

## Institutional Repository - A Gateway of Global Visibility: Case Study

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**Abstract:** Institutional repositories (IR) are digital collections that capture, collect, manage, disseminate, and preserve scholarly work created by the constituent members in individual institutions. This paper presents the results of an effort to develop and design an IR of Anjuman-i-Islam's Kalsekar Technical Campus (AIKTC), New Panvel, and India. The web performance of AIKTC institutional repositories is examined. Its performance in archiving and sharing based on the Ranking Web of Repositories (RWR) is also analysed. The main aim of ranking and registration is to promote the development of open access by providing timely information about the growth and status of repositories throughout the world. Open access to research maximizes research access and thereby also research impact, making research more productive and effective. The repository is web-enabled using DSpace Digital Library software and can be accessed online.

**Keywords:** Open Source software, DSpace, Digital Library, Institutional Repository, Ranking Web of Repository, ROAR, ROARMAP, OpenDOAR, AIKTC

**Introduction:** The Anjuman-I-Islam has a glorious history of 141 years of educational and social service and technical expertise of more than 50 years, set a new milestone by establishing its new vibrant campus on June 30, 2011 named "Anjuman-I-Islam's Kalsekar Technical Campus (AIKTC) at New Panvel, Navi Mumbai. The AIKTC comprises three degree level colleges viz. School of Engineering & Technology, School of Architecture and School of Pharmacy. The library was established as a knowledge hub that is conveniently accessible. The Library's collection comprises hybrid resources (Print and Electronic) in the field of Engineering & Technology, Pharmacy and Architecture. The Library also has a separate Internet section consisting of a number of networked terminals for providing recent and most comprehensive access to e-journals and other e-reference resources to the faculty, students and staff under Intranet and Internet environment.

**Need for institutional repository:** The Research Promotion Cell of AIKTC aims to nurture research culture in the institute by promoting research in newly emerging and challenging areas of engineering, architecture and pharmacy. It encourages the Undergraduate and Post graduate candidates to undertake the research in newly emerging frontier areas of institute including multidisciplinary fields. This enhances the general research capability of budding technocrats by way of participating in conferences, seminars, workshops, project competition, etc.

a. The majority of research scholars do not provide free access to their research output to their colleagues in an organization. IRs provides scholars with a common platform so that everyone in the institution can contribute scholarly material to promote cross-campus interdisciplinary research.

b. Some of the main objectives for having an institutional repository are to provide open access to institutional research output by self-archiving it, to create global visibility for an institution's scholarly research, and to store and preserve other institutional digital assets, including unpublished or otherwise easily lost ("grey") literature such as thesis, working papers or technical reports.

AIKTC library has played an important role of supporting higher education and research by creating **e-repository** where AIKTC'ians store their academic materials such as published papers, PPTs, lecture notes, handouts, learning resources, question papers, etc. on a digital platform called **DSpace**.

**Software Identification:** The library has preferred to use open source software both for the operating system as well as the digital repository software. Some of the reasons for using open source software are (a) available free of cost, (b) allows customisation to suite the institute's websites, (c) not have any

vendor lock or copyright, (d) open standards allow easy sharing of information with vast community of implementers and developers around the world, (e) software is updated frequently, and (f) online manuals, help and technical support is available either through mailing lists or internet relay chats (IRCs).

According to Directory of Open Access Repositories (OpenDOAR) and Registry of Open Access Repositories (ROAR), more than 80 known software are used for building the digital repositories. The ROAR site indicates that 1696 repositories from 4322 registered repositories use DSpace alone. At the same time, the Open DOAR show that 1422 repositories from 3212 registered repositories use DSpace.

