

April 2023



**Food and Agriculture  
Organization of the  
United Nations**



**International Treaty  
on Plant Genetic Resources  
for Food and Agriculture**

### **Item 3.2 of the Provisional Agenda**

## **INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE**

### **FIFTH MEETING OF THE SCIENTIFIC ADVISORY COMMITTEE ON THE GLOBAL INFORMATION SYSTEM**

**Rome, Italy, 8 – 9 May 2023**

## **PGRFA DOCUMENTATION AND CROP DESCRIPTOR LISTS**

### **I. INTRODUCTION**

1. At the Ninth Session, the Secretary provided information to the Governing Body on the activities under the project “Development of a Globally Agreed List of Descriptors for *in situ* Crop Wild Relatives (CWR) Documentation”, and the new lists of characterization and evaluation descriptors for tropical fruit trees. The project was designed to support objective 3 of the Programme of Work on the Global Information System (GLIS).
2. By Resolution 5/2022<sup>1</sup>, *Implementation of the Global Information System*, the Governing Body thanked the Government of Germany “for the financial support provided for the documentation of crop wild relatives conserved *in situ*”.
3. The Governing Body also took note of the publication titled, “*Descriptors for Crop Wild Relatives conserved in situ*” and the six new lists of key characterization and evaluation descriptors for tropical fruit trees, and acknowledged all the institutions and individuals who had contributed to their accomplishment. It also invited the Secretary to facilitate the development of further descriptor lists, subject to the availability of financial resources.
4. The Governing Body further invited governments to support the development of national databases of CWR conserved *in situ*.
5. Section II of this document provides an update on the CWR documentation project, including progress made on the national and regional consultations and testing, while section III describes the progress made in the development of crop characterization and evaluation descriptors lists.
6. The Committee is invited to take note of the progress made and to provide additional advice, as appropriate.

### **II. PROGRESS REPORT ON THE DOCUMENTATION OF CROP WILD RELATIVES**

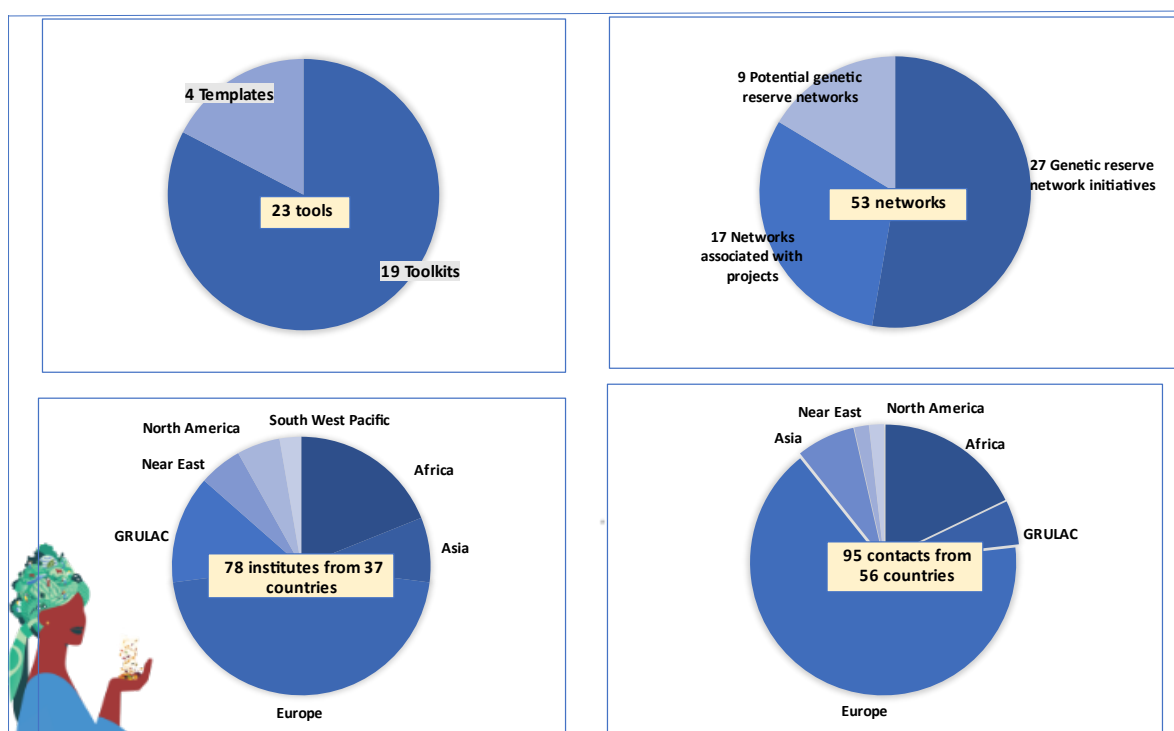
7. Although some information about the project was reported to the Governing Body at its Ninth Session, this section provides an update on progress made since the last meeting of the Committee. The project achieved remarkable progress, including the organisation of national webinars with partners and beneficiaries of the project to promote CWR descriptors in selected regions.

