



CGIAR



Science for resilient livelihoods in dry areas



CGIAR task group experiences

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5th Annual AGROVOC Editorial Community Meeting. 19 July 2022

Content

- What is CGIAR (One CGIAR)?
- Importance of the CGIAR-FAO/AGROVOC collaboration.
- Implementation of CGIAR-FAO/AGROVOC collaboration, achievements, and lessons learned.



One CGIAR

One CGIAR is the integration of CGIAR's capabilities, knowledge, assets, people, and global presence for a new era of interconnected and partnership-driven research toward achieving the Sustainable Development Goals (SDGs).



Mission: To deliver science and innovation that advance the transformation of food, land, and water systems in a climate crisis.

[CGIAR](https://www.cgiar.org)



One CGIAR

One CGIAR is targeting multiple SDG benefits across five Impact Areas



Nutrition, health
and food security



Poverty reduction,
livelihoods and jobs



Gender equality,
youth and inclusion



Climate adaptation
and mitigation



Environmental
health and
biodiversity

One CGIAR strives for global and regional impact by organizing its work along three Action Areas



Systems
transformation



Resilient
agrifood systems

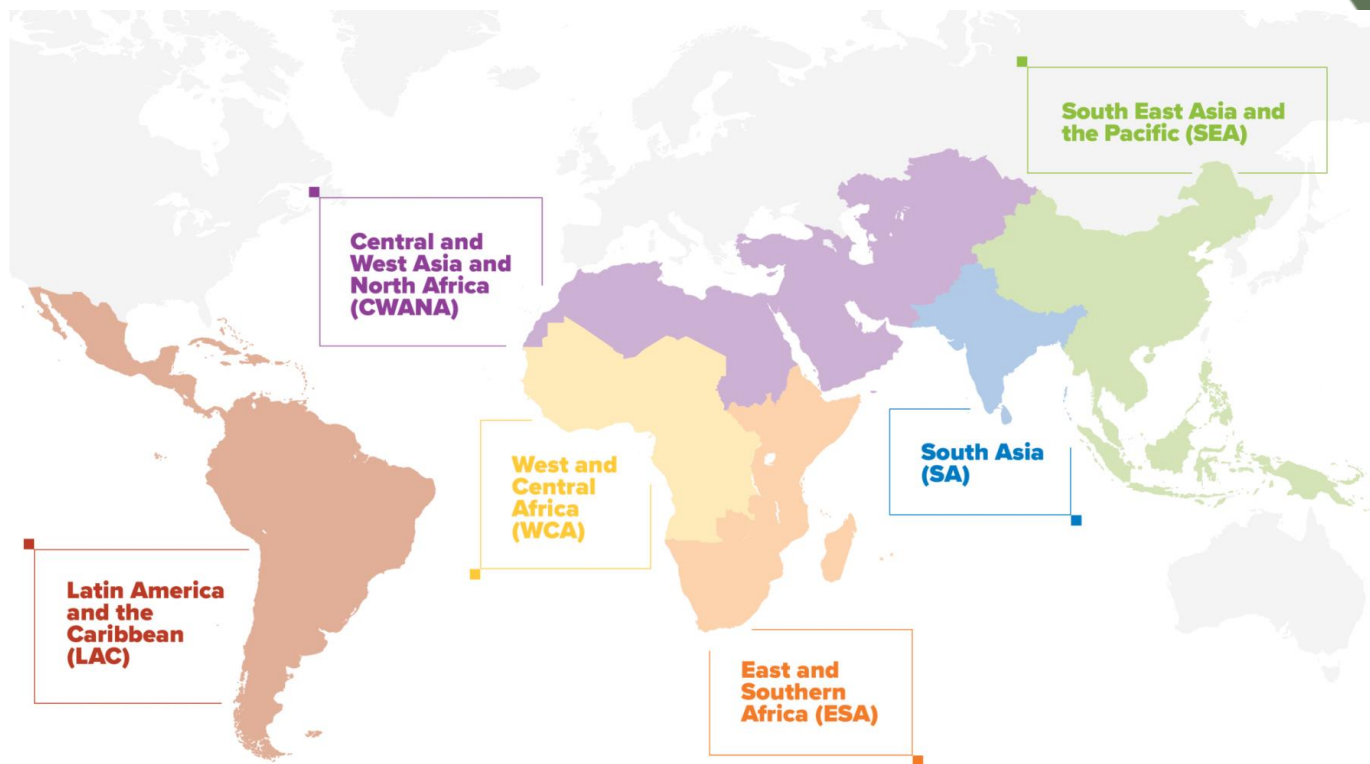


Genetic
innovation



One CGIAR

CGIAR works in six regions: Central and West Asia and North Africa, Latin America and the Caribbean, West and Central Africa, East and Southern Africa, South Asia, Southeast Asia and the Pacific.





**Why CGIAR – FAO/AGROVOC
Collaboration is important?**



“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**



“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

CGIAR usage of AGROVOC

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

Example of AGROVOC keywords usage in MELSpace & MELData

Citation Metadata

Dataset Persistent ID hdl:20.500.11766.1/FK2/4MM7WC

Publication Date 2022-06-06

Title Horro sheep landform similarity in Ethiopia

Other ID MEL: 12614
Other: <http://geoagro.icarda.org/en/default/visualization/livestock>

Author Atassi, Loyal (International Center for Agricultural Research in the Dry Areas - ICARDA) - ORCID: 0000-0001-9151-1000; Biradar, Chandrashekhar (International Center for Agricultural Research in the Dry Areas - ICARDA) - ORCID: 0000-0001-9151-1000; Mwacharo, Joram (International Center for Agricultural Research in the Dry Areas - ICARDA) - ORCID: 0000-0001-9151-1000; Haile, Aynalem (International Center for Agricultural Research in the Dry Areas - ICARDA) - ORCID: 0000-0001-9151-1000

