Presentation's outline

- **Introduction**

- **CGIAR practices in data, information, and knowledge management**

5 minutes break

- **Collaboration between CGIAR & FAO** (Food and Agriculture Organization of the United Nations) **for AGROVOC and AGRIS**

Time for discussion

*! **Later today** you can follow the training delivered by Andrea Turbati, '**Introducing SKOS and VocBench through the AGROVOC use case, a multilingual thesaurus dedicated to food and agriculture**'.*

Introduction

What is CGIAR?

CGIAR (formerly the Consultative Group for International Agricultural Research) is a **global research partnership for a food-secure future** dedicated to reducing poverty, enhancing food and nutrition security, and improving natural resources.
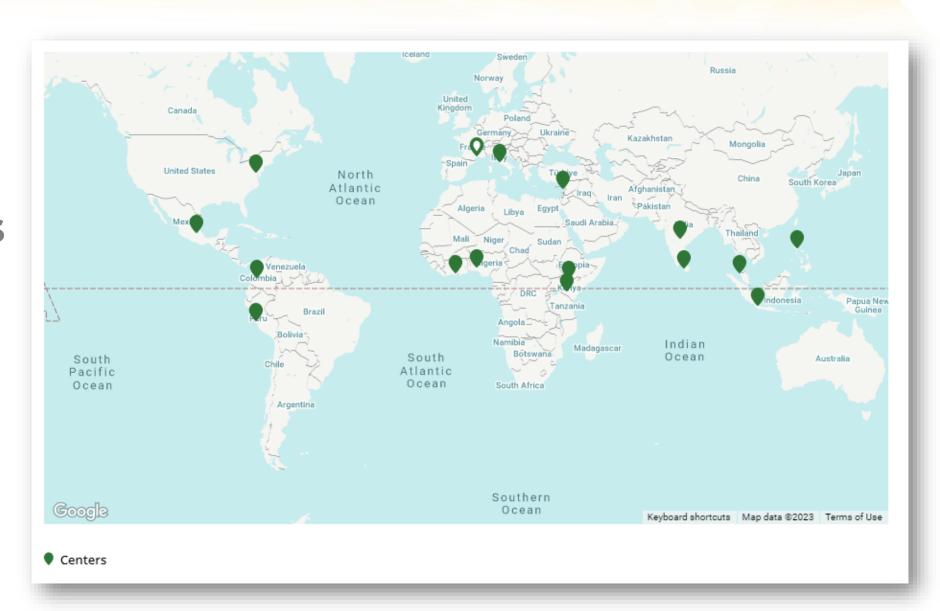
https://www.cgiar.org/

Where does CGIAR work?

CGIAR's centers across the world

15

Centers

CGIAR's centers across the world

Africa Rice Center

Center for International Forestry Research (CIFOR)

International Center for Agricultural Research in the Dry Areas (ICARDA)

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)

International Food Policy Research Institute (IFPRI)

International Institute of Tropical Agriculture (IITA)

International Livestock Research Institute (ILRI)

International Maize and Wheat Improvement Center (CIMMYT)

International Potato Center (CIP)

International Rice Research Institute (IRRI)

International Water Management Institute (IWMI)

The Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT)

World Agroforestry (ICRAF)

WorldFish

Latin America & the Caribbean

- International Maize and Wheat Improvement Center (**CIMMYT**)

- International Potato Center (**CIP**)

- The Alliance of Bioversity International and the International Center for Tropical Agriculture (**CIAT**)

CGIAR's research initiatives

5

Impact Areas

32

Initiatives

CLIMATE ADAPTATION & MITIGATION

ENVIRONMENTAL HEALTH & BIODIVERSITY
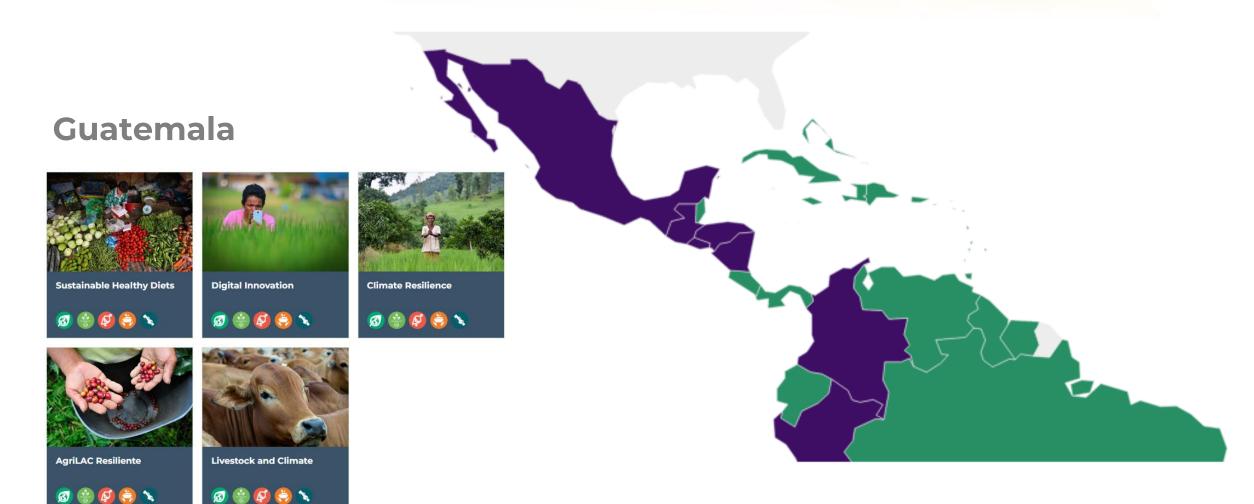
GENDER EQUALITY, YOUTH & SOCIAL INCLUSION

NUTRITION, HEALTH & FOOD SECURITY

POVERTY REDUCTION, LIVELIHOODS & JOBS

CGIAR's research initiatives

Guatemala

Sustainable Healthy Diets

Digital Innovation

Climate Resilience

AgriLAC Resiliente

Livestock and Climate

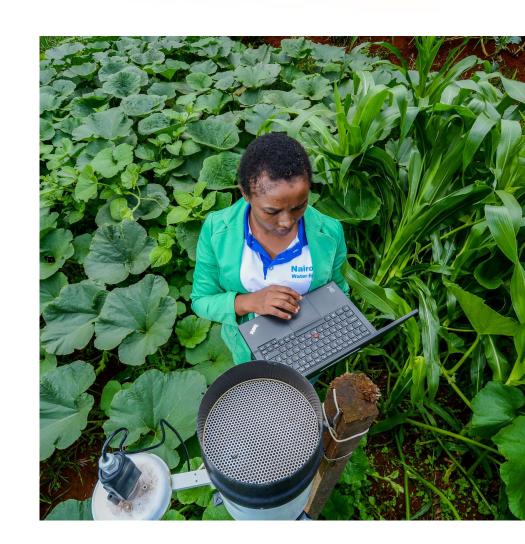# CGIAR practices in data, information, and knowledge management

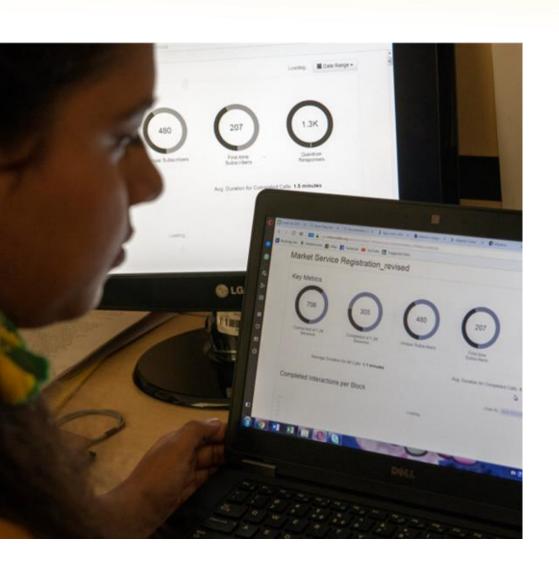# CGIAR practices in data, information, and knowledge management

CGIAR implements robust practices for **data management, information sharing, and knowledge exchange**, leveraging technologies and collaborations to ensure accessibility, usability, and impact of agricultural research.

Open Access & Open Data Policy

CGIAR acknowledges the importance of making its outputs **findable, accessible, interoperable, and reusable (FAIR)**.
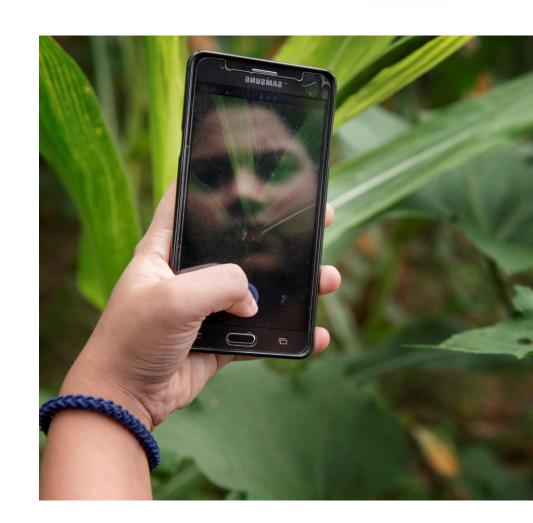
All 15 Centers signed the **Open Access and Data Management Policy** in 2013 to fulfill this commitment.

