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COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Item 9.1 of the Provisional Agenda

Twentieth Regular Session

Rome, 24–28 March 2025

REPORT OF THE TWELFTH SESSION OF THE INTERGOVERNMENTAL TECHNICAL WORKING GROUP ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Note by the Secretariat

The Commission, at its last session, requested its intergovernmental technical working groups to meet prior to its Twentieth Regular Session.[1] The Twelfth Session of the Intergovernmental Technical Working Group on Plant Genetic Resources for Food and Agriculture (Working Group) was held in Rome from 10 to 12 December 2024. The Working Group considered: (i) a revised draft of *The Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture* (Third Report); (ii) the implementation of the *Second Global Plan of Action for the Conservation, Sustainable Use and Development of Plant Genetic Resources for Food and Agriculture* (Second GPA); (iii) two newly developed practical guides for the application of the Genebank Standards for Plant Genetic Resources for Food and Agriculture; and (iv) further research on the impact of seed policies, laws and regulations. The Working Group also reviewed the Second GPA in light of the findings of the Third Report, addressed the role of genetic resources for mitigation of and adaptation to climate change and considered options for the identification of new and emerging issues.

The report of the Twelfth Session of the Working Group is contained in this document, for consideration by the Commission.

[1] CGRFA-19/23/Report, paragraph 139.

Food and Agriculture Organization of the United Nations

COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

CGRFA/WG-PGR-12/24/REPORT

Twelfth Session of the Intergovernmental Technical Working Group on Plant Genetic Resources for Food and Agriculture

Rome, Italy, 10–12 December 2024

NQ937

CGRFA/WG-PGR-12/24/REPORT

COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

REPORT OF THE TWELFTH SESSION
OF THE
INTERGOVERNMENTAL TECHNICAL WORKING GROUP
ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Rome, Italy, 10–12 December 2024

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2024

The documents prepared for the Twelfth Session of the Working Group on Plant Genetic Resources for Food and Agriculture of the Commission on Genetic Resources for Food and Agriculture are available on the Internet at the following address:

https://www.fao.org/agriculture/crops/core-themes/theme/seeds-pgr/itwg/12th/en/

They may also be obtained from

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I. INTRODUCTION

1. The Twelfth Session of the Intergovernmental Technical Working Group on Plant Genetic Resources for Food and Agriculture (Working Group) was held from 10 to 12 December 2024. The Members and alternates of the Working Group, as elected by the Commission on Genetic Resources for Food and Agriculture (Commission) at its Nineteenth Regular Session, are given in *Appendix D.* The list of delegates and observers is available on the FAO website.[2]

II. OPENING OF THE SESSION

2. Ms Imke Thormann (Germany), Chairperson of the Eleventh Session of the Working Group, opened the session and welcomed delegates and observers.

3. Mr Chikelu Mba, Deputy Director, Plant Production and Protection Division (NSP), FAO, welcomed delegates and observers. He stressed that the review of *The Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture* (Third Report) and the review of the *Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture* (Second GPA) are critical steps in shaping the future of plant genetic resources for food and agriculture (PGRFA). He noted that the review of the Second GPA presents a unique opportunity to make significant strides in conserving PGRFA, as countries seek solutions to strengthen their agrifood systems. He thanked all countries, international research centres and regional centres for having provided data for the Third Report and noted with appreciation the participation of countries and international and regional organizations in the regional consultations on the review of the Second GPA earlier this year. He concluded by expressing the hope that the outcomes of the session provide guidance for addressing the challenges global agrifood systems face.

4. Mr Dan Leskien, Senior Liaison Officer of the Commission, welcomed delegates and observers. He stressed that given the enormous challenges the food and agriculture sector was facing collective actions to conserve and sustainably use PGRFA were more important than ever, recognizing that no single country can address all these challenges alone. The contributions by Commission Members to the Third Report were witness to their commitment to the conservation and sustainable use of PGRFA. The review of the Second GPA provides an opportunity to think outside the box and to take into account that each component of biodiversity for food and agriculture depends on and interacts with others across a range of scales, and that the effective management of biodiversity for food and agriculture often requires collaboration among a variety of different stakeholders, both within and beyond the various sectors of food and agriculture.

5. Mr Kent Nnadozie, Secretary of the International Treaty on Plant Genetic Resources for Food and Agriculture (International Treaty) emphasized the importance of the continued collaboration between FAO, the Commission, and the International Treaty Secretariat in addressing shared challenges and opportunities. He noted that the session focuses on key issues, such as strengthening the links between *ex situ* and *in situ* conservation, the critical role of farmers and local communities and the importance of the Third Report in shaping global strategies. He noted that the Working Group continues to play a pivotal role in supporting evidence-based decisions and fostering international collaboration on PGRFA. Additionally, he urged the Working Group to consider the priorities of the Governing Body of the International Treaty, particularly advancing Farmers' Rights, enhancing the multilateral system of access and benefit-sharing, and ensuring the complementarity of conservation strategies.

6. The Working Group adopted the Agenda, as given in *Appendix A*.

[2]https://www.fao.org/agriculture/crops/core-themes/theme/seeds-pgr/itwg/12th/en/

III. ELECTION OF CHAIRPERSON, VICE-CHAIRPERSONS AND *RAPPORTEUR*

7. In line with Article III of its Statutes, the Working Group, in consultation with the regions, replaced absent Members of the Working Group with other Members of the Commission present at the session. Algeria therefore attended the meeting as a Member of the Working Group.

8. The Working Group elected Mr William Wigmore (Cook Islands) as Chair. The Working Group elected Mr Alberto Fallas Barrantes (Costa Rica), Mr Godefroid Kabala Ilunga (Democratic Republic of the Congo), Mr Behzad Sorkhilalehloo (Iran [Islamic Republic of]), Mr Arif Surahman (Indonesia), Mr Ignazio Verde (Italy) and Ms Gayle Volk (United States of America) as Vice-Chairs for the Regions they represent. Ms Volk was elected *Rapporteur*.

