

Agricultural Information Management Standards Website: An Initiative to Facilitate Interoperability and Improve Coherence

Gauri Salokhe, Margherita Sini, Boris Lauser, Fynvola Le Hunte Ward, Johannes Keizer, and Stephen Katz

Interoperability is connecting people, data and diverse systems.

— WIKIPEDIA, June 2007

Background

Over the past few years, the Food and Agriculture Organization of the United Nations (FAO) has been working on the development of semantic standards in metadata and controlled vocabularies in the agricultural domain. At present, there are a number of parallel and dispersed developments in standards, tools and systems for managing agricultural information. The First Consultation on Agricultural Information Management (COAIM), held in 2000, recommended that FAO assume a leading role as a clearinghouse for internationally used information management standards in the agricultural sector. The Consultation further recommended that FAO coordinate and facilitate the promotion and adoption of these standards in collaboration with Member Nations and other stakeholders in the agricultural sector. A recent workshop report published by the Department for International Development (DFID) recommended that a website be established for Information Exchange Standards in the Field of Agriculture and Natural Resources (Besemer, Addison, and Ferguson, 2004). This effort, aimed at providing improved access, lies within the strategic framework of FAO to eradicate hunger through information.

FAO, in its role as an international body, is in an ideal position to bring together and disseminate authoritative guidelines on the management of agricultural information. The tasks involved to facilitate this were:

- establishing a network of partners who adhere and agree to the primary goal of the initiative (see The Network, below);
- facilitating discussions between different partners to agree on common standards; and
- creating a web-based service to disseminate standards and tools under a single access point (see The AIMS website, below).

The initiative is also motivated by the desire to minimize the duplication of effort in the creation of information management standards and tools, and to foster cooperative sharing of outputs within the agricultural information management community. The clearinghouse, as a mechanism, will assist the coordination, dissemination and/or exchange of various types of resources. The role of the clearinghouse is to:

- provide a one-stop reference to different implementation methods and methodologies,
- facilitate discussions among the community of participants,
- provide access to training materials and other important information management resources, and
- provide a registry to search and browse promoted standards and tools.

The AIMS Website

The Agricultural Information Management Standards (AIMS) website (www.fao.org/aims/) is the medium through which the different players can interact and share information. The aim of the website is to disseminate different standards and other information to support these standards. It provides, among others, resources related to standards and vocabularies in different formats, guidelines and documentation to facilitate understanding and reuse of the standards, training materials, tools and more.

KEY URL: <http://www.fao.org/aims>

An example of this is the list of tools made available to facilitate interoperability between agricultural datasets, and methods for creating new systems that use consistent and commonly accepted standards in the description of agriculture-related information and that of similar fields. The site also offers a page that brings together a summary of known tools used for creating metadata for various types of resources. It includes tools for entering and editing, and utilities for processing, extracting, validating and viewing metadata. Ontology tools are also available on the AIMS website for helping with acquiring, editing, visualizing and maintaining domain knowledge as well as aiding in the building of ontologies.

Extensive information about metadata schemas, instructions on how to create an application profile along with the possibility to browse classification schemes and the AGROVOC Thesaurus are other key characteristics of the AIMS website. Furthermore, the possibility to suggest classification schemes and new terms to enrich the AGROVOC Thesaurus makes this site very interactive. The website also provides access to the AGROVOC Thesaurus via web services, which can

Snapshot of multilingual AIMS pages

联合国粮食及农业组织
帮助建设一个无饥饿的世界

农业信息管理标准
帮助建设一个无饥饿的世界

AGROVOC Thesaurus

AGROVOC Concept Server

There is no doubt that the Web provides a potential platform for global access to information, but there are a number of important issues that need to be

多种语言农业术语汇编概念服务器

网络无疑问为全球获得信息提供了一个潜在的平台，但是必须处理一些重要问题才能充分发挥这一潜力。人们最初并没有把网络当作是全球获得信息的一个工具：信息管理的基本特征也不健全。由于互联网结构的性质，类似主题的信息分散在世界各地的许多不同的服务器中，但是没有有什么工具来将各不同来源的有关信息，因此，在网上寻找信息往往很难。

