USAIN 2006 Conference

Importance of Agricultural Information in the Global Context

Dr. Anton Mangstl

The Food and Agriculture Organization of the United Nations

Millennium Development Goals

- Goal 8: Develop a global partnership for development
- Target 18: In cooperation with the private sector, make available the benefits of new technologies - especially information and communication technologies (ICT)

USAIN 2006 Conference

"*Information is vital in the fight against hunger.*"

Jacques Diouf
Director-General
Food and Agriculture Organization
of the United Nations

Bridging the Rural Digital Divide

What is the problem?

- Hunger & poverty concentrated in rural areas in LIFDCs
- Poor capacity to access information in rural areas
- Information/knowledge gap for rural stakeholders

How many people?

75% of 1.3 billion people

living on less than **$1/day**

live in **rural** areas

Bridging the Rural Digital Divide

What is the development context?

Millennium Development Goals

World Food Summit

FAO Strategic Framework

WAICENT – World Agricultural Information Centre

World Summit on Information Society

Bridging the Rural Digital Divide

Defining the Digital Divide

Inequitable access to
Information and Communication Technologies
between wealthy and poor –
countries and *social groups*

The divide has a **Urban-Rural** dimension

Bridging the Rural Digital Divide

Disaggregated data on ICT access

GHANA	Major Towns	Other Urban	Rural
Household Phone	20.5	3.5	1.5
PC at Home	7.0	2.5	2.0
<15 mins to Internet cafe	95.8	85.4	10.4

researchICTafrica.net

Bridging the Rural Digital Divide

Information & Communication for Development (ICD): An integrated approach

The agents of change are the new ICT –

But *all* components must be addressed:

- Connectivity
- Content
- Capacity - institutional and human

Bridging the Rural Digital Divide

ICD – The Main Elements

- **Information Content** – in digital format
- Innovative **Mechanisms** and **Processes** – for information digitization and exchange, and for communication
- **Networks** - amongst key stakeholders

Bridging the Rural Digital Divide

Principal Components

Three components:

- Evidence for validated models
- Institutional learning platform
- Advocacy

Bridging the Rural Digital Divide

Validated Models: Rural Information & Communication Systems

Networking Tools and Processes

VERCON (Virtual Extension, Research and Communication Network)

Virtual Extension & Research Communication Network

FarmNet - Farmers Information Network

Bridging the Rural Digital Divide

Learning Platform Component:

Information Management Resource Kit (IMARK)

Partnership-based e-learning initiative

- Modules – CD and Web-based curricula & resources
- On-line Community - a "virtual" community for experts and learners

Geneva 2003

Tunis 2005

World Summit on the Information Society

World Summit on the Information Society

C7. ICT applications: benefits in all aspects of life: e-agriculture

Activities Include:

- E-Agriculture Working Group and Global Knowledge Forum
- Email & web-based discussions, face-to-face consultative activities, and documentation of case studies/ best practices
- Worldwide web-based survey which will help direct future steps in the development of E-Agriculture

From Information to Knowledge

From Information to Knowledge

Two types of knowledge:

- **Explicit knowledge** is “captured” in documents, databases, web sites.

- **Tacit knowledge** is not “captured” and exists in people’s heads and is reflected as insight, judgement, craftsmanship, and creativity.

Two main knowledge management arenas:
internal and external

FAO: a Knowledge Organization in the Information Age

FAO's Knowledge Forum

- Ask FAO
- Best Practices
- Thematic Knowledge Networks

Knowledge Forum

http://www.fao.org/KnowledgeForum/

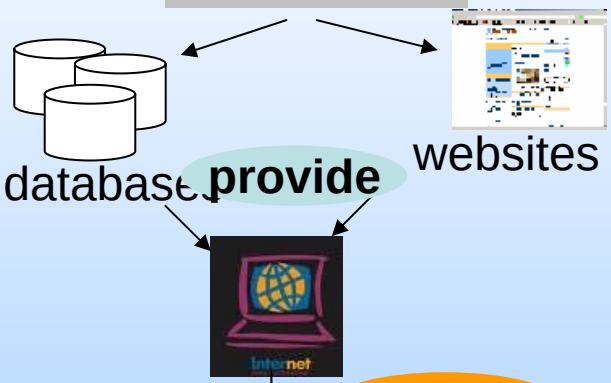
The Past, Present and Future

Some Tendencies in Information and Knowledge Management

The Web:
From Mono-Directional Information Dissemination to Knowledge Sharing

Past

information providers



consumers

web as place to publish information

Now

information providers

provide

consume

provide

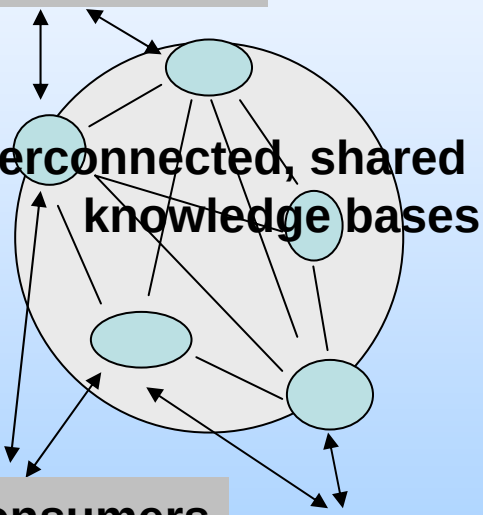
consume

consumers

web as social network

Future

information providers



consumers

knowledge experts

Exchanging Information and Knowledge:
Human Communication

	Past	Now	Future
Asynchronous	Letters, fax, e-mail,	Mailing lists (Dgroups), Wikis as Discussion Fora, blogs, flickr, Delicous	Personal Content Management Systems with communication extensions
Synchronous	Face to Face Meetings (Traveling) Telephone	Instant messaging, videophone, skype, videoconference	Web-based virtual face to face-meetings

