



Item 11 of the Provisional Agenda

TENTH SESSION OF THE GOVERNING BODY

Rome, Italy, 20–24 November 2023

Report on the Implementation of the Global Information System

Executive Summary

This document provides an update on the operations of the Global Information System of the International Treaty and implementation of the Programme of Work on the Global Information System (PoW-GLIS) since the last Session of the Governing Body. It is organised into three sections. The first contains a brief report from the Secretary on major updates regarding the GLIS Portal, assistance to users, the improvement of documentation of plant genetic resources for food and agriculture (PGRFA), and major partnerships. The second highlights important items of advice provided by the Scientific Advisory Committee at its fifth meeting in May 2023. The third presents key considerations on the contribution of the Kunming-Montreal Global Biodiversity Framework (GBF) to the work of the International Treaty on Article 17, and vice versa.

Guidance Sought

The Governing Body is invited to take note of this progress report and provide any guidance it considers appropriate for further implementation of the PoW-GLIS and related activities, taking into account the elements for a possible Resolution, as provided in *Annex 3* of this document.

I. INTRODUCTION

1. The Ninth Session of the Governing Body, through Resolution 5/2022, adopted a revised Programme of Work on the Global Information System (PoW-GLIS) for 2023–2028. The revised PoW-GLIS contained activities organized around five objectives: the GLIS Portal; interoperability; access and use of information; information and knowledge sharing; and capacity development and technology transfer.¹

- 2. This document has been structured to facilitate reporting on progress from the Secretariat and the relevant initiatives led by the Contracting Parties in relation to the operations and implementation of the PoW-GLIS and to reflect the advice received from the Scientific Advisory Committee (SAC-GLIS or the Committee). In Section II and the corresponding *Annex 1*, the Secretary summarizes the major activities undertaken under PoW-GLIS since the Ninth Session of the Governing Body.
- 3. The SAC-GLIS held one meeting in 2023, and its report is available as part of documentation for the Session. For the first time, this report contains, in Section III and its corresponding *Annex 2*, some of the key highlights, with a view to facilitating monitoring of the PoW-GLIS and its integration in the Resolution.²
- 4. In Section III, the document also introduces considerations related to the relevant elements of the recently adopted Kunming-Montreal Global Biodiversity Framework and the possible relationship with the PoW-GLIS.
- 5. Finally, in *Annex 3*, the Secretary provides some elements for a possible Resolution, for the consideration of the Governing Body.

II. OPERATIONS OF THE GLOBAL INFORMATION SYSTEM AND IMPLEMENTATION OF THE PROGRAMME OF WORK

- 6. Since the Ninth Session of the Governing Body, the Secretary has continued to expand and improve the content of the GLIS Portal and related services, in particular:
 - a. expanding the Directory of Links of the GLIS Portal, with new entries;
 - b. integrating the Toolbox on sustainable use of PGRFA into the homepage of the portal;
 - c. providing assistance to users for the assignation of Digital Object identifiers (DOIs) to PGRFA;
 - d. organizing training and providing technical support;
 - e. improving the security and reliability of the portal and migrating it to a new server and a new URL;³
 - f. increasing the content that is available in the six official languages of the United Nations; and
 - g. collecting and assessing information from users and partners.
- 7. At the time of preparation of this document, gene banks, plant breeders and other PGRFA holders had assigned 1.4 million DOIs; information about those records is available through the GLIS Portal, including links to related information in other databases, publications and projects etc.
- 8. The Secretary has also provided support to the documentation of PGRFA by:
 - a. promoting the use of descriptors for the Crop Wild Relatives (CWR) conserved in situ;
 - b. supporting countries in the development of national inventories of CWR;
 - c. developing a module for the documentation of CWR conserved in situ in the GLIS Portal; and
 - d. developing crop descriptor lists for five crops.
- 9. Additional information on these and other activities, including on cooperation with other organizations and initiatives, is contained in *Annex 1*.

¹ www.fao.org/3/nk240en/nk240en.pdf

² www.fao.org/3/cc6139en/cc6139en.pdf

³ The GLIS Portal will be moved from <u>ssl.fao.org/glis/</u> to <u>glis.fao.org/glis</u> on 31 July 2023.

