

## VISIBILITY AND ACCESS THROUGH THE AQUATIC COMMONS

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**Abstract:** FAO's Fisheries and Aquaculture Library (FBL) has started a project for the IAMSLIC Aquatic Commons Document Repository (AC), in collaboration with Aquatic Sciences and Fisheries Abstracts (ASFA) and financed by the ASFA Trust Fund. In 2007, an initiative to support the digitization of grey literature for inclusion in AC was approved by the ASFA Board, and FBL put forward a project proposal in 2009 to retrospectively scan grey literature from institutions in developing countries that is available in their collection. This collaborative project also aims to preserve and repatriate the publications in digital format to the originating institutions. The main output of the project is the inclusion of metadata and electronic copies of the documents in AC. In the ASFA bibliographic database, links to these full text online versions will be added to existing records, or new records will be created, including links to the items in the repository. This paper evaluates progress made so far regarding use of the uploaded literature in AC, concentrating on the grey literature that FBL has previously uploaded and focusing on two aspects of the objectives: preservation and repatriation. An analysis of earlier contributions uploaded in collaboration with FISON and STREAM is included. Statistics show the positive impact that AC has on the visibility of and the access to grey literature and also demonstrates how AC is helping disseminate information and research both nationally and internationally. It is playing a very important role in the preservation and repatriation of documents. Research carried out in a country can be discovered by other researchers within that country through AC.

**Keywords:** FAO; Aquatic Commons; grey literature; fisheries; aquaculture; digital libraries; repositories; ASFA.

### **Introduction**

In this biennium (2010-2011), FAO has extended its efforts to make grey literature available through the IAMSLIC Aquatic Commons Document Repository (AC). Building on the experience of the case studies undertaken in the previous years, FAO's Fisheries and Aquaculture Library (FBL) has started a project for the AC, in collaboration with Aquatic Sciences and Fisheries Abstracts (ASFA) and financed by the ASFA Trust Fund.

ASFA is considered the premier source of bibliographic references to the aquatic sciences literature. For many years, the need to provide access to full text documents has been

recognized both by the ASFA Partnership and IAMSLIC. Over the past few years, several ASFA Partners have been improving accessibility to grey literature documents already present in the ASFA database, by providing the publisher ProQuest with full text links.

In 2007, an initiative to support the digitization of grey literature for inclusion in AC was approved by the ASFA Board. FBL took the lead in this initiative and put forward this proposal in 2009.

This paper is intended to be a first evaluation of progress made regarding use of the uploaded literature in AC. Since it is still too early for an evaluation of the ongoing ASFA Trust Fund Project, we have concentrated on the grey literature that FBL has previously uploaded, focusing on two aspects of the objectives: preservation and repatriation. An analysis of earlier contributions uploaded in collaboration with FISON and STREAM is included. For this, we have used information from the statistics module for AC, implemented by the Florida Center for Library Automation, which previously housed the repository (<http://irstats.aquacomm.fcla.edu/irstats-aquacomm>). Statistics show the positive impact that AC has on the visibility of and the access to grey literature and also demonstrates how it is helping distribute information and research both nationally and internationally. AC is playing a very important role in the preservation and repatriation of documents. Researchers within a country can discover research carried out in that country through AC.

#### **ASFA Trust Fund Project**

Statistics show the positive impact that AC has on the visibility of and the access to grey literature, and also demonstrates how it is helping distribute information and research both nationally and internationally. AC is playing a very important role in the preservation and repatriation of documents.

The issue of increasing the coverage of grey literature in the ASFA database, together with the digitization of full-text, has been the topic of many ASFA Board Meetings at which the FAO ASFA Secretariat has continually urged the ASFA Partners to come forward with proposals to identify and digitize their grey literature and to deposit these documents in repositories such as AC and/or OceanDocs. In this way, not only will ASFA Partners be assisting in the preservation of the grey literature in their own countries; they will also be making it available to the rest of the scientific community worldwide.