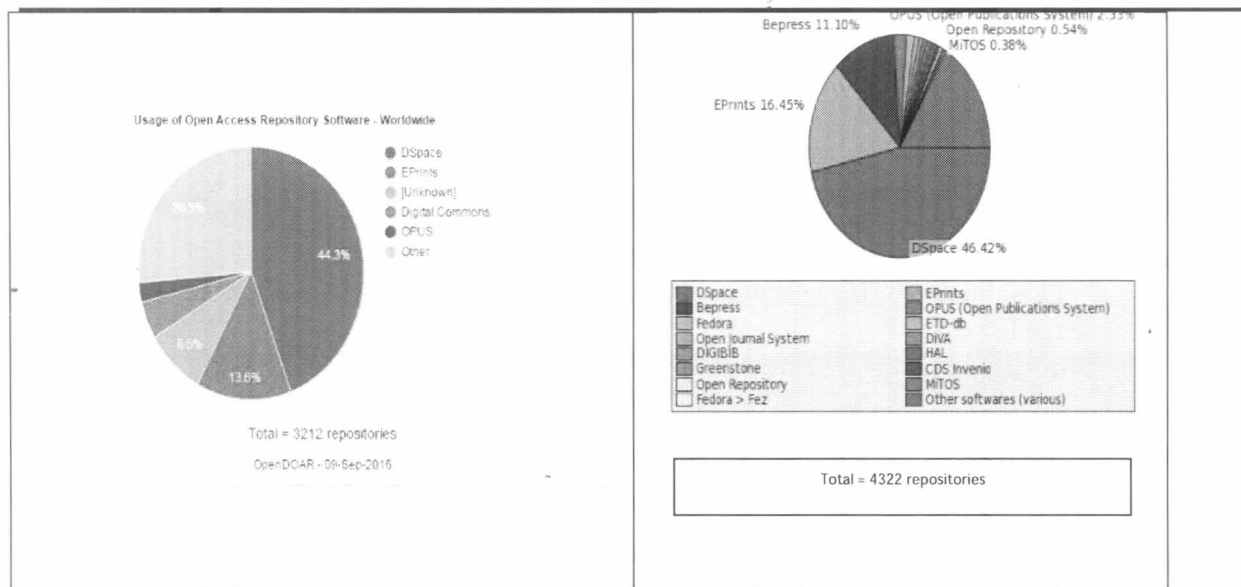


Fig.1: Usage of Open Access Repository Software

Some of the advantages of using DSpace are:

- Largest community of users and developers,
- Manage and preserve all types of digital documents,
- Supports handle system for every document that is added into DSpace repository,
- Support excellent workflow for all operations within DSpace,
- Completely customisable to fit ones needs in terms of users' interfaces, metadata, OAI-PMH compatible, database configurations, choice of language, etc.
- Used by number of educational, government, private and commercial institutions

Due to some of the above key features, AIKTC adapted DSpace for Institutional Repository. Installation of DSpace and other components is done by following step by step commands of DSpace installation documentation available at Duraspace in March 2013, an effort is made here to design and develop comprehensive and effective IR taking AIKTC publications as a case study. AIKTC IR launched in July 2013 within Intranet and in November 2014 opens to public at: <http://www.aiktcdspace.org>.

**Benefits:** Establishment of IR is beneficial to all stakeholders of the organization. The benefits are as follows:

- Benefits to the AUTHORS (contributors):
  - Instead of scattered in different databases, all the intellectual output of an individual is kept in a well organized way in a single place.

- Submission to IR increases visibility, thereby inviting and increasing citation of an article.
  - Well preserved and permanently accessible to all.
- Benefits to the INSTITUTION (sponsoring body):
- Increase the global visibility of the intellectual output of the institution.
  - Act as an advertising tool for the institute.
  - When administrative records are submitted in the IR, organizational history is well preserved.
  - A knowledge bank of the institute can be created by accumulating all the works of the intellectual capability.
- Benefits to the USERS (beneficiary):
- User can browse, search the documents submitted to an IR freely.
  - In some cases users can access the full text, in some can access partially.
  - In case of partial access, users can avail 'Request a copy' service.
  - Grey literature like teaching materials, unpublished documents can be accessed from the IR.
- Benefits to the LIBRARY AND INFORMATION CENTERS (facilitators):
- A librarian feels embarrassed when he cannot satisfy the user's need.
  - Libraries can assume greater role of reaching global clientele through institutional repositories.

