April 2021

Food and Agriculture Organization of the United Nations

The International Treaty ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

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

**FOURTH MEETING OF THE SCIENTIFIC ADVISORY COMMITTEE ON THE GLOBAL INFORMATION SYSTEM**

**20–21 April 2021**

# REPORT ON THE OPERATIONS AND IMPLEMENTATION OF THE PROGRAMME OF WORK

## I. INTRODUCTION

1. This document provides an overview of the major components of the Programme of Work of the Global Information System, with particular emphasis on objectives 1, 2 and 3, since the last Session of the Governing Body.

2. In particular, it provides a summary of the major structural developments of the GLIS Portal in Section II, which are further explained in detail in document IT/GB-9/SAC-GLIS-4/21/3.1. It also introduces, in Section III, the graph browser that is also illustrated in document IT/GB-9/SAC-GLIS-4/21/3.2. Other updates of relevance to the GLIS Portal are described in Section IV, including the improvement to the search with taxonomy function and the search of institutions holding PGRFA.

3. Section V presents the significant progress made in establishing partnerships and collaboration with relevant initiatives for the operation of the GLIS Portal, the assignation of DOIs to PGRFA and the development of tools and the provision of related services.

4. The main activities related to the promotion of DOIs are contained in Section VI and statistics on the use of the Portal.

5. Section VII invites the Committee to provide advice to the Secretary on these activities, taking into account the content of the documentation provided for Item 3 of the Provisional Agenda

## II. BACKGROUND

6. At its Sixth Session, the Governing Body adopted Resolution 3/2015 containing a Vision and a Programme of Work on the Global Information System (Programme of Work). This document reports on the progress made in the implementation of the Programme of Work since the third meeting of the Scientific Advisory Committee in 2018, with particular emphasis on the elements of guidance provided by the Governing Body at its Eighth Session.

7. The Vision provides that:

> *The Global Information System for PGRFA integrates and augments existing systems to create the global entry point to information and knowledge for strengthening the capacity for PGRFA conservation, management and utilization.*
>
> *The development of a truly effective Global Information System as foreseen in the International Treaty involves, inter alia: strengthening existing systems and, where gaps remain, establishing new systems and initiatives; promoting inter-connectivity among*

*systems; and providing overarching mechanisms to ensure ready access to the information and services provided*

8. The Programme of Work is grouped into seven objectives, as follows:

Objective 1 - The web-based platform

Objective 2 – Access to sources of PGRFA and associated information

Objective 3 – Interoperability, scientific standards and tools

Objective 4 – Transparency on the rights and obligations of users

Objective 5 – Communication and multidisciplinary collaboration

Objective 6 – Capacity development and technology transfer

Objective 7 – Draft monitoring and assessment mechanism

9. At its third meeting, the Scientific Advisory Committee recommended the adoption of a Master Plan for the GLIS Portal, which was attached to the Report of the meeting.

10. At the Eighth Session, the Governing Body took note of the information contained in the Report of the Committee and provided further guidance on the development of the Programme of Work. For ease of reference, the **Annex** contains an annotated version of Resolution 4/2019 prepared by the Secretariat.

## III. STRUCTURAL ELEMENTS OF THE GLIS PORTAL

11. At its Eighth Session, the Governing Body requested the Secretary, subject to availability of resources, to establish infrastructural elements in the GLIS Portal. The document IT/GB-9/SAC-GLIS-4/21/3.1/1 describes the initial steps undertaken to translate the Vision developed for the Global Information System into structural elements. In particular, it illustrated the main elements of the workable interface for users, taking into account the elements of the Master Plan prepared at the third meeting of the Scientific Advisory Committee.

12. The document also identifies the areas with gaps where additional work may be needed and suggests several paths for their development. The Committee is invited to note of the development of the structural elements described in this document and provide advice on them and on any other aspects the Committee may wish to consider for the rapid and effective development of the Portal in the coming months.