Therefore, this collaborative project involves starting with the retrospective scanning of grey literature from institutions in developing countries that is available in FBL. Grey literature contains often the baseline information of some geographic and/or scientific areas, without which the scientific community is unable to build its knowledge.

The project is also aiming at the preservation and repatriation of publications in digital format (TIFF and PDF files) to the originating institution. The high-quality PDF files, which are compressed and optimized for web viewing, are searchable and downloadable. The main output of the project will be the inclusion of metadata and electronic copies of

the documents in AC. In the ASFA bibliographic database, links to these full text online versions will be added to existing records, or new records will be created, including links to the items in the repository. The information will gain the benefits of visibility in a digital repository, and the metadata will be publicly harvested.

The following publications are being added:

- FISON Conference Proceedings - with the assistance of Dr. Moses Ibeun from the National Institute for Freshwater Fisheries Research (NIFFR) in Nigeria, the first permission was received from the Fisheries Society of Nigeria (FISON) to upload their Conference Proceedings of which 24 issues have been published since 1981. So far in total around 400 papers have been uploaded.
- Technical Documents from the Lake Victoria Fisheries Research Project - FAO has further received permission to digitize and upload documents from the Lake Victoria Fisheries Research Project (1998-2000), a project funded by the countries bordering the lake (Kenya, Uganda, and Tanzania) and the European Development Fund.
- Reports published by the Nigerian-German (GTZ) Kainji Lake Fisheries Promotion Project, a project funded by the German organization for international cooperation for sustainable development, and executed between 1994 and 2004.
- *Bulletin of the Institute of Marine Biology and Oceanography* from the University of Sierra Leone, based in Freetown, published between 1976 and 1993.

The first batch of URLs of almost 500 newly created AC records so far and the Accession Numbers of the corresponding ASFA records have already been sent to ProQuest, the publisher of the ASFA bibliographic database. The possibility of metadata exchange between the AC software (E-Prints) and the software used by ASFA Partners to prepare ASFA records (www-ISIS-ASFA v1.2) is under consideration.

#### **Participation of FAO in AC**

Jean Collins, FBL Librarian who retired in 2008, has been one of the moving forces behind both IAMSLIC and the AC Repository. Aside from resource sharing (i.e. the Z39.50 library and interlibrary loans), AC has become another major strength of the IAMSLIC network.

FAO's participation in AC has contributed to the following objectives:

- Provide free and open access to fisheries and aquaculture information, thereby ensuring its preservation and availability for future generations
- Support participation by developing countries
- Integrate information generated in developing countries into the mainstream
- Create international awareness for literature from developing countries
- Link major databases (such as ASFA) to full text resources
- Foster effective bibliographic control of aquatic sciences literature
- Repatriate all digital files

### **An Example of Repatriation: FISON**

The term digital repatriation is specifically used in relation to historical and cultural heritage and information on global biodiversity. Article 17 of the Convention on Biological Diversity is on the exchange of information:

1. The Contracting Parties shall facilitate the exchange of information, from all publicly available sources, relevant to the conservation and sustainable use of biological diversity, taking into account the special needs of developing countries.
2. Such exchange of information shall include exchange of results of technical, scientific and socio-economic research, as well as information on training and surveying programs, specialized knowledge, indigenous and traditional knowledge as such and in combination with the technologies referred to in Article 16, paragraph 1. It shall also, where feasible, include repatriation of information.

In this context, the term repatriation is often substituted by the broader “data sharing with countries of origin” (Helimo 2004).

By retrospectively scanning and uploading grey literature from developing countries, we are carrying out the digital repatriation of scientific information. In the context of this project, repatriation of the scientific information is carried out in two ways:

- Repatriation to the issuing agency. The issuing agency signs the permission to upload the documents, retaining the copyright. Besides having access to their documents in the repository, they receive a CD containing electronic copies of the documents, both in tiff and in pdf format. If the issuing agency has a website, they can create links to the full text of their documents in the AC repository.
- Repatriation to Internet users in the country of origin.