<sup>1</sup> Resolution 5/2022, [www.fao.org/3/nk240en/nk240en.pdf](http://www.fao.org/3/nk240en/nk240en.pdf)

8. The project has advanced in the elaboration of a “Needs assessment report”, which included issues, needs and supportive actions in the regions assessed (i.e., GRULAC, Sub-Saharan Africa, Europe and Asia). Some of the information was incorporated in the paper, “Towards a strategic approach to the development and implementation of national databases of CWR”, discussed at the Expert workshop and presented as an information document to the Ninth Session of the Governing Body. The paper outlines possible mechanisms and options to connect the data of the national inventories, as appropriate.<sup>2</sup>

9. The Secretariat also compiled information on available tools and networks, as well as lists of organizations and contacts that work with the CWRs, as shown in Figure 1.

**Figure 1:** Information resources collected during the second phase of the project



10. Data collected were analysed to assess compatibility with the proposed descriptors. Some gaps and limitations were identified, namely poor data quality and availability, format heterogeneity between countries and between international data sources, legal limitations to data-sharing and lack of capacity on documentation and limited knowledge about the value of CWR.

11. In general, legacy data were obtained for mandatory descriptors, except for Population identifier and Managing Institute. Several rounds of online consultations were held with members of the descriptors’ Core Advisory Group to accommodate needs related to the lack of information of both descriptors. Following the advice of the Committee, the Secretariat now offers the option of assigning a DOI as Population identifier descriptor to those CWRs that do not have it.

12. In general, there is consensus on the validity of the CWR descriptors by stakeholders of target regions, as they were published, with a few minor changes. With the information collected and based on the experiences being documented, the Secretariat is developing a set of guidelines.

13. The Secretariat has promoted the revised [English](#) version of the descriptors for CWR and the booklet was translated into [Spanish](#), [French](#), and [Arabic](#). All versions are available on the Treaty’s website and the GLIS Portal under a dedicated section on descriptors.<sup>3</sup> It also promoted the value of CWR through the development of a factsheet to be distributed in relevant meetings (See Figure 2).

<sup>2</sup> [English](#) | [French](#) | [Spanish](#) | [Arabic](#) | [Russian](#) | [Chinese](#).

<sup>3</sup> [ssl.fao.org/glis/linkdir/channel?c=docs&s=desc#desc](https://ssl.fao.org/glis/linkdir/channel?c=docs&s=desc#desc)

Figure 2: Fostering documentation of crop wild relatives – Factsheet



14. The Secretariat assessed available tools for data collection and developed a new user-friendly tool for *in situ* CWR data collection called “CWR Descriptor Tool v.1” (See Figure 3). The tool introduces the descriptors to the user, groups them into various categories, and provides a data-entry function. The tool serves as an illustrative mechanism to present the descriptors to newcomers and, at the same time, supports the data collection process and its subsequent information exchange in a standard format.

Figure 3: CWR Descriptors’ Tool and Template.

**CWRI\_Format\_Eng\_2022\_ODCT Template**

1.GENUS	2.SPECIES	3.ORIGCTY	4.OBSDATE	5.POPID	6.MNGINSTNAME	6.1MNGINSTADDRESS	7.SP AUTHORITY	8.SUBTAXA	9.SUBTAXAUTH	10.OCCURSIT E	11.DECLAT	12.DECLONG

13.COORD DATUM	14.ELEVATION	15. SITEP ROT	16.POPSRC	17.SAMPS TAT	18.INSTNAME	18.1INSTADDRESS	19.1INCODE	19.2.HERCODE	20.0.ACCE DOI	20.1.ACCE NUMB	20.2.SPEC NUMB	21.CONSA CTION	22.MLSST AT	23.LINKS	24.REMARKS

**CWR Descriptor Tool v.1**

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**CWR Descriptor Tool v.1**

Food and Agriculture Organization of the United Nations  
International Treaty on Plant Genetic Resources for Food and Agriculture

This tool is for use in collecting and documenting data on crop wild relatives (CWR) in the wild, used in the field or in the laboratory for crop wild relative conservation and/or in crop wild relative breeding. It is a user-friendly tool for data collection and data entry. It is designed to be used by national stakeholders and other interested parties. It is a user-friendly tool for data collection and data entry. It is designed to be used by national stakeholders and other interested parties.