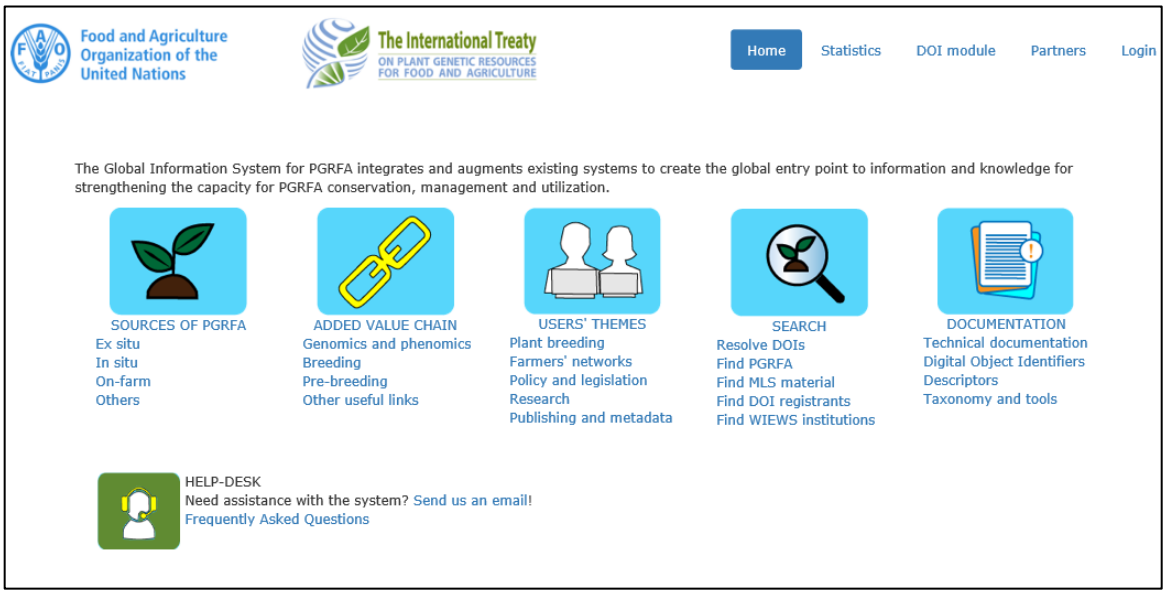



***Figure 1.*** *New home page of the GLIS Portal incorporating structural elements of the Vision.*

## IV. INTRODUCING THE GRAPH BROWSER

13. The Graph Browser is a tool that can provide users with a powerful, yet simple to use, interactive graphic environment. Through it, users will be able to perform queries on the graph to identify potentially interesting nodes and paths linking them. The Graph Browser is described in detail in the document, IT/GB-9/SAC-GLIS-4/21/3.1/2.

14. The Graph Browser, which is at the prototype stage, has the potential to encourage more PGRFA holders to obtain DOIs for the material they hold. It has been developed in close collaboration with the Information Technology Division of FAO to translate the relationship presented in the DOIs into an interactive graphic representation that can be used by plant breeders, genebanks curators, researchers and other users as a research tool.

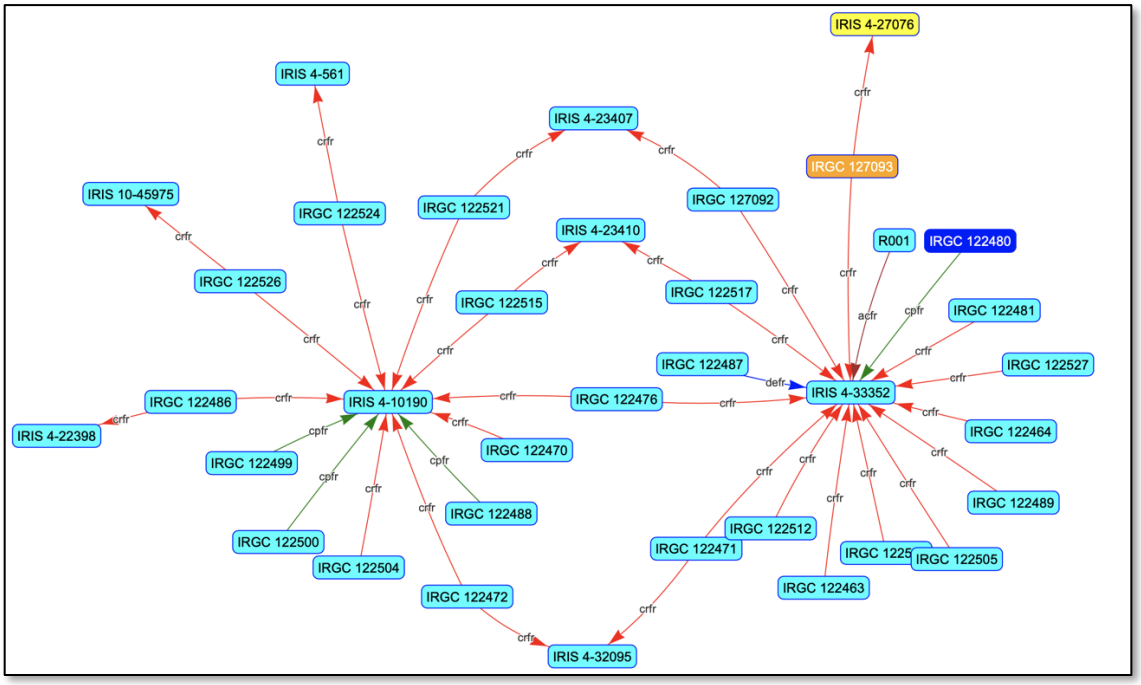



***Figure 2.*** *Output of the relation search users can perform with the Graph Browser.*

15. The prototype has been developed based on the analysis of DOI relationships and the main functions of the graphic tool selected. Some initial feedback had been provided by a select group of few experts, but the tools would benefit from inputs from a broader and diversified group.

16. The Committee is invited to provide advice on the next steps for its development, particularly on the mechanism to obtain feedback from additional stakeholders to improve the prototype.