**Structure of Communities & Collection:** Based on the institute's requirement, three main communities were created: School of Engineering & Technology, School of Architecture & School of Pharmacy. Collections in these communities are -

- CDLibrary – covers CD/DVD content
- eCourseware - covers Lecture Notes, PPT, AV Material, Question Banks, Chapters, Articles, References etc...
- Project Reports - covers soft copy of the project reports submitted by the Final Year Students as part of their syllabus.
- ETD – covers soft copy of the theses submitted by the Masters students as part of their course work.
- Publications - covers faculties and students publications
- Periodic Exam - covers internal question papers
- Semester Exam - covers university question papers
- Syllabus- covers university syllabus

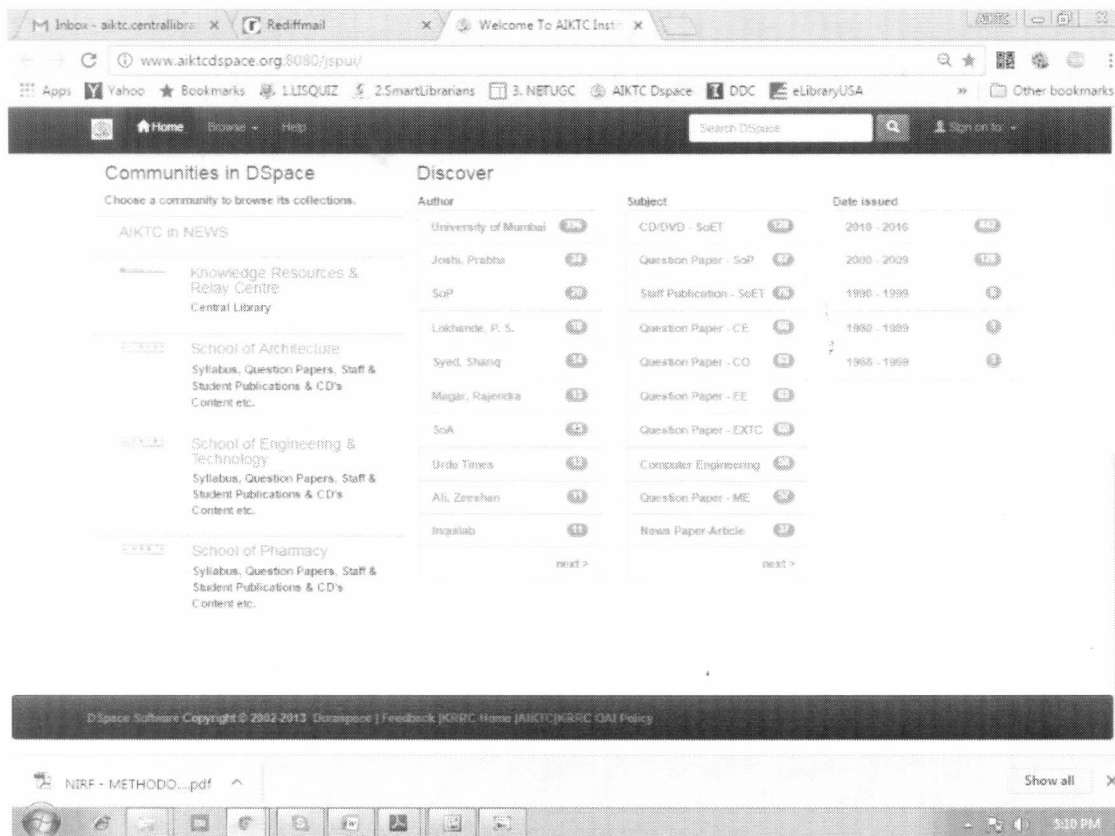


Fig.2: AIKTC Institutional Repository (<http://www.aiktcdspace.org>)

**Global visibility:** There is a need for ranking and registration with Open Access Registry of IRs for the following reasons -

- To measure the global visibility and impact of scientific repositories;
- To know the relative position of a particular IR; and
- To evaluate the present status of IR at the state, national and at global level.

