REPORT ON OPEN REPOSITORY DEVELOPMENT IN DEVELOPING AND TRANSITION COUNTRIES

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This study was conducted with the cooperation of eIFL.net, the University of Kansas Libraries, the DRIVER project and Key Perspectives Ltd. The aim was to create an inventory of current digital repository activities in developing and transition countries at both the infrastructure and services level. This is the first attempt to collect such data about digital repository activity in developing and transition countries and we hope this will serve as a useful resource for promoting open access and repository development in these regions. This report was produced in the framework of the eIFL-OA advocacy program supported by Open Society Institute and the Wellcome Trust. The report is licensed under a Creative Commons Attribution License.

Summary

Over the course of six months, 49 repositories from 20 countries on three continents participated in this survey. The following countries are represented: Argentina, Azerbaijan, Brazil, Cameroon, China, Ghana, Hong Kong, India, Jamaica, Kyrgyzstan, Mongolia, Namibia, Poland, Russia, Slovenia, South Africa, Taiwan, Ukraine, Venezuela, Zimbabwe.

As of May 20, 2010, The Registry of Open Access Repositories (ROAR) lists 277 repositories from these 20 countries (160 of those repositories (58%) are from Brazil, India and Taiwan).[1] The repositories responding to this survey are not necessarily listed in ROAR.

There is a large diversity in size, geographic location, and cultural environment among the responding institutions. The survey does not compare responses among different countries or regions, nor try to identify characteristics of repository development in specific countries. There are undoubtedly a great many local challenges and circumstances that are not reflected in the survey data. Instead the survey attempted to gather information from a broad spectrum of institutions in developing and transition countries in order to get a better understanding of the current state of repository development in these countries and to identify general trends and challenges.

Some general findings of the survey include:

- **66%** of responding institutions **maintain a digital repository** for research output, and **15% maintain more than one digital repository** for research output. **6%** use a **hosted service** provided by **a third party or vendor**, and **4%** of responding institutions use a **hosted option** provided by another member of their **consortium or collaborative group**.

- **Visibility, access, and preservation** were the most important motivations cited by participating institutions to establish a repository. Other motivations included the need to evaluate researchers and departments, and as a response to requests from faculty.

- The responses show an **increasing rate of growth of repositories** over the last several years, and indicate that these repositories are for the most part very new services. The repositories at nearly one-fourth of the participating institutions had been publicly accessible for less than a year at the time of the survey, and over 60% had been accessible for less than three years.

- Libraries play a major role in advocating and maintaining repositories. By far the majority of participating institutions (**88%**) answered that **the library** actively advocated the establishment of a repository. The **Information Technology department** was the second

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[1] http://roar.eprints.org/

most mentioned unit, cited by **28%** of participating institutions. Other departments mentioned include **administration** (**18**%), **academic departments** (**16**%), and the **research office** (**14**%). In addition, **79%** indicated that the repository was supported by funds from the **library's operating budget**.

- **Electronic theses and dissertations** are the most common type of material in the responding institutions' repositories. Other common material includes full-text of research articles as peer-reviewed postprints, journals published from the institution, and conference papers. Preprints were far less common, as were audio and video.

- **85**% of the materials in the repositories of the participating institutions are **open access or publicly available.**

- The majority of participating institutions (**56%**) stated that **less than 25%** of the researchers or faculty members at their institutions have deposited material in the repository. For almost **one third** (29%) of participating institutions the picture is a bit better – **between 25 and 50%** of the researchers or faculty members at these institutions have deposited material in the repository. **9%** indicated that **between 75-99%** of the researchers or faculty members and **4%** indicated **between 50-75**%. One institution indicated that **100%** of the researchers or faculty members at their institutions have deposited material in the repository (this institution has an OA mandate).

- About **two-thirds** of the participating institutions **use some form of mediated deposit** in which staff members or librarians are directly involved in the deposit of materials into the repository.

- **Dspace** is by far the most common software package, used by **57%** of participating institutions. **9%** use **EPrints** and **2%** use **Fedora**. **13%** use **locally developed packages** and 19% use **other packages** (including Nitya Archive, Greenstone, dLibra (Poland), Socionet (Russia), and Digital Commons).

- More than one third of participating institutions (**38%**) **do not have any official policy** with regard to depositing material. In **27%** of institutions **deposit is voluntary**, but **academics are strongly encouraged** to deposit materials. In **18%** there is **partly mandatory depositing**: academics are required to deposit some materials (such as theses or dissertations) and free to deposit other materials. **13%** of participating institutions indicated that there is **mandatory depositing**: academics are required to deposit all research output.