多种语言农业术语汇编概念服务器

网络无疑问为全球获得信息提供了一个潜在的平台，但是必须处理一些重要问题才能充分发挥这一潜力。人们最初并没有把网络当作是全球获得信息的一个工具：信息管理的基本特征也不健全。由于互联网结构的性质，类似主题的信息分散在世界各地的许多不同的服务器中，但是没有有什么工具来将各不同来源的有关信息，因此，在网上寻找信息往往很难。

多种语言农业术语汇编概念服务器

网络无疑问为全球获得信息提供了一个潜在的平台，但是必须处理一些重要问题才能充分发挥这一潜力。人们最初并没有把网络当作是全球获得信息的一个工具：信息管理的基本特征也不健全。由于互联网结构的性质，类似主题的信息分散在世界各地的许多不同的服务器中，但是没有有什么工具来将各不同来源的有关信息，因此，在网上寻找信息往往很难。

be called from any client application. With web services, updates to the Thesaurus are immediately available, reducing the time and effort necessary to regularly download and incorporate the latest version of the Thesaurus into applications.

For those interested in an indepth explanation of the site, the most recent publications on topics covering agricultural information management using metadata standards, ontologies and classification schemes are available for download, and links to discussion lists on agricultural metadata standards, application profiles and thesauri are also provided.

The set of services is completed by a list of freely

available Knowledge Organization Systems (KOS) in the domain of agriculture and updated news and information about upcoming agriculture-related events.

In summary, the site should serve as a one-stop first access point for anyone who is interested in agricultural information management and wants to manage their information in a standardized manner, and to be interoperable with others in the domain.

The Network

Constructing and maintaining standards and vocabularies for the management of agricultural information is a huge effort that can be facilitated by collaboration between the main stakeholders in a specific domain. Agricultural



(in its broadest sense) information services can participate as stakeholders in this initiative if they are willing to commit themselves to contribute staff time to support the activities of the project. The first step to become an active member consists of sending a letter of intent with a statement of endorsement of the Coherence initiative.

All partner organizations in this network are expected to:

- make joint efforts to cooperate in the development of multilingual knowledge organization systems and semantic standards for information exchange;
- come to an agreement about common standards and try to apply the agreed upon standards in their own organizations, to the extent possible;
- seek effective approaches for capacity building and for strengthening and improving information and knowledge management capacities at various levels; and
- promote information and resource sharing via the AIMS website.

For more information on becoming part of this community, e-mail FAO-Agris-Caris@fao.org, or go to: http://www.fao.org/aims/partners_join.jsp

Intellectual Property Rights

The intellectual property rights (IPR), in particular copyright, of material such as terminological data, glossaries, information, software and designs, made available to the network, remain with the originating party, who are indicated as the source partner if the information is reproduced or disseminated through the AIMS website or elsewhere. Copyright of the information, as well as rights to any other intellectual property, developed jointly within the network, is jointly vested in all parties involved. Each party has full rights to exploit such jointly owned works after informing the other parties, without the need of approval of the others. All partners of the network have free access to all information developed pursuant to activities mutually undertaken for their internal use.

Future Steps

The Agriculture Information Management Standards website will progressively act as a dynamic meeting place for researchers and practitioners who are working on agricultural knowledge production, organization, and exchange with the aim of establishing common standards and guidelines. The management and maintenance of its content has been an ongoing activity.

Notes

1. For more information on the Consultations on Agricultural Information Management, visit the COAIM website: http://www.fao.org/gi/gil/consultations/coaim_en.asp
2. For more information on the Coherence initiative, read *Improving Coherence in Agricultural Information Systems: A proposal to improve coherence through information sharing and community building* (FAO, 2004), ftp://ftp.fao.org/gi/gil/gilws/aims/references/coherence_in_ag_proposal.doc

Reference

Besemer, Hugo, Chris Addison, and Julie Ferguson. 2004. *Fertile Ground: Opportunities for greater coherence in agricultural information systems*. International Institute for Communication and Development (IICD) Research Report No. 19. [Online] available: <http://www.ftpicd.org/files/research/reports/report19.doc>

THE AUTHORS are all affiliated with the Food and Agriculture Organization of the United Nations, Rome, Italy.

Contact Information

Gauri Salokhe
 Food and Agriculture Organization of the United Nations (FAO)
 Viale Delle Terme di Caracalla
 00100 Rome
 ITALY
 E-mail: Gauri.Salokhe@fao.org
 Web: <http://www.fao.org/aims/>