Availability of Information and Knowledge:
Information Repositories

Past

Paper World: copying of texts, localized physical libraries

Digital World: copying of files, localized digital libraries

Now

Still huge amount of paper repositories

Distributed, but fragmented linkages to digital libraries

Metadata harvesting to create new sets of informaton

Complicated access protocols for distributed searching

Future

All Information will be digital?

Information will be available in reusable components

standard metadata to access information within communities

reassembling of knowledge objects by users

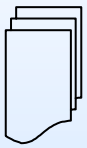
Availability of Information and Knowledge :
Scholarly Publishing

	Past	Now	Future
Access	Cost associated to publication (Publisher's charge)	Growing use of Open Access Model of Publishing	Free access to all the scientific information?
Format	hardcopy format	electronic full text document	electronic full text and value added service
Dissemination	based on reference desk services	the Web: - OA Journals - OA Archives - online Commercial Journals	Research Knowledge Networks for Scholarly Collaboration

Classifying Information and Knowledge:
From Cataloguing to Semantic Markup

Past

Authors



articles, books, journals...

thesauri editors

edit

plant products
*cereals
*rice
*...
RT grain

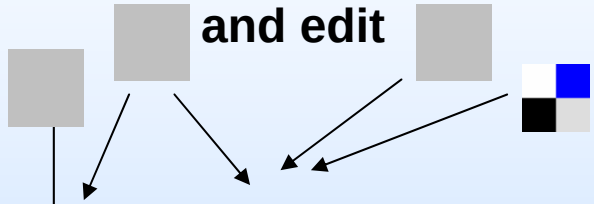
classical thesauri

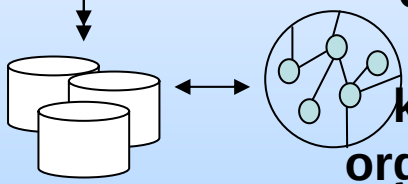
cataloguers

libraries

Now

many actors contribute and edit





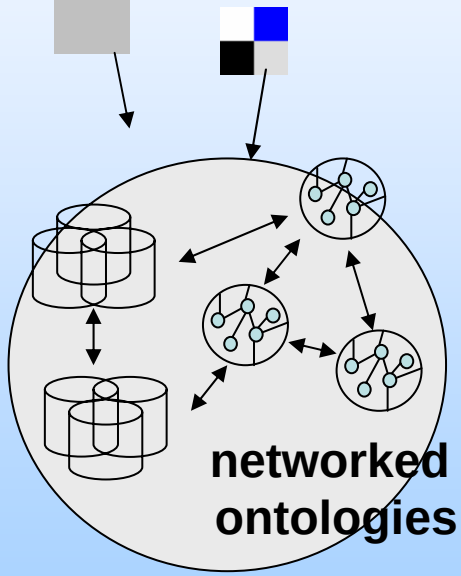
ontologies + other knowledge org. systems

digital libraries

hybrid approach

Future

automatic classification of content



networked ontologies

integrated approach

Accessing Information and Knowledge:
Search Engines and Semantic Feeds

	Past	Now	Future
Search Engines	Library catalogues -> search and meta-search engines	Vivisimo [Search Done Right®] Google YAHOO!	**Personalized** search results using relevancy ranking methods
Semantic Feeds	newsletters -> manual feed creations (list of links)	RSS feeds as "push technology" with repurposed information; Semantically (RDF-based) enriched feeds	integrated services based on multiple "semantically rich" feeds on certain topics (bird flu, pest control). every web portal will be a personal web portal

The Role of Librarians and their clients

	Past	Now	Future
Librarians	Answering user requests for information based on local and distributed library collections	Information brokers have to use the entire web now as their collection but still mostly based in physical libraries/ with collections	Virtual librarians will have the ability to work from any location in the world much stronger link to business processes and needs
Users	strongly dependent on librarians to access information collections	try to search online through search engines and catalogues, less frequency in library	Global virtual access to collections and communication with librarians

Web Statistics: learning from your users

Past

Hits counting on web site (from circa 1994)

Now

Statistical Web Traffic Analysis

- how many hits
- which pages used
- computing environment
- how they found you (search engines)
- how long they are with you

Future

Advanced Web Traffic Analysis

- detailed identification of user
- what they are looking for
- how do they use your site

Big problems with ethical privacy issues

For more information

http://www.fao.org/gil

Other resources:

Bridging the Rural Digital Divide: http://www.fao.org/rdd

IMARK: http://www.imarkgroup.org

Agricultural Information Management Standards: http://www.fao.org/aims

World Summit on the Information Society:

http://www.itu.int/wsis/c7/e-agriculture/index.html