## V. OTHER UPDATES ON THE IMPLEMENTATION OF THE GLIS PORTAL

### Improved search with taxonomy function

17. One of the innovations introduced is that the DOI Module uses the GRIN Taxonomy to assist users with their queries. Accordingly, the section page for the DOI Module now presents an extended search panel (see Figure 3)

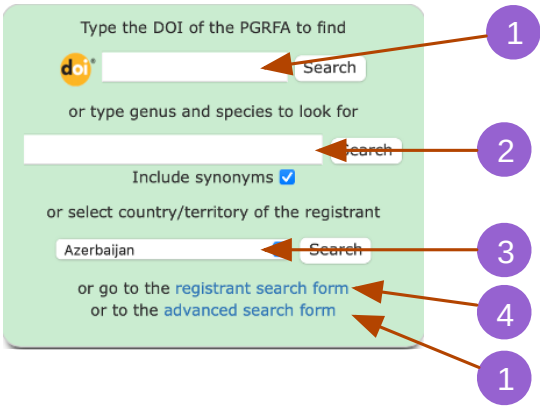



***Figure 3**: New home page search panel.*

18. The DOI resolver and the advanced search form (1) were already present in the previous versions. With the taxonomy search (2), the user can now type a few characters of the target genus, as soon as 3 characters are typed, a drop-down menu appears with candidate taxa found in the database (see Figure 4).

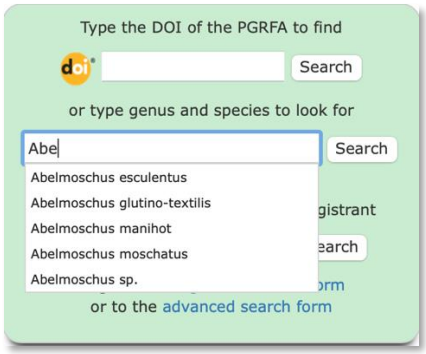



***Figure 4:** Drop-down with matching candidates*

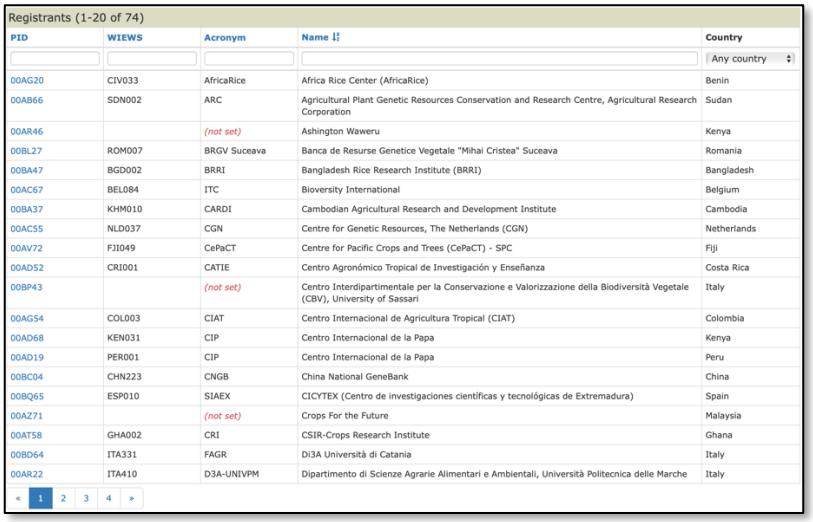
19. The integration of the taxonomic function prevents typos and ensures that some records will be found if one of the candidates is selected from the drop-down. This function also makes available to users the checkbox "Include synonyms", enabled by default, which extends the search by including synonyms according to GRIN Taxonomy. For instance, if the user looks for *Lycopersicon esculentum*, records of *Solanum lycopersicum* will also be displayed as the two taxa are considered synonyms in GRIN Taxonomy.

20. One of the frequent questions from national focal points of the Treaty and users was about the option to search DOIs by country or territory of the registrant. The drop-down menu includes now countries or territories that have DOIs associated, and only those. When an entry is selected and the "Search button" is clicked, the list of registrants in the selected country is displayed (see Figure 5). Clicking on the number of DOIs displays the list for the corresponding registrant.

| **Registrants in Italy** | **DOIs** |
|---|---|
| Dipartimento di scienze Agrarie Alimentari e Ambientali, Università Politecnica delle Marche | 9,717 |
| Facolta di Agraria, Università degli Studi di Catania | 80 |
| Centro Interdipartimentale per la Conservazione e Valorizzazione della Biodiversità Vegetale (CBV), University of Sassari | 69 |
| Scuola di Scienze Agrarie, Forestali, Alimentari ed Ambientali dell'Università degli Studi della Basilicata | 42 |
| ISEA Srl | 15 |
| Mais Spinato di Gandino | 2 |
| *Total DOIs registered by Italy* | *9,925* |

***Figure 5**: Sample query, registrants in Italy.*

21. Lastly, a new option is available to find specific organizations and individual that are registrants (Option 4 of Figure 3). Clicking the link in the DOI Module panel displays a list as in Figure 6.