Dr Moses Ibeun from the National Institute for Freshwater Fisheries Research in New Bussa, Nigeria, has been one of the key promoters of AC in Africa. He wrote a paper on the AC repository as early as 2007 and his dedication was fundamental in obtaining permission from several Nigerian issuing agencies, among which the Fisheries Society of Nigeria (FISON). He will present a paper at the 25<sup>th</sup> Annual Conference of the Fisheries Society of Nigeria, to be held at the end of this month in Lagos. Also thanks to his efforts the issuing bodies from Nigeria, which besides FISON, include NIFFR and the GTZ project, have contributed to date 14% of the total number of records in the repository.

Nigeria has a quickly growing percentage of penetration of Internet usage, and it is one of the top users of the repository. And, as Ibeun writes: “There is no doubt that Nigeria’s participation is responsible for Nigeria being the only African country making more than 2000 downloads.” (Ibeun 2010).

Thirty-one articles from the *Proceedings* of the 18th Annual Conference of the Fisheries Society of Nigeria were uploaded to the repository in 2008. If we look at some other statistics, we see that one of the papers of these *Proceedings* is among the top ten downloads of the AC:

Ezenwa, B. and Anyanwu, P.E. (2004) *Water recirculatory system technology as a major tool for increased fish production by private fish farmers*. In: 18th Annual Conference of the Fisheries Society of Nigeria (FISON), 8-12 December, 2003, Owerri, Nigeria. (ID 852)

Significantly, almost 40 percent of these are downloads from Nigeria, the country of origin.

The following figure shows the total number of downloads from the *Proceedings* per country:

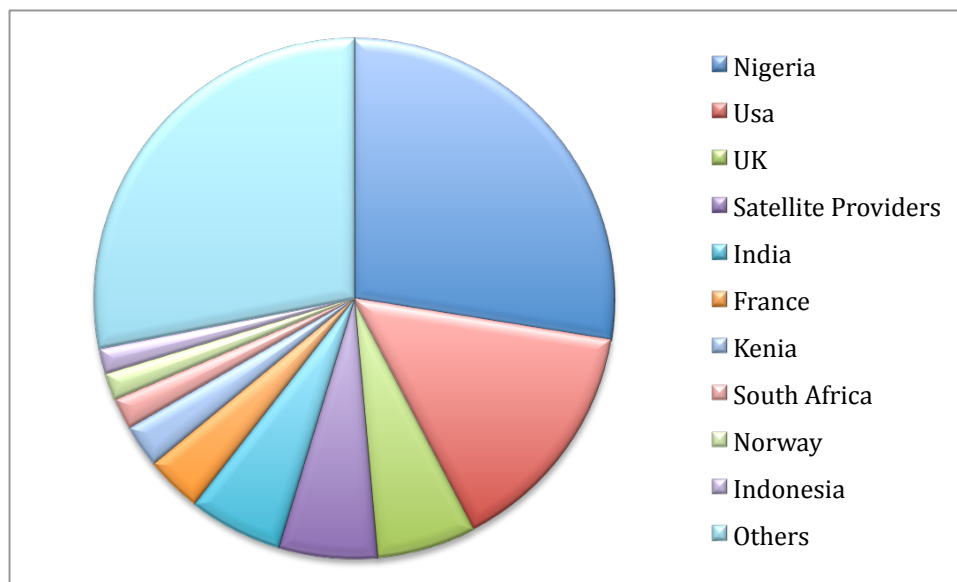


Fig. 1: Total number of downloads by country.