**Ranking Web of Repositories (RWR):** It is an initiative of the Cybermetrics Lab, a research group belonging to the *Consejo Superior de Investigaciones Cientificas* (CSIC), the largest public research body in Spain. The aim of this ranking is to support Open Access initiatives and the free access to scientific publications in an electronic form and other academic materials.

The criteria for inclusion are very simple: The repositories should have their own web domain or subdomain and include at least peer-reviewed papers to be considered.

*"AIKTC Repository is ranked 2014 out of 2275 in the World and 35th out of 41 in Indian Repositories by CSIS - Cybermetrics Lab in July 2016."*

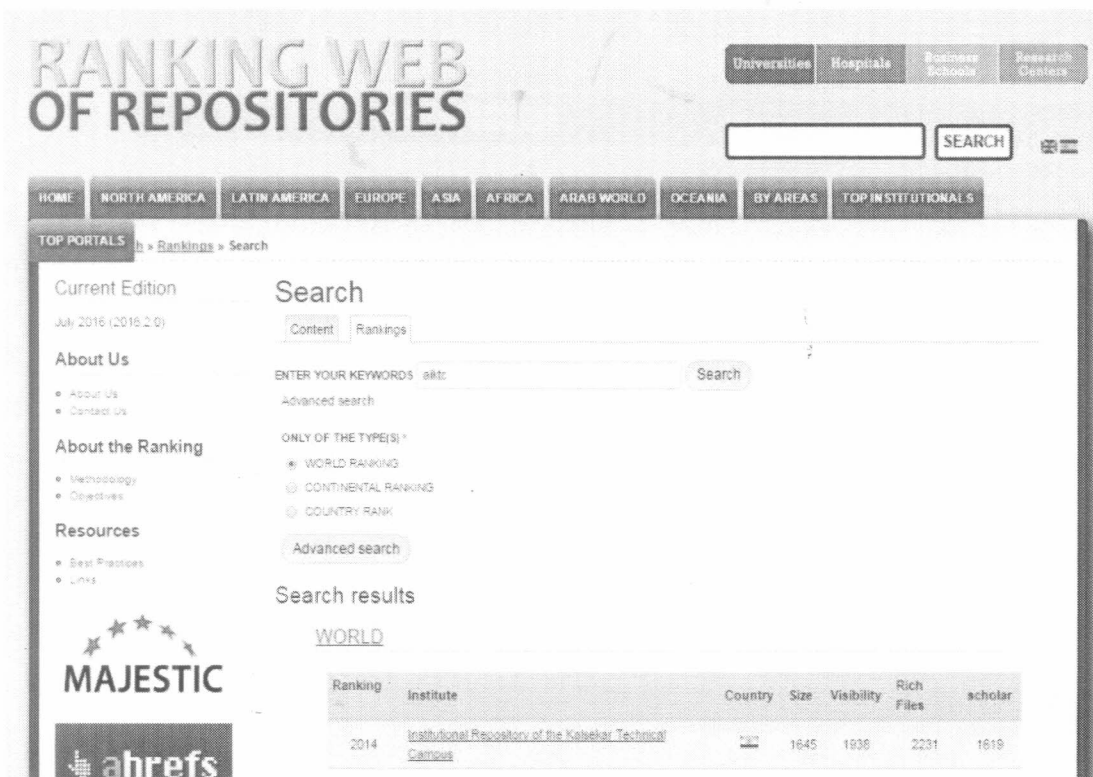
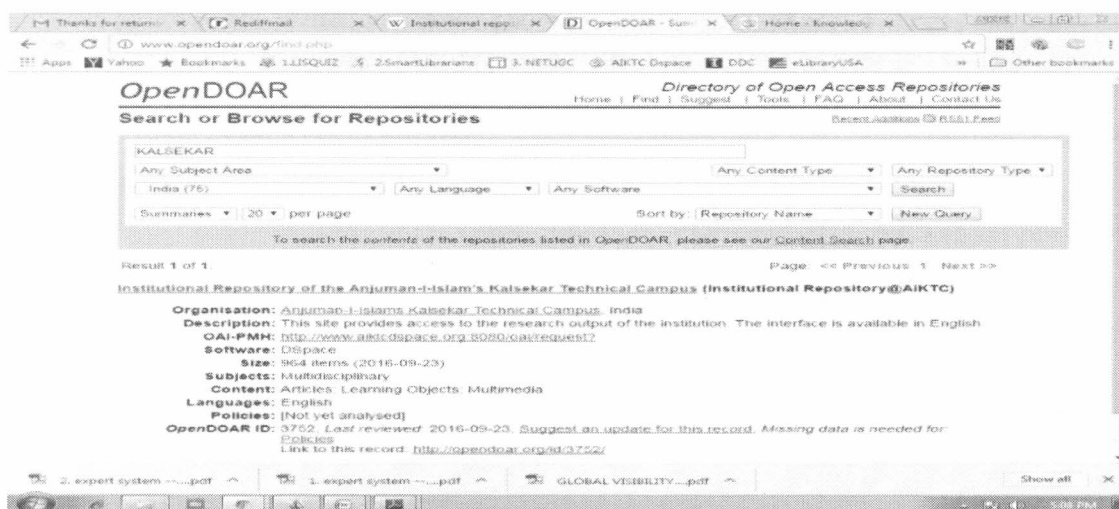