Open Access & Open Data Policy

Implementing **Open Access and Open Data** harmoniously across CGIAR **ensures compliance with donor policies** and **empowers researchers to enhance innovation and impact** in the era of **big data**.

CGIAR Open and FAIR Data Assets Policy
https://hdl.handle.net/10568/113623

Open Access & Open Data Policy

The emphasis of the CGIAR Open Access and Data Management Policy is on **final research outputs** – those information products that are "stable" and unlikely to undergo further change.

This includes, for example:

- Peer-reviewed versions of journal articles
- Reports and other papers
- Books and book chapters
- Data and databases
- Video, audio, images
- Computer software/applications/code

Repositories

Institutional repositories for knowledge products

Documents & Digital Assets

Dataset

Institutional repositories

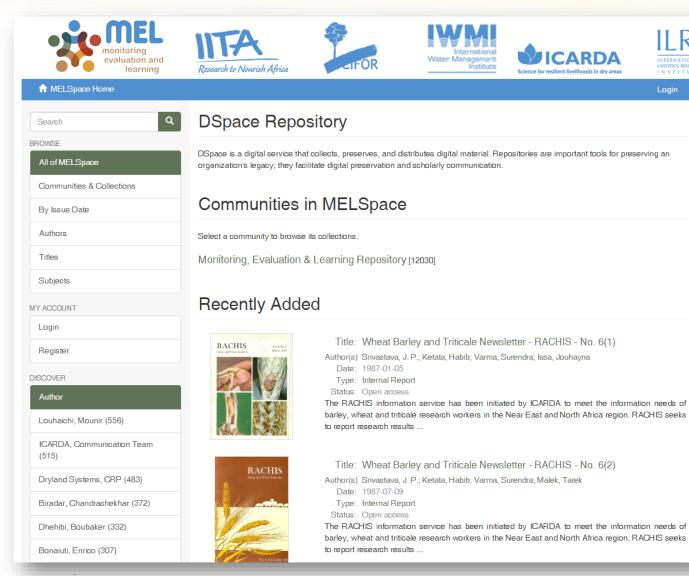E.g., MELSpace, CGSpace, WorldFish Repository

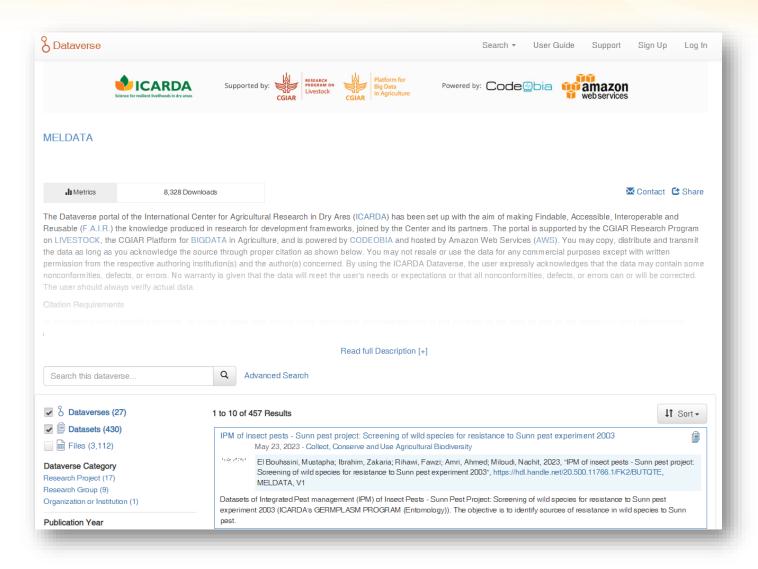E.g., MELData, Harvard Dataverse, IITA CKAN

ICARDA's MEL DSpace

MELSpace

- Based on DSpace

- It collects, preserves, and distributes digital material from ICARDA and other Centers

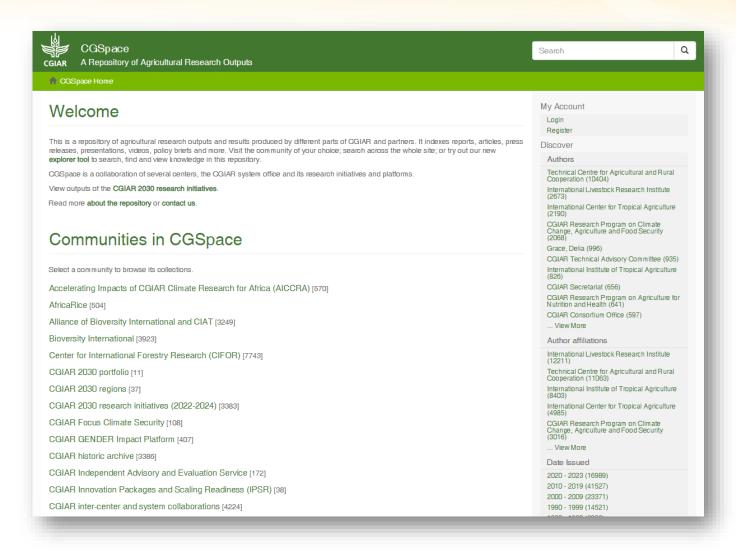https://repo.mel.cgiar.org/

ICARDA's MEL Dataverse

MELData

- Based on Dataverse
- Aims to make research knowledge FAIR
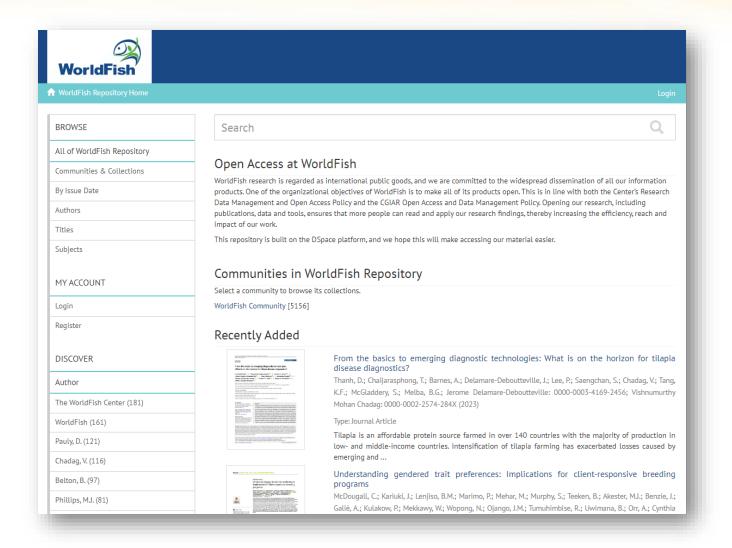
https://data.mel.cgiar.org/

CGSpace

CGSpace

- Based on DSpace

- Repository for agricultural research outputs and results from various CGIAR centers, partners, initiatives, and platforms

https://cgspace.cgiar.org/

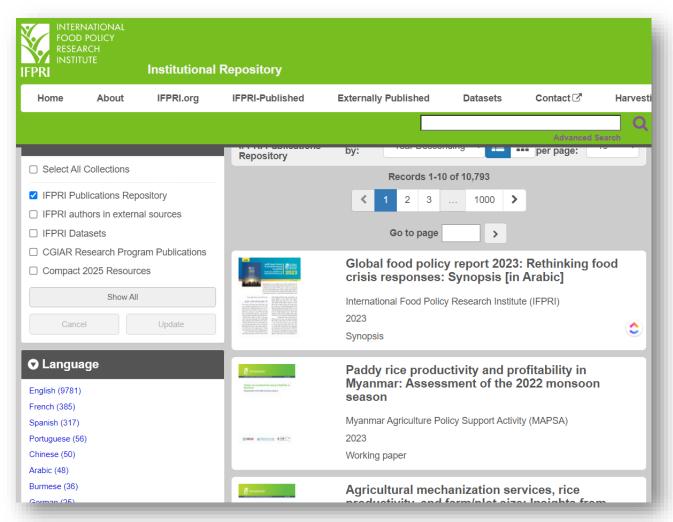# WorldFish Repository

WorldFish Repository

- Based on DSpace

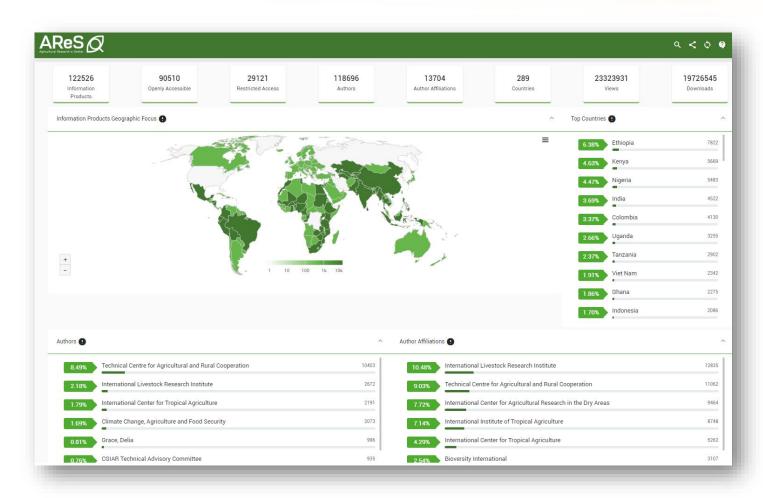- It focuses on preserving the Centers' knowledge products