- The following services were listed as priorities for further development at an international scale: General search engines/gateways/portals (34%), Preservation

services (34%), Advisory services (Open Access advocacy) (30%), Disciplinary/ thematic search engines/gateways/portals/repositories (27%), Citation index services (27%), Usage statistics services (25%), Cataloguing or metadata creation/ enhancement services (20%), Advisory services (technical aspects) (18%), Personal services for the depositing scientists (16%), Publishing services (14%), Research assessment/evaluation services (11%), Printing-on-demand services (7%), Repository hosting services (5%).

- Among the most important STIMULANTS for the development of the digital repository and its content were: Increased visibility and citations for the publications of the academics in our institution (57%); Simple and user-friendly depositing process (32%); Institutional policy of mandatory depositing (32%); Awareness-raising efforts among the academics in our institution (32%); Interest from the decision makers within our institution (27%); The requirements of research-funding organisations in our country regarding depositing research output in Open Access repositories (16%).

- And among the most important INHIBITORS for the development of the digital repository and its contents were Lack of an institutional policy of mandatory depositing (49%); Lack of requirements of research funding organisations in our country regarding depositing research output in Open Access repositories (40%); Lack of interest from the decision makers within our institution (33%); The situation with regard to copyright of (to be) published materials and the knowledge about this among academics in our institution (33%); Lack of an institutional policy of accountability (30%); Lack of awareness-raising efforts among the academics in our institution (30%) and Lack of coordination of a national body for digital repositories (21%).

- The major challenge that the institutions faced in implementing, promoting and running the repository was content recruitment (42% of participating institutions). Other challenges included: Engendering faculty awareness and engagement (50%); Securing adequate funding and other resources (46%); Copyright issues (42%); Communicating with faculty about the repository (41%); Integrating the repository into workflow and other existing structures (35%); Staffing issues (31%).

- The following issues were among those listed as priorities for the further development of digital repositories in developing and transition countries: Research Funding Agencies should introduce Open Access mandates; Awareness and Advocacy campaigns for academics organizations, Funding and Human Resources; Seek institutional mandate and support; A network of repository administrators to share ideas on populating strategies; Training and infrastructure; Promotion of mandatory depositing of publicly funded research; Work with publishers on copyright issues.

Methodology

Development of the questionnaire

The questionnaire was adapted from the DRIVER Inventory study into the present type and level of OAI-compliant digital repository activities in the EU by Maurits de Graaf and SURF[2], and from the European repository study by Alma Swan, Key Perspectives Ltd. [3]

Data collection

Wave 1: May – August 2009

The survey was announced on May 6, 2009 with encouragement to all repository managers in developing and transition countries to participate. The announcement was disseminated via several mailing lists and newsletters.[4] The invitation to complete a survey was also announced during several eIFL presentations and meetings.[5] The announcement had a link to the online questionnaire and a PDF of the questionnaire for preview. All respondents who completed the survey by May 23, 2009 were eligible to win one of three eIFL t-shirts.

By August 12, 2009, there were 56 surveys started and 30 surveys (53.6%) completed by repository managers from 10 developing and transition countries (Argentina, Azerbaijan, Brazil, Cameroon, Ghana, India, Mongolia, Namibia, Poland and South Africa).

Wave 2: August – September 2009

On August 18, 2009, eIFL T-shirt winners were announced[6] and a call for more input was sent again via several of the same and additional mailing lists.[7] In addition 150 personal emails were sent to repository managers with a request to contribute to the survey.

By September 26, 2009, there were 83 surveys started and 48 surveys (57.8%) completed by repository managers from 20 developing and transition countries (the 10 countries mentioned

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[2] http://www.driver-support.eu/newsevents.php?item=oDRIVERInvent47

[3] http://www.keyperspectives.co.uk/surveys/euro_repository_study.htm (accessed on October 9, 2008, this link appears to be no longer available).

[4] Mailing lists and newsletters included: BOAI Forum, eIFL-OA mailing list, eIFL Newsletter May-June 2009, SPARC Open Access Forum, DSpace General List, Greenstone_es, etc.

[5] The IAP Program on Digital Knowledge Resources and Infrastructure in Developing Countries Steering Committee Meeting; "Gaining the momentum: Open access & advancement of science and research" workshop during African Digital Scholarship 2009 Conference, South Africa; Open Access: Maximising Research Impact workshop in Palestine; Open access repositories seminar at Crimea 2009, Ukraine; and CERN Workshop on Innovations in Scholarly Communication (OAI6), Geneva).

[6] The winners, chosen in a random drawing of all completed surveys by May 23, 2009, were African Higher Education Research Online (AHERO), the University of the Western Cape, South Africa; Orion@ISI, Indian Statistical Institute; and UNAMSpace, University of Namibia Library.

[7] BOAI Forum; eIFL-OA mailing list; eIFL Newsletter September-October 2009; SPARC Open Access Forum; Archivos de OS-REPOSITORIOS; DSpace General List; American Scientist Open Access Forum; LIS-Forum; ALA World, Fedora-commons-users; etc.

above, plus China, Hong Kong, Jamaica, Kyrgyzstan, Russia, Slovenia, Taiwan, Ukraine, Venezuela and Zimbabwe). The last response was submitted on October 23, 2009 and the survey was closed with 88 repository managers who started the survey and 49 surveys completed (56%).