Figure 3: Ranking Web of Repositories  
(<http://repositories.webometrics.info/en/search/Rankings/aikt>)

### Open Directory of Open Access Repository (OpenDOAR):

It is an authoritative directory of academic open access repositories hosted by the University of Nottingham in UK and has been awarded the SPARC Europe Award for Outstanding Achievements in Scholarly Communication (OpenDOAR 2010).

*"AIKTC Repository is one out of 75 repository registered from India and at 47<sup>th</sup> place as per the number of Items by 23<sup>rd</sup> Sept. 2016."*



OpenDOAR (<http://www.opendoar.org/find.php>)

### Registry of Open Access Repositories (ROAR):

ROAR is part of the [EPrints.org](http://EPrints.org) network and ROAR is hosted at the [University of Southampton, UK](http://University of Southampton, UK).

*"AIKTC Repository is one out of 115 repository registered from India and at 44<sup>th</sup> place as per the number of Items by 9<sup>th</sup> August 2016."*

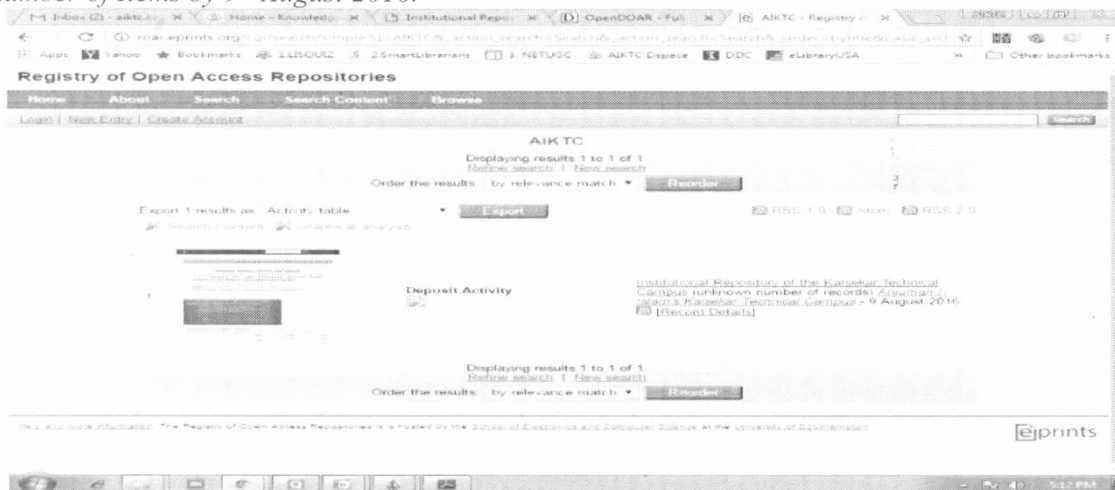


Fig.5: ROAR (<http://roar.eprints.org/>)

### Registry of Open Access Repository Mandates and Policies (ROARMAP):

It is developed by the School of Electronics and Computer Science at the University of Southampton. It is a searchable international registry charting the growth of open access mandates and policies adopted by universities, research institutions and research funders that require or request their researchers to provide open access to their peer-reviewed research article output by depositing it in an open access repository.

*"AIKTC Repository is one out of 15 repository registered from India by 19<sup>th</sup> September 2016."*

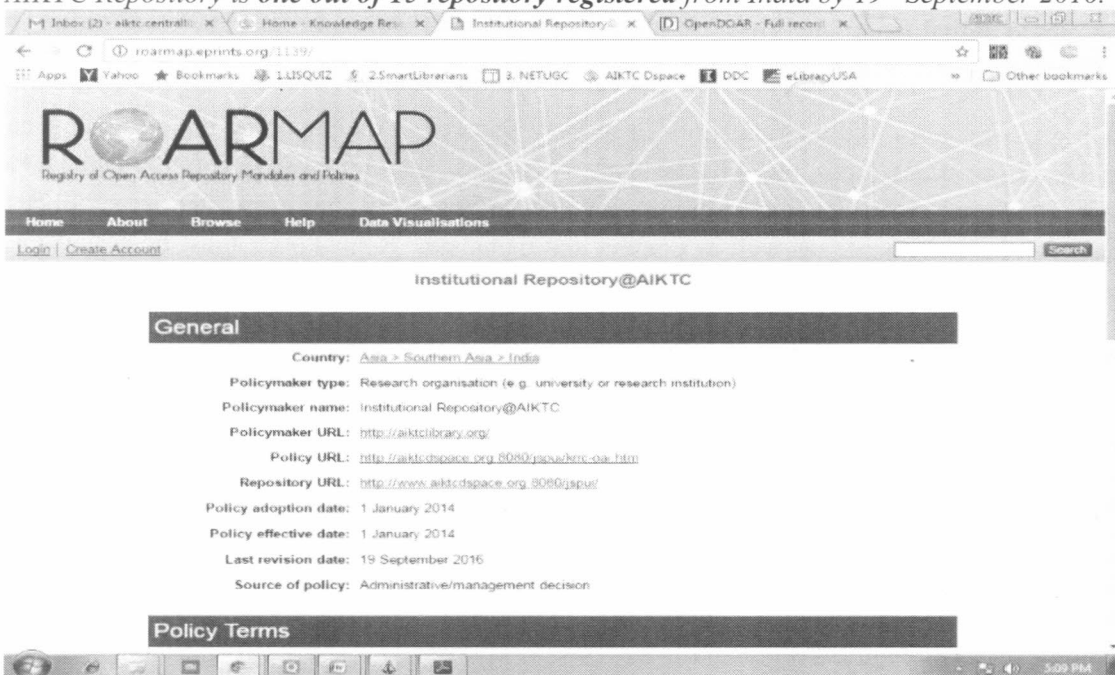


Fig.6: ROARMAP (<http://roarmap.eprints.org/1139/>)

## Open Access Map:

The Open Access Map is a service from the Open Access Scholarly Information Sourcebook (OASIS). The OA Map allows users to conduct searches or obtain overviews of Open Access developments around the world.