Contact Use email button above to contact.
Atassi, Loyal (International Center for Agricultural Research in the Dry Areas - ICARDA)

Description This map was prepared for Livestock and fish CRP project, for Mapping breeds to appropriate production systems. The map shows the distribution of Ethiopian indigenous sheep and goats. Horro sheep landform similarity was assessed by comparing association within the breed distribution areas with the landform composition of each land pixel. The landform similarity map was generated by comparing the breed distribution areas and areas outside was obtained by calculating the relief intensity of SRTM 30.

Subject Agricultural Sciences

Keyword sheep (AGROVOC) http://aims.fao.org/aos/agrovoc/c_7030
similarity mapping
ethiopia (AGROVOC) http://aims.fao.org/aos/agrovoc/c_2676
geographic information systems (AGROVOC) http://aims.fao.org/aos/agrovoc/c_35131
breeds (AGROVOC) http://aims.fao.org/aos/agrovoc/c_1081
horro sheep (AGROVOC) http://aims.fao.org/aos/agrovoc/c_efd5dbc7
raster
pixel
landforms (AGROVOC) http://aims.fao.org/aos/agrovoc/c_34247ea4

MELData

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horro sheep (AGROVOC) http://aims.fao.org/aos/agrovoc/c_efd5dbc7
raster
pixel
landforms (AGROVOC) http://aims.fao.org/aos/agrovoc/c_34247ea4

Wheat Barley and Triticale Newsletter -RACHIS -No. 5 (2)



Citation
J. P. Srivastava, Habib Ketata, Surendra Varma, Joram Mwacharo, Aynalem Haile (1986). Wheat Barley and Triticale Newsletter -RACHIS -No. 5 (2). International Center for Agricultural Research in the Dry Areas (ICARDA).

Abstract
The RACHIS information service has been initiated by ICARDA to meet the information needs of barley, wheat and triticale research workers in the Near East and North Africa region. RACHIS seeks to report research results in a rapid manner, to highlight achievements and new ideas, and to stimulate an open discussion of problems. In this way RACHIS seeks to contribute to the improvement of barley, breadwheat, durum wheat and triticale production in the Near East and North Africa region.