The Ministry of Science, Technology and Innovations of Argentina requested a copy of the questionnaire and for conducting their own national survey. The Caribbean Scientific Union Project "Open Institutional Repositories infrastructure network for Central America and the Caribbean" translated the questionnaire into Spanish and conducted national surveys in Cuba, Nicaragua, Jamaica and Dominican Republic. The evaluation reports will be released soon.

Evaluation of Survey Responses

The following pages provide a summary of responses to most of the survey questions. To view the full questions and responses, please see http://www.eifl.net/cps/sections/services/eifl-oa/docs/open-repository.

The survey is divided into several sections addressing the following topics:

- A. The establishment of the repository and its coverage of the research output of the institution
- B. Technical infrastructure and technical issues
- C. Institutional policies regarding the repository
- D. Staffing and sustainability
  Services created on top of the repository
- E. Stimulators and inhibitors for establishing, filling and maintaining the repository

For the purposes of this study, a digital repository was defined as:

1. Containing research output
2. Institutional or thematic
3. OAI compliant[8]

SECTION A: THE ESTABLISHMENT OF THE REPOSITORY AND ITS COVERAGE OF THE RESEARCH OUTPUT OF THE INSTITUTION

1. (A1) Does your institution presently maintain a digital repository for research output of your researchers?	
66%	Maintain a digital repository for research output
15%	Maintain more than one digital repository for research output
6%	Use a hosted service provided by a third party or vendor
4%	Use a hosted option provided by another member of their consortium or collaborative group

9% of participating institutions **do not have a digital repository**. Among the comments given:
- *"Establishing a repository is taken into consideration."*
- *"We are in testing phase, we will hopefully launch it soon."*
- *"We are currently doing a feasibility study of how to set up a digital repository."*
- *"Repository is still in the planning stage. No practical development has taken place. The problem of finance is arising."*

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[8] http://www.openarchives.org/OAI/openarchivesprotocol.html

- *"In our country, we have several institutional repository projects. But we lack understanding about policy and management."*
- *"Not yet ready to set up."*

3. (A3) What was the motivation for your institution to establish a repository?

Visibility, access, and preservation were the most important motivations cited by participating institutions to establish a repository.

The most important motivations	
83%	To increase the visibility of the institution's research output
66%	To provide free access to the institution's research output
62%	To preserve the institution's research output
Other important motivations to set up the repository included	
35%	To help evaluate researchers and departments
34%	In response to requests from faculty

Other responses mentioned in comments:
- *"A repository that contains high quality content could be used as a 'shop window' or marketing tool to entice staff, students and funding."*
- *"To promote open access to social science research results in Latin America and the Caribbean."*
- *"It's a library initiative."*
- *"To provide a central archive of the university's research and intellectual outputs."*
- *"To set a best practice for the other institutes of Academy of Sciences to promote the development of institutional repository network."*
- *"To increase the availability of faculty and researchers publications in the library."*
- *"As a part of the solution to serials crises and the chronic subscription cost increases of many scholarly publications."*

4. (A4) In which year did your repository become publicly accessible?

The responses show an increasing rate of growth of repositories over the last several years. These participating repositories are for the most part very new services. The repositories at nearly one-fourth of the participating institutions had been publicly

accessible for less than a year at the time of the survey, and over 60% had been accessible for less than three years.

Year repository became publicly available	
24.1%	2009
19%	2008
19%	2007
10.3%	2006
10.3%	2005
5.2%	2004
1.7%	2003
10.3%	2002 or earlier

5. (A5) Which departments or units within your institution have actively advocated the establishment of a repository?

By far the majority of participating institutions (88%) answered that **the library** actively advocated the establishment of a repository.

The **Information Technology department** was the second most mentioned unit, cited by 28% of participating institutions. Other departments mentioned include **administration** (18%), **academic departments** (16%), and the **research office** (14%).

The **Corporate Communication/Marketing division** was mentioned by only 1 respondent (1.8%). In addition, one institution indicated that the **Publications Department** was involved in advocating the establishment of the repository, and another institution wrote in the comments that the **Vice Chancellor** "*personally gave all support and confidence to implement the project.*"

6. (A6) What types of materials are currently in your institution's digital repository? (Check all that apply. If your institution maintains more than one digital repository, please include all of them here.