EBrary

EBrary

- Based on CONTENTdm

- It focuses on preserving the Centers' knowledge products

https://ebrary.ifpri.org/digital/

AReS, the Agricultural Research e-Seeker

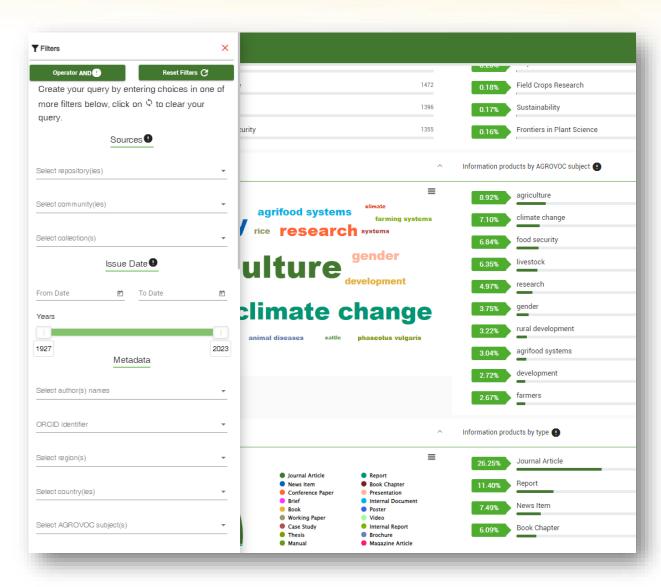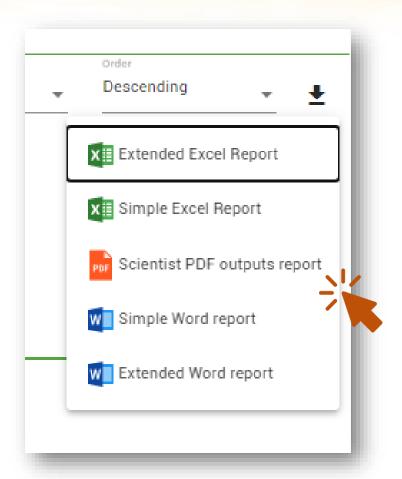**AReS**

- The agricultural research-seeker (AReS)

- A tool to explore and visualizes Dspace repositories (CGSpace, MELSpace, WorldFish Repository)

https://cgspace.cgiar.org/explorer/
https://github.com/icarda-git/AReS

AReS, the Agricultural Research e-Seeker

https://hdl.handle.net/10568/110527
https://hdl.handle.net/10568/110528

CG Core metadata schema
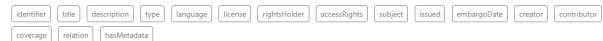
CGIAR

CG Core Metadata Reference Guide

This page provides a list of the metadata elements that are used in the CG Core metadata schema. The CG Core metadata schema is an application profile and is built from existing standards as much as possible. It is an effort led by the Big Data Platform Metadata Working Group of the CGIAR.

The CG Core aims to describe all types of information products that are published by the different CGIAR centres. There are many benefits of having a clear and harmonised way to describe information products:

- better interoperability
- better transparency
- easy monitoring

This document provides guidelines on how to use the CG Core metadata schema and provides examples on how to use it. An RDF version of the application profile will be available soon.

Metadata Properties

| identifier | title | description | type | language | license | rightsHolder | accessRights | subject | issued | embargoDate | creator | contributor |

| coverage | relation | hasMetadata |

Quick Jump

- Metadata Properties
- Metadata Classes
  - Concept
  - Contributor
  - Coverage
  - Creator
  - Scientific Publication

identifier

Identifier	http://purl.org/dc/terms/identifier
Definition	An unambiguous reference to the resource within a given context.
Comments	Recommended best practice is to identify the resource by using a DOI or an handle
Examples	

title

Identifier	http://purl.org/dc/terms/title
Definition	A name given to the resource
Comments	Follow standard title formatting for capitalization and punctuation.
Examples	• Managing for timber and biodiversity in the Congo basin • A 2007 Social Accounting Matrix for China • 2012 Global Hunger Index Data

language — Property

Identifier	http://purl.org/dc/terms/language
Definition	A language of the resource.
Comments	ISO 639-2 (alpha-3)
Examples	eng

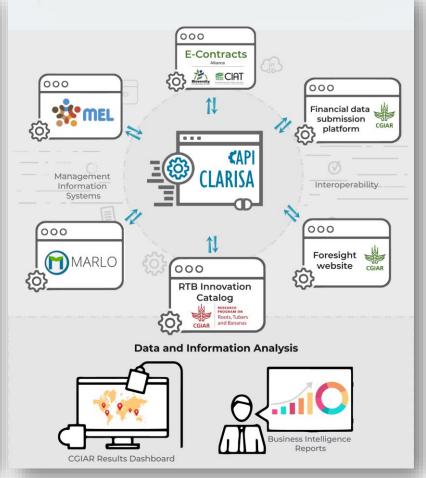https://agriculturalsemantics.github.io/cg-core/cgcore.html#

CG Core metadata schema

CGIAR

Information Products

This page provides the description of the information product types recommended by the CG Core metadata schema

Return to CG Core main page.

Types of Information Product

| KOS | Data file | Database | Dataset As A Collection Of Data | geospatial raster file | geospatial vector file | Manual | Website | Software | Image | Audio |

| Brochure | directive document | Legal Document | Technical Report | Source Code | Standard | News Item | post | Press Item | Working Paper | Map |

| Journal (full) | Journal Article | Poster | Other | Video | Video Recording | Newsletter | Infographic | Newspaper | Research Report | Book |

| Book Chapter | Conference Paper | Conference Proceedings | Magazine Article | Personal Communication | Financial Report | Presentation | Thesis |

KOS

KOS	
Identifier	http://purl.org/cg/terms/KOS
Definition	Super-type for any kind of knowledge organisation system such as taxonomies, ontologies, subject heading
Comments	wikipedia
Examples	

Data file

Data file	
Identifier	http://purl.org/cg/terms/Data_file
Definition	A digital item containing information in computer-readable form encoded in a particular format.
Comments	FaBiO
Examples	

Journal Article

Journal Article	Class
Identifier	http://purl.org/cg/terms/Journal_Article
Definition	An article, typically the realisation of a research paper reporting original research findings, published in a journal issue.
Comments	FaBiO
Examples	

https://agriculturalsemantics.github.io/cg-core/cgcore.html#

CLARISA's to support information management within One CGIAR

https://clarisa.cgiar.org/
https://hdl.handle.net/10568/119221
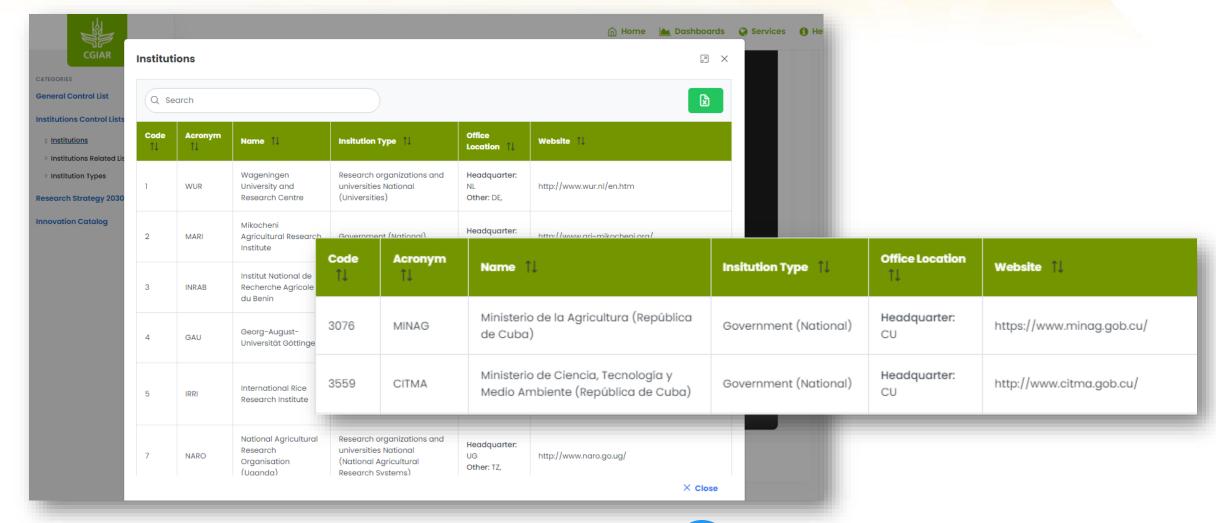
An example of CLARISA's control lists

https://clarisa.cgiar.org/clarisa-panel/documentation/One_CGIAR_Control_List/Institutions_Control_Lists/Institutions

Quality assurance for CGIAR publications & FAIR compliance

Quality of Research for Development in CGIAR

CGIAR elaborated in 2017 on the **Quality of Research for Development (Qo4RD) framework** to facilitate system-wide agreement on the nature and assessment of the **Quality of Science**.

QoR4D consists of **4 key elements**:

- Relevance
- Scientific credibility
- Legitimacy
- Effectiveness

Relevance—refers to the importance, significance, and usefulness of the research objectives, processes, and findings to the problem context and to society and is associated with CGIAR's comparative advantage to address the problems.