III. FIFTH MEETING OF THE SCIENTIFIC ADVISORY COMMITTEE

10. The fifth meeting of the Scientific Advisory Committee on the Global Information System (SAC-GLIS-5) was held in Rome on 8 and 9 May 2023. It was chaired by Theo VAN HINTUM (The Netherlands) and Dickson NG'UNI (Zambia) and provided helpful advice to the Secretary on a wide range of issues.⁴

- 11. The Committee recalled that the aim of the GLIS was to bridge the gap in communication among the institutions serving as sources of PGRFA, those conducting research and added-value activities, and those using PGRFA to develop products. The Committee noted the mandate of GLIS to create a directory of links to existing PGRFA information sources and facilitate access to them.
- 12. The Committee considered the report from the Secretary on partnerships and the various presentations from observers and invited organizations. It reiterated the importance of collaborations and partnerships for the effective implementation and coherent development of GLIS, and advised the Secretary to continue enhancing collaborations.
- 13. The Secretariat has summarized, in *Annex 2*, some highlights from the Report of the Committee that could be of relevance for the provision of guidance by the Governing Body in relation to the GLIS Portal, interoperability, the documentation of PGRFA and other related matters.

IV. OTHER RELEVANT UPDATES

- 14. The fifteenth meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 15) adopted the Kunming-Montreal Global Biodiversity Framework (GBF), which aims to catalyse, enable and galvanize urgent and transformative action by governments, and subnational and local authorities, with the involvement of all of society, to halt and reverse biodiversity loss, to achieve the outcomes it sets out in its Vision, Mission, Goals (4) and Targets (23), and thereby contribute to the three Convention on Biological Diversity (CBD) objectives and to those of its Protocols.⁵
- 15. At its Ninth Session, the Governing Body again tasked the Committee with considering scientific and technical issues of relevance to Digital Sequence Information/Genetic Sequence Data (DSI/GSD), and considering national legislation, as appropriate. The Secretariat provided the SAC-GLIS-5 with a synthesis of the DSI/GSD-related outcomes arising from COP 15, as they relate to the PoW-GLIS and the mandate of the Committee. ⁶
- 16. The Committee recalled that the Ninth Session had used the term 'Digital Sequence Information/Genetic Sequence Data', and noted that CBD COP 15 agreed on the continued use of the term 'digital sequence information' for further discussions. The Committee further noted that the lack of a definition of the term could limit the ability to consider technical and scientific issues of relevance.
- 17. The Committee expressed its appreciation of the scientific collaboration promoted under GLIS, which addressed objective 3B of the PoW-GLIS, including DSI/GSD, as it relates to Article 17.7
- 18. Under the PoW-GLIS, the concept of interoperability among existing information systems is key. ⁸ It is expected that interoperability solutions will likely be instrumental to associating benefits to the access and use of DSI/GSD, in support of the monitoring framework approved by COP 15, and to which the International Treaty, without prejudice to its specific mandate and governance, may contribute to in the future.
- 19. The SAC-GLIS-5 noted that some of the information in the Directory of Links of the GLIS Portal could be relevant to other portals and information systems, including the CBD Access and Benefit-Sharing

The full text of the Framework is available at: www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.docx

⁴ www.fao.org/3/cc6139en/cc6139en.pdf

⁶ IT/GB-10/SAC-GLIS-5/23/3.3 Rev.1, Developments regarding Digital Sequence Information/Genetic Sequence Data, available at www.fao.org/3/cc5400en/cc5400en.pdf

⁷ Objective 3B of the PoW of GLIS is the following: to monitor policy developments in international fora of relevance to the GLIS Vision and the POW-GLIS and document the scientific and technical impacts of national legislation related to accessing and using PGRFA-associated information, including digital sequence information / genetic sequence data, in the context of Article 17.

⁸ In relation to the creation of linkages between phenotypic and passport data with genomics data (section 2.a of the PoW-GLIS); and also in relation to the work to support the transparency on the rights and obligations of users for accessing, sharing and using PGRFA-associated information (section 3 of the PoW-GLIS).

Clearing-House, and invited the Secretary to explore interoperability with other systems to make these datasets available for further use and publication. At the time of preparation of this document, the Secretariat is discussing the renewal of the Memorandum of Cooperation with the CBD Secretariat, where information exchange and interoperability have been identified as strategic areas for future joint work.

