 700 universities in India with 20 million students' enrollment. To serve this broad group of the academic community, OA awareness workshops and programs should become part of their academic activities every year.
- **Greater role for Communities of Practice**: Open Access India, a community of practice group is working for openness in India with the following aims and objectives (OA India 2016):
  - o Advocacy – sensitizing the researchers, policy makers and general public about OA, Open Data and Open Education.
  - o Development of community e-infrastructure, capacity building and framework for policies regarding OA, Open Data and Open Education.
- **Librarians as Champions of OA**: In an institute or university, Librarians are the focal points for providing advice to researchers wishing to publish OA. In a survey conducted Royal Society of Chemistry (2015) with 453 academic and corporate librarians from all over, it was revealed that the 95% of librarians understand the meaning of OA.The role of librarians in the OA movement is equally important. He/she can work as a mediator between scholarly publication, OA and researchers. Librarians communicate to a large number of university/academic populations and can easily increase awareness about OA among them.
- **Publishing in OA Journals**: To make OA journals a popular choice for would-be authors it would be useful if the gurus and senior experts in the discipline began to publish in quality peer-reviewed OA journals to encourage upcoming new researchers to follow suit. OA publications reduce permission requirements and eliminate price barriers for readers. OA also provides a subscription-free access to researchers, teachers, journalists, policy makers and the general public.
- **Think. Check. Submit.**Development of online decision making tools for researchers is very much in need and is important to choose a journal before publishing. One such tool already developed 'Think. Check. Submit' – a new industry-wide initiative that provides a checklist of quality indicators to help researchers identify if a journal is a trustworthy place to submit their research(ThinkCheckSubmit. 2016).

- **Use of Open Formats and Open Licenses**: OA literature is immediate, online and free of copyright restrictions. However, it is seen that not much of the scholarly literature is openly licensed using either Creative Commons or any other similar suitable licensing. It has been reported that Copyrights do cause restrictions in carrying out research and in teaching. Hence there should be an awareness campaign for making contents available with open licenses and at the same time in the open formats which would not discriminate against the platform of use.

Conflict of Interest statement

All the three authors of this paper currently serve as the DOAJ Ambassadors (India)and the views and opinions expressed here are personal.

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This poster is available at http://www.slideshare.net/doaj/presentations

Abstract

The Open Access (OA) movement in India, now more than a decade old has gained momentum in the last couple of years with departments under Government of India such as the DBT (Department of Biotechnology) and DST (Department of Science and Technology) adopting OA policies in 2014 and the Indian Council of Agricultural Research (ICAR) adopting its OA policy in 2013. This movement has also received impetus from a group of volunteers running the online community of practice 'Open Access India' for advocacy and building of community e-infrastructure for policies related to OA, Open Data and Open Education.

It seems that while the awareness about making research outputs publicly available has certainly increased within academia, the steep increase in the number of questionable OA journal publishers in India and around the world, has created a misunderstanding about the credibility and value of adopting the author-pay OA publishing route. This paper proposes steps to improve awareness of OA and examines organizations like DOAJ and their contribution in helping researchers publish their research in credible OA journals.

Introduction

The past few years has seen a tremendous change in information production and growth with new knowledge disciplines added into academics. With journal subscription costs increasing at 8-10% annually, libraries worldwide are finding it difficult to sustain subscription costs to scholarly material. On the other hand making information and data available in interoperable electronic formats freely is a concept that is gaining momentum and OA holds promise to remove both price and permission barriers to scientific communication with the help of the internet.

Timeline of OA in India

- 2015 CSIR-URDIP launches LOADB & ScienceCentral.in
- 2014 DBT &DST adopts OA policy
- 2013 NROER launched with CC BY-SA license & ICAR adopts OA policy
- 2012 NDSAP adopted by GOI and launch of data.gov.in
- 2011 CSIR adopts OA mandate, INFLIBNET launches Shodhganga & formation of Open Access India
- 2006 NIT, Rourkela adopts OA mandate
- 2004 Scientific Journal Publishing Project with PKP
- 2003 First Indian Journal 'Pramana: Journal of Physics' is indexed by DOAJ
- 2002 Launch of Eprints@IISc

Discussion

The Rise of Questionable Publishers in India

Questionable or 'Predatory**' publishers exploit author-pay OA publishing model by charging APC and publishing articles with little or no peer-review.
**Term predatory was coined by Jeffery Beall, librarian at University of Colorado.