IV. THE THIRD REPORT ON THE STATE OF THE WORLD'S PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

9. The Working Group considered the document *Finalization of The Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture*[3] and took note of the document *The Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture – Proofing version.*[4]

10. The Working Group welcomed the Third Report and expressed appreciation for the contributions by countries to the report and the work done by the Secretariat to finalize it, including by making a draft version available at the last sessions of the Working Group and the Commission and a revised version in the beginning of August for comments by Members and observers. However, it noted with concern the limited number of countries that contributed to the Third Report and recommended to review the reporting requirements for future global assessments, adjust and simplify the monitoring framework for the implementation of the Second GPA.

11. The Working Group recommended that the Third Report, after a final round of comments by Members of the Working Group, be published and widely disseminated. It noted that any final comments would have to be received by the Secretariat in writing before 20 December 2024 to allow for the launch of the Third Report on the occasion of the Commission's Twentieth Regular Session (24–28 March 2025).

12. The Secretariat noted that the five draft thematic background studies were made available online between December 2023 and June 2024 for comments by Members and observers. The Working Group requested that these studies be made available for comment without delaying the finalization of the Third Report.

13. The Working Group recommended that the key findings of the Third Report be presented at relevant international meetings to inform global processes on the conservation and sustainable use of PGRFA. Furthermore, it recommended that an in-brief version of the Third Report be prepared and published in all official languages of FAO.

[3] CGRFA/WG-PGR-12/24/3.
[4] CGRFA/WG-PGR-12/24/3/Inf.1.

V. STATUS OF IMPLEMENTATION AND REVIEW OF THE SECOND GLOBAL PLAN OF ACTION FOR PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Implementation of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture

Conservation and management of PGRFA

14. The Working Group considered the document *Implementation of the Second Global Plan of Action* for *Plant Genetic Resources for Food and Agriculture.*[5] It welcomed the support provided by FAO to Members in the implementation of the Second GPA.

15. The Working Group recommended inviting countries to strengthen their efforts to conserve PGRFA *in situ* and *ex situ*, and to maintain them on-farm and to strengthen the links and complementarity between *ex situ* and *in situ* conservation. It noted the need to support *in situ* conservation through *ex situ* backup of endangered plant genetic resources. The Working Group stressed the importance of collaboration between the authorities and entities pursuing the different conservation approaches, including between the Commission and other international instruments and organizations.

16. The Working Group welcomed the survey conducted among the Commission's National Focal Points for PGRFA on the use of the *Voluntary Guidelines for the Conservation and Sustainable Use of Crop Wild Relatives and Wild Food Plants*[6] and the *Voluntary Guidelines for the Conservation and Sustainable Use of Farmers' Varieties/Landraces.*[7] It noted with regret the low response rate. It recommended that FAO continue offering support to countries in their efforts to conserve PGRFA, including in the development or revision of their national plans for the conservation and sustainable use of crop wild relatives, wild food plants and farmers' varieties/landraces, taking into account the two guidelines. The Working Group welcomed in this context the webinar on *Farmers' varieties and landraces: conservation through management on farm* held by FAO in April 2024.[8]

17. The Working Group recommended that activities related to *in situ* conservation of wild PGRFA and activities related to on-farm management of farmers' varieties and landraces be addressed in separate sections in future reports to the Working Group and the Commission.

18. The Working Group recommended that FAO continue providing support to countries in their efforts to maintain germplasm *ex situ*, including for the collection, preservation, characterization, evaluation, documentation and distribution of crop germplasm. It noted that, in providing such support, FAO should seek cooperation with relevant international organizations. The Working Group further recommended that the activities on *in situ* and *ex situ* conservation be reported under separate sections.

Sustainable use

19. The Working Group recommended that FAO continue assisting countries in strengthening national seed systems, including plant breeding, for the delivery of quality seeds and planting materials, in particular to smallholder farmers.

20. It further recommended that FAO offer support, upon request, to countries in the development or revision as well as implementation of their national seed policies and legislations,

[5] CGRFA/WG-PGR-12/24/4.1.
[6] FAO. 2017. *Voluntary Guidelines for the Conservation and Sustainable Use of Crop Wild Relatives and Wild Food Plants*. Rome. https://openknowledge.fao.org/handle/20.500.14283/i7788en
[7] FAO. 2019. *Voluntary Guidelines for the Conservation and Sustainable Use of Farmers' Varieties/Landraces*. Rome. https://openknowledge.fao.org/handle/20.500.14283/ca5601en
[8] https://www.fao.org/cgrfa/news/news-detail/webinar-on-farmers--varieties-and-landraces--conservation-through-management-on-farm/en

taking into account the Commission's *Voluntary Guide for National Seed Policy Formulation*.[9] The Working Group also recommended that FAO invite donors to support countries in the development, revision or implementation of national seed policies and legislations, as appropriate. It further recommended that countries strengthen their crop breeding systems, including for underutilized crops and that FAO continue supporting countries, in close coordination with the International Treaty, in strengthening their crop improvement capacity, including through the Joint FAO/IAEA Centre and, in particular, in support of the implementation of the Second GPA and Article 6 of the International Treaty.

Building sustainable institutions and human capacities

21. The Working Group recommended that countries strengthen their PGRFA-related human and institutional capacities for research and development and that the Commission invite those Members that have not yet done so to nominate National Focal Points for PGRFA.

22. The Working Group recommended that the Commission call for extrabudgetary funds to support countries in the implementation of the Second GPA, including through the development and implementation of national strategies for PGRFA, in close coordination with the International Treaty and in line with its Funding Strategy.

23. The Working Group also recommended that FAO continue reporting, on an annual basis, on the status of implementation of Sustainable Development Goal (SDG) Target 2.5 and share results with the Working Group and the Commission.