The most common types of materials that are currently in the institution's digital repository	
72%	research articles (full text and metadata) as peer-reviewed postprints
68%	conference papers
67%	theses and dissertations (full text and metadata)
52%	research articles (full text and metadata) as preprints

Other common types of materials	
47%	books/book chapters (full text and metadata) in published form
45%	journals published from the institution
42%	Presentations
33%	technical reports
33%	working papers (full text and metadata)
30%	institutional documents (e.g. reports, papers, yearbooks, catalogues etc.)
28%	books/book chapters (full text and metadata) in drafts
27%	learning objects
27%	images
25%	video
18%	research articles (metadata only)
17%	books/ book chapters (metadata only)
15%	audio
12%	theses and dissertations (metadata only)
7%	data sets
3%	working papers (metadata only)

Other types of materials mentioned in comments:
- *"Administrative and contact data about Research Groups and its members (researchers), hyperlinked with documents at the institutional repository."*

- *"Convocation Addresses."*
- *"Exhibition catalogues."*

7. (A7) Please give (an estimate of) the total number of items per type of materials currently available in your institution's digital repository?

Electronic theses and dissertations are the most common type of material in the responding institutions' repositories (an average of 1,371 per repository). Other common material includes full-text of research articles as peer-reviewed postprints (1,046), journals published from the institution (1,097), and conference papers (628). Preprints were far less common (158), as were audio and video.

9. (A9) Please give an estimate of the percentages of each form of availability of the full text materials in your digital repository	
85%	**open access/publicly available**
19%	available only via **campus only access**
8%	available as **open access with embargo** (publicly available after certain period);
4%	archived but **no access** at all is provided (dark archive)

10. (A10) Does your digital repository collect and provide access to government information (or operate as a depository for governmental information)

2% of participating institutions provide **access to government information** (or operate as a depository for governmental information). 9% indicated they did not know.

12. (A12) Approximately what percentage of the researchers or faculty members at your institution have deposited material in your repository?

The majority of participating institutions (**56%**) stated that **less than 25%** of the researchers or faculty members at their institutions have deposited material in the repository.

For **almost one third** (29%) of participating institutions the picture is a bit better–-**between 25 and 50%** of the researchers or faculty members at these institutions have deposited material in the repository. **9%** indicated that **between 75-99%** of the researchers or faculty members and **4%** indicated **between 50-75%**. One institution (2%) indicated that **100%** of the researchers or faculty members at their institutions have deposited material in the repository (this institution has an OA mandate).

13. (A13) Which statement best describes the process of depositing of materials in the repository?

About two-thirds of the participating institutions use **some form of mediated deposit** in which staff members or librarians are directly involved in the deposit of materials into the repository.

For one-third of the institutions the most common process (**33%**) is for **material to be collected by staff members or librarians independently of the authors or researchers**.

For another 30% of participating institutions (**30%**) researchers and authors provide content to specialised staff members or librarians to deposit into the repository.

For **17%** of participating institutions the most common process is **self-depositing by researchers and authors with quality control by specialised staff members** and for **13%** the most common process is **self-depositing by researchers and authors with no quality control by specialised staff members**.

Other processes mentioned in the comments: (7%):
- *"Usually from the Research Output System, all the authors are required to record their research output in this system."*
- *"Mostly from Web of Sciences."*

SECTION B: TECHNICAL INFRASTRUCTURE AND TECHNICAL ISSUES

14. (B1) Which software package is used for the digital repository?	
57%	DSpace
19%	other packages (including Nitya Archive, Greenstone, dLibra (Poland), Socionet (Russia), and Digital Commons).
13%	locally developed packages
9%	EPrints
2%	Fedora

15. (B2) Has the software been significantly modified to enhance functionality, or to adapt it to your local needs?

41% of participating institutions **made no significant changes to modify the software** to enhance functionality, using the software.

40% indicated that they had made **some significant changes**. **14%** indicated they **make frequent significant changes on ongoing basis** and another **5% plan to make significant**