Scientific Credibility—requires that research findings be robust and that sources of knowledge be dependable and sound. It recognizes the importance of good scientific practice, such as peer review.
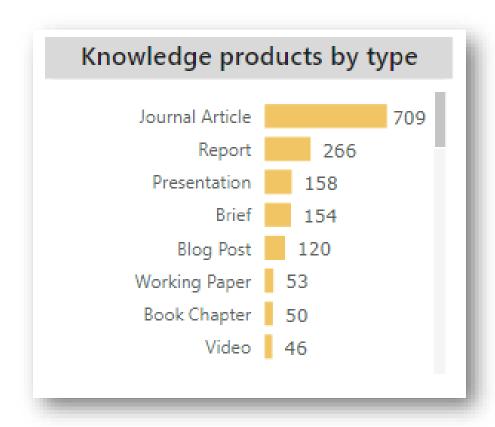
Legitimacy—means that the research process is fair and ethical and perceived as such. It recognizes the genuine involvement of partners in co-design, and recognition of partners' contributions.

Effectiveness—means that research generates knowledge, products, and services with high potential to address a problem and to contribute to innovations and solutions.

https://iaes.cgiar.org/isdc/QoR4D
https://doi.org/10.1177/00307270211024271

Scientific credibility

Knowledge products by type

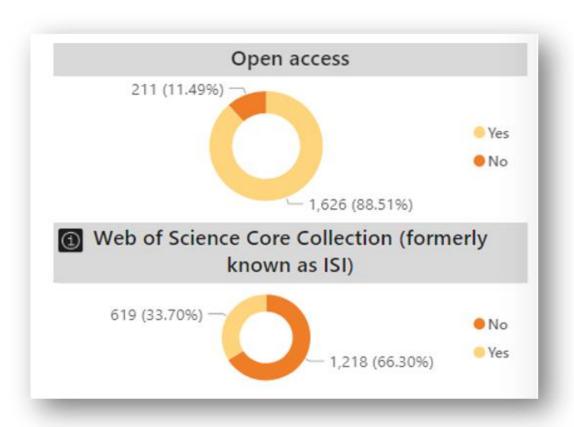|	
Journal Article	709
Report	266
Presentation	158
Brief	154
Blog Post	120
Working Paper	53
Book Chapter	50
Video	46

Journal article is one of the knowledge product type used as a **traditional way to monitor and measure output quality**.

Quality Assurance for CGIAR publications

CGIAR undertakes a yearly **quality assurance process** for **journal articles**, one of CGIAR's most valuable indicators.

- **Peer-reviewed** status

- **Open Access** status

- Indexing in the **Web of Science Core Collection (formerly known as ISI)**

Open access
211 (11.49%)
Yes
No
1,626 (88.51%)

Web of Science Core Collection (formerly known as ISI)
619 (33.70%)
No
Yes
1,218 (66.30%)
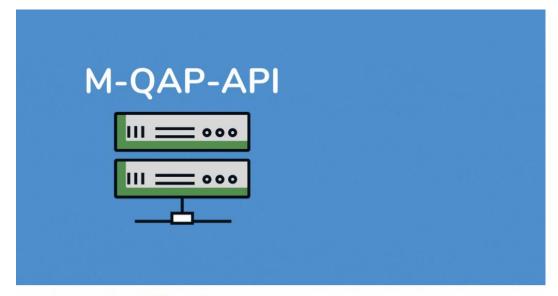
Quality Assurance for CGIAR publications

In the past, CGIAR Quality Assurance (QA) process relied on the **manual check** of all publications, a time- and resource-consuming process that was not fully standardized.

In 2021, the **Monitoring, Evaluation, and Learning Quality Assurance Processor (M-QAP)** was developed and integrated into CGIAR services

https://hdl.handle.net/20.500.11766/13115
https://hdl.handle.net/20.500.11766/66480

M-QAP-API

Monitoring, Evaluation, and Learning Quality Assurance Processor (M-QAP)

The tool enables an **automated, reproducible, reliable, and rapid way to assess the indexing** in the Web of Science Core Collection and Open Access status of thousands of publications.

It also retrieves data from other services (e.g., Altmetric Attention Scores), thanks to the integration with different **application programming interfaces (APIs)**.
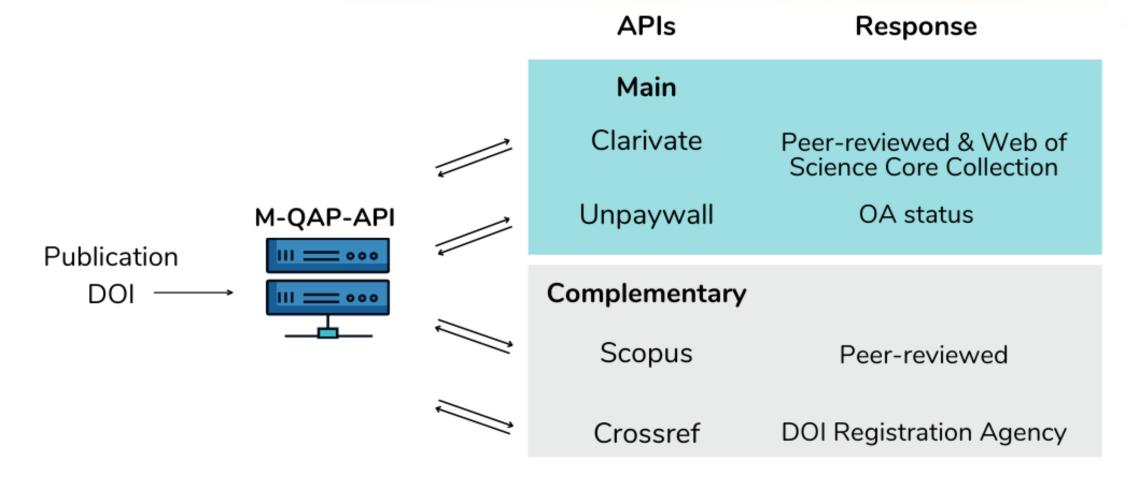
Monitoring, Evaluation, and Learning Quality Assurance Processor (M-QAP)

https://github.com/icarda-git/M-QAP
https://github.com/icarda-git/M-QAP-API
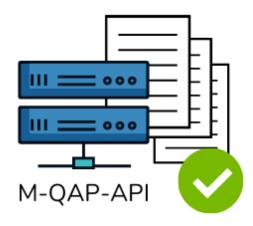
Monitoring, Evaluation, and Learning Quality Assurance Processor (M-QAP)

2,500+ ARTICLES ASSESSED

≈90% AUTOMATICALLY VALIDATED AS **WEB OF SCIENCE CORE COLLECTION**

≈80% AUTOMATICALLY VALIDATED AS **OA**

M-QAP-API

M-QAP in 2022

For the CGIAR reporting process in 2022, **M-QAP allowed to retrieve of metadata from all knowledge product types, not only peer-reviewed publications, from CGSpace** – the *ad interim* repository for CGIAR Initiatives – through **handles** and showed the metadata in the **Performance and Results Management System (PRMS)**

PRMS is a framework employed by CGIAR to monitor, assess, and manage the performance and outcomes of its research programs, facilitating effective planning, evaluation, and reporting processes.
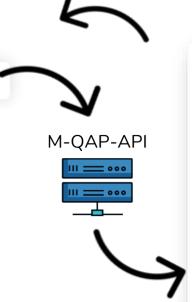
M-QAP in 2022

PRMS Reporting Tool

Handle:

https://cgspace.cgiar.org/handle/10568/125502

M-QAP-API

CGSpace

Carbon benefits of enlisting nature for crop protection

Share

Citation
Wyckhuys, Kris A.G.; Furlong, Michael, J.; Zhang, Wei and GC, Yubak D. 2022. Carbon benefits of enlisting nature for crop protection. Nature Food 3:299–301. https://doi.org/10.1038/s43016-022-00510-1

Permanent link to cite or share this item: https://hdl.handle.net/10568/125502
DOI: https://doi.org/10.1038/s43016-022-00510-1

CGIAR Author ORCID iDs
Wei Zhang https://orcid.org/0000-0002-2933-6275

Notes
Mitigate+: Research for Low-Emission Food Systems

CGIAR Action Areas
Systems Transformation

CGIAR Impact Areas
Nutrition, health and food security

CGIAR Initiatives
Low-Emission Food Systems

Other CGIAR Affiliations
Climate Change, Agriculture and Food Security

AGROVOC Keywords
carbon; plant protection; pest control; pesticides; financing; sustainability

Authors
Wyckhuys, Kris A.G.
Furlong, Michael J.
Dhoj, Yubak
Wei Zhang

Date Issued
2022-05

Language
en

Type
Journal Article

Review status
Peer Review

ISI journal

Metadata considered for CGIAR reporting

CGSpace metadata	Relevance for reporting
Title	To identify the knowledge product and report on FAIR* in compliance with CGIAR Open and FAIR Data Assets Policy
Description/Abstract	
Authors	To report on FAIR (Findable, Accessible, Interoperable, and Reusable) in compliance with CGIAR Open and FAIR Data Assets Policy
ORCID (Open Researcher and Contributor ID)	
License	
Keywords	
Reference to other knowledge products	

Metadata considered for CGIAR reporting

CGSpace metadata	Relevance for reporting
Author(s)' affiliation(s)	To identify partnerships
Country and Region	To provide an overview on where the research took place and link it with other results
Handle	To univocally identify the knowledge product, retrieve the metadata, and report on FAIR* in compliance with CGIAR Open and FAIR Data Assets Policy
Issue date	To ensure the reported output is from the correct reporting year and report on FAIR* in compliance with CGIAR Open and FAIR Data Assets Policy
Knowledge product type	To support statistics and Result Dashboard on reported knowledge products

Metadata considered for CGIAR reporting

CGSpace metadata	Relevance for reporting
DOI (Digital Object Identifier)	To query and allow metadata retrieval from external services (e.g., Web of Science, Scopus, Altmetric). Applicable only to Journal Articles.
Accessibility	To report on Open Access and FAIR* in compliance with CGIAR Open and FAIR Data Assets Policy
Funding source	To provide the link to investors and sponsors

Quality Assurance

CGIAR

Issue date (CGSpace):

2023

Issue date (WoS):

2023

Authors:

Velpuri, Naga Manohar   Mateo-Sagasta, Javier   Orabi, Mohamed O.M.