24. The Working Group recommended that FAO continue operating and further developing the World Information and Early Warning System on Plant Genetic Resources for Food and Agriculture (WIEWS) portal and strengthening cooperation with GLIS and Genesys to avoid duplication of efforts.

Application of the Genebank Standards for Plant Genetic Resources for Food and Agriculture

25. The Working Group considered the document *Application of the Genebank Standards for Plant Genetic Resources for Food and Agriculture: Practical guides for (1) conservation in genebanks of species producing non-orthodox seeds and (2) conservation through cryopreservation*[10] and took note of the draft practical guide on conservation in genebanks of species producing non-orthodox seeds[11] and the draft practical guide on conservation through cryopreservation.[12]

26. The Working Group welcomed the two draft practical guides and recommended that once finalized, they should be published in all the official languages of FAO. The Working Group highlighted the need to ensure the wide distribution and application of all the practical guides. It recommended that FAO consider and present options for the development of capacity necessary to fully implement the practical guides. It noted that Working Group Members could provide inputs to and comments on the draft practical guides by 15 January 2025.

Effects of seed policies, laws and regulations

27. The Working Group considered the document *Further research on the impact of seed policies, laws and* regulations.[13]

[9] FAO.2015. *Voluntary Guide for National Seed Policy Formulation*. Rome. https://openknowledge.fao.org/handle/20.500.14283/i4916e
[10] CGRFA/WG-PGR-12/24/4.2.
[11] CGRFA/WG-PGR-12/24/4.2/Inf.1
[12] CGRFA/WG-PGR-12/24/4.2/Inf.2.
[13] CGRFA/WG-PGR-12/24/4.3.

28. The Working Group recommended that the Commission, in cooperation with the International Treaty, explore options for further research on the impact of seed policies, laws and regulations, in the light of the concept note reviewed and revised by the Commission at its Nineteenth Regular Session.[14]

29. The Working Group noted that the quotes for further research on the impact of seed policies, laws and regulations on farmers' ability to access seeds and planting materials of diverse, locally adapted farmers' varieties and landraces were indicative and recommended that the Secretariat be requested to propose options for reducing the costs of the research, clarifying the research process, including the selection of countries, for consideration by the Commission at its next regular session. The Working Group further recommended that an open, competitive call following UN standard procedures be used to receive offers for carrying out any further research. It acknowledged the importance of conducting further research into this area, yet questioned whether it was a priority given the amount of extra-budgetary resources that may be required and alternative purposes for which resources could be used, for example research on the impact of landraces on food security and farming income.

Review of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture

30. The Working Group considered the document *Review of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture,*[15] including the list of key issues for the review of the Second GPA,[16] and took note of the reports of the regional consultations held between May and October 2024.[17]

31. The Working Group reviewed and revised the list of key issues for the review of the Second GPA, as given in *Appendix B* to this report, for consideration by the Commission at its upcoming session. It recommended that the Commission invite FAO to prepare, based on the consolidated list of key issues, a draft revised Second GPA for consideration by the Working Group at its next session and, subsequently, the Commission at its Twenty-first Regular Session. It further requested the Commission Secretariat to propose a process for simplifying the reporting format and tool for monitoring the implementation of the revised Second GPA to the upcoming session of the Commission, while ensuring that the data are comparable with those collected for previous reports.

VI. CLIMATE CHANGE AND PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

32. The Working Group considered the document *Climate change and genetic resources for food and agriculture*[18] and took note of the information documents *Draft baseline report on genetic resources for food and agriculture and climate change*[19] and *FAO's work on climate change*.[20]

33. The Working Group recommended that the Commission invite Members to make use of the FAO tools and guidance on climate change adaptation and mitigation when developing or

[14] CGRFA-19/23/7.4 *Appendix I*: Draft concept note on further research on the impact of seed policies, laws and regulations on farmers' ability to access seeds and planting materials of diverse, locally adapted farmers' varieties/landraces.
[15] CGRFA/WG-PGR-12/24/4.4.
[16] CGRFA/WG-PGR-12/24/4.4, *Appendix*.
[17] CGRFA/WG-PGR-12/24/4.4/Inf.1; CGRFA/WG-PGR-12/24/4.4/Inf.2; CGRFA/WG-PGR-12/24/4.4/Inf.3; CGRFA/WG-PGR-12/24/4.4/Inf.4; CGRFA/WG-PGR-12/24/4.4/Inf.5; CGRFA/WG-PGR-12/24/4.4/Inf.6.
[18] CGRFA/WG-PGR-12/24/5.
[19] CGRFA/WG-PGR-12/24/5/Inf.1.
[20] CGRFA/WG-PGR-12/24/5/Inf.2.

updating their National Adaptation Plans (NAPs) and Nationally Determined Contributions (NDCs).

34. Furthermore, it took note of the draft baseline report and urged National Focal Points to the Commission that have not yet done so to complete the questionnaire. It also recommended that the draft baseline report be revised in the light of further submissions by National Focal Points to the Commission, for information of the Commission.

35. The Working Group recommended that the global multistakeholder workshop on climate change and genetic resources for food and agriculture, subject to the availability of funds, be convened before the Twenty-first Regular Session of the Commission to exchange information and experiences, share views and priorities, and discuss possible changes to the *Voluntary Guidelines to Support the Integration of Genetic Diversity into National Climate Change Adaptation Planning* (Voluntary Guidelines),[21] taking into account the findings of the baseline report and relevant experiences of Commission Members. It further recommended that the Secretariat provide further information on the intended modalities and arrangements to the Commission at its upcoming session.

36. It further recommended that the Voluntary Guidelines be revised in light of the baseline report and the outcome of the workshop, for consideration in regional consultations and subsequently by the Working Groups and the Commission.

VII. OPTIONS FOR THE IDENTIFICATION OF NEW AND EMERGING ISSUES

37. The Working Group considered the document *Options for the identification of new and emerging issues*.[22] The Working Group recommended that the Commission, at its forthcoming session, consider the adoption of a new procedure for the ad hoc identification of new and emerging issues by Members either in addition or as an alternative to existing procedures. It further recommended that any new procedure for the identification of new and emerging issues specify to whom the proposal for a new and emerging issue should be addressed.

