

## **The United Nations Economic Commission for Africa's Digital Institutional Memory**

### **A milestone in the access and diffusion of knowledge on Africa**

#### ***I. Introduction***

In its over 50 years of existence, the United Nations Economic Commission of Africa (UNECA) has created and holds a vast quantity of information and knowledge in a variety of formats, including printed and electronic. These represent the corporate memory, providing historical evidence of its actions and decisions. Begun in 1959 as a traditional document repository accessed by a card catalogue, the ECA Library has steadily adapted with the times to move its material to a digital format where knowledge organizations and individuals can access it around the world. The information resources include published materials such as flagship publications, journal articles, conference proceedings, technical reports, mission reports, annual reports, working papers, policy briefs, speeches, UN resolutions other grey literature and various multimedia products , all which outline important research or decisions that have been made on the economic and social development in Africa.

#### ***II. Resources Mobilization***

In 2008, a project concept note and proposal were developed using the Open Access publishing model in particular the development of an Institutional Repository (IR) that would provide an online mechanism for collecting, preserving, and disseminating - in digital format all ECA publications and other information resources. Other overarching objectives were: to establish and endorse an institutional framework including policies and guidelines that promotes proper development, management and preservation of ECA intellectual output; to digitize all print collections and make them accessible online. The project proposal was presented to senior management and a fund of USD 250,000 as requested in the proposal was provided in September 2009 allowing for the project implementation to start.

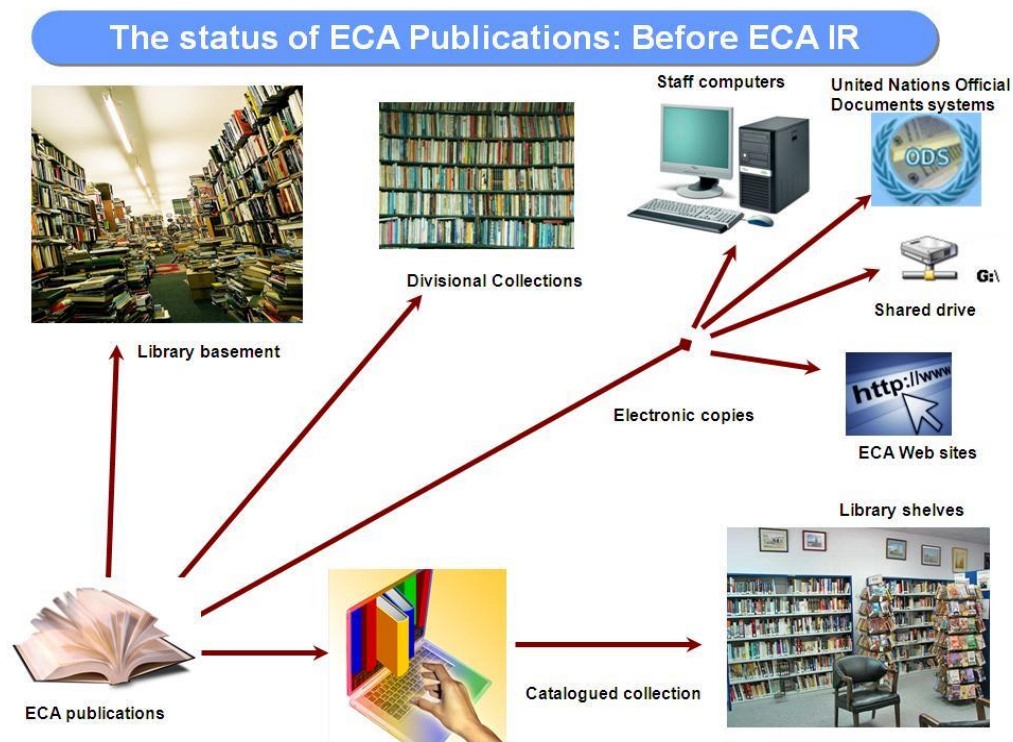
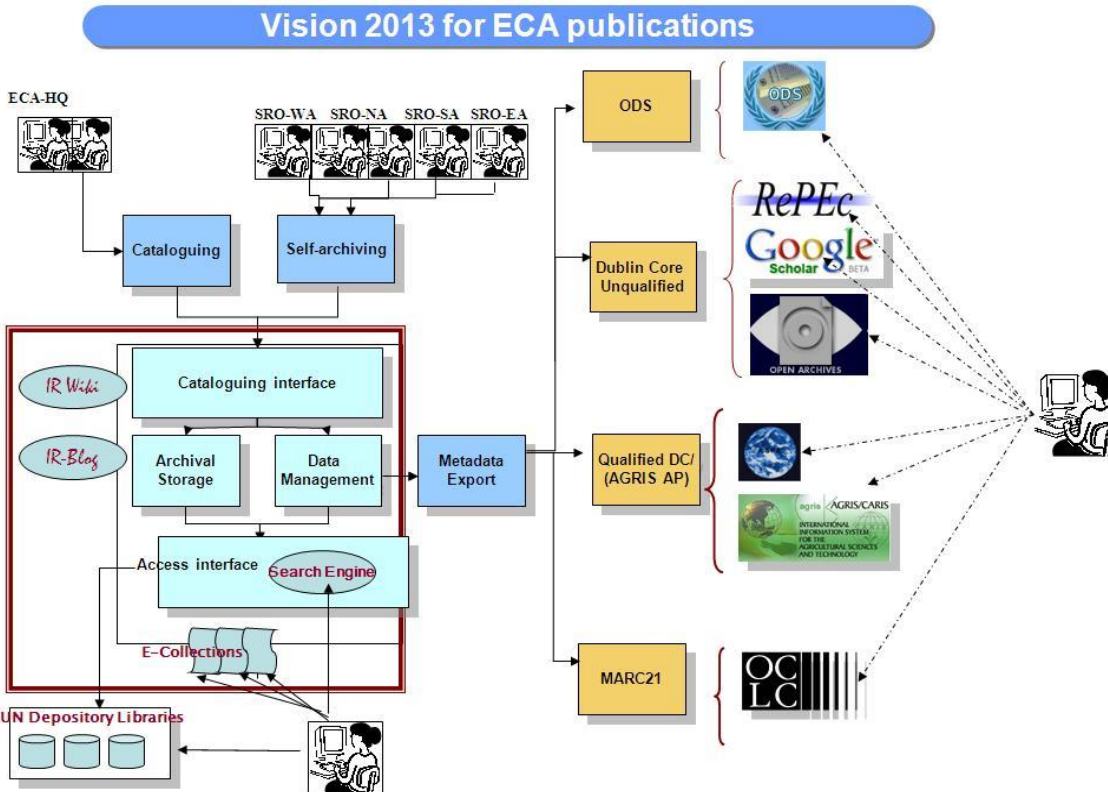