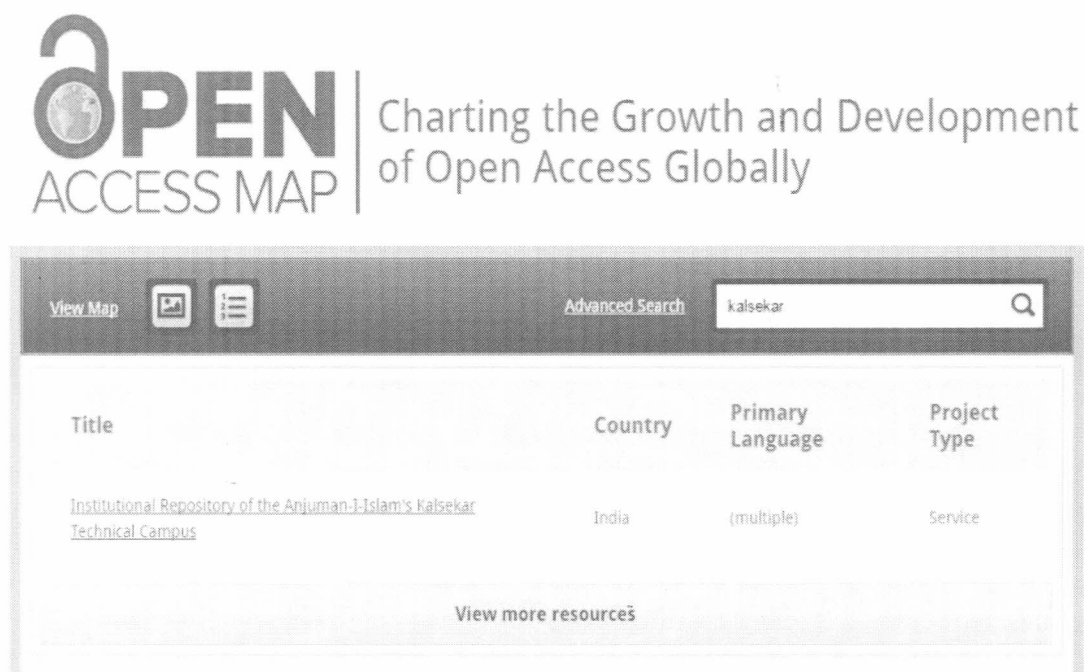


Fig.7: Open Access Map (<http://www.openaccessmap.org/list/?q=kalsekar>)

**Conclusion:** Digital Repositories offer a convenient infrastructure through which to store, manage, re-use and curate digital materials. They are used by a variety of communities, may carry out many different functions, and can take many forms.

The meaning of the term 'digital repository' is widely debated. Contemporary understanding has broadened from an initial focus on software systems to a wider and overall commitment to the stewardship of digital materials; this requires not just software and hardware, but also policies, processes, services, and people, as well as content and metadata. Repositories must be sustainable, trusted, well-supported and well-managed in order to function properly.

Institutional Repository has many opportunities that institute scholars can exploit. It is a way of bridging the Digital Divide, enabling development and innovation and making sure that researchers working in AIKTC get visibility and communicate effectively their research findings in the world, and can be aware of what other researchers are doing. By putting research results in institutional repository, discussion is made possible and further innovation enabled.

If the web performance of an institutional repository is below the expected position, the authorities should reconsider their web policy to increase the volume and quality of their intellectual output / research publications through institutional repositories.

Librarians are taking leadership roles in planning and building these repositories, fulfilling their roles as experts in collecting, describing, preserving, and providing stewardship for documents and digital information. Repositories provide services to faculty, researchers, and administrators who want to archive research, historic, and creative materials.

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