URI
<https://hdl.handle.net/20.500.11766/13570>

Collections
Agricultural Research Knowledge [11141]

Subject(s)
yield performance; rainfed; triticale; morphological data; Barley; Triticale; Durum Wheat

AGROVOC Keywords
barley; germplasm; wheat; insect pests; plant diseases



View/Open

Author(s)
Srivastava, J. P.



AGROVOC Keywords

barley; germplasm; wheat; insect pests; plant diseases



MELSpace



CGIAR usage of AGROVOC



Findable



Accessible



Interoperable



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

[*Increasing interoperability between food and agricultural systems: CGIAR and FAO collaboration*](#)

[*CGIAR Open and FAIR Data Assets Policy*](#)

[*AGROVOC & the MEL platform: Standardizing metadata and following FAIR principles*](#)

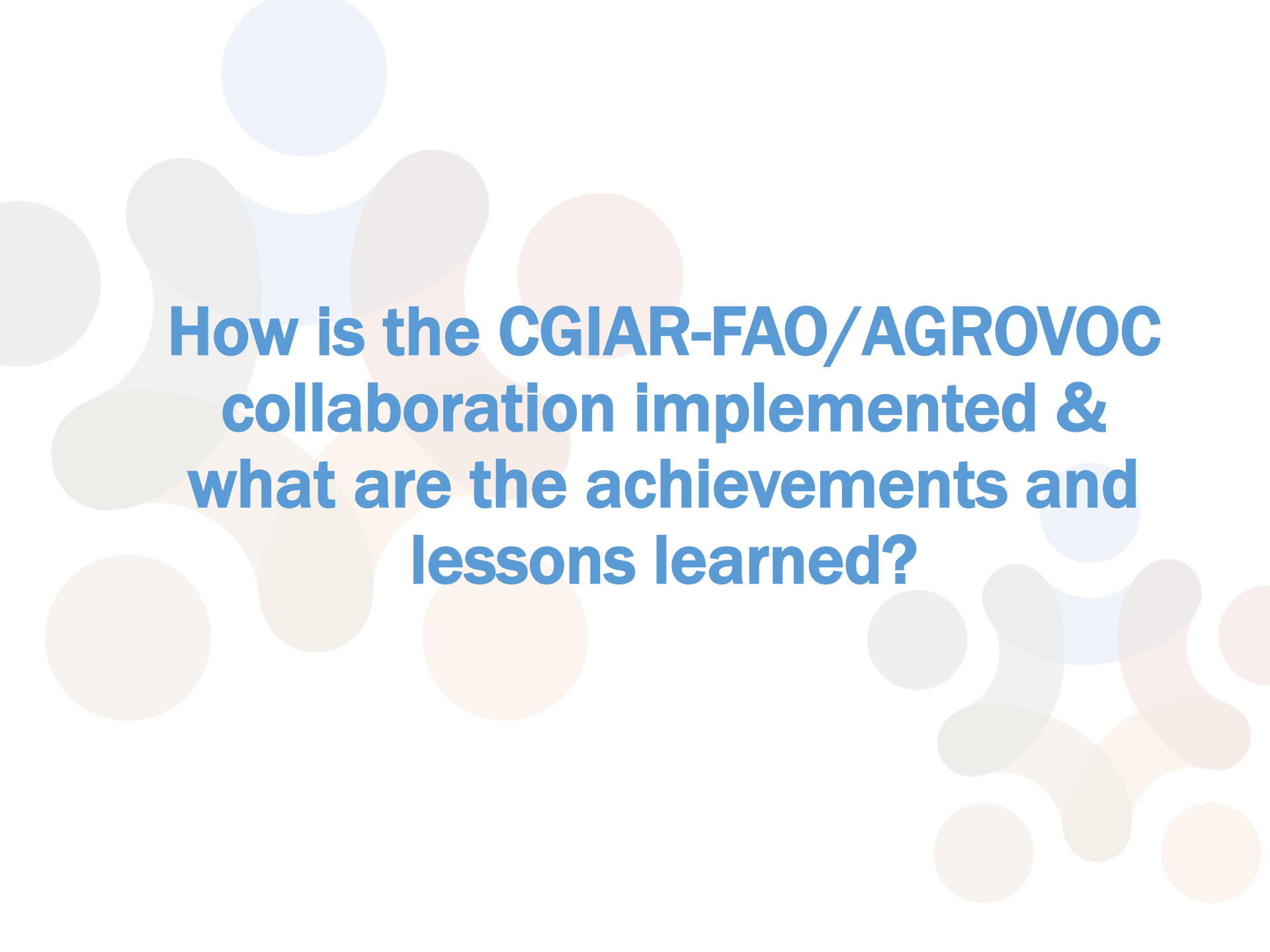
Objectives of a collaboration framework with One CGIAR perspective