38. The Working Group requested that the Secretariat of the Commission specify the advantages and disadvantages of proposing new procedures in addition to or instead of existing procedures prior to the upcoming session of the Commission.

VIII. COOPERATION WITH INTERNATIONAL ORGANIZATIONS AND INSTRUMENTS

39. The Working Group took note of the document *Cooperation with international organizations and instruments*.[23] It thanked the Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture, Global Crop Diversity Trust, CGIAR System, the International Seed Federation, the International Treaty, the International Union for the Protection of New Varieties of Plants and the Global Forum on Agricultural Research and Innovation for reporting on their recent activities in support of the conservation and sustainable use of PGRFA.[24]

40. The Working Group stressed the importance of continued international cooperation and synergies between the Commission and international organizations and instruments on topics of mutual interest. The Working Group recommended that the Commission continue to invite relevant organizations and instruments to report to the Working Group and the Commission on their activities and to attend Commission and Working Group sessions.

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[21] FAO. 2015. *Voluntary Guidelines to Support the Integration of Genetic Diversity into National Climate Change Adaptation Planning*. Rome. https://openknowledge.fao.org/handle/20.500.14283/i4940e
[22] CGRFA/WG-PGR-12/24/6.
[23] CGRFA/WG-PGR-12/24/7
[24] CGRFA/WG-PGR-12/24/7/Inf.1

IX. CLOSING STATEMENTS

41. The Chair expressed gratitude to all delegates and the *Rapporteur*, as well as to observers, for their contributions to the success of the session, highlighting the significant achievements of the Working Group. He also thanked the Secretariat on behalf of the Working Group, along with the interpreters, translators and all other supporting staff. He concluded by wishing all participants a safe trip back home and a happy holiday season.

42. Mr Stefano Diulgheroff, Information Management Officer, NSP, FAO and Secretary of the Woking Group, reflected on the outcomes of the meeting, in particular the guidance on the revision of the Second GPA and the finalization of the Third Report, noting that the Working Group had provided important guidance and worked in a spirit of compromise. He thanked the Governments of Canada, Germany, Netherlands (Kingdom of the), Norway and Switzerland for supporting the work of the Commission and its subsidiary bodies and acknowledged the support given by the Secretariats of the Commission and the International Treaty for the organization of the regional consultations on the review of the Second GPA. He acknowledged with appreciation the continuous support provided by National Focal Points, observers and colleagues to the work of the Working Group.

43. Regional representatives took the floor to thank the Chair, the Bureau, delegates, observers, the Secretariat and all the support staff, including those working behind the scenes, and expressed their satisfaction with the outcomes of the meeting. Noting his retirement at the end of 2025, the Working Group expressed its sincere appreciation to Mr. Diulgheroff for his many years of service to FAO and the Commission, and commended him for his strong commitment, perseverance and guidance.

APPENDIX A

AGENDA OF THE TWELFTH SESSION OF THE INTERGOVERNMENTAL TECHNICAL WORKING GROUP ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

1. Election of Chairperson, Vice-Chairperson(s) and *Rapporteur*
2. Adoption of the Agenda and Timetable
3. *The Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture*
4. Status of implementation and review of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture
   - 4.1 Implementation of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture
   - 4.2 Application of the Genebank Standards for Plant Genetic Resources for Food and Agriculture
   - 4.3 Effects of seed policies, laws and regulations
   - 4.4 Review of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture
5. Climate change and plant genetic resources for food and agriculture
6. Options for the identification of new and emerging issues
7. Cooperation with international organizations and instruments
8. Any other matters
9. Adoption of the Report

APPENDIX B

KEY ISSUES FOR THE REVIEW OF THE SECOND GLOBAL PLAN OF ACTION FOR PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

The following information summarizes and consolidates key inputs received from the regional consultations, on the review of the *Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture* (Second GPA). General inputs are presented, followed by inputs relevant to each of the Priority Activities (PA) of the Second GPA.

General inputs

- PAs should be reorganized into the following sections and order:
    - *In situ* conservation and management: PA 1, PA 4, PA 2
    - *Ex situ* conservation: PA 5, PA 6, PA 7
    - Sustainable use: PA 8, PA 9, PA 10, PA 11, PA 12, PA 3
    - Building sustainable institutional and human capacities: PA 13, PA 14, PA 15, PA 16, PA 17, PA 18
- National Biodiversity Strategies and Action Plans (NBSAPs) should be mentioned in the introduction/preamble.

IN SITU CONSERVATION AND MANAGEMENT

PA 1. Surveying and inventorying plant genetic resources for food and agriculture

- **Technical capacities**: The PA should emphasize the need for developing and leveraging expertise across different institutions in areas such as taxonomy, data collection and use, analysis of genetic erosion and development of methodologies for the identification of unique farmers' varieties/landraces (FV/LR).
- **Synergies with National Biodiversity Strategies and Action Plans (NBSAPs) or comparable instruments**: The PA should reference NBSAPs and stress the importance for synergies for surveying and inventorying, as appropriate.
- **Emphasize key plant genetic resources for food and agriculture (PGRFA) groups**: The PA should differentiate among crop wild relatives (CWR), wild food plants (WFP), FV/LR and underutilized species. These plant groups each require a separate focus, including their inventorying, monitoring and management.
- **Facilitate access to protected areas**: The PA should highlight the importance of access to protected areas for monitoring wild PGRFA as well as recommending the inclusion of the monitoring of PGRFA in protected areas management plans, as appropriate.
- **Traceability and identification**: The PA should stress the importance of traceability and identification for monitoring (e.g. permanent unique identifier or Digital Object Identifiers and passport data to be developed for surveyed populations).
- **Comprehensive inventories**: The PA should encourage countries to promote the development of checklists and inventories of CWR, WFP, FV/LR and neglected and underutilized species. These inventories should be periodically updated, include passport data, distribution maps, as possible, and be made accessible through information systems to all stakeholders.
- **Increased efficiency in surveying**: The PA should promote the use of the most efficient tools (e.g. drones and artificial intelligence [AI]) for surveying PGRFA, and support capacity-building initiatives to support the effective application.

