The FAO Metadata and Ontology Tools

DC 2006
Mexico, 5 October 2006

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Outline

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• Metadata Tools
  – version 1
  – version 2
• Ontology Tools
  – AOS-CS Workbench
• RSS
• What’s next
Introduction

• AIMS
  – Facilitate collaboration
  – Promoting information exchange and knowledge sharing
  – Harmonization

• Tools’ registry
  – Metadata / Cataloguing Tools
  – Ontology tools
  – Thesaurus tools
  – Miscellaneous tools
  – Share a tool
**Metadata/Cataloguing Tools**

This page brings together a summary of known metadata tools used for creating metadata for various types of resources. It includes tools for entering and editing metadata, and utilities for processing, extracting, validating, and viewing metadata. Some of these tools allow for metadata to be served up in different formats, such as XML, RDF, XHTML, ISO2709 etc. Some tools are based on established metadata standards while others produce metadata based specifically on local application profiles.

Available tools are:

<table>
<thead>
<tr>
<th>WebAGRIS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Owner/Creator:</strong> Food and Agriculture Organization of the United Nations (FAO)</td>
</tr>
<tr>
<td><strong>Description:</strong> WebAGRIS is a complete, multilingual Web-based system for distributed data input, processing and dissemination (through the Internet or on CD-Rom), of agricultural bibliographic information. WebAGRIS also allows to link to documents that are available in electronic format. It is based on common standards of data input (meta-data standard, data structure), and dissemination formats (export formats, such as XML, HTML, ISO2709, etc.), as well as subject categorization schema and thesauri, i.e. AGROVOC.</td>
</tr>
<tr>
<td><strong>URL:</strong> <a href="http://www.fao.org/">http://www.fao.org/</a>...</td>
</tr>
</tbody>
</table>
Metadata / Cataloguing Tools

- WebAGRIS, FAO
- AgMES Metadata Tool, FAO
- DC.DOT, UK Office for Library and Information Networking (UKOLN)
Creating metadata in AgMES and DC compliant format for websites

The metadata creator provides you with a template to create simple AgMES/DC metadata for encoding in your Web Pages.
Once you are satisfied with the content of each element, cut and paste the given metadata in the <head> section of your HTM(L) file.

Type the URL of the website to harvest.

http://
Submit  Help

Go directly to the input sheet to manually create AgMES tags in HTML, XHTML, XML and RDF formats.

Browse the AgMES elements and their definitions.

Send us your comments and feedback
Last updated: February 2003
<table>
<thead>
<tr>
<th>Title</th>
<th>AIMS Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creator</td>
<td>AGRIS/CARIS Documentation Unit</td>
</tr>
<tr>
<td>Subject</td>
<td>AIMS; Access to information; Diffusion of information; Indexing of information; Information classification; Information dissemination; AGROVOC</td>
</tr>
<tr>
<td>Description</td>
<td>The objectives of the AgStandards Project include development and proposal of agricultural information standards and ontologies for the</td>
</tr>
<tr>
<td>Publisher</td>
<td>AGRIS/CARIS Documentation Unit</td>
</tr>
<tr>
<td>Date</td>
<td>2006-08-24</td>
</tr>
<tr>
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<tr>
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<tr>
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<tr>
<td>Format</td>
<td>text/html</td>
</tr>
<tr>
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<tr>
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<td>Language</td>
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<td>Relation</td>
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<tr>
<td>Coverage</td>
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<tr>
<td>Rights</td>
<td><a href="http://www.fao.org/copyright_en.htm">http://www.fao.org/copyright_en.htm</a></td>
</tr>
</tbody>
</table>

Send us your comments and feedback

Last updated: February 2004
Creating metadata in AgMES and DC compliant format for websites

HTML AgMES Metadata

<!-- Start metadata -->

<link rel="schema.DC" href="http://purl.org/dc/elements/1.1/" />
<link rel="schema.AGS" href="http://purl.org/agmes/1.1/" />
<link rel="schema.DCTERMS" href="http://purl.org/dc/terms/" />
<link rel="schema.DCMITYPE" href="http://purl.org/dc/dcmitype/" />
<meta name="Keywords" content="AIMS; Access to information; Diffusion of information; Indexing of information; Information classification; Information dissemination; Standards; semantic web; semantic standard; glossary; thesaurus; thesaurus building; Data bases; Data collecting; Data collection; Data compilation; Data processing; Data retrieval; Data storage; Databanks; Databases; metadata; metadata standard; ontology; ontology engineering; ontology learning; Information retrieval; Information science; Information storage; Information systems; Information technology" />
<meta name="Description" content="The objectives of the AgStandards Project include development and proposal of agricultural information standards and ontologies for the combined purpose of resource discovery, interoperability and effective data exchange between and among uniquely and richly described agricultural resources. AgMES Project looks into the first objective of this initiative, preparing and promoting good practice guidelines for using metadata in description of agricultural resources." />
<meta name="DC.title" lang="eng" content="AIMS Website" />
<meta name="DC.creator" content="AGRIS/CARIS Documentation Unit" />
<meta name="DC.publisher" content="AGRIS/CARIS Documentation Unit" />
<meta name="DC.subject" lang="eng" scheme="AGS_AGROVOC" content="AIMS" />
<meta name="DC.subject" lang="eng" scheme="AGS_AGROVOC" content="Access to information" />
<meta name="DC.subject" lang="eng" scheme="AGS_AGROVOC" content="Diffusion of information" -->
The objectives of the AgStandards Project include development and proposal of agricultural information standards and ontologies for the combined purpose of resource discovery, interoperability and effective data exchange between and among uniquely and richly described agricultural resources. AgMES Project looks into the first objective of this initiative, preparing and promoting good practice guidelines for using metadata in description of agricultural resources.
AGROVOC Metadata tool v.2

Creating metadata in AgMES and DC compliant format for websites

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Once you are satisfied with the content of each element, copy and paste the given metadata in the <head> section of your HTM(L) file.