15. The descriptor’s tool, published first in English and then translated into Spanish, was populated with CWR data in collaboration with national focal points and national designated experts, as shown in Figure 4.<sup>4</sup>

<sup>4</sup> Fostering documentation and use of Crop wild relatives, news item available at [www.fao.org/plant-treaty/news/news-detail/en/c/1635750/](http://www.fao.org/plant-treaty/news/news-detail/en/c/1635750/)

Figure 4: CWR Descriptor Tool showing some CWR populations under in situ conservation

1. Género	2. Especie	3. País de ocurrencia	4. Fecha de observación	5. Identificador de la población	6. Nombre del Instituto administrador, entidad jurídica o individuo	6.1 Dirección del Instituto, entidad jurídica o individuo
Manihot	aescuffolia	CRI	19920719	163767	Area de Conservacion Guanacaste	Oficina Central SINAC, Avenida 15 C
Oryza	latifolia	CRI	19971019	898204	Area de Conservacion Arenal-Temp	Oficina Regional, de las instalacione
Oryza	latifolia	CRI	19971019	898205	Area de Conservacion Arenal-Temp	Oficina Regional, de las instalacione
Phaseolus	costaricensis	CRI	19870111	1053314	Area de Conservacion Central	Oficina Regional, Del segundo cruce
Phaseolus	vulgaris	CRI	19650101	1074682	Area de Conservacion La Amistad	Oficina Regional, Daniel Flores, Barr
Phaseolus	vulgaris	CRI	19850701	1075076	Administracion compartida	Oficina Central SINAC, Avenida 15 C
Phaseolus	vulgaris	CRI	19850701	1075074	Administracion compartida	Oficina Central SINAC, Avenida 15 C
Phaseolus	vulgaris	CRI	19850701	1075077	Administracion compartida	Oficina Central SINAC, Avenida 15 C
Phaseolus	coccineus	CRI	00000000	2078346	Area de Conservacion Central	Oficina Regional, Del segundo cruce
Phaseolus	vulgaris	CRI	00000000	2082269	Area de Conservacion La Amistad	Oficina Regional, Daniel Flores, Barr
Solanum	longiconicum	CRI	00000000	2157199	Area de Conservacion Central	Oficina Regional, Del segundo cruce
Solanum	longiconicum	CRI	00000000	2157202	Area de Conservacion Central	Oficina Regional, Del segundo cruce
Solanum	longiconicum	CRI	00000000	2157205	Administracion compartida	Oficina Central SINAC, Avenida 15 C
Solanum	longiconicum	CRI	00000000	2157300	Administracion compartida	Oficina Central SINAC, Avenida 15 C
Solanum	longiconicum	CRI	00000000	2157255	Area de Conservacion Central	Oficina Regional, Del segundo cruce
Solanum	longiconicum	CRI	00000000	2157215	Area de Conservacion La Amistad	Oficina Regional, Daniel Flores, Barr
Solanum	longiconicum	CRI	00000000	2157310	Area de Conservacion Central	Oficina Regional, Del segundo cruce
Solanum	longiconicum	CRI	00000000	2157219	Area de Conservacion La Amistad	Oficina Regional, Daniel Flores, Barr
Solanum	longiconicum	CRI	00000000	2157268	Administracion compartida	Oficina Central SINAC, Avenida 15 C
Solanum	longiconicum	CRI	00000000	2157269	Area de Conservacion Central	Oficina Regional, Del segundo cruce
Solanum	longiconicum	CRI	00000000	2157223	Area de Conservacion Central	Oficina Regional, Del segundo cruce
Solanum	longiconicum	CRI	00000000	2157225	Area de Conservacion La Amistad	Oficina Regional, Daniel Flores, Barr
Solanum	longiconicum	CRI	00000000	2157320	Area de Conservacion Central	Oficina Regional, Del segund
Solanum	longiconicum	CRI	00000000	2157321	Area de Conservacion Central	Oficina Regional, Del segund

16. Project staff conducted several webinars during the second semester of 2022 to promote and strengthen capacity on the use of the CWR descriptors among Contracting parties and stakeholders, harmonize new data with the existing ones, assess their needs to create or modify national databases and investigate suitable institutions where data would be hosted. Target actions included selected countries in GRULAC, Sub-Saharan Africa, Asia and Europe.

17. A series of webinars were organized with selected countries from July to September 2022. They contributed to improving the documentation of the CWR wild populations and encouraged data exchange at the global level while promoting the use of these resources. The seminars also helped to build the technical capacity of staff in the use of the descriptors, and to guide target countries in developing national databases of CWR populations.