- **Involvement of non-governmental organizations (NGOs) and civil society organizations (CSOs)**: The PA should emphasize the importance of greater involvement of, and coordination to support, NGOs and CSOs, in the surveying, inventorying, conservation, distribution and sustainable use of PGRFA, particularly in community seed banks (CSBs). Include a broad and inclusive definition of CSB to reflect diversity of various actors.

PA 2. Supporting on-farm management and improvement of plant genetic resources for food and agriculture

- **Sharing of experiences**: The PA should promote sharing of knowledge among countries for the effective management of FV/LR. It may be a general issue for the introduction.
- **Inclusive agriculture measures**: The PA should stress the need for capacity development and increased awareness on the importance of biodiversity for food and agriculture (BFA) and ecosystem services in conserving and using crop diversity.
- **Participatory approaches**: The PA should promote farmers participatory approaches using Participatory Varietal Selection (PVS) and Participatory Plant Breeding (PPB), the inclusion of gender and youth in on-farm management activities, and foster linkages with CSBs ensuring complementarity with *ex situ* conservation efforts. The PA should stress the role of national and regional genebanks and CSBs. This issue may overlap with PA9, 10 and 11.
- **Registration and incentives**: The PA should invite countries to consider formal registration of FV/LR, as well as incentives and recognition for their cultivation according to national laws, as appropriate.

PA 3. Assisting farmers in disaster situations to restore crop systems

- **Inclusion of emergency responses**: The PA should promote the integration of disaster, conflict and crisis responses measures into national PGRFA strategies, as well as the participation of genebanks in national disaster committees.
- **Mechanisms to assess crop and varietal diversity**: The PA should emphasise the need for pre- and post-disaster assessments of crop diversity, including through the documentation and development of catalogues, for restoration and repatriation.
- **Coordination between national genebanks and CSBs**: The PA should stress the role of national genebanks and CSBs in rapid and adequate supply of seed of FV/LR in disaster response.
- **Information systems**: The PA should highlight the use of information technology and databases to assess the extent and impact of disasters on crop diversity, including through mobile phone applications.
- **Invasive alien species:** The PA should highlight the role of invasive alien species, as well as insect pests and diseases, as causes of disasters.
- **Regional cooperation:** The PA should emphasize regional seed emergency preparedness, and the sharing of good practices and lessons learned.

PA 4. Promoting *in situ* conservation and management of crop wild relatives and wild food plants

- **Policies and frameworks**: The PA should promote the strengthening of legal, institutional and technical frameworks to support the effective conservation, access and use of wild PGRFA, including through fostering synergies in implementing relevant international policies and frameworks (e.g. the Kunming-Montreal Global Biodiversity Framework).

- **National monitoring systems**: The PA should highlight the need to develop national-level monitoring systems for management plans of CWR and WFP.
- **Coordination**: The PA should support national coordination among the different ministries, institutions and related stakeholders. The need for more efforts at the local level and collaboration with local authorities should be highlighted.
- **Efficient management of wild PGRFA populations**: The PA should promote good practices in the management of wild PGRFA populations, including: encouraging cultivation of WFP to relieve harvesting pressure; promoting restoration of wild PGRFA in degraded areas; establishment of *in situ* conservation areas; and developing lists of priority species of wild PGRFA.

EX SITU CONSERVATION

PA 5. Supporting targeted collecting of plant genetic resources for food and agriculture

- **Training and capacity building**: The PA should address the need for capacity for targeted collecting, including for collecting vegetatively propagated species, and taxonomic identification.
- **Collecting of CWR, WFP, underutilized species and FV/LR**: The PA should promote the targeted collecting of CWR, WFP, underutilized species and FV/LR, also taking into account their threat status and nutritional and cultural values in line with international agreements. It should also address the challenges of collecting these resources – especially when found in areas managed by other Ministries or Departments and areas of conflict – and highlight the importance of ensuring sufficient availability of equipment and securing the collected samples in *ex situ* genebanks. The value of applying gap analyses should be highlighted.
- **Criteria and methodologies for collecting/sampling wild PGRFA**: The PA should highlight the need for establishing common criteria and methodologies for collecting and sampling wild PGRFA.
- **Targeted collecting as part of national strategy**: Collecting of PGRFA should be reflected in medium-term and long-term national programmes and strategies.
- **Documentation and information management systems**: The PA should highlight the need for improved documentation and information systems to enhance data sharing, support prioritization for targeted collecting, reduce duplications and undertake gap analyses through the application of GIS and tools for predictive characterization (e.g. FIGS and CAPFITOGEN). Passport and eco-geographical characterization data of the collected germplasm, as well as documentation of associated traditional knowledge should also be emphasized.

PA 6. Sustaining and expanding *ex situ* conservation of germplasm

- **Supporting policies and sustainable funding**: The PA should make reference to the need for supporting policies and long-term funding to promote *ex situ* conservation and avoid loss of diversity through the development and implementation of risk management plans.
- **Technical capacities**: The PA should stress the importance of maintaining qualified human resources and further developing capacities in taxonomy, phytosanitary screening, characterization methods (including molecular), seed physiology, documentation and information management.
- **Increased quality of collections**: The PA should promote the use of genebank quality management systems and the application of standard operating procedures, as well as genebank information management systems. It should emphasize the need for

rationalizing collections and improving their quality, rather than expanding collections. The PA should make reference to AI for improving quality management of collections and options for optimization of available resources, as appropriate. The title of the PA should reference "improving" *ex situ* conservation of germplasm, in addition to "sustaining" and "expanding."