- 20. The Governing Body may wish to take note of this update and provide the Secretary with guidance on how to facilitate the continued consideration of the issues of relevance related to DSI/GSD as they relate to Article 17, and the implications of COP 15 outcomes on the PoW-GLIS in future years.
- 21. Since the Ninth Session, the Secretariat has continued to interact with the DivSeek International Network. In particular, a representative of the Secretariat participated as an observer in DivSeek's annual assembly and attended three workshops organized by DivSeek. In reciprocity, the Secretariat invited a DivSeek representative to the SAC-GLIS-5 meeting, where a representative provided a progress report. Ongoing cooperation has focused on raising awareness about the opportunities that the International Treaty brings for scientists. As a result, some members of the Network have expressed interest in collaborating with GLIS. The Secretariat is also providing inputs for the drafting of a new white paper by DivSeek on "Plant digital commons: from conservation to consumption". The paper will present a tactical roadmap outlining how information exchange can help to harness PGRFA for the benefit of humanity.⁹

V. GUIDANCE SOUGHT

22. The Governing Body is invited to consider the elements provided in section II to IV and *Annex 3* to this document in order to adopt a Resolution on the Implementation of the Global Information System.

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⁹ The Secretary has invited the DivSeek Network to provide a report to the Governing Body on relevant activities.

Annex 1

Updates on the Operations and Implementation of the PoW-GLIS

A. Update on the GLIS Portal and Interoperability

- 1. At its Ninth Session, the Governing Body took note of the progress made in the promotion of DOIs. It also encouraged the Secretary, subject to the availability of resources, to continue to promote their use, on a voluntary basis, and to expand efforts to build the capacity of relevant stakeholders, especially in developing countries. This activity was also included in the Programme of Work under the section on interoperability. The Secretary presented a detailed report to the Scientific Advisory Committee at its fifth meeting in May 2023. What follows is an update of the figures and activities reported to the Committee.
- 2. The Toolbox on Sustainable Use of PGRFA, developed under the guidance of the Ad-hoc Technical Advisory Committee on Conservation and Sustainable Use, has been integrated in the GLIS Portal. The Toolbox contains links to 1 600 new resources and has notably enriched the Portal's Directory of Links.
- 3. The number of DOIs recorded in the GLIS Portal had grown from 1 228 334 in mid-May 2022 to 1 462 870 (+19 percent) by the end of June 2023. This includes the 77 429 DOIs assigned, so far, by the INCREASE Citizen Science Experiment. Unless otherwise indicated, the updates on DOI adoption provided in this document refer to the period mid-May 2022 to the end of June 2023.
- 4. New DOI registrations have been received, as in Table 1 below listing the top 20 registrants:

Table 1. Top 20 latest registrants of materials in GLIS since May 2022 10

Registrant	Country/Territory	DOIs
Australian Pastures Genebank of the South Australian Research and Development Institute	Australia	85 101
World Vegetable Center	Taiwan, Province of China	70 560
ICRISAT Plant Breeding Program	India	7 667
The Leibniz Institute of Plant Genetics and Crop Plant Research (IPK)	Germany	5 182
National Centre for Genetic Resources and Biotechnology	Nigeria	4 293
Institut d'Economie Rurale (IER)	Mali	3 733
CSIR-Plant Genetic Resources Research Institute	Ghana	1 857
Institute of Plant Genetics, Polish Academy of Sciences	Poland	1 595
Scientific Centre of Vegetable and Industrial Crops	Armenia	1 298
Africa Rice Center (AfricaRice)	Benin	982
International Institute of Tropical Agriculture (IITA)	Nigeria	970
International Maize and Wheat Improvement Center (CIMMYT)	Mexico	959
Genetic Resources Department of Agricultural Research Ministry of Municipality and Environment	Qatar	917
Institut Tchadien de Recherche Agronomique pour le Développement	Chad	820
International Center for Biosaline Agriculture	United Arab Emirates	768
Scuola di Scienze Agrarie, Forestali, Alimentari ed Ambientali (SAFE)	Italy	450
International Center for Agricultural Research in the Dry Areas (ICARDA)	Morocco	401
Lebanese Agricultural Research Institute (LARI)	Lebanon	368
IPK, Oil Plants and Fodder Crops in Malchow	Germany	346
Plant Genetic Resource Center	Albania	152