Knowledge product type:

Journal Article

Peer reviewed (CGSpace):

Yes

Peer reviewed (WoS):

Yes

Web of Science Core Collection (former ISI) (CGSpace):

Yes

Web of Science Core Collection (former ISI) (WoS):

Yes

FAIR scores

FAIR score for this knowledge product:

Description: *FAIR (findability, accessibility, interoperability, and reusability) scores are calculated based on the presence or absence of metadata in the CGSpace repository. If you wish to improve these scores, please liaise with your Center librarian.*

33% F

F1 - The knowledge product is retrievable through its handle
F2 - The knowledge product is described by rich metadata
F3 - At least one author is linked through their ORCID

100% F

100% A

A1 - Metadata are retrievable through the handle

100% A

50% I

I1 - Metadata contain AGROVOC keywords
I2 - Metadata include qualified references to other (meta)data

100% I

0% R

R1 - The knowledge product is Open Access (OA) and has a clear and accessible usage license

100% R

Knowledge products reporting in CGIAR
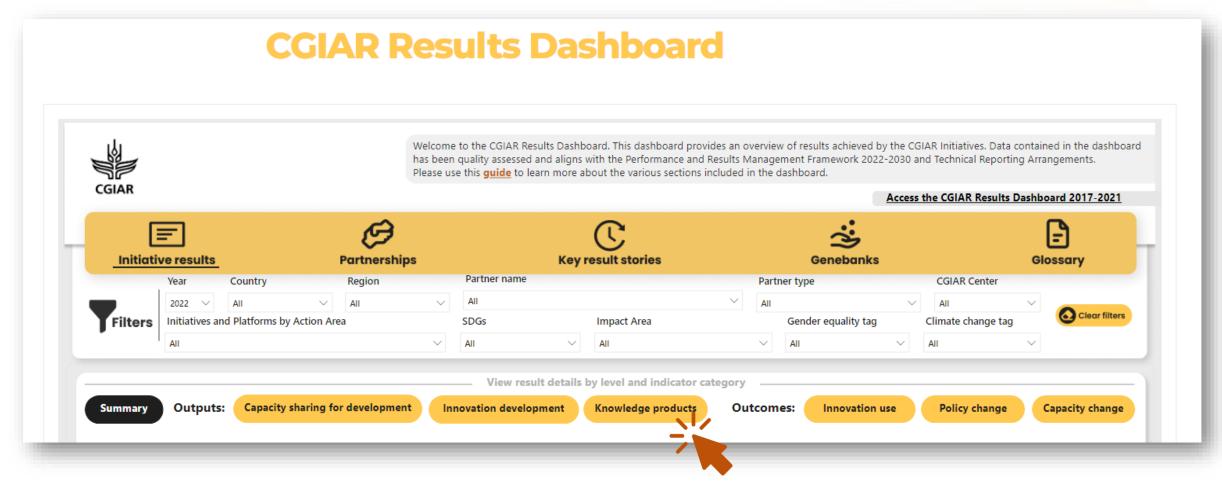
CGIAR research generates a variety of research outputs and knowledge products that are preserved and publicly accessible through different **repositories**.

PRMS plays a key role in **tracking and monitoring the progress and outcomes of research activities across different stages**, and it also provides a centralized **Results Dashboard** for collating and presenting relevant data.

CGIAR Results Dashboard

https://www.cgiar.org/food-security-impact/new-results-dashboard/
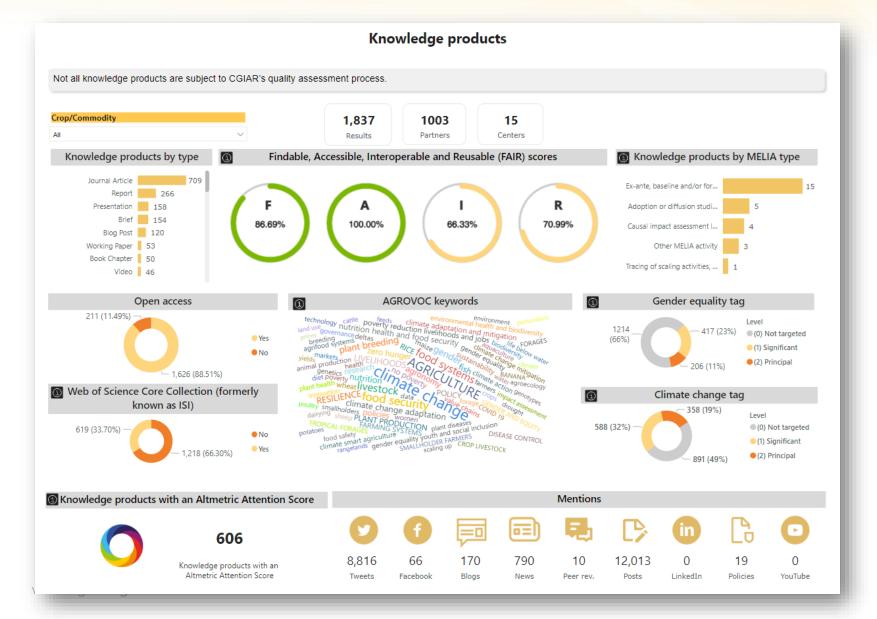
CGIAR Results Dashboard

- By type
- FAIR scores
- Open Access
- Web of Science Core Collection
- AGROVOC Keywords
- Altmetric Attention Score
- Mentions

Now
5 minutes break

Big Data in Agriculture Platform

Big Data in Agriculture Platform

Years: 2017-2021

Goal: harness the capabilities of big data to accelerate and enhance the impact of international agricultural research

https://bigdata.cgiar.org/

Ontologies in CGIAR

Ontologies Community of Practice (CoP)
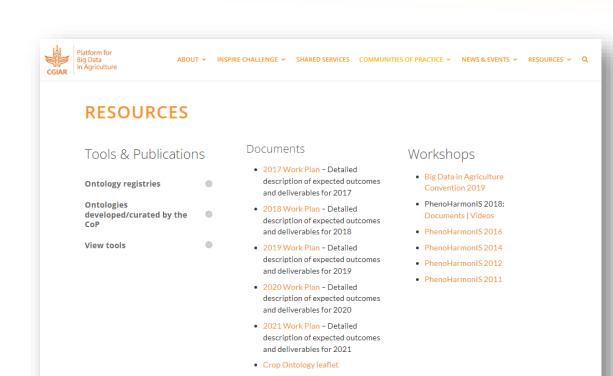
Goal: bring together researchers, modelers, information specialists, data managers, and ontology experts from the CGIAR research network, academia, and the private sector, creating expertise to tackle the major issues related to semantics for FAIR data in agri-food science.
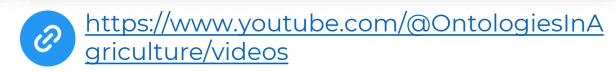
https://bigdata.cgiar.org/communities-of-practice/ontologies/

Ontologies in CGIAR

https://bigdata.cgiar.org/communities-of-practice/ontologies/

https://www.youtube.com/@OntologiesInAgriculture/videos
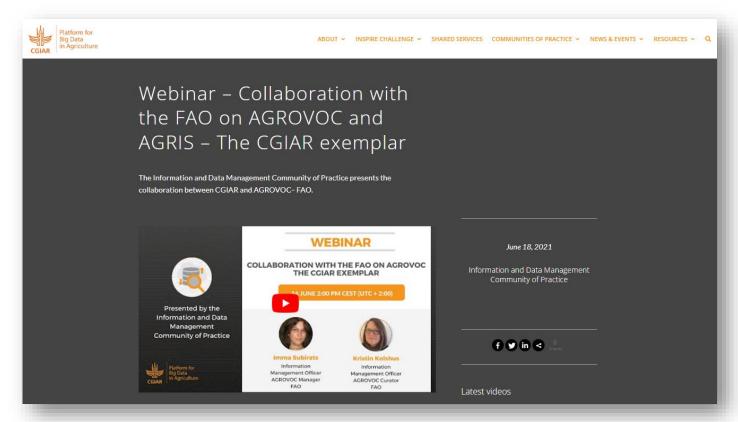
Ontology Working Group

Within the Ontology CoP there is the **CGIAR AGROVOC Task Group**. This collaboration between CGIAR and AGROVOC Thesaurus, led by FAO, aimed to enhance data sharing in the food and agricultural sector.

https://bigdata.cgiar.org/blog-post/webinar-collaboration-with-the-fao-on-agrovoc-and-agris-the-cgiar-exemplar/

Collaboration between CGIAR & FAO for AGROVOC and AGRIS

CGIAR & FAO: a collaboration on information about food and agriculture

The FAO-CGIAR collaboration aims to foster **synergy and cooperation between** the two organizations in addressing **global food and agricultural challenges**.