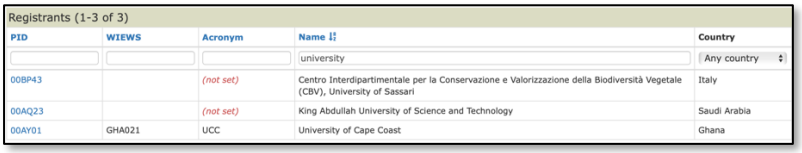
Registrants (1-20 of 74)

| PID | WIEWS | Acronym | Name | Country |
|---|---|---|---|---|
| | | | | Any country |
| 00AG20 | CIV033 | AfricaRice | Africa Rice Center (AfricaRice) | Benin |
| 00AB66 | SDN002 | ARC | Agricultural Plant Genetic Resources Conservation and Research Centre, Agricultural Research Corporation | Sudan |
| 00AR46 | | (not set) | Ashington Waweru | Kenya |
| 00BL27 | ROM007 | BRGV Suceava | Banca de Resurse Genetice Vegetale "Mihai Cristea" Suceava | Romania |
| 00BA47 | BGD002 | BRRI | Bangladesh Rice Research Institute (BRRI) | Bangladesh |
| 00AC67 | BEL084 | ITC | Bioversity International | Belgium |
| 00BA37 | KHM010 | CARDI | Cambodian Agricultural Research and Development Institute | Cambodia |
| 00AC55 | NLD037 | CGN | Centre for Genetic Resources, The Netherlands (CGN) | Netherlands |
| 00AV72 | FJI049 | CePaCT | Centre for Pacific Crops and Trees (CePaCT) - SPC | Fiji |
| 00AD52 | CRI001 | CATIE | Centro Agronómico Tropical de Investigación y Enseñanza | Costa Rica |
| 00BP43 | | (not set) | Centro Interdipartimentale per la Conservazione e Valorizzazione della Biodiversità Vegetale (CBV), University of Sassari | Italy |
| 00AG54 | COL003 | CIAT | Centro Internacional de Agricultura Tropical (CIAT) | Colombia |
| 00AD68 | KEN031 | CIP | Centro Internacional de la Papa | Kenya |
| 00AD19 | PER001 | CIP | Centro Internacional de la Papa | Peru |
| 00BC04 | CHN223 | CNGB | China National GeneBank | China |
| 00BQ65 | ESP010 | SIAEX | CICYTEX (Centro de investigaciones científicas y tecnológicas de Extremadura) | Spain |
| 00AZ71 | | (not set) | Crops For the Future | Malaysia |
| 00AT58 | GHA002 | CRI | CSIR-Crops Research Institute | Ghana |
| 00BD64 | ITA331 | FAGR | Di3A Università di Catania | Italy |
| 00AR22 | ITA410 | D3A-UNIVPM | Dipartimento di Scienze Agrarie Alimentari e Ambientali, Università Politecnica delle Marche | Italy |

« 1 2 3 4 »

***Figure 6****: Search by registrant.*

22. Typing "university", for instance, in the header filter of the "Name column" and pressing Enter will filter the list accordingly, as shown in Figure 7. Other filtering and sorting options are also available.



Registrants (1-3 of 3)

| PID | WIEWS | Acronym | Name | Country |
|---|---|---|---|---|
| | | | university | Any country |
| 00BP43 | | (not set) | Centro Interdipartimentale per la Conservazione e Valorizzazione della Biodiversità Vegetale (CBV), University of Sassari | Italy |
| 00AQ23 | | (not set) | King Abdullah University of Science and Technology | Saudi Arabia |
| 00AY01 | GHA021 | UCC | University of Cape Coast | Ghana |

***Figure 7:*** *Filtered registrant list.*

## VI. PARTNERSHIPS AND COLLABORATIONS FOR THE GLIS PORTAL

23. Since the last meeting of the Scientific Advisory Committee and the last Session of the Governing Body, significant progress has been made in establishing partnerships with relevant institutions and initiatives. Following is a brief description of some of the most relevant collaborations in the context of the GLIS Portal and in relation to PGRFA ex situ material, and various information exchange protocols available. Additional information on partnerships is provided in the document, IT/GB-9/SAC-GLIS-4/21/6, *Partnerships and collaboration*.

24. The Secretariat has continued the collaboration with WIEWS and Genesys, as relevant sources of PGRFA information on ex situ material.

25. It has also collaborated with the Global Crop Diversity Trust in relation to Genesys and the interface with GLIS has been consolidated. In particular, both systems share information on genebank accessions to which a DOI has been assigned and exchange messages to publish Genesys links on GLIS DOI pages and keep GLIS aligned with Genesys, resulting in enhanced benefits for the users. At the time of the preparation of this document, over 7 million update messages have been exchanged with Genesys. The Secretariat also participated in a virtual Steering Committee meeting in 2020, in which the vision and mission of Genesys were developed, including relevant elements of its relationship with the Global Information System and the vision adopted by the Governing Body.