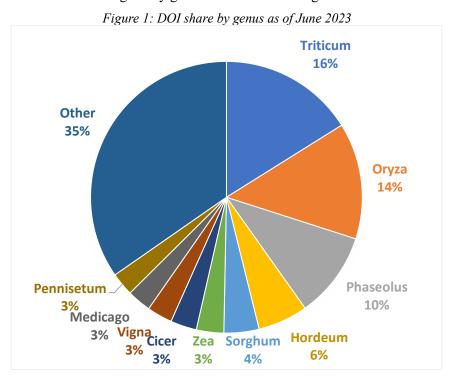
5. Particularly relevant are the new registrations from the Australian Pastures Genebank and the World Vegetable Center. Also, a number of national institutions are now registering DOIs, such as: The National Institute for Agricultural and Food Research and Technology (INIA) Spain, Serbian and Bulgarian gene banks, and the Agricultural Institute of Slovenia.

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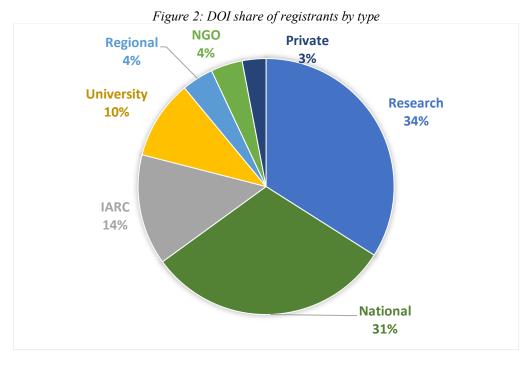
¹⁰ All data and figures are drawn from: Secretariat of the ITPGRFA. June 2023

6. The Alliance of Bioversity International and the International Center for Tropical Agriculture (The Alliance) has adopted the XML Integration Protocol, abandoning the Excel-based batch registration. CIMMYT, which regularly registers DOIs through GRIN-Global, is also adopting the batch registration for international nurseries and regional offices.

7. The overall share of DOIs assigned by genus is illustrated in Figure 1.

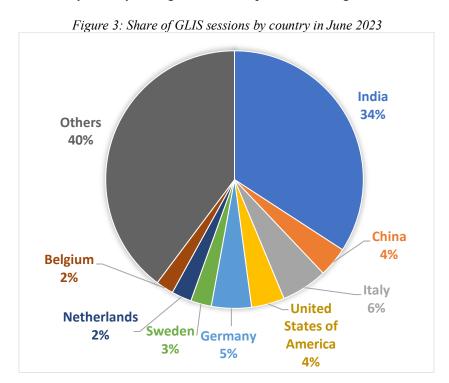


- 8. New DOIs have been registered by batch upload (102 602 or 44 percent) and via the XML Integration Protocol (131 932 or 56 percent). Also, two DOIs have been registered manually.
- 9. The total number of registrants, excluding the 1 347 citizens registered by the INCREASE project, is 108 (up from 69) from 65 different countries/territories (up from 47), with their share by type shown in Figure 2.



10. In February 2023, GLIS switched to the new Google Analytics 4, and therefore some indicators on Internet visits are not significant for this report. Additional statistical figures on visits will be provided for the various sections of the GLIS Portal in the next report, following the advice of the SAC-GLIS-5 received in May 2023.

11. The share of sessions by country during June 2023 is presented in Figure 3 below.



- 12. During the period from March 2021 to end of June 2023, the Secretariat collaborated with implementing partners of several projects funded by the Benefit-sharing Fund of the International Treaty (BSF), assisting them in assigning DOIs to materials resulting from project activities that have not been deposited in a gene bank. At the time of writing this document, 12 165 DOIs have been associated to 18 BSF projects, led by 22 different countries, including the 9 235 registered by the BSF project led by Indonesia, which resulted in the Integration Toolkit.
- 13. In July 2023 the GLIS server, according to FAO's strategy, was migrated to the Amazon Cloud. This provides improved performance and availability and reduces costs. The change involved a new URL being assigned to GLIS: https://glis.fao.org/glis. Measures have been adopted to minimize the impact through a redirection page at the old URL, pointing users to the new URL. Also, managers of the external systems interacting with GLIS have been notified of the change, in advance, and support has been provided to avoid problems and disruptions. The change also impacted Google Analytics, which has been configured to gather information from the new URL.
- 14. The project implemented by the Secretariat on CWR conserved *in situ* has resulted in advancements with the new module for material conserved *in situ*. The module was developed in 2022 and is currently available on the GLIS test server. In collaboration with the national documentation teams participating in the project, the module has been tested and will be published and promoted in the second half of 2023, following advice received from the SAC-GLIS-5.