18. The module for the documentation of *in situ* data developed in 2022 is being tested. Preliminary data were provided by Cuba and Costa Rica and collaboration is ongoing with national teams in Guatemala, Zambia, Jordan, Malawi and Tanzania. Additional information on the workshop and the immediate follow-ups will be provided by the Secretariat at the Fifth meeting of the Committee.<sup>5</sup>

19. The national staff that participated in the project provided feedback on some of the limitations they encountered. These limitations include lack of dedicated policies, lack of adequate funding, low quality and limited availability of CWR data, limited technical expertise, lack of training opportunities, absent or incomplete national CWR databases, and a low level of public awareness of the high value of CWR.

### III. DEVELOPMENT OF CROP DESCRIPTOR LISTS

20. At the Ninth Session of the Governing Body, the Secretariat reported on the collaboration with World Agroforestry (ICRAF) and with the Alliance of Bioversity International and CIAT, for the development of six strategic sets of characterization and evaluation descriptors for multipurpose tropical fruit tree species conserved *in situ*. The new booklets developed are expected to be particularly helpful to researchers, plant breeders and Contracting Parties. The Secretariat makes information related to the descriptors and documentation of PGRFA available to users through the GLIS Portal.<sup>6</sup>

<sup>5</sup> Additional information on the GLIS module for *in situ* material can be found in section IV.B of document IT/GB-10/SAC-GLIS-3/18/3.1

<sup>6</sup> [ssl.fao.org/glis/linkdir/channel?c=docs&s=desc#desc](https://ssl.fao.org/glis/linkdir/channel?c=docs&s=desc#desc)

21. Regarding the support and appreciation of the work undertaken on descriptors, and the list of prioritized crops, as contained in Annex 2 of the Report,<sup>7</sup> the Secretariat, jointly with the International Livestock Research Institute (ILRI), developed a revised version of the Forage legumes descriptors. The process was validated by a Core Advisory Group consisting of ICARDA, the Alliance of Bioversity International and CIAT, the Indian Agricultural Research Institute (ICAR), the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK) and more than 20 renowned scientists from 11 countries. This revised version is limited to herbaceous small tropical species with specific examples from species of *Clitoria ternatea*, *Macroptilium atropurpureum*, *Stylosanthes guianensis*, *Stylosanthes hamata* and *Stylosanthes scabra*.<sup>8</sup>

22. The Secretariat is also joining efforts with the *Avena* Working Group of ECPGR to support the update of the Oat descriptors, published in 1985, and supporting the development of the *Pisum* descriptors with a group of international experts. In collaboration with ILRI, the Secretariat is finalizing the development of the Descriptors for fodder trees and plans to revise the IBPGR Forage grass descriptor together with ILRI in due course.

23. Following the advice of the Committee, the Secretariat has explored collaboration with the Global Biodiversity Information Facility (GBIF) related to descriptors and ontologies, and to the reuse and update of existing datasets. An agreement is under discussion that will benefit the GBIF nodes and the national focal points of the International Treaty.

**Figure 5: Crop Descriptors Lists**



24. The latest key characterization and evaluation descriptors published, in addition to forage legumes, is the “Key descriptors for Pili Nut (*Canarium ovatum Engl.*)” developed jointly with the University of the Philippines, Los Baños, led by a Core Advisory Group and renowned experts. This version consists of characterization and evaluation descriptors which includes a minimum list of highly discriminating descriptors for this species.<sup>9</sup>

25. In the context of the International Year of Millets, the Secretariat is developing two descriptors lists, in collaboration with ICARDA and ICAR-NBPGR India, for Foxtail Millet and Fonio.

26. The Secretariat is promoting the adoption of these globally validated descriptors in relevant meetings and workshops, through articles published in the Treaty website and promotional material such as the pull-up banners for display and the electronic QR cards of the eight crops (See Figure 6).

**Figure 6: QR cards – Descriptors**



<sup>7</sup> Report of the SAC-GLIS-4 meeting, [www.fao.org/3/cb5340en/cb5340en.pdf](http://www.fao.org/3/cb5340en/cb5340en.pdf)

<sup>8</sup> Key descriptors for forage legumes, available at [www.fao.org/3/cc4598en/cc4598en.pdf](http://www.fao.org/3/cc4598en/cc4598en.pdf)

<sup>9</sup> Key descriptors for Pili Nut, available at [www.fao.org/3/cc3704en/cc3704en.pdf](http://www.fao.org/3/cc3704en/cc3704en.pdf)

#### IV. ADVICE SOUGHT

27. The Committee is invited to:
- i. Take note of the progress made with the validation of the descriptors for CWR conserved *in situ* and support provided to Contracting Parties;
  - ii. Provide advice on the provision of assistance to Contracting Parties in the documentation of crops and their wild relatives, including building capacities in data collection from the wild and in making that information available;
  - iii. Provide any relevant advice on the further development of crop descriptor lists for PGRFA;
  - iv. Provide any additional advice related to this work track that could be brought before the Tenth Session of Governing Body for its consideration.