26. The Secretariat has also continued the collaboration with the Commission on Genetic Resources for Food and Agriculture (CGRFA) and the technical services of FAO to facilitate the

interactions between GLIS and WIEWS regarding *ex situ* material. Most recently, the Secretariat has engaged with the CGRFA in the preparation of a document for the next meeting of the Intergovernmental Technical Working Group on Plant Genetic Resources for Food and Agriculture regarding the role, functions, synergies and collaborations between the two systems, as well as with Genesys.

27. Regarding the sources of *ex situ* material, the Secretariat has continued and expanded the collaboration with the SADC Plant Genetic Resources Centre (SPGRC) in Zambia. The collaboration has resulted in their Web-SDIS genebank management system, widely used in the region, to be served by the GLIS DOI Management Module through an XML Integration Protocol. In total, 19 339 materials recorded in the system have obtained DOIs. Both SPGRC and the Secretariat are collaborating to extend the registration facility to SADC member countries in the coming months. Additionally, the Secretariat has been invited again to contribute to the SADC Regional Database Management Training Workshop to be held in early 2022.

28. The Secretariat has also collaborated with the ICRISAT Plan Breeding Program. This programme decided to assign DOIs to any material made available for distribution, regardless of it being a genebank accession or a breeding line. It has developed a tool for breeders implementing the XML Integration Protocol. This collaboration resulted in 628 new DOIs being registered as of the end of March 2021.

29. The Secretariat has continued the collaboration with the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK) to facilitate the compatibility of the DOIs the IPK assigns to PGRFA directly by itself. As a result, 144 052 DOIs assigned directly by IPK are now available through the GLIS search function. Similarly, the Secretariat collaborates with the National Research Institute for Agricultural Research (INRAE) of France to make more than 80 000 PGRFA available through the compatible DOIs.

30. In the framework of the well-established partnership with the Global Crop Diversity Trust, a coordinated approach is being adopted on taxonomy. Both Genesys and GLIS are using GRIN Taxonomy as a reference for spell-checking and other functions such as synonymy search. This ensures that both systems present a coherent and equivalent taxonomy to users. Additionally, joint contacts are being established with the Agricultural Research Service of the United States Department of Agriculture (USDA/ARS) regarding GRIN Taxonomy, with some suggestions and comments regarding species coverage and facilitated access to the regular updates.

31. Following the advice provided by the Scientific Advisory Committee, the Secretariat has collaborated with CIMMYT to facilitate the integration of GRIN-Global with two Treaty systems. The collaboration has resulted in a new version that incorporates specific tools for the management and export of SMTA data to Easy-SMTA and the data needed for the registration and update of DOIs to GLIS. This new version has already been deployed in a number of genebanks, and the Secretariat has been assisting the users with both SMTA reports and DOI registrations.

32. Collaboration has continued with the European Search Catalogue for Plant Genetic Resources (EURISCO) to implement the XML Integration Protocol. Thanks to this collaboration and in the context of the agreement signed with the European Cooperative Programme for Plant Genetic Resources (ECPGR), the Network offers to its members DOI registration through GLIS as an additional service during their regular reporting cycle. In total, 23 918 DOI registrations have been made in this way from genebanks in Azerbaijan and one in Romania.

33. The Secretariat has also collaborated with the Brazilian Agricultural Research Corporation (EMBRAPA) for the implementation of the XML Integration Protocol resulting in 27 913 DOI registrations for the rice and beans collections. Work is ongoing to extend registrations to other collections.

34. The Secretariat was invited to participate in a workshop organized by the University of Exeter, titled "Towards responsible data linkage: Global challenges for food security and governance", held remotely in March 2021. In preparation for the workshop, a collaboration was

established with The Alliance of Bioversity International and CIAT, the Big Data Platform of the CGIAR and Oregon State University to provide insights on interoperability tools.

## VII. PROMOTION AND USE OF DIGITAL OBJECT IDENTIFIERS, AND THE IMPACT OF THE GLIS PORTAL

35. The number of Digital Object Identifiers (DOIs) recorded in the GLIS Portal has grown from 627 942 in mid-May 2018 to 1 154 455 (+84%) in mid-March 2021. The DOIs directly assigned through GLIS Management Module, as of Mid-March 2021, are 1 010 403 (+61% increase over the number from mid-May 2018).

36. The Secretariat regularly receives requests for information on the use of the DOIS. During the last year, it has provided ad hoc briefings to national and regional genebanks on the process to assign DOIs to PGRFA, as well as to the projects funded by the Benefit-sharing Fund of the International Treaty.

37. Triticum, Oryza, Hordeum and Phaseolus are the genus comprising almost half of the materials registered. The share of DOIs assigned by genus is illustrated in Figure 8.