Figure 1. Distribution of ECA publication within the institution before the IR project

### III. *Vision for ECA Publications and other technical outputs*

The envisaged vision of the ECA publication and other information resources is to have them available and accessible online through various channels as well as have the ECA sub regional offices across Africa participate in the development and management of these resources as indicated in Figure 2 below. To facilitate this approach, the Open Access publishing model, the green road was used to develop an Institutional Repository (IR) for the Commission. Furthermore, given that 70% of the ECA publications were in print format, there was a need to develop a digitization strategy to ensure that all publications available at the ECA library headquarters and those at the sub-regional offices are digitized and made accessible online through the ECA IR.



**Figure 2:** Vision for the ECA publications

#### IV. Project implementation

The project started with the rollout of the following activities:

1. **Recruitment Project staff** - To have a considerable impact in the first phase of the project given the large volume of documents to be processed, it was crucial to have a substantive work force to carry out the projected activities. Eighteen (18) library assistants were recruited
2. **Project activities** - These included the following: Cleaning of existing MARC21 metadata records (7000) created in the ILS (HORIZON, now migrated to Millennium), catalogue publications not in the captured, digitize a vast collection of ECA publications in print, catalogue the existing digitally born electronic files, convert these files into PDF (A) format (the known stable archival format). The initial 15,000 MARC21 records were exported using MARC 21 xml schema and imported in batch into the ECA IR on Dspace software. Upload and linking of PDF files to the associated metadata and review of the Dspace Items for any errors before committing the records into the Archive.
3. **Installation, configuration and customization the Dspace platform** - Dspace<sup>1</sup> software was selected as the software for the ECA IR due to its superior IR functionality that is constantly being upgraded. Through an institutional contractual arrangements, @Mire Company<sup>2</sup> was selected to install, configure and customize the ECA IR according to the required specifications. This included; the integration of the UNBIS thesaurus and subject categories; use of the AGRIS Application Profile

<sup>1</sup> Dspace. <http://www.dspace.org/>. Last accessed March 2014

<sup>2</sup> @Mire company. <http://atmire.com/>. Last access March 2014

(AGRI AP)<sup>3</sup>, a Dublin Core metadata extension for document-like objects to accommodate the MARC21 fields without data loss; an advanced browse and search functionality based on the controlled vocabularies; and possibility to harvest the ECA IR with other metadata formats namely, METS, MODS and AGRIS AP.