B. Update on PGRFA Documentation and Other Matters

- 15. The Secretariat has continued to support Contracting Parties in the documentation of CWR through the project "Development of globally agreed list of descriptors for 60 crop wild relatives documentation", funded by the Government of Germany. A progress report was presented to the SAC-GLIS-5 in May 2023.
- 16. The Secretariat has promoted the revised English version of the descriptors for CWR and the booklet was translated into Arabic, French and Spanish. All versions are available on the International Treaty website

and the GLIS Portal under a dedicated section on descriptors.¹¹ The Secretariat also promoted the value of CWR through the development of a banner and a factsheet to be distributed at relevant meetings.

- 17. 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". 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.¹²
- 18. 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. In June 2023, the Secretariat published another booklet on Fodder trees descriptors. A third one, on Forage grasses, is planned for publication at the end of August 2023.
- 19. The Secretariat is also joining forces with the Avena Working Group of European Cooperative Programme for Plant Genetic Resources (ECPGR) to support the update of the Oat descriptors, published in 1985, and is supporting the development of the *Pisum* descriptors with a group of international experts.

¹¹ www.fao.org/3/cb3256en/cb3256en.pdf

¹² www.fao.org/plant-treaty/news/news-detail/en/c/1635750/

¹³ www.fao.org/3/cc4598en/cc4598en.pdf

¹⁴ www.fao.org/3/cc6601en/cc6601en.pdf

Annex 2

Highlights from the Scientific Advisory Committee

- 1. At its fifth meeting, the Scientific Advisory Committee (SAC-GLIS):
 - a. Noted the progress made in the promotion and use of the voluntary Digital Object Identifiers (DOIs) and emphasized the usefulness of other permanent identifiers used by gene banks;
 - b. Welcomed the integration of the Toolbox for Sustainable Use of PGRFA into the GLIS Portal;
 - c. Invited the Secretary to expand the content of the Directory of Links;
 - d. Appreciated the ongoing collaboration with the World Information and Early Warning System on Plant Genetic Resources for Food and Agriculture (WIEWS), Genesys, the Documentation and Information System of the SADC Plant Genetic Resources Centre (Web-SDIS), and the European Search Catalogue for Plant Genetic Resources (EURISCO), and the CGIAR Genebank Initiative on *ex situ* documentation, and advised the Secretary to continue the collaboration with these entities and systems to enhance synergies and avoid duplication of efforts;
 - e. Noted the information provided by the Secretary on the use of the descriptor "country of provenance" in the GLIS Portal and its usefulness for PGRFA users, and advised the Secretary to further promote its use through capacity development and awareness-raising activities;
 - f. Invited the Secretary to publish and promote the GLIS module for the documentation of PGRFA conserved *in situ*, based on the content of the crop wild relatives (CWRs) descriptors.
- 2. The Committee emphasized the need to continue to provide support to Contracting Parties for documenting PGRFA, making the information available online and promoting the use of gene bank curation tools. The Committee also:
 - a. Welcomed the progress made by the project "Development of globally agreed list of descriptors for *in situ* crop wild relatives' documentation" and the support provided to Contracting Parties through this initiative;
 - b. Welcomed the development of the CWR Descriptor Tool v.1 and recommended the Secretary to further promote its use;¹⁵
 - c. Emphasized the value of connecting *in situ* and *ex situ* information and noted that it would be valuable for the Governing Body to reiterate its invitation to Contracting Parties to consider developing national inventories of CWRs conserved *in situ*, and call on potential donors and stakeholders to support these processes and initiatives;
 - d. Welcomed the process for the development of other crop descriptors in collaboration with the European Cooperative Programme for Plant Genetic Resources (ECPGR), the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), ICAR-National Bureau of Plant Genetic Resources of India, and other partners;
 - e. Reiterated the invitation to the Secretary to continue to develop crop descriptor lists, subject to the availability of resources, for future discussion.
- 3. The Committee expressed its appreciation of the scientific collaboration promoted under GLIS, which supports addressing objective 3B of the PoW, including DSI/GSD as it relates to Article 17, and noted that the lack of a definition of the term could limit the ability to consider technical and scientific issues of relevance.