- **Conservation technologies:** The PA should highlight the importance of using advanced conservation technologies, including *in vitro* culture and cryopreservation for recalcitrant seeded and vegetatively propagated species, and molecular tools, as appropriate.
- **Knowledge sharing**: The PA should promote knowledge sharing among scientists, as well as with farmers and other relevant stakeholders.

PA 7. Regenerating and multiplying and safety duplicating *ex situ* accessions

- **Sustainable funding:** The PA should make reference to the high cost of regeneration and emphasize the importance of providing adequate funding, especially for regeneration of unique germplasm and multiplication for safety duplicates.
- **Assess, strengthen and enhance infrastructure and technical capacities:** The PA should emphasize the need for infrastructure and technical capacities, especially for the regeneration and multiplication of CWR, WFP, and non-orthodox seeded, vegetatively propagated and cross-pollinated species. It should promote the enhancement of facilities for irrigation, the use of crop-specific field sites and the development of regeneration protocols.
- **Coordinate efforts to support safety duplication and long-term conservation of germplasm:** The PA should promote regional coordination for the safety duplication and long-term storage of more challenging taxa conserved through cryopreservation, *in vitro* culture and DNA banks. Reference to "safety duplication" of *ex situ* accessions should be added to the title, in addition to existing references to "regenerating" and "multiplying" efforts.
- **Monitor genetic integrity and germplasm health:** The PA should emphasize the need to monitor and assess genetic integrity and health of regenerated accessions prior to conservation to ensure distribution of healthy germplasm.
- **Improve genebank information management systems**: The PA should stress the importance of data including flagging accessions requiring regeneration.
- **Threat status:** Regeneration of samples of endangered species and local varieties should be given due attention.

SUSTAINABLE USE

PA 8. Expanding the characterization, evaluation and further development of specific subsets of collections to facilitate use

- **Strengthen financial and technical capacities:** The PA should highlight the need for sufficient funds and technical skills for characterizing and evaluating PGRFA.
- **Improve technical cooperation:** The PA should emphasize the need to strengthen collaborations/partnerships among genebanks, universities, public and private research and plant breeding centres/programmes and extension services.
- **Promote molecular characterization:** The PA should highlight the value of molecular characterization data and analysis, in particular for lesser researched crops and underutilized species.
- **Enhance evaluation data and their availability:** The PA should emphasize the importance of recording data on nutritional components, biochemical profiles, digital

sequence information (DSI)/GSD and high-throughput phenotypes and genotypes using standardized descriptors.

- **Promote evaluation in farmers' fields:** The PA should mention the benefits of engaging with farmers in germplasm evaluation (through e.g., participatory breeding), and recognize the role of extensionists.
- **Enhance characterization:** The PA should support the review, revision and application of morphological descriptors, and the development of standardized descriptors for those species or crops for which they are not yet available and make the data available.

PA 9. Supporting plant breeding, genetic enhancement and base-broadening efforts

- **Breeding programmes sustainability**: The PA should stress the need for long-term support of public pre-breeding and breeding programmes, and sources of quality germplasm for breeding improved varieties.
- **Improvement of FV/LR and underutilized species**: The PA should stress the need to incorporate FV/LR and underutilized species into national research and participatory breeding programmes to provide varieties suitable to farmers' local productions systems, conditions and preferences.
- **Enhance use of modern technologies and associated capacities**: The PA should also promote the use of modern technologies – including sequencing technologies, high throughput genotyping and phenotyping, and AI – to undertake genome-wide association studies for establishing marker-trait associations, and support capacity development for their use, as appropriate.

PA 10. Promoting diversification of crop production and broadening crop diversity for sustainable agriculture

- **Promote linkages among stakeholders**: The PA should stress the importance of stakeholder cooperation, including among CSBs, genebanks, extensionists and other national institutions.
- **Foster farmers' engagement and organization**: The PA should emphasize the need for adequate seed stocks to meet farmers' demand for quality seed of FV/LR.
- **Improve assessment of local diversity**: The PA should promote capacity-building for assessing crop diversity at the local level, including to document and raise awareness on it.
- Strengthening of incentives to promote diversification of crop production should be highlighted as well as the importance of organization at local level.

PA 11. Promoting development and commercialization of all varieties, primarily farmers' varieties/landraces and underutilized species

- **Value chain development**: The PA should stress the importance of value chain development for FV/LR and underutilized species. It should mention: (i) training for PPB; (ii) developing catalogues for FV/LR and underutilized species; (iii) creating attractive branding for niche markets, including through geographic indication strategies; and (iv) connecting producers to buyers interested in traditional diversity rich products, including through initiatives such as agrotourism and e-commerce.
- **Role of community seed banks**: The PA should stress the role community seed banks can play in the development of FV/LR.
- **Registration procedures for FV/LR**: The PA should mention the need for appropriate registration procedures for smallholders, as appropriate and subject to national legislation.

PA 12. Supporting seed production and distribution

- **Foster capacities for community seed enterprises**: The PA should stress the need for fostering the capacities of farmers and local communities in producing quality seeds on-farm through community seed enterprises.
- **Quality seed standards**: The PA should stress the need for quality seed production through the application of quality assurance mechanisms (e.g. FAO Quality Declared Seed) including for FV/LR.
- **Traditional exchange of FV/LR:** The PA should emphasize that different seed systems include traditional exchange of seeds of FV/LR between farmers, as appropriate and subject to national legislation.
- **Promote knowledge exchange:** The PA should encourage efforts to facilitate exchange of experience in the promotion and commercialization of FV/LR seeds.
- The PA should emphasize the need for countries to design seed policies, laws and regulations that support and promote diversity as well as allowing farmers access to high quality planting material.