4. Digitization- Two different workflows were developed to ensure a methodical approach to the digitization process within the project, one for print and the other for digitally born resources. Scanning started with the most recently published documents progressing through the years to 1958 when the ECA was established. The resulting digital files were saved using the bibliographic accession number. *Despite* efforts to control the quality of the scanning process, some issues were encountered which required manual intervention to resolve. These issues are: Different documents with the same bibliographic number; Cataloguing errors - with different language versions of the same document have the same bibliographic number; missing bibliographic numbers - due to documents became separated from their main title page; technology issues regarding space issues for the central data impacting on the performance; Character Encoding issues – poor condition of some historical documents resulting in unreadable characters in the digital OCR version of the documents and; Varying page sizes within the same publication.
5. Access to the Institutional Repository – Currently, the Institutional Repository hosts over 19,000 documents grouped in the 13 categories below:
  - a. Agriculture, Forestry and Fishing
  - b. Economic Development and Development Finance
  - c. Gender issues and Equity
  - d. Governance and Public Administration
  - e. Industry
  - f. International Trade
  - g. Library, Information Communication Technology (ICT), Science and Technology
  - h. Natural Resources and Environment
  - i. Organizational Questions
  - j. Political and Legal Questions
  - k. Social Development
  - l. Sub-Regional Offices
  - m. Transport and Communications

The usage statistics indicate that the repository is widely accessed with average hits of 200,000 per month and documents download of 100,000 per month. Today, the wealth of knowledge generated by ECA since 1958 is well organized, preserved and widely accessible worldwide over the internet. Given the success of the project, further funding has been availed ensuring the sustainability of the IR development. Furthermore, the IR activities have been streamlined with the regular Knowledge and Library services activities. Its activities are linked to the Access to Scientific and Socio-economic Knowledge in Africa (ASKIA) online portal (<http://askia.uneca.org/>), which was developed as a federated search engine to be a one-stop-shop able to meet the demand on knowledge from Africa and beyond.

The year 2013 statistics below indicate the IR's top 10 visitors and number of visits:

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<sup>3</sup> FAO, The AGRIS Application Profile, <http://www.fao.org/docrep/008/ae909e/ae909e00.htm>. Last accessed March 2014

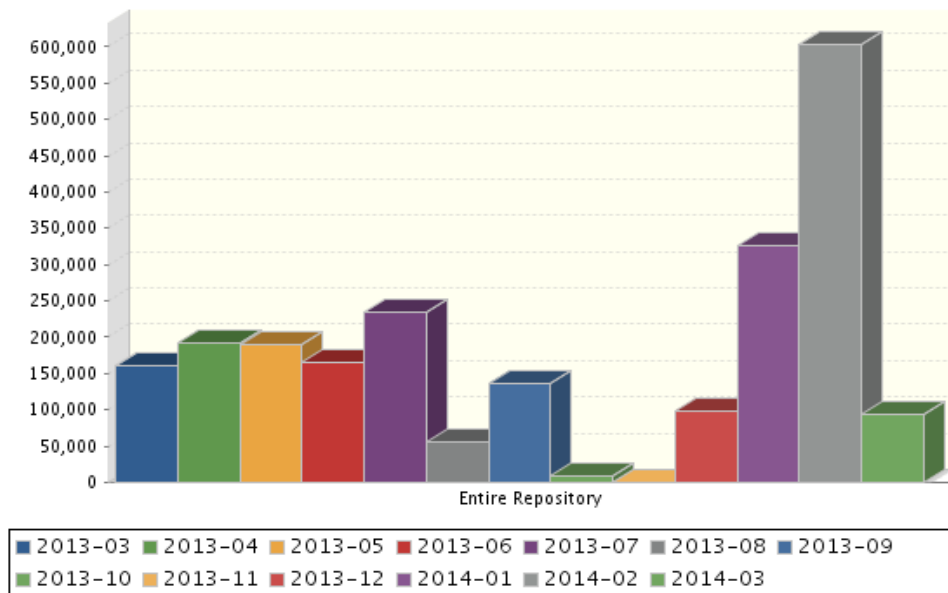
### Number of visits for the top 10 countries

Country Code	Views
United States of America	91870
Korea	5077
Italy	4583
China	2072
Nigeria	1726
France	849
Ireland	848
Ethiopia	573
United Kingdom	539
Ukraine	534

The ECA IR can be accessed at: <http://respositoy.uneca.org>.