Increasing Interoperability Between Food and Agricultural Systems: CGIAR & FAO Collaboration

Task Group and Curation Team Report

November 2021

"If agriculture is going to take advantage of the digital revolution, it's critical that data resources can talk to each other through ontologies and standards – this is a necessary foundation before anything can meaningfully progress. Bringing CGIAR and FAO together ensures two major players in agricultural research and development are promoting common standards and approaches, for ourselves and for our large partner networks" – **Andy Jarvis, DDG Research Alliance Bioversity-CIAT**

"FAO acts as a catalyst and a platform for leveling the playing field so that countries can make evidence-based decisions on the most appropriate technologies and innovations to adopt and adapt in sustaining their food security and nutrition. FAO can only achieve this by collaborating with the global scientific community of experts such as the CGIAR" - **Ismahane Elouafi, Chief Scientist at FAO**

https://hdl.handle.net/10568/116236

The AGROVOC Thesaurus

What is AGROVOC?

- It is a **thesaurus** or **controlled vocabulary** covering all areas of interest of FAO.

- One of the **world's most used thesauri in food and agriculture**, in use since the early 1980s.

- It is **multilingual**, so it helps make data and research more visible, especially beyond English.

CGIAR

What is AGROVOC?

https://www.youtube.com/watch?v=F_Db0fNfyNk&t=2s
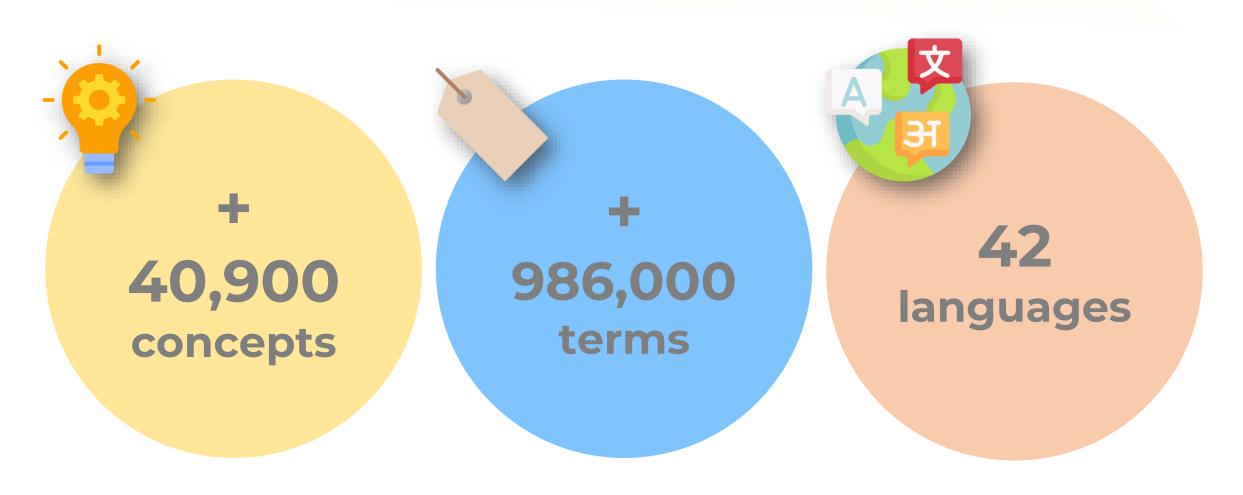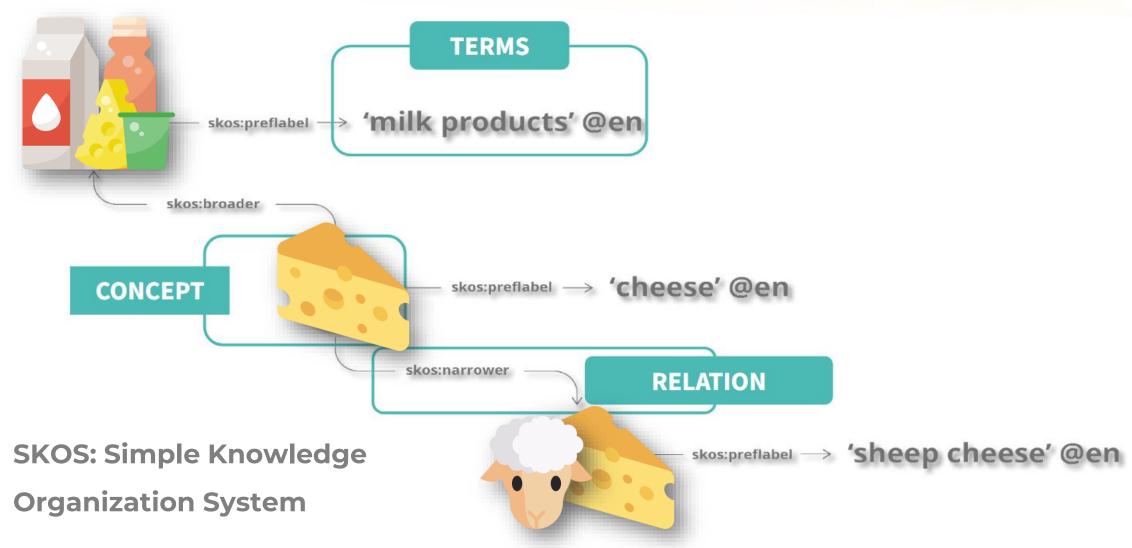
AGROVOC in numbers

+
40,900
concepts

+
986,000
terms

42
languages
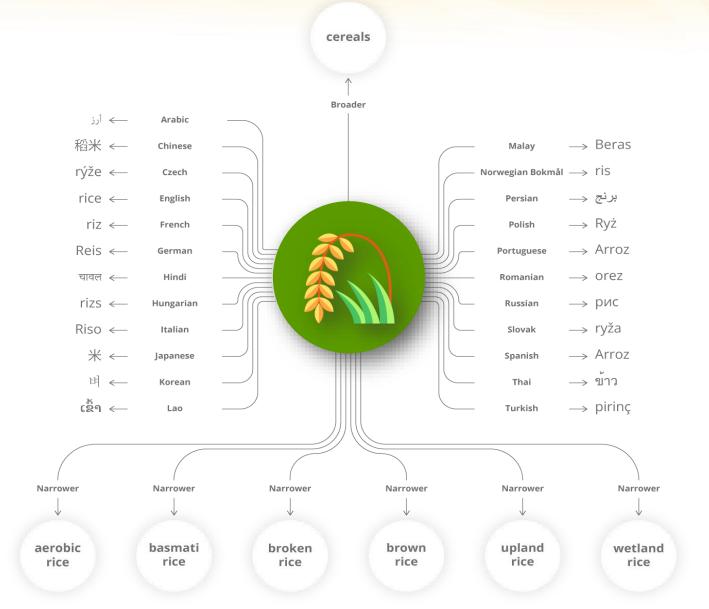
AGROVOC's conceptual model

TERMS

skos:preflabel → 'milk products' @en

skos:broader

CONCEPT

skos:preflabel → 'cheese' @en

skos:narrower

RELATION

skos:preflabel → 'sheep cheese' @en

SKOS: Simple Knowledge Organization System

Using AGROVOC
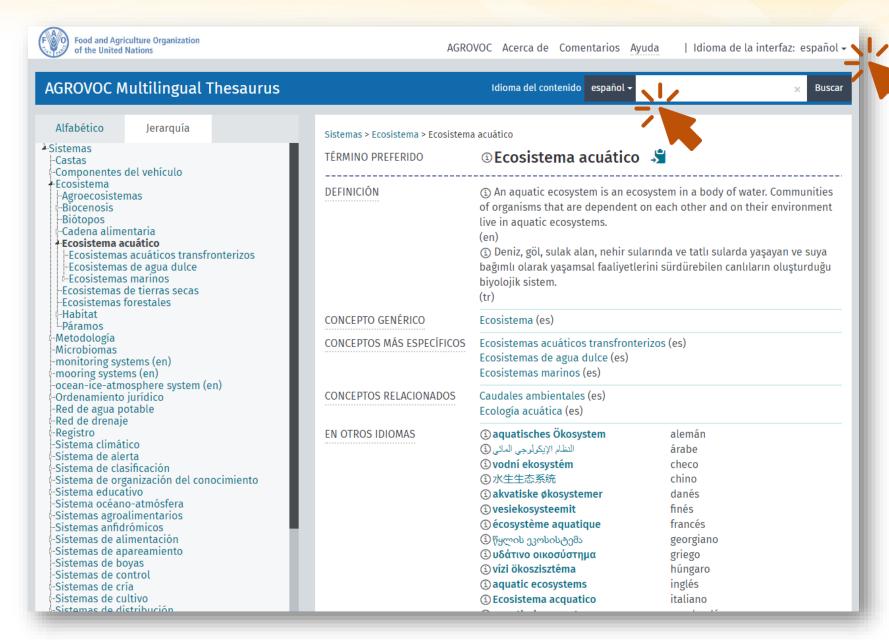
https://agrovoc.fao.org/browse/agrovoc/en/
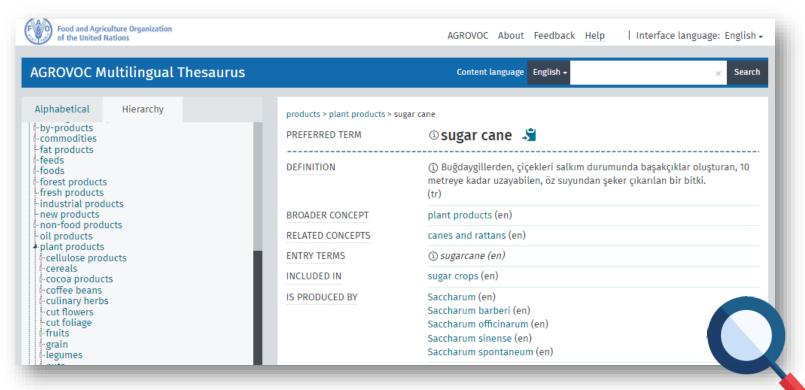
- Users can change the **interface language**
- Users can search for **content in different languages**