	AC Downloads	FISON 18 Downloads
<b>Nigeria</b>	<b>2.4%</b>	<b>27.5%</b>
<b>USA</b>	<b>36.7%</b>	<b>14.8%</b>
<b>UK</b>	<b>3.9%</b>	<b>6.2%</b>
<b>Satellite Providers</b>	<b>0.7%</b>	<b>6.1%</b>
<b>India</b>	<b>6.1%</b>	<b>5.8%</b>
<b>France</b>	<b>3.2%</b>	<b>3.5%</b>
<b>Kenya</b>	<b>0.4%</b>	<b>2.7%</b>
<b>South Africa</b>	<b>0.6%</b>	<b>1.9%</b>
<b>Norway</b>	<b>0.4%</b>	<b>1.7%</b>
<b>Indonesia</b>	<b>1.5%</b>	<b>1.6%</b>

*Table 1: Comparison of downloads from 18<sup>th</sup> FISON Proceedings and downloads from AC.*

It is doubtful whether users in the other countries would have been able to access the grey literature if it had not been uploaded into the AC repository. This is a good example of how AC improves international awareness of and access to grey literature from developing countries.

AC has not only made this information visible, but has given researchers access to this literature. The uploading of the FISON Annual Conference Proceedings was clearly responding to an information need and we are pleased that FISON has agreed and has given permission to upload the complete collection of its Proceedings.

This picture is also confirmed by the number of downloads from the papers published by other issuing agencies, like the National Institute for Freshwater Fisheries Research (NIFFR), where Moses Ibeun is the Librarian. Often more than 20% of the total number of downloads of these records are from Nigeria, the country of origin.

#### **An Example of Preservation: STREAM**

Two other papers of the ten most downloaded titles are from STREAM, the Support to Regional Aquatic Resources Management, a project in Asia:

Support to Regional Aquatic Resources Management (STREAM).  
 (2005) *What is fish culture?* Bangkok, Thailand. Support to Regional  
 Aquatic Resources Management (STREAM), (STREAM Better-  
 Practice Guidelines, 1)

Fulltext  
 Downloads:  
 2093

Support to Regional Aquatic Resources Management (STREAM).  
(2005) *Pond construction: design and layout of ponds*, Bangkok,  
Thailand. Support to Regional Aquatic Resources Management  
(STREAM), (STREAM Better-Practice Guidelines, 3)

Fulltext  
Downloads:  
1550

It is interesting to look at the STREAM Initiative because it involves more small-scale aquaculture rather than just fisheries, and covers countries in Asia. STREAM, the project Support to Regional Aquatic Resources Management was an Initiative executed within the framework of the Network of Aquaculture Centres in Asia-Pacific (NACA), based in Bangkok, Thailand. Besides NACA, partners included FAO (Food and Agriculture Organization of the United Nations), DFID (the Department for International Development of the UK), VSO (the Voluntary Service Organization from the UK), and AusAID (the Australian Government Overseas Aid Program). It aimed to support agencies and institutions to:

- Utilize existing and emerging information more effectively.
- Better understand poor people's livelihoods.
- Enable poor people to exert greater influence over policies and processes that impact on their lives.
- Develop policies and processes of mediating institutions and capacity building.

It adopted an approach where stakeholders engaged in aquatic resources management participated actively in the development of the Initiative.

The STREAM Initiative was based at the NACA Secretariat in Bangkok, but operated in several Asian/Pacific countries, including Cambodia, India, Indonesia, Lao PDR, Myanmar, Nepal, Philippines, Vietnam and China. Being a project, the Web site of the STREAM Initiative, had a very short "shelf life" and was only up from July 2002 to June 2008. Since then electronic copies of the documents produced by STREAM have been hard or even impossible to find, if it were not for AC. A large part of the published outputs of the project have been added to the AC between November 2008 and August last year. All 126 uploaded documents were so-called "born digital" and were originally available on the STREAM Web site.