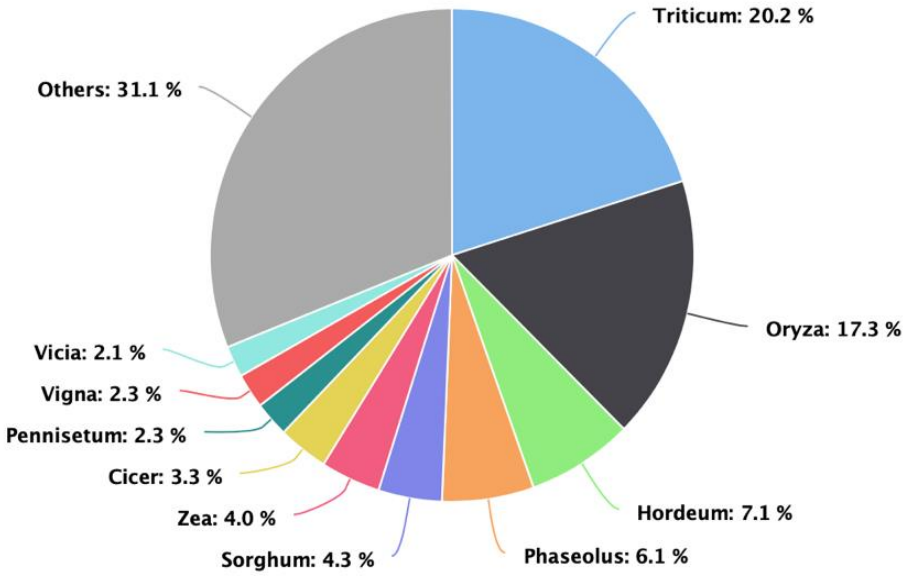



***Figure 8**: PGRFA registration by genus.*

38. DOIs have been registered by batch upload (568 383 or 49%) and via the XML Integration Protocol (585 947 or 51%). Notably, 125 DOIs have been registered manually by 11 registrants.

39. The total number of registrants is 69 from 47 different countries with their share by type of user as shown in Figure 9 below:

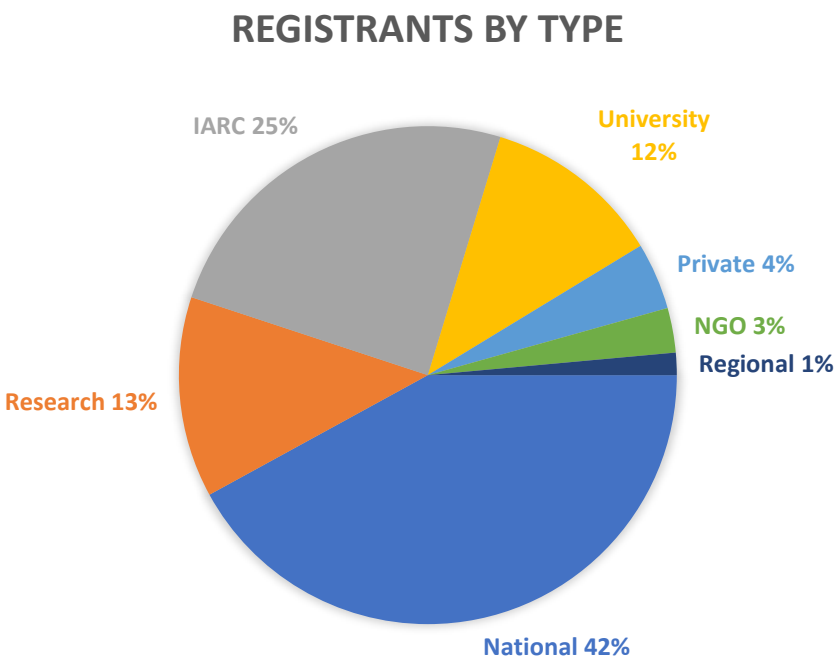



***Figure 9:*** *Share of registrants by type of user.*

40. A significant increase in GLIS impact is reported by Google Analytics. Since December 2020, GLIS has experienced:

i. +430% in the monthly number of clicks, i.e. users exploring GLIS, from 92 to 396;

ii. +321% in the monthly number of impressions, i.e. Google search results in which GLIS links appear, from 17 500 to 56 200;

iii. GLIS moved from position 16.9 to position 13.6 in Google search results, showing increased relevance;

iv. the share of sessions, by country, during March 2021 is presented in Figure 10 below.