¹⁵ www.fao.org/plant-treaty/news/news-detail/en/c/1635750/

Annex 3

DRAFT RESOLUTION **/2023

IMPLEMENTATION OF THE GLOBAL INFORMATION SYSTEM

THE GOVERNING BODY,

Recalling its previous Resolutions and decisions on the Vision and the Programme of Work on the Global Information System (PoW-GLIS), and particularly Resolutions 5/2022;

Further recalling the contribution of the Global Information System of Article 17 of the International Treaty (GLIS) to the Multilateral System of Access and Benefit-sharing, in particular to the provisions of Article 13.2.a;

- 1. **Takes note** of the integration of the Toolbox for Sustainable Use of PGRFA into the GLIS Portal and the development of the module to document Crop Wild Relatives and **requests** the Secretary to promote the module and expand the content of the Director of Links;
- 2. **Takes note** of the progress made in the promotion of the use of Digital Object Identifiers (DOIs) and **encourages** the Secretary, subject to the availability of resources, to continue to promote their use, on a voluntary basis, and to expand efforts to build the capacity of relevant stakeholders, especially in developing countries;
- 3. *Takes note* of the publication of the new crop descriptor booklets and *acknowledges* all the institutions and individuals that have contributed to their accomplishment, and *invites* the Secretary to actively promote their use as well as facilitate the development of further descriptor lists, as appropriate, and subject to the availability of financial resources;
- 4. *Takes note* of the collaboration with WIEWS, Genesys, Web-SDIS and EURISCO, and the CGIAR Genebank Initiative on *ex situ* documentation and *invites* the Secretary to continue the collaboration with these entities and systems to enhance synergies and mutual support;
- 5. *Takes notes* of the development of the CWR Descriptor Tool v.1 and *requests* the Secretary to further improve it and promote its use;
- 6. **Reiterates** the invitation to Contracting Parties that have not done so to consider the development of national inventories on Crop Wild Relatives and **requests** the Secretary, subject to the availability of resources and in partnership with relevant stakeholders, to support Contracting Parties in these efforts;
- 7. **Decides** to reconvene the Scientific Advisory Committee with the same terms of reference as the previous biennium, and subject to the availability of financial resources, to hold at least one meeting in presence and, if necessary, additional virtual meetings, and **requests** the Secretary to continue to update the Committee on progress in the implementation of the PoW-GLIS;
- 8. **Requests** the Scientific Advisory Committee to continue considering scientific and technical issues of relevance to DSI/GSD, as they relate to Article 17, and the implications of the relevant outcomes of COP 15 and their implementation on the PoW-GLIS in future years;
- 9. **Requests** the Secretary to monitor relevant updates on documentation and information exchange of PGRFA for food and agriculture in the context of the Global Biodiversity Framework and to report to the SAC and the Governing Body;
- 10. *Requests* the Secretary to advance on the exchange of relevant information and links with the CBD Clearing House Mechanism in the context of the PoW-GLIS;
- 11. *Thanks* the Government of Germany for the financial support provided for the documentation of Crop Wild Relatives conserved *in situ*;
- 12. *Invites* Contracting Parties, other governments and stakeholders to provide the necessary resources to implement the PoW-GLIS, in particular for the further development of the GLIS Portal, the

- development of national inventories of CWR, and support of training and capacity development activities in developing countries;
- 13. *Thanks* the members of the Scientific Advisory Committee on the Global Information System of Article 17 for the advice provided to the Secretary and their inputs to the various work tracks on GLIS;

14. *Requests* the Secretary to follow up on implementation of the recommendations of the Scientific Advisory Committee and to provide a summary report to the Eleventh Session of the Governing Body.