- ▶ Get more streamlined submission from CGIAR.
- ▶ Improve AGROVOC content cover with CGIAR terms.
- ▶ Support the quality indexation.
- ▶ Improve the keyword-based search.
- ▶ Provide global visibility of CGIAR contribution to AGROVOC.
- ▶ Remain a key player in the international community effort to develop semantics.

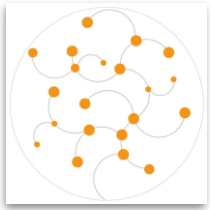
[Increasing Interoperability Between Food and Agricultural Systems: CGIAR & FAO Collaboration: Task Group and Curation Team Report](#)

Objectives of a collaboration framework

- ▶ Enhance the stewardship role in the development of semantics for agrifoods.
- ▶ Develop capacity building for partners.
- ▶ Leverage a team of domain experts.
- ▶ Strengthen the AGROVOC coverage.
- ▶ Reduce the duplicated efforts/costs.
- ▶ Improve efficient use of knowledge for users.



**How is the CGIAR-FAO/AGROVOC
collaboration implemented &
what are the achievements and
lessons learned?**



CGIAR - AGROVOC Task Group Members

Co-chairs:

Nigeria - IITA: Olatunbosun Obileye

Italy - Alliance Bioversity-CIAT: Elizabeth Arnaud

Members:

Italy - Alliance Bioversity-CIAT: Marie-Angélique

Laporte

Egypt - ICARDA: Enrico Bonaiuti & Sara Jani

USA - IFPRI: Soonho Kim & Erica Saito

Kenya - ILRI: Abenet Yabowork

Malaysia - WorldFish: Jacqueline Muliro

Italy - FAO: Kristin Kolshus & Imma Subirats

Platform for Big Data in Agriculture | **Food and Agriculture Organization of the United Nations**

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

Why to collaborate?

To integrate the CGIAR controlled vocabulary to AGROVOC, and integrate our networks by securing multilingual quality labelling 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 investments 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. *Wahneema Lubiano, Chief Scientist at FAO*

IF agriculture is going to take advantage of the digital revolution, it's critical that data resources can make evidence-based decisions on the most appropriate technologies and investments 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. *Andy Jarvis, DGG 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 investments 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. *Imanahou Eboussi, Chief Scientist at FAO*

What is AGROVOC?

AGROVOC

A multilingual online thesaurus about all resources in agriculture

+36.650 concepts with +804,000 terms in up to 41 languages to date.

What is FAIR data?

FAIR (FINDABLE, ACCESSIBLE, INTEROPERABLE, REUSABLE)

FAIR principles recommend to use controlled vocabularies (thesauri, 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 a CGIAR centers submit terms (ICARDA, IFPRI, CIFRI 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

Platform for Big Data in Agriculture | **IDM CoP** | **AGROVOC** | **Food and Agriculture Organization of the United Nations**

Increasing Interoperability Between Food and Agricultural Information 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 means two major players in agricultural research and development are promoting common standards and approaches, for countries and for our large partner networks." *Andy Jarvis, DGG 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 investments 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." *Imanahou Eboussi, Chief Scientist at FAO*

Authors

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

Guests: Andee Turbell (FAO), Alan Orth (ILRI)

Team for the curatorial workflow not chaired by Sara Jani, ICARDA.