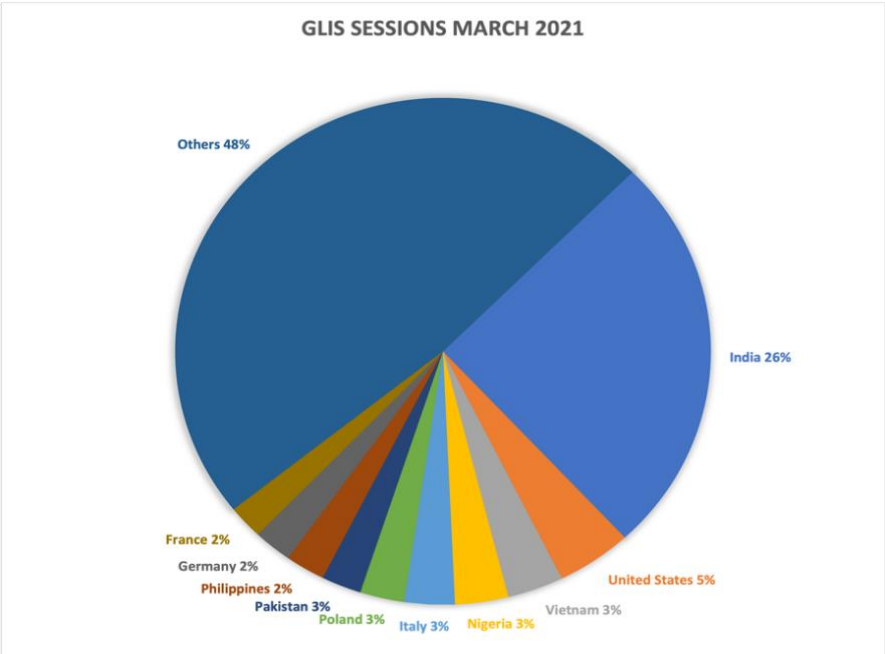



***Figure 10****: Share of GLIS sessions by country in March 2021.*

41. Since the third meeting of the Scientific Advisory Committee, the Secretariat has been invited to support users in the following EU-funded projects:

i. INCREASE – *Intelligent Collections of Food Legumes Genetic Resources for European Agrofood Systems* (https://www.pulsesincrease.eu). The Secretariat provides, among other tasks, advice on the transfer of material within and outside the project through SMTAs and the assignation of DOIs to all material used in the project. The project also includes a Citizen Science Experiment that is supported by a mobile application developed on purpose. Such application includes SMTA management and DOI assignation to the materials received by participating citizens;

ii. RADIANT - *ReAlising DynamIc vAlue NeTworks for underutilized crops*. The project is finalizing the Consortium Agreement. Again, the involvement of the Secretariat is focused on ethics and SMTA/DOI adoption.

42. During the same period, the Secretariat has collaborated with several projects funded by the benefit-sharing Fund in developing countries, helping them assign DOIs to materials resulting from project activities that have not been deposited in a genebank. As of 31 March 2021, 9 839 DOIs have been associated with PGRFA within ten projects managed in eight different countries.

## VIII. ADVICE SOUGHT

43. The Committee is invited to:

a. ***Take note*** of the development of the structural elements of the GLIS Portal and the DOI Management Module, including the graph browser, and ***provide advice*** in the form of feedback and suggestions for their further development;

b. ***Take note*** of the partnerships and collaborations developed in the context of the GLIS Portal and ***provide advice*** on other possible opportunities;

c. ***Take note*** of the activities undertaken so far, for the promotion and use of the DOIs and the GLIS Portal and ***provide advice*** on possible next steps;

d. ***Provide advice*** on any other elements of Objective 3 of the Programme of Work of GLIS, as contained in Governing Body Resolution 4/2019, the Committee may wish to address.

***Annex***

**Annotated Resolution 4/2019**

| | |
|---|---|
| 1. ***Takes note*** of the progress made in the implementation of the Programme of Work on GLIS during the 2018–2019 biennium and ***requests*** that such implementation continues in the 2020–2021 biennium; | The implementation of the PoW has continued. |
| 2. ***Takes* no**te of the progress made in the voluntary use of the Digital Object Identifiers (DOIs), and ***requests*** the Secretary, subject to the availability of resources, to continue its efforts to build the capacity of relevant stakeholders, especially in developing countries and to review the DOI Guidelines taking into account comments from national genebanks; | The promotion of DOIs has continued. See section VI above. |
| 3. ***Takes note*** of the ongoing collaboration with Genesys, the World Information and Early Warning System (WIEWS), GRIN-Global, the European Search Catalogue for Plant Genetic Resources (EURISCO) and the SPGRC Documentation and Information System (Web-SDIS), and ***requests*** the Secretary to continue enhancing cooperation with relevant institutions and initiatives, and to facilitate the exchange of information through the Global Information System with existing information systems while avoiding duplication of efforts, including with the DivSeek International Network, Global Open Data for Agriculture and Nutrition (GODAN), the CGIAR Big Data Platform and the Global Biodiversity Information Facility (GBIF); | Most documents contain specific references to the partnerships and collaboration for each objective and area of work. The document, IT/GB-9/SAC-GLIS-4/21/6, provides an overview of the major partnerships and collaboration in the general context of the PoW. |
| 4. ***Encourages*** the International Union for the Protection of New Varieties of Plants (UPOV) to explore possibilities for free access to and use of the information in the PLUTO database, including downloading information, for example by linking PLUTO to GLIS; | Information on the Pluto database is contained in the document, IT/GB-9/SAC-GLIS-4/21/6, as well as the latest interaction with the UPOV Secretariat on this issue. |
| 5. ***Requests*** the Secretary, subject to availability of resources, to establish infrastructural elements in the GLIS Portal linking to information related to plant genetic resources for food and agriculture (PGRFA), such as methods, standards, actors, capacity building and legal issues, in accordance with national and/or local legislation, as appropriate; | The structural elements are described in IT/GB-9/SAC-GLIS-4/21/3.1/2, as well as the initial work undertaken for its development. |