- Operate like phishing scams to solicit articles from academics
- Offers rapid publishing and charges the author with (APC) Article Processing charges (0$ - 4000$)
- Does not conduct peer review nor any editorial services
- Journal website may have fake Impact Factors to mislead readers and authors
- Phony editorial boards with or without affiliation and contact details

A recent study titled '*Predatory' open access: a longitudinal study of article volumes and market characteristics*' reveals that 27% of 'predatory' publishers (see Fig 1) originate from India and around 35% of corresponding authors (see Fig. 2) are also from India (Shen and Bjork, 2015).
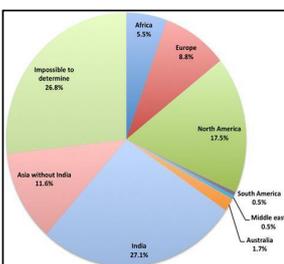

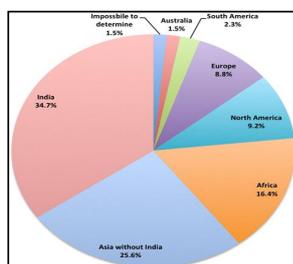**Fig.1 Distribution of publishers (n = 656) by geographic regions (Shen and Bjork, 2015)**

Fig.2 Distribution of corresponding authors by geographic regions(Shen and Bjork, 2015)

Directory of Open Access Journals (DOAJ)

- Not-for-profit organization that provides and maintains a steadily growing, curated and authoritative index of quality peer-reviewed OA journals along with an article-level search
- Aims to be the starting point for all information searches for quality OA journals
- As of 2016, DOAJ lists 9100 OA journals covering all areas of science technology, medicine, social science and humanities
- On an average it receives 80 new applications every week and handles approximately 300 records every month

India's engagement with DOAJ

The first Indian journal was indexed by DOAJ in 2003 and today in 2016 there are about 350 Indian journals listed in the directory and it is growing (see Fig. 3). New users visiting the site is growing with Tamil Nadu, Maharashtra, Delhi, Karnataka, and Telangana being the top 5 states with the most number of new users (see Fig. 4).
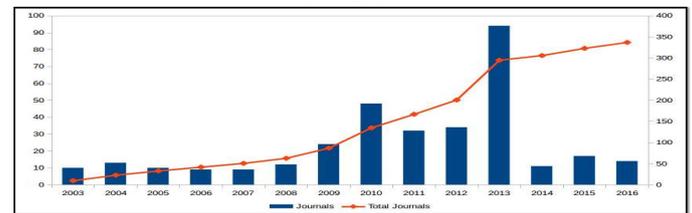

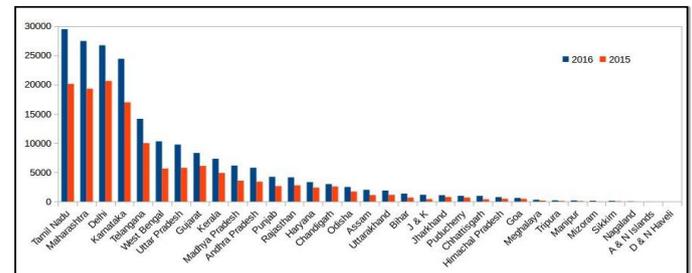**Fig.3 Number of Journals added year wise into DOAJ (Data Source: DOAJ)**

Fig.4 Number of new users visiting the DOAJ website in 2016 and 2015 (Data Source: DOAJ)

Conclusion

The **negative outcome** of a continued increase in questionable publishing practices could be:

- ❑ Production of low-quality research published in a primary source of information i.e. journals
- ❑ Undermining and shunning of OA model by the academic community along with risk for inexperienced authors

Recommendations for stronger acceptance of OA publishing in India by academics:

- **Creation of institutional OA repositories**: These repositories can register with OpenDOAR for wider visibility and impact.
- **Greater role for 'communities of practice'**: The Open Access India aims for advocacy of OA, open data and open education and development of e-infrastructure for the same.
- **Promotion of research tools and services** such **as DOAJ & Think.Check.Submit** to identify credible OA journals
- **Librarians as champions of OA**: they not only possess a good understanding of scholarly communication and OA in general, but are also strategically positioned to reach out to academics and students.
- **Set the trend**: Experts and established researchers need to set the trend by publishing in quality OA journals for early-career researchers to follow.
- **Promote awareness of copyright & licensing**: License e.g. Creative Commons removes the permission barrier and lets the user know what they can/cannot do with the OA content.

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