BUILDING SUSTAINABLE INSTITUTIONAL AND HUMAN CAPACITIES

PA 13. Building and strengthening national programmes

- **Unified and coherent policies**: The PA should stress the need for coherent and integrated policies and strategies supporting the conservation, access and use of PGRFA. It may refer to international instruments and agendas, and the implementation of national legislation on Farmers' Rights and breeders' rights.
- **Collaboration and synergies among stakeholders**: The PA should stress that collaboration and synergies among stakeholders within national programmes are paramount and, where possible, should be strengthened. Emphasis should be placed on ensuring that national programmes are not solely implemented by individual institutions, but instead integrate all relevant stakeholders. It should further emphasize the need for substantial engagement of all relevant stakeholders, including CSO and community seed banks, in all the processes including development, implementation and monitoring of national programmes.
- **Representativeness in advisory and decision-making bodies**: The PA should emphasize the importance of having and promoting a broad representation of all stakeholder categories in advisory and decision-making bodies, as well as in relevant initiatives.
- **Updated national PGRFA strategy**: The PA should emphasize the importance of a comprehensive national strategy for the conservation and sustainable use of PGRFA, which should be regularly revised, as needed. The national strategy should guide the implementation of the national programme, complement existing NBSAPs and other efficient conservation measures and address both cultivated and wild PGRFA. It should foster coordination between organizations in the environment and agriculture sectors and ensure synergies and compliance with relevant international agreements, including this rolling Global Plan of Action, the International Treaty, the Framework for Action on Biodiversity for Food and Agriculture,[25] the Kunming-Montreal Global Biodiversity Framework and the World Intellectual Property Organization (WIPO) Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge. The establishment and revision of the national PGRFA strategy should consider actions related to post-disaster restoration.

[25] FAO. 2022. *Framework for Action on Biodiversity for Food and Agriculture. FAO Commission on Genetic Resources for Food and Agriculture*. Rome. https://doi.org/10.4060/cb8338en

- **Technical capacities and resources**: The PA should emphasize the importance of national programmes having adequate human technical capacities and resources for supporting coordination and participatory mechanisms to address the tasks and priorities outlined in the national PGRFA strategy.
- **Strengthened links to networks**: The PA should highlight the importance of national programmes maintaining and strengthening connections with existing national, regional and international networks.

PA 14. Promoting and strengthening networks for plant genetic resources for food and agriculture

- **Integration of networks into national programmes**: The PA should emphasize the need for long-term funding of networks and promote their incorporation into national programmes. Sustainability should be ensured by positioning networks as platforms for the development of inter-institutional project proposals and hubs of expertise for national programmes.
- **Facilitation role of networks**: The PA should highlight that networks can facilitate cooperation among genebanks, breeders and researchers at local, subnational, national, regional and global levels, and facilitate the establishment of regional hubs and partnerships with centres of excellence.

PA 15. Constructing and strengthening comprehensive information systems for plant genetic resources for food and agriculture

- **Access to *in situ* and on-farm inventories**: The PA should stress the importance of ensuring that standardized data for both *in situ* (including on-farm) and *ex situ* PGRFA is accessible and updated, including through inclusive interoperable information systems, as appropriate. Stress the importance that information systems include local and traditional knowledge and practices.
- **Increase capacity**: The PA should emphasize the need to strengthen expertise related to information management and bioinformatics, the availability of necessary digital infrastructure, and the interoperability among existing systems. Increase capacity for using relevant information systems available.
- **Fostered collaboration**: The PA should stress the need to foster collaboration between government agencies, research institutions and regional and international platforms to create robust, interoperable and standardized information systems.
- **Enhancing and improving compatibility among international and regional platforms**: International platforms, including GLIS,[26] GRIN-Global,[27] WIEWS,[28] GENESYS[29] and other relevant regional platforms, should be compatible to improve national PGRFA information systems.
- **Supportive legal frameworks**: The PA should promote the development of legal frameworks that support the establishment and strengthening of information systems.

PA 16. Developing and strengthening systems for monitoring and safeguarding genetic diversity and minimizing genetic erosion of plant genetic resources for food and agriculture

- **Promote establishment of national early warning system**: The PA should call for countries to establish early warning systems for PGRFA to identify threats and inform timely conservation measures, as well as developing plans to reduce the threat of genetic erosion.

[26] https://glis.fao.org/glis/
[27] https://www.grin-global.org/
[28] https://www.fao.org/wiews/en/
[29] https://www.genesys-pgr.org/

- **Emphasize periodic PGRFA monitoring**: The PA should highlight the need for updated documentation on the status of CWR, WFP, FV/LR and underutilized species to monitor and safeguard genetic diversity and minimize genetic erosion.
- **Refinement and application of assessment methods and indicators**: The PA should stress the need to refine and implement methods to minimize genetic erosion, including indicators to assess inter- and intra-specific diversity, and the impact of associated drivers. The PA should promote training in such methods and indicators. The PA should mention IUCN methodologies for national Red List assessments and available eco-geographic tools that could be applied in the assessment and monitoring of wild PGRFA.

PA 17. Building and strengthening human resource capacity

- **Policies for education and capacity development**: The PA should stress the need for policies to support education and capacity development in PGRFA conservation and use. Policies should be periodically revised to incorporate innovative technologies, harmonized with existing regional capacity programmes to reduce disparities among countries, and recognize the importance of including PGRFA in primary, secondary and tertiary education programmes.
- **Periodically assess human competencies**: The PA should promote periodical monitoring and development of human competencies within countries.
- **Enhance training opportunities through partnerships**: The PA should call for increased institutional dialogue to strengthen national and international financing opportunities for training personnel in PGRFA management. This should involve fostering partnerships with world-class institutions, promoting South–South cooperation, developing capacities of experts who work with farmers, developing capacities of policymakers, and forming interdisciplinary research teams to address complex challenges.
- **Emphasize risks arising from turnover and shortage of qualified staff**: The PA should highlight that National Programmes frequently face a shortage of qualified professionals due to staff turnover and challenges in recruiting young people to replace retiring staff. It should also emphasize the importance of creating attractive career paths and implementing recognition strategies to retain professionals in the field of PGRFA.
- **Promote renovation of educational facilities**: The PA should stress the need for modern, well-equipped educational infrastructure.
- Need to support capacity development, mentoring and networking of and among National Focal Points for PGRFA.
- Stress the role of CGIAR and other relevant international instruments in building capacity.