changes. Examples of significant changes listed include: *adding statistics, creating researcher's pages, making changes to allow diacritics and non ISO-1 characters, and adding new metadata fields, submission functionality and language filtering.*
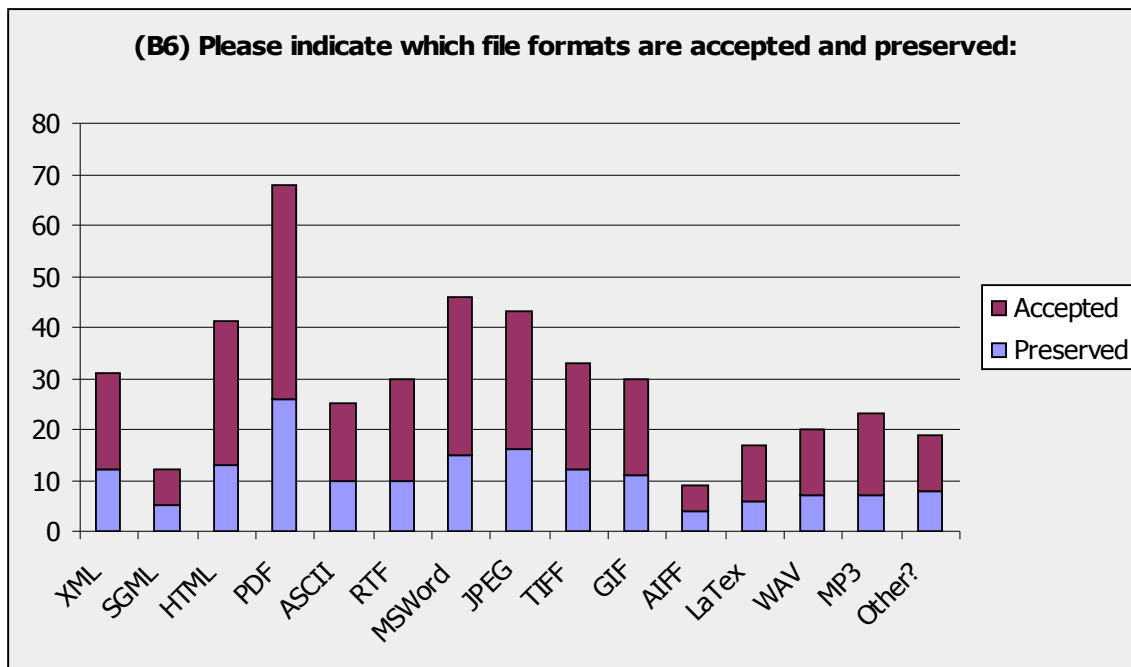
18. (B5) Please indicate the overall staffing requirement in full time equivalents that has been needed for building the repository (obtaining software, branding the interface, etc.).

The overall staffing requirements for building the repository vary **from 0,2 FTE to 20 FTE**.

% of institutions responding	# of FTE
7%	0,5
9%	1
19%	2
14%	3
14%	4
9%	5

In addition, some repositories work with volunteers.

19. (B6) File formats that are accepted and preserved in the digital repository.

(B6) Please indicate which file formats are accepted and preserved:

20. (B7) Is a persistent identifier assigned to each item?

73% of participating institutions assign persistent identifiers to each item.

21% indicated that do not assign persistent identifiers to each item.

21. (B8) Are statistical data on access to the repository and usage of the materials logged?

68% of participating institutions stated that **statistical data on access to the repository and usage of the materials logged**, **25%** answered "**not yet but plan**".

In the comments the respondents indicated that they
- *"use Google Analytics"*
- *"process with Webalizer and a summary is available in the library website".*

22. (B9) Which metadata standards are followed with your digital repository?	
57%	qualified Dublin Core
26%	unqualified Dublin Core
19%	other standards (standard EPrints metadata, MODS, METS, TEI, FRI internal, COBISS, adapted Dublin Core)
12%	archival metadata
5%	print-on-demand metadata

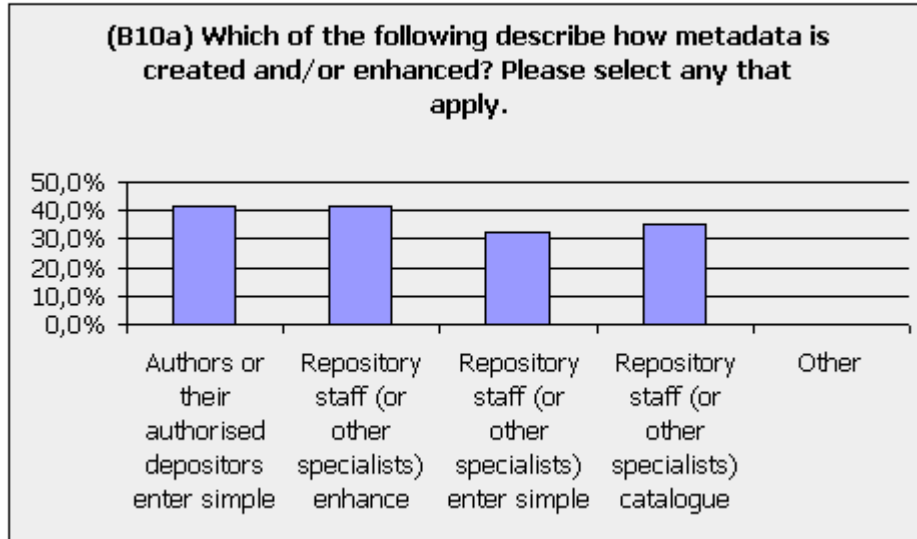**23. (B10) Who enters the metadata for deposited items?**

In the majority of participating institutions (**69%**) **repository staff members enter or enhance the metadata for deposited items**.

In **39%** of participating institutions **authors or their authorised depositors** enter metadata.

In **22%** this job is performed by **subject librarians**, and in **19%** by **cataloguers**.