Documents from the STREAM Initiative are good examples of preservation; without the AC, hardly any of the documents would still be available on the internet. The following STREAM documents are also examples of repatriation. The trend here is again that an increasing number of downloads come from the countries in the region:

- The Indonesian ornamental fish trade (<http://aquacomm.fcla.edu/2247/>). This item was uploaded in June 2009. Since then, one quarter of all 576 downloads are from Indonesia, while Indonesian downloads are less than 2% of the total downloads of the repository.
- Aquatic resources in the Philippines and the extent of poverty in the sector (<http://aquacomm.fcla.edu/2333/>). Uploaded in June 2009, two-third of all 267

downloads are from Philippines, while only 2.2% of all downloads of the repository are from the Philippines.

- National policy framework and strategy for fisheries and aquaculture development in Pakistan (<http://aquacomm.fcla.edu/2494/>). Uploaded in July 2009. One third of all 196 downloads are from Pakistan, while only 730 (or 0.5%) from the total of 159,171 downloads are from Pakistan (0.5%)

Cambodia, another low income food deficit country in the region and one of the poorest countries in the world, is covered by several studies published by the STREAM Initiative. Internet usage in Cambodia is still extremely low, with less than 0.5 % of the population with Internet access. The downloads from AC are fewer in number, but again a high percentage of the total downloads are from the country of origin.

<b>ID</b>	<b>Total AC Downloads</b>	<b>Cambodia Downloads</b>	<b>Percentage</b>
1775	40	10	25%
1777	32	7	22%
1780	47	15	32%
2217	28	5	18%
2330	130	63	48%
2331	31	11	35%
2420	11	3	27%
2500	113	30	27%
2314	111	46	41%
2327	168	70	42%
2328	41	20	49%
2329	74	25	34%
<b>Totals</b>	<b>826</b>	<b>305</b>	<b>37%</b>

*Table 2: Comparison of Total AC downloads and downloads from Cambodia.*

However, the number of downloads from Cambodia is less than half percent of the total downloads from AC. Once again, the trend here shows that an increasing number of downloads comes from countries which can be considered the countries of origin.

### **Conclusion**

These statistics show the positive impact that AC has on the visibility of and the access to grey literature and also demonstrates how AC plays an important role in the preservation



and repatriation of the documents. The uploading of these documents in AC is only a drop in the ocean of grey literature available in the collection of the FAO library and/or included in the ASFA bibliographic database.

The David Lubin Memorial Library at FAO holds an unequalled and unique collection of grey literature from Africa, Asia, Latin America/Caribbean, and Oceania. The FAO Fisheries Branch Library contains some 600 unique serial titles from developing countries - “unique” because the series are not held by any other IAMSLIC library. These titles have been added to IAMSLIC’s Union List and are included in the Z39.50 Distributed Library, increasing visibility and availability thereby making them available to the entire IAMSLIC network/community.

The library also has a collection of country files of grey literature, called Pescadoc, the contents of which are often very hard to identify. A large part of this literature is cited on the ASFA database, but it could be enhanced by adding full-texts links to enable accessibility.

One of the next challenges is to make these publications and documents available digitally through the Internet by uploading them to the AC and with this project we have just made the first steps. A broader initiative is needed, which would include awareness raising and scanning on a much larger scale, but this would require further efforts with participation from other libraries and ASFA Partners and additional funding.

The inclusion of references to grey literature in the ASFA database has always represented ASFA's most important comparative advantage with respect to other information sources. Now, with an ever-increasing number of references that have links to digitized full text, the utility and value of the database to users increases. The issue of increasing the coverage of grey literature in the ASFA database, together with the digitization of full-text, has been the topic of many ASFA Board Meetings at which the FAO ASFA Secretariat has continually urged the ASFA Partners to come forward with proposals to identify and digitize their grey literature and to deposit these documents in repositories such as AC and/or OceanDocs. In this way, not only will ASFA Partners be assisting in the preservation of the grey literature in their own countries, they will also be making it available to the rest of the scientific community world-wide.

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