Center	Team members	Contributors
Alliance Bioversity-CIAT	Marie-Angélique Laporte	Imma Subirats de la Cruz
ICARDA	Enrico Bonaiuti, Sara Jani, Sara Jani	
IFPRI	Erica Saito	
ILRI	Abenet Yabowork	
WorldFish	Jacqueline Muliro	
FAO	Kristin Kolshus	Imma Subirats

Report: <https://cgspace.cgiar.org/handle/10568/116236>

Factsheet: <https://cgspace.cgiar.org/handle/10568/116448>

CGIAR - AGROVOC Curation Team

Chair:

Egypt- ICARDA-MEL: Sara Jani

Members:

Italy - Alliance Bioversity-CIAT: Maria Garruccio

Mexico - CIMMYT: Jesus Herrera (Focal Point) & Araceli Zuniga (curation)

Peru - CIP: Vilma Hualla

Egypt - ICARDA-MEL: Sara Jani & Asma Jeitani

Nigeria - IITA: Hafeez Adepoju

Kenya - ILRI: Abenet Yabowork

Kenya - ILRI-CGSpace: Alan Orth

Philippine - IRRI: Lea Delos Reyes

Sri Lanka - IWMI: Rasika Thushantha & Yamuna Udumalagala

Malaysia - WorldFish: Saadiah Ghazali

Phase 1 - Work Process

Step 1. Centers submit keywords indexed in their repositories (CGSpace, CIMMYT, CKAN-IITA, IFPRI, MEL, WFDSpace-WF)



Step 2. Identification of keywords unmatched with AGROVOC



Step 3. Selection of most used 50 keywords.



Step 4. Keywords assigned to centers by alphabetical order. Centers that submitted their own keywords worked on those.



Step 5. Work done through a “shared template” allowing curators to contribute and AGROVOC’s team to review.



Repetition of **Steps 3, 4, and 5.**

Some centers proposed adding their keywords (IFPRI, IWMI, WorldFish)

The used “shared template”

File Home Insert Draw Page Layout Formulas Data Review View Help Editing Share Comments Catch up														
Calibri 11 B General														
A1 Responsible Center														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Responsible Center	Main Source	New suggested concept	Preferred term (language)	Alternative term (if needed)	In AGROVOC already?	Suggested AGRV broader term	URI of AGRV broader term (if possible).	Any related AGRV terms? Look before suggesting	Mandatory: Definition new concept, (language) - FAOTERM is often good source. Concise, max 1-2 sentences. What concept IS, not so much what it does.	Mandatory: Source of definition (URL or text like publication title, year, link)	Available translations	Round one from AGROVOC - do not write here. Please look at https://agrovoc.fao.org/browse/agrovoc/en/	CGIAR Reply 1	Round two from AGROVOC - do not write here
74	WorldFish	WF	aquatic resources						example: biomass, engine, and Biotic element of the aquatic ecosystem, including genetic resources, organisms or parts thereof, populations, etc. with actual or potential use or value (sensu lato) for humanity. Fishery resources are those aquatic resources of value to fisheries.	http://firms.fao.org/firms/concepts/en		need definition to look at		definition published 3/
75	WorldFish	WF	stocking					fish stocks	The practice of placing aquatic organisms into natural or modified water bodies.	http://www.fao.org/g/3/ca7041en/ca7041en.pdf		probably OK to add but need definition to review. AGRV has restocking and destocking. Agree that fish stocking might be needed if stocking also used for other organisms - like pheasants, yes. FAOTERM: "The practice of placing		As noted this refers to aquatic organisms on "fish stocking" as broader term 29/11, add

Phase 1 - Lessons Learned

- ▶ Not encouraged to submit concepts not commonly used for indexing.