AGROVOC is also available in Spanish

Using AGROVOC

- **Preferred term**
- **Definition** (with source)
- **Broader concept**
- **Related concepts**
- **Entry term** (alternative name/label for the concept)

Using AGROVOC

- Terms for the concept in **other languages**
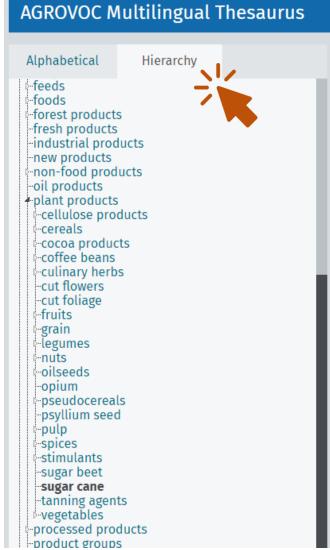
- **Unique resource identifier (URI)** (e.g., http://aims.fao.org/aos/agrovoc/c_7501)

- **Closely & exactly matching concepts**

Using AGROVOC

CLOSELY MATCHING CONCEPTS

http://dbpedia.org/resource/Rice — dbpedia.org

http://purl.org/bncf/tid/17341 — purl.org

http://purl.org/bncf/tid/38716 — purl.org

EXACTLY MATCHING CONCEPTS

http://d-nb.info/gnd/4049271-0 — d-nb.info

http://eurovoc.europa.eu/3732 — eurovoc.europa.eu

http://id.loc.gov/authorities/subjects/sh85113862 — id.loc.gov

http://lod.nal.usda.gov/nalt/56293 — lod.nal.usda.gov

http://www.eionet.europa.eu/gemet/concept/7214 — www.eionet.europa.eu

http://zbw.eu/stw/descriptor/14095-0 — zbw.eu

Using AGROVOC

- **Browse by alphabetic or hierarchical order**

AGROVOC's editorial community

Including **CGIAR Task Group**

Why is AGROVOC important?

- Streamlines data search and retrieval
- Improves interoperability
- Enhances metadata description
- Standardizes terminology
- Increases visibility of research

AGROVOC is a valuable tool for data to be classified homogeneously, facilitating interoperability and reuse.

CGIAR

AGROVOC is important for data sharing

- To share data, a **shared understanding of the meaning and unambiguous terminology** is needed

- It helps make information to be **findable, accessible, interoperable, and reusable (FAIR)**

Use of AGROVOC in CGIAR

- Recommended by the **CGIAR Metadata Schema**
- **Used by all CGIAR repositories** as a source of keywords
- Important **contribution** of some CGIAR centers **to AGROVOC**

https://hdl.handle.net/20.500.11766/66547

How does CGIAR help to add concepts and labels to AGROVOC?
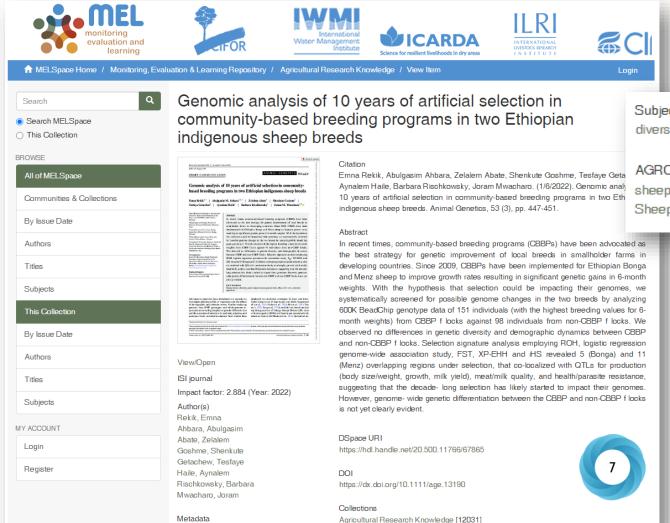
In June 2021, FAO started cooperation with CGIAR to join forces to increase interoperability between food and agricultural information systems.

This collaboration has brought mutual benefits and **strengthened the awareness of AGROVOC within CGIAR**, while **FAO has benefited from the field experts contributing to current research terminology in subjects** related to the FAO's work.

Use of AGROVOC in CGIAR: MELSpace
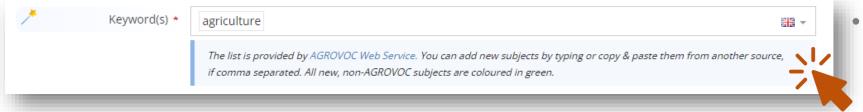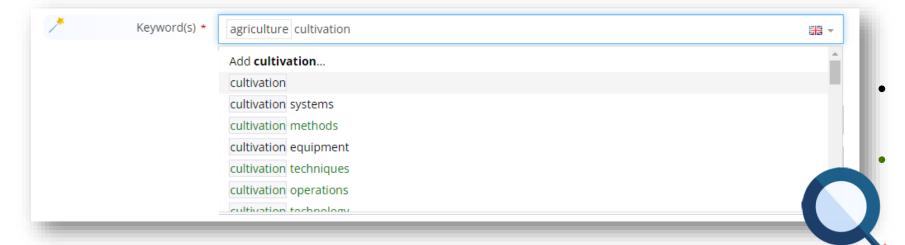
Use of AGROVOC in ICARDA's Monitoring, Evaluation and Learning (MEL) platform

- Data input for knowledge products integrating **AGROVOC Web Service**

- **In black AGROVOC keywords**
- **In green non-AGROVOC**

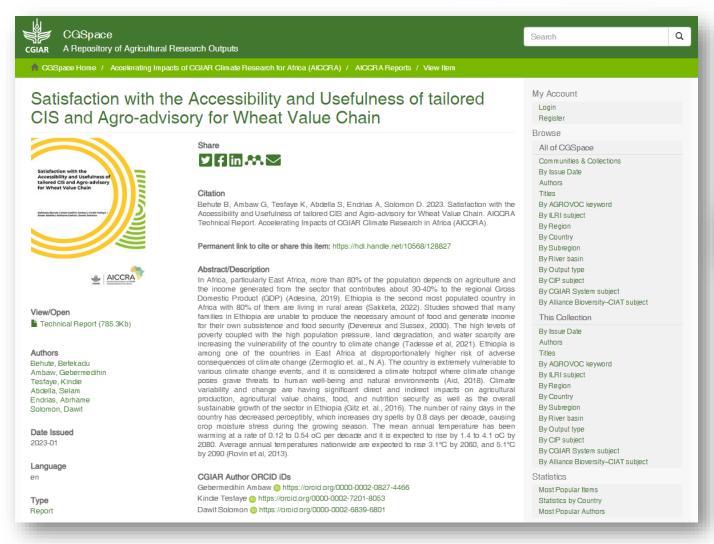# Use of AGROVOC in ICARDA's Monitoring, Evaluation and Learning (MEL) platform

MEL
monitoring evaluation and learning

'Keywords intelligence'

Subjects

+ AGROVOC   Export Subjects

| 10 | records |

Search: [   ]

ID	Keyword	Type	Language	Usage Count	Actions
33	capacity development		🇬🇧	2057	
1	agriculture		🇬🇧	2006	
38466	zero hunger		🇬🇧	1887	
211	nutrition		🇬🇧	1661	
38465	no poverty		🇬🇧	1459	
112	food security		🇬🇧	1339	
20581	gender equality		🇬🇧	1237	

https://www.youtube.com/watch?v=NuyqP2lHF00&t=5s

Use of AGROVOC in CGIAR: CGSpace

AGROVOC keywords for FAIR score

CGIAR

FAIR score for this knowledge product:

FAIR (findability, accessibility, interoperability, and reusability) scores are calculated based on the presence or absence of metadata in the CGSpace repository. If you wish to improve these scores, please liaise with your Center librarian.

67%
F

F1 - The knowledge product is retrievable through its handle
F2 - The knowledge product is described by rich metadata
F3 - At least one author is linked through their ORCID

100%
A

A1 - Metadata are retrievable through the handle

50%
I

I1 - Metadata contain AGROVOC keywords
I2 - Metadata include qualified references to other (meta)data

100%
R

R1 - The knowledge product is Open Access (OA) and has a clear and accessible usage license

Interoperability: higher score if metadata contains AGROVOC keywords

50%
I

I1 - Metadata contain AGROVOC keywords
I2 - Metadata include qualified references to other (meta)data

100%
I

I1 - Metadata contain AGROVOC keywords
I2 - Metadata include qualified references to other (meta)data

How does CGIAR help to add concepts and labels to AGROVOC?