| | |
|---|---|
| 6. ***Takes note*** of the ongoing Secretariat project entitled "Development of a Globally Agreed List of Descriptors for in situ Crop Wild Relatives Documentation" funded by the Government of Germany and ***encourages*** the participation of experts in the consultation process; | Additional information on the project, the consultations and the descriptors is contained in the document, IT/GB-9/SAC-GLIS-4/21/4.1, *Descriptors for Crop Wild Relatives Conserved in Situ*, and will be addressed under item 4 of the Provisional Agenda. |
| 7. ***Further takes note*** of the usefulness of controlled vocabularies and crop ontologies, and ***requests*** the Secretary, subject to the availability of resources, to support the conversion of existing crop descriptors into ontologies and to further explore the use of stable ontologies through the Global Information System; | The document, IT/GB-9/SAC-GLIS-4/21/4.2, contains information on the current status of the crop descriptor lists and a proposal for their further development. The Secretariat has initiated some research on crop ontologies. Additional efforts will be needed in the future. |
| 8. ***Recalls*** the opinion of the Scientific Advisory Committee on the usefulness of the voluntary application of DOIs to PGRFA information and ***thanks*** the stakeholders and users that have submitted information on the application of DOIs to digital sequence information/genetic sequence data (DSI/GSD), including to link phenotypic and passport data with genomics data; | The documentation prepared for Agenda Item 5, IT/GB-9/SAC-GLIS-4/21/5, contains references to the latest developments at the international level related to DSI/GSD. |
| 9. ***Requests*** the Secretary to encourage and guide users to link scientific publications and datasets to PGRFA material, and in supporting users to incorporate such information into information management systems; | The efforts undertaken are reported mainly in this document. A specific section is under development in the GLIS Portal, disseminating useful information and know-how in the form of technical guidelines and about relevant initiatives and resources on "Publishing, citation and metadata". |
| 10. ***Thanks*** the Scientific Advisory Committee for the development of entry points developed in the Master Plan for the Portal and ***requests*** the Secretary to incorporate them in the GLIS Portal as soon as possible; | The structural elements are described in IT/GB-9/SAC-GLIS-4/21/3.1/2, as well as the initial work undertaken for its development. |
| 11. ***Takes not***e of progress made with the DivSeek International Network, and requests the Secretary to explore possible arrangements for further engagement with the Network, under the guidance of the Bureau of the Ninth Session; | The collaboration with DivSeek is reported in the document, IT/GB-9/SAC-GLIS-4/21/6. A memorandum of understanding is in the process of being finalised. |
| 12. ***Decides*** to reconvene the Scientific Advisory Committee with the same composition and terms of reference of the previous biennium, subject to the availability of financial resources, and ***requests*** the Secretary to continue updating the Committee on progress with the GLIS Vision and the Programme of Work on GLIS; | A briefing session was organized in November 2020 and the fourth meeting was convened through electronic means in April 2021. Due to the protocols and measure put in place to limit the spread of COVID-19, it has not been possible to organize an in-person meeting. |

| | |
|---|---|
| 13. ***Invites*** the Scientific Advisory Committee to review, as may be required, the Programme of Work on GLIS for the consideration of the Governing Body at its Ninth Session; | The document, IT/GB-9/SAC-GLIS-4/21/7, contains a proposal for the consideration of the Committee. The proposal integrates the inputs received from members and the previous advice provided by the Committee, as well as the guidance by the Governing Body |
| 14. ***Requests*** the Scientific Advisory Committee to continue considering scientific and technical issues of relevance to DSI/GSD, and considering national legislation, as appropriate; | The documentation prepared for Agenda Item 5, IT/GB-9/SAC-GLIS-4/21/5, contains references to the latest developments at the international level related to DSI/GSD. |
| 15. ***Invites*** Contracting Parties, other governments and stakeholders to provide the necessary resources to implement the Programme of Work on GLIS, in particular for the further development of the GLIS Portal, the review of crop ontologies and the support of training and capacity-strengthening activities in developing countries; | During the current biennium, extra-budgetary resources were received for the implementation of the project, "Development of a Globally Agreed List of Descriptors for in situ Crop Wild Relatives Documentation", described in the document, IT/GB-9/SAC-GLIS-4/21/4 |
| 16. ***Requests*** the Secretary to follow up on the implementation of the recommendations of the Scientific Advisory Committee and to submit a progress implementation report to the Ninth Session of the Governing Body. | The Secretary will prepare a report for the Ninth Session on the work and recommendations of the Committee |