Example:

"animal care" and "animal husbandry"

- ▶ Not encouraged to submit complex compound concepts.

Example:

"maize productivity" = "maize" + "productivity"

- ▶ Definitions should be clear, short and explain what is the concept.

Phase 1 - Achievements

309 keywords suggested **41** concepts & terms added to AGROVOC **65** keywords open-discussion

203 keywords not considered **6** centers participated **4** training sessions delivered

■ 127: exist in AGROVOC

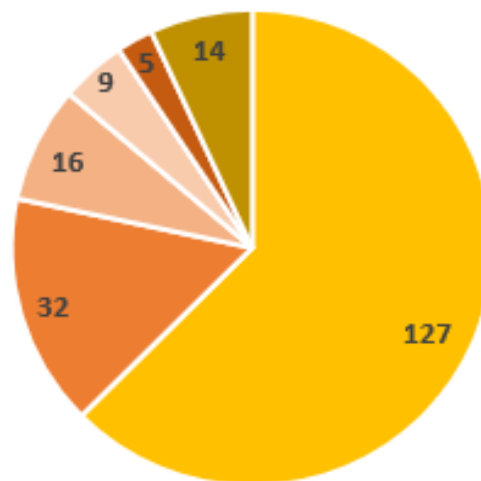
■ 32: complex compound concept

■ 16: repeated in file

■ 9: name of a specific model, policy, programme, or software

■ 5: standalone adjectives

■ 14: other reasons



- Introduction and submission workflow
- Training on definitions
- 2 Individual training on submission workflow

Creation of the One CGIAR concept sub-schema

<https://agrovoc.fao.org/skosmosOneCGIAR/cgiar/en/>

The screenshot shows the web interface for the One CGIAR concept sub-schema. At the top left is the FAO logo and the text "Food and Agriculture Organization of the United Nations". On the top right, there are links for "About", "Feedback", and "Help", along with a language selector set to "English". The main header is "One CGIAR" with a "Content language" dropdown set to "English" and a search box. Below the header, there are two tabs: "Alphabetical" and "Hierarchy". Under "Alphabetical", there are letters A through Z. The "Hierarchy" tab is selected, showing a list of terms including "Abergelle goat", "Acacia modesta", "acid detergent fibre", "ADF", "adult plant resistance", "agricultural start-up businesses", "agricultural start-ups", "agricultural transformation", "Altai Mountain goat", "Anaplasma bovis", "Anaplasma centrale", "Anglo-Nubian goat", "Anthophora", "antioxidant properties", "antiporers", "antisense RNA", "APR", "aquatic agricultural systems", "aquatic resources", "arid rangelands", "asRNA", and "Atriplex lehmanniana". To the right, the "Vocabulary information" section displays metadata for the "One CGIAR" concept, including its title, creation date (Wednesday, November 17, 2021 16:20:22), last modified date (Friday, July 1, 2022 08:24:42), type (http://www.w3.org/2004/02/skos/core#ConceptScheme), SKOSXL:PREFLABEL (http://aims.fao.org/aos/agrovoc/xl_en_c9169c19), and URI (http://aims.fao.org/aos/agrovoc/conceptScheme_5b05e545). Below this, there are two tables: "Resource counts by type" showing 225 concepts, and "Term counts by language" with columns for Language, Preferred terms, Alternate terms, and Hidden terms.

Contributions made separately from other CGIAR centers (ICARDA [~165], IFPRI, WorldFish) are also included in the sub-schema.

Phase 2: Work Process

Each center submits its own 10 keywords unmatched with AGROVOC whether through their repositories or other means and includes them in the “shared template” file.



ICARDA’s curators review the file to remove any duplicates.



AGROVOC team at FAO reviews and comments on the file.



65 pending keywords
from Phase 1 work
process

Curators work on the file.

Target: submit 35 concepts in 3 months.

Next deadline: end of September 2022.

Thank you



Alliance



AfricaRice