Among other options mentioned are **research assistants** and **student assistants**.

The slide below shows responses how metadata are entered or enhanced.

(B10a) Which of the following describe how metadata is created and/or enhanced? Please select any that apply.

25. (B11) Does the repository import metadata from external systems?

69% of participating institutions **do not import metadata from external systems**.

19% stated that "**systems programs map external metadata to the repository**", and **12%** "**manually map external metadata to the repository**".

Other comments:
- *"Metadata import from the Web of Sciences."*
- *"We've developed our own import system and created batch import for Pubmed, Web of Science, Endnote X2, ADS".*

26. (B12) subject and keyword indexing

For **subject indexing 42%** of participating institutions use **freely assigned keywords (in the language of the country and/or English)** and **22% use freely assigned keywords (in the language of the country)**.

22% use **keywords or classifications according to standardised system(s) (in the language of the country and/or in English)** and **9%** use **keywords or classifications according to standardised system(s) (in the language of the country)**.

4% do not have any subject indexing.

27. (B13) Is a unique author identifier or name authority control used?

43% of participating institutions use **a unique author identifier or name authority control** and **50% do not use such name authority control but may do so in the future.**

SECTION C: INSTITUTIONAL POLICIES REGARDING THE DIGITAL REPOSITORY

28. (C1) Which statement best describes the policy of your institution with regard to depositing material?

More than one third of participating institutions (**38%**) **do not have any official policy** with regard to depositing material.

In **27%** of institutions **deposit is voluntary**, but **academics are strongly encouraged** to deposit materials. In **18%** there is **partly mandatory depositing**: academics are required to deposit some materials (such as theses or dissertations) and free to deposit other materials. **13%** of participating institutions indicated that there is **mandatory depositing**: academics are required to deposit all research output.

Some additional responses in the comments:
- *"We are a network and each of our 254 institutional members has its own policies, we do not have an official policy but we promote open access among our members."*
- *"Not yet, but we expect a mandatory policy."*
- *"There is an official policy regarding the mandatory deposit in institutional repositories, but in the practice is not always applied and complied."*

29. (C2) Whose materials may be deposited in the repository?

In **89%** of participating institutions the **materials of faculty/research staff are deposited**.

In **69%** of institutions **research students' materials** are also deposited.

Other materials included **materials of administrative and support staff (40%)**, and **undergraduate student materials (36%)**. **2**

2% of participating institutions added write-in answers such as "*research NGOs and research departments of social movements*" and "*alumni.*"

30. (C3) Do authorised depositors sign a deposit agreement?

In the majority of the institutions (**56%**) **authorised depositors sign a deposit agreement** (including click-through web form agreements).

40% of participating institutions do not do this but plan to introduce click-through web form agreements or paper agreements.

31. (C4) Do you negotiate with publishers or copyright owners about any aspect of your repository's operations?

Half of participating institutions (50%) negotiate with publishers or copyright owners about any aspect of your repository's operations, and another half do not do this.

Among the comments:
- *"We explain to them that their contents in this digital library are covered by a CC license."*
- *"It is not usual except if the Faculty ask us."*

32. (C5): Other institutional policies:

In the majority of the participating institutions (59%) **there is a strong interest in the digital repository among decision makers within institution.**

In 54% of institutions **awareness-raising campaign(s) among academics about the digital repository have been carried out within the institution.**

In 46% there is **a policy to safeguard the long-term preservation of the deposited material.**

In 46% **the digital repository is integrated/linked with other systems in the institution.**

In 44% **there are clear guidelines for the selection of material for inclusion in the digital repository.**

In 30% **the deposited materials are used to measure the output of individual researchers for evaluation purposes (accountability).**

In 27% of participating institutions **some researchers are required to deposit research output by research-funding organizations.**

In 22% **there is a central gateway to the digital repositories in the country, to which the digital repository is linked.**

20% indicated **there is a coordinating national body for digital repositories.**

in 10% of institutions **the digital repository has been set up with financial support from a national funding programme for digital repositories in the country**.

SECTION D: STAFFING AND SUSTAINABILITY

33. (D1) and 34. (D2) Which unit in your institution has primary responsibility for maintaining your digital repository?

In majority of participating institutions (73%) **the library has primary responsibility for maintaining your digital repository**; in the remaining institutions it is usually **central IT unit** (16%) or **individual research departments** (5%).

Other comments:
* *"Library manages it but server and access responsibility of IT Unit at this stage."*
* *"Corporate repository staff is responsible for maintaining the digital repository."*

Other units or individual staff members mentioned as contributing to the maintenance of the repository include **administrative staff**, **students** and **temporary labour**, **publishing departments** and **national library consortium**.

35. (D3) and 36. (D4) What are the overall staffing requirements for running the repository?

