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

## Why to collaborate?

To integrate the CGIAR controlled vocabulary to AGROVOC and interlink our networks by securing multilingual quality labeling an tagging of data sets and information products in the food and agricultural domain.

> *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

> *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. 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

## What is AGROVOC?

# AGROVOC

a **multilingual** online thesaurus about all domains in agriculture

**+39,600 concepts** with **+924,000 terms** in up to **41 languages** to date.

## Semantics for FAIR data

F FINDABLE    A ACCESSIBLE    I INTEROPERABLE    R REUSABLE

FAIR principles recommend to use **controlled vocabularies (thesaurus, ontologies)** that are widely accepted and applied by the community of the science domain to label data and tag information products.

## CGIAR full usage of AGROVOC ...

- **Recommended by** the CGIAR Metadata Schema
- **Used by 100%** of CGIAR repositories as a source of keywords
- Semantic Resource for the **Monitoring, Evaluation and Learning Systems**
- **ICARDA** provides major contribution with the **Arabic translation useful to partners**

## ... Limited contribution

- **Only 4 CGIAR centers** submit terms (ICARDA, IFPRI, CIFOR and WorldFish)
- Part of the CGIAR vocabulary is **hidden and isolated, cannot be reused**
- **CGIAR data managers are not trained** in use of AGROVOC term submission tools
- AGROVOC contribution is **not included in job description**

## An Official Agreement to

- Provide CGIAR with a **visibility as contributor** to AGROVOC and to its **stewardship role** in the development of semantics for agriculture
- Augment AGROVOC thesauri with **CGIAR domain vocabulary** to improve the interoperability of CGIAR metadata, across centers and domains
- **Build Capacity** of CGIAR Data managers in the maintenance of quality data description and interoperability
- Open more AGROVOC content to **Arabic-speaking countries** thanks to the translation done by ICARDA
- Train CGIAR trainers to support colleagues and partners to contribute and use AGROVOC
- Reduce the maintenance costs of domain specific terms

## First Actions

- A **Task Force** created in 2021 to define a collaboration framework leading to an official agreement about CGIAR contribution to AGROVOC
- Identify and test the CGIAR **concept submission workflow**
  - ☐ Creation of a **Curation team**
  - ☐ **Extracting most used CGIAR concepts** from repositories and Monitoring and Learning System
  - ☐ **Training** in basics of the AGROVOC submission process

*" Much of the world's research is not published in English and may not be easily discoverable. Adding new translated terms is a contribution to making research and datasets more discoverable, and to making national research more visible and accessible*

AGROVOC: Semantic data interoperability on food and agriculture, FAO, 2021

## Result

- 37 fully defined CGIAR concepts integrated into AGROVOC in November 2021
- An **online One CGIAR concept sub-schema** created for the visualization of the **CGIAR terms** integrated in AGROVOC.

**https://agrovoc.fao.org/skosmosOneCGIAR/cgiar/en/**

## Task Force Members

**Co-chairs:** Olatunbosun Obileye (IITA), Elizabeth Arnaud (Alliance Bioversity-CIAT)
**Members**: Enrico Bonaiuti, Sara Jani (ICARDA), Soonho Kim, Erica Saito (IFPRI), Marie-Angélique Laporte (Alliance Bioversity-CiAT), Jacqueline Muliro (WorldFish), Abenet Yabowork (ILRI), Kristin Kolshus, Imma Subirats (FAO)

## Test curation Team

**Conveners:** Sara Jani, Asma Jeitani (ICARDA)
**Members:** Maria Garruccio (Alliance Bioversity-CIAT), Araceli Zúñiga Tolentino, Jesus Herrera de la Cruz (CIMMYT), Erica Saito (IFPRI), Abenet Yabowork (ILRI), Hafeez Adepoju (IITA), Rasika Thushantha, Yamuna Udumalagala, Udana Ariyawansa (IWMI), Saadiah Ghazali (WordFish)

CGIAR — Platform for Big Data in Agriculture

Food and Agriculture Organization of the United Nations