**Type the URL of the website to harvest.**
(Users of older versions of Netscape like 4.x can't use this feature!)

http://
Submit  Help

Go directly to the input sheet to manually create AgMES tags in HTML, XHTML, XML and RDF formats.

Browse the AgMES elements and their definitions.

Send us your comments and feedback
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Last updated: September 2006
Agricultural Information Management Standards

Interoperability, Reusability, and Cooperation

Subject 1: AIMS

Subject 2: AGS.AGROVOC
AGS.CABT
AGS.ASFAT
AGS.NAL
AGS.CABC
AGS.ASC

Language

Scheme

dc:subject

Definition: A topic of the content of the resource.

Comment: Typically, Subject will be expressed as keywords, key phrases or classification codes that describe a topic of the resource. Recommended best practice is to select a value from a controlled vocabulary or formal classification scheme.

Examples

HTML:
<meta name="DC.subject" lang="en" scheme="AGS.AGROVOC" content="Food security" />

XHTML:
<meta name="DC.subject" xml:lang="en" scheme="AGS.AGROVOC" content="Food security" />

XML:
<dc:subject xml:lang="en" scheme="ags:AGROVOC">Food security</dc:subject>

RDF:
<dc:subject xml:lang="en">Food security</dc:subject>

AGRIS AP XML:
<dc:subject> <ags:subjectThesaurus xml:lang="en" scheme="ags:AGROVOC">Food security</ags:subjectThesaurus> </dc:subject>

Note: To meet the requirements of the AGRIS AP XML standard, the element is further refined as <ags:subjectThesaurus />.

Browse Agrovoc

Add a new Subject

Language

Scheme

English
Use the search box above to look for any keyword in AGROVOC or the Agris/Caris Categorization Scheme (ACS). Check the select boxes in the result list below to choose your keywords. They will appear in the text area below. Redo your search until you have selected all keywords in the textarea. Click 'Copy to form' to transfer the chosen keywords into the Metadata subject fields. Press 'ClearAll' any time to restart.

10 terms displayed, out of a total of 218.

<table>
<thead>
<tr>
<th>Count</th>
<th>Termcode</th>
<th>Terms</th>
<th>Select</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>31911</td>
<td>Abnormal water loss</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>169</td>
<td>African inland waters</td>
<td>✔</td>
</tr>
<tr>
<td>3</td>
<td>25310</td>
<td>Agricultural wastewater</td>
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<tr>
<td>4</td>
<td>232</td>
<td>Air water interface</td>
<td>✔</td>
</tr>
<tr>
<td>5</td>
<td>667</td>
<td>Asian inland waters</td>
<td></td>
</tr>
</tbody>
</table>
Ontology Tools (1/2)

• Mapping / Merging:
  – Vocabulary Integration Environment (VINE), Marine Metadata Interoperability Project (MMI)
  – Chimaera, Knowledge Systems, AI Laboratory, Stanford University

• OWL Validators:
  – WonderWeb OWL Validator, University of Manchester / University of Karlsruhe
  – OWL Validator, BBN Technologies
Ontology Tools (2/2)

- Ontology Browsers / Editors
  - *Swoop*, University of Maryland
  - *Protégé*, Stanford University
  - *KAON Suite*, AIFB

- *AOS-CS Workbench*
AOS/CS Workbench

- Support and manage the multi-language terminology work of information management specialists in the development, maintenance, and quality assurance of the AOS/CS

- Features
  - Text processing
  - Corpus Creation
  - Corpus Analysis
  - Term/Relationship Management
  - Quality Assurance
  - Versioning and Deployment
Concept Hierarchy

AOS/CS Workbench

concordance

pattern-matching

multilingual
AOS/CS Workbench

• Users
  – Term editor
  – Ontology editor
  – Validator
  – Publisher
  – Administrator

• Functionalities
  – Terms management
  – Concepts management
  – Classification schemes
  – Validations
  – Help
  - Search
  - Import / Export
  - Corpus
  - Administration
IMARK: Digitization and Digital Libraries now in French

The IMARK Steering Group is pleased to announce the release of the second module in French entitled "Numérisation et création de bibliothèques numériques". This module offers 31 lessons covering materials in digital form and electronic formats for technical and comprehensive overview. The module was designed for the required skills for developing information systems management and the creation and development of the IMARK. The module can be accessed either through the IMARK Web site or partnership-based e-learning networks world-wide. The module consists of a suite of digitization management. With overall assistance from Cirad, FAO, UNESCO and the relevant agencies.

```xml
<rss version="2.0">
  <channel>
    <description>FAO: News and Events Management system</description>
    <title>FAO News and Events RSS Feed</title>
    <link>http://www.fao.org/nems</link>
    <image>
      <url>http://www.fao.org/img2/Faologo.gif</url>
      <title>FAO.org</title>
      <link>http://www.fao.org/nems</link>
      <width>134</width>
      <height>19</height>
    </image>
    <language>en</language>
  </channel>
</rss>
```

Food and Agriculture organization (FAO), 2005. All rights reserved. Information in this RSS in terms of its correctness, accuracy, reliability.
What’s next

Metadata Tool
• Extend to more schemes, connecting preferably via web services.

AOS/CS Workbench
• Integration possibilities with other Meta-models for Ontologies

Others
• Tools to create and manage RSS combined with DC, FOAF elements (especially 1.0) for other types of resources (organizations, experts etc.)

Volunteers?

Thank you.