The overall **staffing requirements for running the repository** vary **from 0,1 FTE to 25 FTE**, with the majority of institutions employing 1 to 6 staff members. The figures for responses of 10% of participating institutions or greater are listed below.

% of institutions responding	# of FTE
12%	1
22%	2
10%	3
10%	4
12%	5
10%	6

57% of participating institutions **anticipate increasing the staffing level for the repository in the future**, one third **anticipates that the staffing level for the repository will remain static**, and 5% **anticipate decreasing the staffing level needed for the repository**.

37. (D5) Are there clear responsibilities documented in a job description or statement of responsibilities for the person or unit responsible for supporting your repository service?

One half of participating institutions indicated that **there are clear responsibilities documented** in a job description or that there is a statement of responsibilities for the person/unit responsible for supporting repository service. In 47% of institutions there are not clearly documented responsibilities. Some comments stated that "*the responsibilities are agreed but there is no formal job description.*"

38. (D6) What are the current sources of financial support for your repository?

In **79%** of participating institutions the **library operating budget** is a **current source of financial support** for the repository.

30% receive support from the **IT operating budget**; **19%** receive **grant support**; **2%** use **endowment funds;** and **2% charge back to department or research units**.

Other replies:
- *"no special budget"*
- *"the funds partially come from the Research Council of the University"*
- *"Library Information Consortium provides funds."*

39. (D7) What are the expected future sources of support for your repository?

Expected future sources of support are similar to the current sources of support. **81%** of participating institutions indicated the **library operating budget**; **30%** the **IT operating budget**; **40% grant support**; **2% endowment funds** and **5% chargeback to department or research units**.

40. (D8) Do you have a business plan to support your repository service?

73% of participating institutions **do not have a business plan** to support repository service and only **22% do have a business plan.**

41. (D9) Has any formal assessment been done on your repository?

One half of the repositories **have not conducted any formal assessment**. Of the institutions that have conducted formal assessment, workflow was the area most commonly addressed.

46% of participating institutions have assessed **workflow** and the best way to implement it; **25%** have assessed **staff resourcing**; **21**% have assessed **content recruitment and user**

attitudes; **7%** have assessed **financial implications**; and 2% selected **other** ("*we have annual audits from our sponsors, for general aspects of our work*").

SECTION E: SERVICES CREATED ON TOP OF THE REPOSITORY

42. (E1) Have you registered your repository with any of the following general engines/gateways/ portals?

% of participating institutions registered	Service
77%	Registry of Open Access Repositories (ROAR)
56%	General Internet search engines (Google, Yahoo, MSN, etc.)
54%	OpenDOAR
51%	OAIster
46%	Google Scholar
26%	OAI Search
18%	BASE Search
18%	Scirus
8%	Citeseer
3%	OPUS

Other responses: Intute, Scientific Commons, Europeana, DRIVER, eIFL search.

43. (E2) In which catalogues are the contents of your digital repository listed?

The majority of participating institutions **(58%)** listed the content of their digital repository in their **library catalogue, 36%** in their **national/regional catalogue**, and **10%** with **OCLC**. Other responses included Socionet and Association of Regional Library Consortia (Russia).

44. (E3) Is your digital repository linked to printing-on-demand services?

80% of participating institutions **do not link the digital repository to printing-on-demand services**; **14% do link to a printing-on-demand service**, and 7% plan such service in the future.

45. (E4) Does your digital repository display usage statistics for each digital item?

33% of participating institutions **display usage statistics** for each digital item; **35% do not** and **33% plan to do so** in the near future.

46. (E5) Does your digital repository offer personal services for the depositing researchers, such as an automatically generated publication list, or an author home page?

37% of repositories offer personal services for the depositing researchers, such as an automatically generated publication list, or an author home page; **39% do not** and **24% plan such service in the future**. Some repositories link an author contact page and research unit contact page with their respective documents in the repository.

47. (E6) Are there other existing or planned services based on your digital repository?

48% of participating institutions indicated they do offer other services. Examples of services mentioned include: sending news about new publications, and news about open access and digital libraries/institutional repositories; creating 3D Archive; developing specialised repositories (scientific data repositories) and services such as meta-searching over a network of repositories; implementing SWORD and SRU protocols; and using Sherpa/Romeo API, XML export.

43% of participating institutions do not offer any additional services.