PA18: Promoting and strengthening public awareness of the importance of plant genetic resources for food and agriculture

- **Emphasize key PGRFA groups**: The PA should address CWR, WFP, FV/LR and underutilized species separately.
- **Additional means for raising awareness**: The PA should make explicit reference to additional means and initiatives for raising awareness on the importance of PGRFA, including new movements (e.g. citizens' science), diversity fairs, innovative learning tools and symbolic celebrative events and value of success stories with relation to PGRFA. The PA should also highlight the role of social media and mobile phone apps for enhancing awareness and collecting important data on PGRFA diversity.
- **Communication strategy development**: The PA should encourage countries to develop a communication strategy to raise awareness of the importance of PGRFA. This strategy should highlight linkages between consumers and PGRFA, promote cultural identity and

sovereignty, encourage food consumption from native or local and highly diverse PGRFA, and stress threats to PGRFA.

- **Emphasize key target groups**: The PA should specify target groups, including youth, policymakers, decision-makers, ministries and farmers, agencies and staff from the environmental sector as well as current or potential PGRFA users not currently listed. It should also promote increased awareness of policymakers on all PAs. Suitable strategies for reaching decision-makers.

APPENDIX C

LIST OF DOCUMENTS

WORKING AND INFORMATION DOCUMENTS

CGRFA/WG-PGR-12/24/1	**Election of Chairperson, Vice-Chairperson(s) and *Rapporteur***
CGRFA/WG-PGR-12/24/1/Inf.1	Statutes of the Intergovernmental Technical Working Group on Plant Genetic Resources for Food and Agriculture, and Members and Alternates elected by the Commission at its Nineteenth Regular Session
CGRFA/WG-PGR-12/24/1/Inf.2	List of Delegates and Observers
CGRFA/WG-PGR-12/24/1/Inf.3	Information note for participants
CGRFA/WG-PGR-12/24/2	**Provisional agenda**
CGRFA/WG-PGR-12/24/2 Add.1	**Provisional annotated agenda and timetable**
CGRFA/WG-PGR-12/24/2/Inf.1	List of documents
CGRFA/WG-PGR-12/24/3	**Finalization of The Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture**
CGRFA/WG-PGR-12/24/3/Inf.1	The Third Report on the State of the World's PGRFA – Proofing version
CGRFA/WG-PGR-12/24/4.1	**Implementation of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture**
CGRFA/WG-PGR-12/24/4.2	**Application of the Genebank Standards for Plant Genetic Resources for Food and Agriculture: Practical guides for (1) conservation in genebanks of species producing non-orthodox seeds and (2) conservation through cryopreservation**
CGRFA/WG-PGR-12/24/4.2/Inf.1	Draft Practical guides for the application of the genebank standards for Plant Genetic Resources for Food and Agriculture: Conservation in genebanks of species producing non-orthodox seeds
CGRFA/WG-PGR-12/24/4.2/Inf.2	Draft Practical guides for the application of the genebank standards for Plant Genetic Resources for Food and Agriculture: Conservation through cryopreservation
CGRFA/WG-PGR-12/24/4.3	**Further research on the impact of seed policies, laws and regulations**
CGRFA/WG-PGR-12/24/4.4	**Review of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture**
CGRFA/WG-PGR-12/24/4.4/Inf.1	Regional Consultation for Africa: Review of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture

CGRFA/WG-PGR-12/24/4.4/Inf.2	Regional Consultation for Latin America and the Caribbean: Review of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-12/24/4.4/Inf.3	Regional Consultation for Near East and North Africa: Review of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-12/24/4.4/Inf.4	Regional Consultation for Asia and the Pacific: Review of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-12/24/4.4/Inf.5	Regional Consultation for Europe: Review of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-12/24/4.4/Inf.6	Regional Consultation for North America: Review of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-12/24/5	**Climate change and genetic resources for food and agriculture**
CGRFA/WG-PGR-12/24/5/Inf.1	Draft baseline report on genetic resources for food and agriculture and climate change
CGRFA/WG-PGR-12/24/5/Inf.2	FAO's work on climate change
CGRFA/WG-PGR-12/24/6	**Options for the identification of new and emerging issues**
CGRFA/WG-PGR-12/24/7	**Cooperation with international organizations and instruments**
CGRFA/WG-PGR-12/24/7/Inf.1	Submissions from international organizations and instruments

APPENDIX D

MEMBERS OF THE INTERGOVERNMENTAL TECHNICAL WORKING GROUP ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE ELECTED AT THE NINETEENTH REGULAR SESSION OF THE COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Composition (no. of countries per region)	***Country***
Africa	Democratic Republic of the Congo
(5)	Kenya
	Morocco
	Niger
	Zambia
	First Alternate: Uganda
	Second Alternate: South Africa
Asia	Bangladesh
(5)	Japan
	Indonesia
	Malaysia
	Philippines
	First Alternate: Bhutan
	Second Alternate: Republic of Korea
Europe	Italy
(5)	Netherlands (Kingdom of the)
	Norway
	Sweden
	Switzerland
	First Alternate: Czechia
	Second Alternate: Russian Federation
Latin America and the Caribbean	Chile
(5)	Costa Rica
	Mexico
	Jamaica
	Venezuela (Bolivarian Republic of)
	First Alternate: Cuba
	Second Alternate: Peru
Near East	Iran (Islamic Republic of)
(4)	Lebanon
	Syrian Arab Republic
	Yemen
	First Alternate: Jordan
	Second Alternate: Egypt
North America	United States of America
(2)	Canada
Southwest Pacific	Fiji
(2)	Cook Islands
	First Alternate: Tonga
	Second Alternate: Fiji