Workflow

1. Each center submits its keywords unmatched with AGROVOC through their repositories or other means and includes them in a "shared template" file
2. ICARDA's curators review the file to remove any duplicates
3. The team at FAO behind AGROVOC reviews and add comments on the file
4. Curators work on the file
5. The team at FAO behind AGROVOC adds keywords to AGROVOC, rejects or open a discussion

https://hdl.handle.net/20.500.11766/67502

CGIAR contribution to AGROVOC

Vocabulary information

TITLE	One CGIAR
CREATED	Wednesday, November 17, 2021 16:20:22
LAST MODIFIED	Tuesday, June 6, 2023 08:24:42
TYPE	http://www.w3.org/2004/02/skos/core#ConceptScheme
SKOSXL:PREFLABEL	http://aims.fao.org/aos/agrovoc/xl_en_c9169c19
URI	http://aims.fao.org/aos/agrovoc/conceptScheme_5b05e545

Resource counts by type

Type	Count
Concept	369

Term counts by language

Language	Preferred terms	Alternate terms	Hidden terms
Arabic	175	12	0
Catalan	4	0	0
Czech	98	8	0
Danish	21	1	0
German	96	9	0
Greek	3	2	0
English	369	89	0
Spanish	332	28	0

CGIAR contribution to AGROVOC

entities > legislation > regulations > phytosanitary regulations

PREFERRED TERM · phytosanitary regulations

DEFINITION
① Ensemble de règlements officiels visant à prévenir l'introduction ou la dissémination d'organismes de quarantaine, ou à limiter les effets économiques des organismes réglementés non de quarantaine, notamment l'établissement de procédures pour la certification phytosanitaire.
(fr)
① Norma oficial para prevenir la introducción o dispersión de las plagas cuarentenarias o para limitar las repercusiones económicas de las plagas no cuarentenarias reglamentadas, incluido el establecimiento de procedimientos para la certificación fitosanitaria.
(es)
① Official rule to prevent the introduction or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests, including establishment of procedures for phytosanitary certification.
(en)
① القواعد الرسمية التي تمنع دخول و/أو انتشار الآفات الحجرية، أو تحد من الاقتصادية للآفات غير الحجرية الخاضعة للوائح، بما في ذلك تحديد تدابير إصدار شهادات الصحة النباتية.
(ar)
① Официальное правило по предотвращению интродукции или распространения карантинных вредных организмов или ограничению экономического воздействия регулируемых некарантинных вредных организмов, в частности – установление процедур по фитосанитарной сертификации.
(ru)
① 为防止检疫性有害生物的传入或扩散或者限制限定非检疫性有害生物的经济影响而作出的官方规定，包括制定植物检疫验证程序。
(zh)

URI: http://aims.fao.org/aos/agrovoc/c_a2504283

methods > techniques > genetic techniques > genome annotation

PREFERRED TERM · genome annotation

DEFINITION
① Genome annotation is the process of deriving the structural and functional information of a protein or gene from a raw data set using different analysis, comparison, estimation, precision, and other mining techniques.
(en)

URI: http://aims.fao.org/aos/agrovoc/c_cc3ab4c4

CGIAR contribution to AGROVOC

URI: http://aims.fao.org/aos/agrovoc/c_517936a9

URI: http://aims.fao.org/aos/agrovoc/c_462d329a

The AGRIS programme

What is AGRIS?

AGRIS is the **international information system for agricultural sciences and technology**. It became operational in **1975**.

AGRIS collects bibliographic information from around the world on **scientific, technical and socioeconomic publications on various topics related to food and agriculture**.
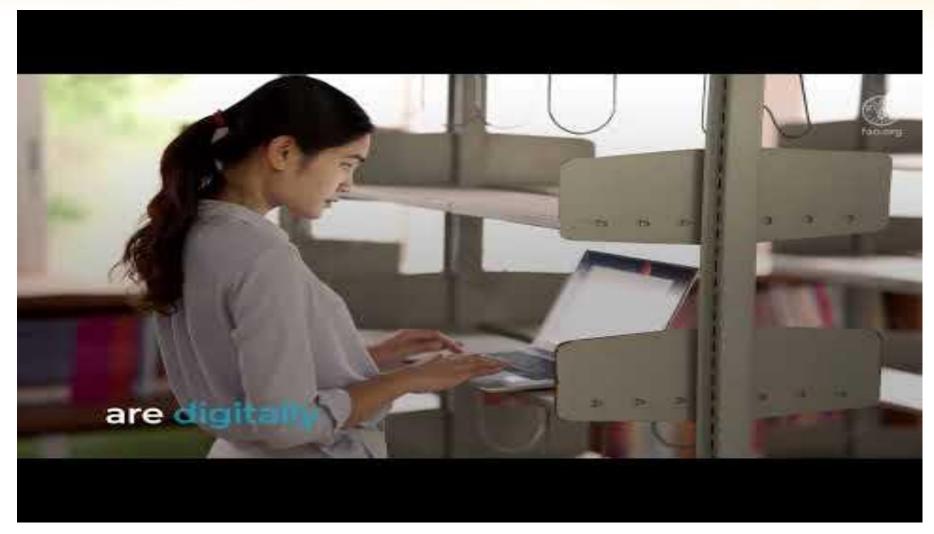
The subject scope of AGRIS coincides with the scope of FAO and covers multiple thematic areas (https://www.fao.org/themes/en/).

AGRIS

Sistema Internacional para la Ciencia y Tecnología Agrícola

https://www.fao.org/agris/

What is AGRIS?

https://www.youtube.com/watch?v=y3Q3SSlA_pw

What is AGRIS?

AGRIS
Network

AGRIS
Database

AGRIS
Users

more than
13.5 million
bibliographic records on food
and agricultural literature

AGRIS

CGIAR

The AGRIS Database

https://agris.fao.org/

The AGRIS Database

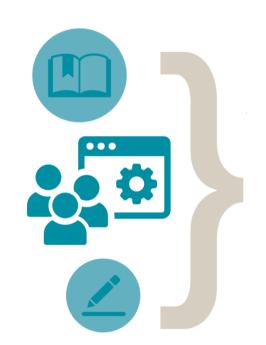https://agris.fao.org/

Why is AGRIS important?

AGRIS serves as a **global information system for agricultural research and innovation**.

It **facilitates the collection, management, and dissemination of agricultural information worldwide**.

AGRIS plays a vital role in **enhancing knowledge sharing, promoting collaboration, and supporting evidence-based decision-making in agriculture**.

Some AGRIS Data Providers in Cuba

AGRIS Network

- Centro de Investigaciones y Servicios Ambientales (ECOVIDA)
- Instituto de Investigaciones de Ingeniería Agrícola (IAgric)
- Instituto de Investigaciones Porcinas (IIP)
- Scientific Electronic Library Online Cuba (SciELO Cuba)

The collaboration with ICARDA

Since January 2022, FAO has been collaborating with the Monitoring, Evaluation and Learning (MEL) team from the International Center for Agricultural Research in Dry Areas (ICARDA) in the context of AGRIS.

The goal of this collaboration is to **join forces to promote the visibility and accessibility of scientific research and technical knowledge** related to food and agriculture through the knowledge programme AGRIS.

The collaboration with ICARDA

ICARDA's team supports activities in various capacities such as:

- facilitating the AGRIS network

- supporting knowledge exchange initiatives, capacity development and content curation

- acting as the focal point for data submission to AGRIS from CGIAR Centers.
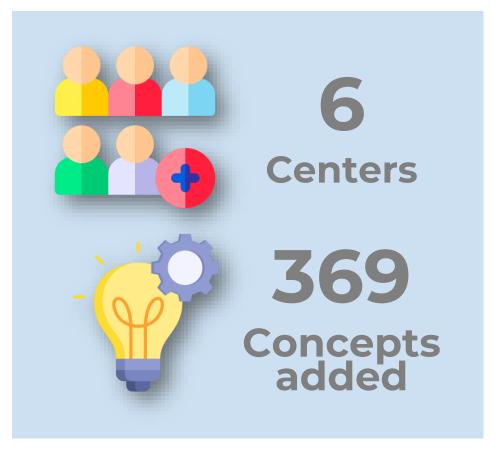
This collaboration benefits both parties by **expanding the visibility of CGIAR research** and **enriching the AGRIS database with valuable research and innovation for development**.
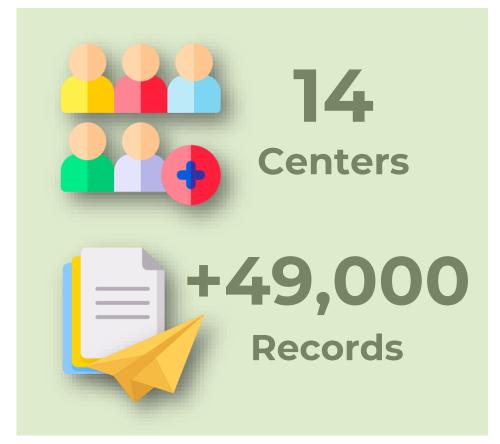
Thank you for the attention

CGIAR
Science for a food-secure future

Discussion

Credits
Photos: CGIAR Flickr
Icons: FlatIcon