48. (E7) Which services should have priority for further development at an international scale?	
34%	General search engines/gateways/portals
34%	Preservation services
30%	Advisory services (Open Access advocacy)
27%	Disciplinary/ thematic search engines/gateways/portals/repositories
27%	Citation index services
25%	Usage statistics services
20%	Cataloguing or metadata creation/ enhancement services
18%	Advisory services (technical aspects)
16%	Personal services for the depositing scientists
14%	Publishing services

11%	Research assessment/evaluation services
7%	Printing-on-demand services
5%	Repository hosting services

SECTION F: STIMULATORS AND INHIBITORS FOR ESTABLISHING, FILLING AND MAINTAINING THE REPOSITORY

49. (F1) What do you see as the most important STIMULANTS for the development of the digital repository and its content at your institution?	
57%	Increased visibility and citations for the publications of the academics in our institution
32%	Simple and user-friendly depositing process
32%	Institutional policy of mandatory depositing
32%	Awareness-raising efforts among the academics in our institution
27%	Interest from the decision makers within our institution
16%	The requirements of research-funding organisations in our country regarding depositing research output in Open Access repositories
14%	Policy to safeguard the long-term preservation of the deposited material
11%	Institutional policy of accountability
11%	Integration/linking of the digital repository with other systems in our institution
7%	The situation with regard to copyright of (to be) published materials and the knowledge about this among academics in our institution
7%	Crowdsourcing
5%	Clear guidelines for selection of material for inclusion
5%	Financial support from a national funding programme for the digital repository in our institution
5%	Coordination of a national body for digital repositories
5%	Search services as provided by national and international gateways

50. (F2) What do you see as the most important INHIBITORS for the development of the digital repository and its contents in your institution?

49%	Lack of an institutional policy of mandatory depositing
40%	Lack of requirements of research funding organisations in our country regarding depositing research output in Open Access repositories
33%	Lack of interest from the decision makers within our institution
33%	The situation with regard to copyright of (to be) published materials and the knowledge about this among academics in our institution
30%	Lack of an institutional policy of accountability
30%	Lack of awareness-raising efforts among the academics in our institution
21%	Lack of coordination of a national body for digital repositories
9%	Lack of integration/linking of the digital repository with other systems in our institution
9%	Lack of a simple and user-friendly depositing process
7%	Lack of financial support from a national funding programme for the digital repository in our institution
5%	Lack of search services as provided by national and international gateways
5%	Lack of support for increased visibility and citations for the publications of the academics in our institution
2%	Lack of clear guidelines for selection of material for inclusion
2%	Lack of financial support from foreign funding agencies

51. (F3) How successful do you think your repository has been in achieving the following benefits?

Very successful:	
46%	In providing free, open and timely access to the institution's scholarship
44%	In enhancing the visibility and increasing dissemination of the institution's scholarship
Quite successful	
54%	In preserving and providing long term access to the institution's scholarship
40%	In preserving and providing stewardship of the institution's scholarship
37%	In educating faculty about open access

Not very successful	
43%	In educating faculty about copyright
38%	In educating faculty about scholarly communication in general

52. (F4) What challenges has your institution faced in implementing, promoting and running the repository?

Major challenge	
42%	Content recruitment

Challenges:	
50%	Engendering faculty awareness and engagement
46%	Securing adequate funding and other resources
42%	Copyright issues
41%	Communicating with faculty about the repository
35%	Integrating the repository into workflow and other existing structures
31%	Staffing issues

53. (F5) In what ways have you marketed your repository to faculty and scholars?	
69%	Speaking at departmental and other faculty meetings
62%	Publishing information in newsletters or other local publications
60%	Training sessions
45%	Creating and distributing brochures or other informational material

Other approaches mentioned:

- *"Advertising on the university's website."*
- *"We have been very successful in publishing the academic journals of the University (about 70% of the repository items come from journals). We only had to talk and convince the journal editor to deposit the content of each issue."*
- *"Mostly by word of mouth."*

54. (F6) In your opinion, what issue should be highest on the priority list for the further development of digital repositories in developing and transitions countries?

- Research Funding Agencies should introduce Open Access mandates.
- Educate users and faculty about digital repositories; Find champions and partners among faculty; Find out how to stimulate researcher to contribute more articles and technical report; Getting buy-in from academics; Funding and Human Resources; Awareness campaigns for academics organizations.
- Seek institutional mandate and support.
- Appropriate funding; Funding and visibility.
- We need more repositories in place, a network of repository administrators to share ideas on populating strategies.
- Creating awareness; Raising awareness of open access and addressing IT skills; Awareness of the excellent opportunities of institutional repositories among the stakeholders in the management; Institutional repository skill development among the Librarians.
- Getting local publishers to publish their policies on self-archiving on SHERPA RoMEO;
- Training and infrastructure.
- Escalating at international level the importance of open access for advancing education and knowledge for benefit of all in society.
- Promotion of mandatory depositing of publicly funded research.
- Harvest documents; Design, access, and new items; Structured way of inclusion of documents in the repository; Safety of the material in the institutional repository.
- Bandwidth efficiency and more adequate Internet facilities, especially in Africa.
- Copyright, digital libraries network and cooperation; Copyright and skilled staffing; Work with publishers on copyright issues.
- Availability of user-friendly software; Making EPrints more easily adaptable to local needs, e.g. by creating supplementary Debian packages.
- SPARC Latin America and SPARC Africa.
- Support of digital repository by state.