The following graph shows the overall page visits to the site for the period March 2013 –March 2014

### Hits / Month



## **V. Going forward**

*ECA IR Enhancement:* -The first phase of the ECA IR project was completed in 2011 and the second phase of sustaining the growth of the repository and completing the planned activities and consolidating the service has since started. Furthermore, the ECA Institutional Repository is continuously undergoing further development to enhance its functionality as well as software upgrades in response to users' changing information needs and the need to adopt new emerging technologies for better knowledge services and products.

The first enhancement was the development replicates or mirrors to enable participation by the Sub Regional Offices. The replication project implemented in 2012 was necessary to overcome the bandwidth challenges across the continent as it facilitates offline update and synchronization of data. Not only is this distributed network able to leverage usage of existing IR resources, it also supports contribution of new resources through an off-line bi-directional exchange of updates to the information resources on physical media. Once perfected, the mirror "IR in a box" will be distributed to UN depository libraries, universities and research institutions across Africa. Currently, the ECA IR is being developed to be a multilingual repository with better usage statistical analysis. These developments will be completed in June 2014.

In addition, in 2014, the inclusion of multimedia resources such as videos, photos, speeches and press releases started, hence ensuring that all types of the Commission's information resources are captured in the ECA IR.

## **VI. Conclusion**

On the whole, the project has been successful despite the challenges especially linked to the complexity of the project which has diverse on-going activities. Currently about 65% of the overall work has been completed with about 19,000 metadata items in IR and 8000 metadata to be imported from the Millennium ILS. About 16,000 publications have been digitized, representing 60% of ECA publications in print format. In addition, as indicated in the preceding paragraph, the ECA IR interface is continuous being developed in response to the emerging Open Access technologies.

With the new focus of ECA putting knowledge at the forefront of its activities, staff will start incorporating the IR and other library resources into their knowledge work, hence ensuring that the digital institutional memory is effectively used not only outside the continent but also in-house.

# The ECA IR interface

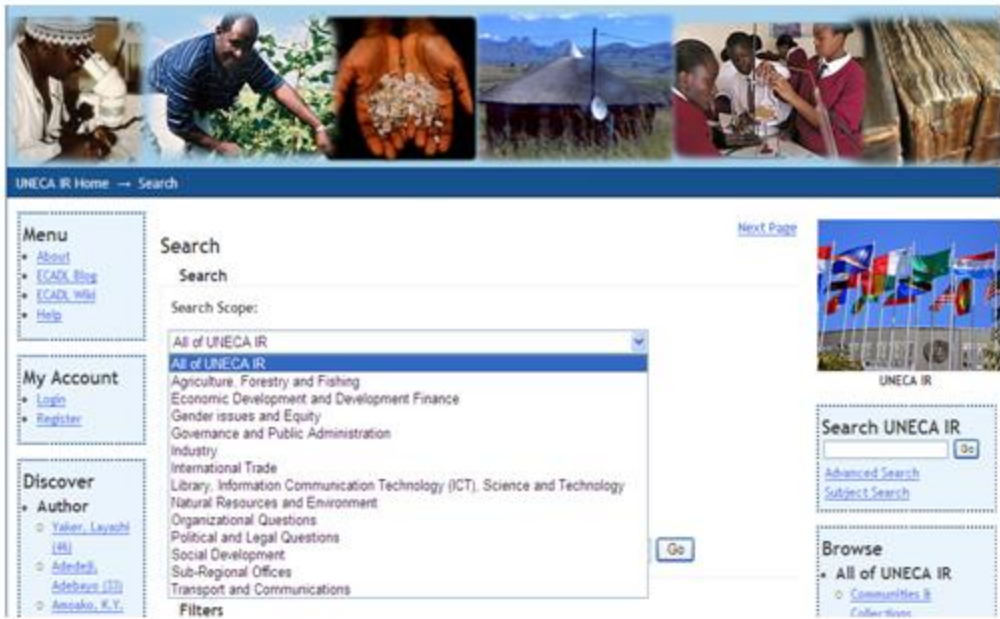


Figure 3. ECA Institutional Repository Access Interface