



COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Item 4.1 of the Provisional Agenda

INTERGOVERNMENTAL TECHNICAL WORKING GROUP ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Twelfth Session

Rome, 10 – 12 December 2024

IMPLEMENTATION OF THE SECOND GLOBAL PLAN OF ACTION FOR PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Table of Contents

	Paragraphs
I. Introduction.....	1-2
II. Background	3-4
III. <i>In situ</i> conservation and on-farm management.....	5
A. Conservation and sustainable use of crop wild relatives/wild food plants and farmers' varieties/landraces	5-10
B. Direct support to Members.....	11-12
IV. <i>Ex situ</i> conservation.....	13
A. Application of the Genebank Standards for Plant Genetic Resources for Food and Agriculture	13
B. Direct support to Members	14
V. Sustainable use.....	15
A. Review of status and trends of seed policies.....	16
B. Strengthening seed systems	17-21
C. Rehabilitation of seed systems	22-28
D. Strengthening plant breeding	29-33

VI. Building sustainable institutions and human capacities.....	34-36
A. Capacity-building activities.....	37-39
B. National Focal Points	40
C. World Information and Early Warning System on Plant Genetic Resources for Food and Agriculture.....	41
VII. Guidance sought.....	42

I. INTRODUCTION

1. The Commission on Genetic Resources for Food and Agriculture (Commission), at its Nineteenth Regular Session, considered FAO's activities in support of the implementation of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture (Second GPA).¹ The Commission formulated several recommendations,² which the Council subsequently endorsed.³
2. This document provides information on actions taken by FAO in response to the Commission's recommendations and on other relevant work initiated or completed since the last session of the Commission, for consideration by the Working Group. It requests the guidance of the Working Group on further work in these areas.

II. BACKGROUND

3. The Second GPA, adopted by the FAO Council at its 143rd Session in November 2011,⁴ is an internationally agreed framework for the conservation and sustainable use of plant genetic resources for food and agriculture (PGRFA). The Second GPA is a supporting component of Article 14 of the International Treaty on Plant Genetic Resources for Food and Agriculture (International Treaty). The implementation of the Second GPA is, therefore, an essential contribution to achieving the objectives of the International Treaty.⁵ It also facilitates the implementation of the Convention on Biological Diversity (CBD), in the area of agricultural biodiversity, and may assist countries in achieving key targets of the Kunming Montreal Global Biodiversity Framework.⁶
4. The implementation of the 18 Priority Activities (PAs) of the Second GPA contributes to the enhanced access of farmers to a diverse suite of resilient, well-adapted, productive and nutrient-rich crops and varieties. The Second GPA contributes to the implementation of the FAO Strategy on Climate Change 2022–2031⁷ and the Vision and Strategy for FAO's Work in Nutrition,⁸ as adopted by the FAO Council in 2021⁹. It supports FAO's Strategic Framework 2022-31,¹⁰ as endorsed by the Conference in 2021,¹¹ which seeks the transformation to more efficient, inclusive, resilient and sustainable, agri-food systems for better production, better nutrition, a better environment, and a better life, leaving no one behind. The Second GPA also contributes to the implementation of the FAO Strategy on Mainstreaming Biodiversity across Agricultural Sectors¹² and the Action Plan 2024-2027 for its implementation.¹³

III. *IN SITU* CONSERVATION AND ON-FARM MANAGEMENT

A. Conservation and sustainable use of crop wild relatives/wild food plants and farmers' varieties/landraces

5. At its Nineteenth Regular Session, the Commission requested FAO to compile examples of and experiences with the use of the Voluntary Guidelines for the Conservation and Sustainable Use of Crop

¹ FAO. 2011. *Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture*. Rome.

² CGRFA-19/23/Report, paragraphs 48–57.

³ CL 174/REP, paragraph 112.

⁴ CL 143/REP, paragraph 43.

⁵ Second GPA, paragraph 313.

⁶ CBD/COP/DEC/15/4.

⁷ FAO. 2022. *FAO Strategy on Climate Change 2022–2031*. Rome.

⁸ PC 130/5 Rev.1 (English only).

⁹ CL 166/REP, paragraph 24(b).

¹⁰ FAO. 2021. *Strategic Framework 2022-31*. Rome.

¹¹ C 2021/REP, paragraph 64.

¹² FAO. 2020. *FAO Strategy on Mainstreaming Biodiversity across Agricultural Sectors*. Rome.

<https://doi.org/10.4060/ca7722en>

¹³ FAO. 2024. *Action Plan for the implementation of the FAO Strategy on Mainstreaming Biodiversity Across Agricultural Sectors 2024–2027*. Rome. <https://doi.org/10.4060/cd0709en>

Wild Relatives and Wild Food Plants (CWR/WFP Guidelines)¹⁴ and the Voluntary Guidelines for the Conservation and Sustainable Use of Farmers' Varieties/Landraces (FV/LR Guidelines)¹⁵, with the aim of improving them and increasing their relevance, as appropriate.¹⁶ In response, FAO conducted a survey addressed to National Focal Points (NFPs) and relevant stakeholders on the use of the two Guidelines. Responses were received from a total of 31 countries for both Guidelines.

6. Results of the survey showed that the CWR/WFP Guidelines were consulted in 58 percent (18) of the 31 reporting countries. These Guidelines mainly helped activity planning (in 48 percent or 15 countries) and implementation (35 percent or 11 countries). The existence of policies and activities were the most commonly reported reason for the lack of use of the guidelines. Other reasons included lack of awareness of the Guidelines among stakeholders.

7. NFPs from seven countries provided suggestions for the further development of the CWR/WFP Guidelines, including:

- more detailed guidance on monitoring CWR and WFP populations *in situ*;
- clearer distinction between *in situ* management of CWR and WFP;
- greater emphasis on the importance of CWR and WFP for food security and nutrition;
- further stress the role of indigenous knowledge and need for community engagement;
- highlighting of success stories/ case studies on the development of policies and practices for the conservation of CWR/WFP;
- more detailed guidance for developing capacities at different levels;
- increased linkages with *ex situ* conservation practices of wild PGRFA populations, such as seed preservation and germplasm multiplication; and,
- further guidance on the creation and implementation of legal and policy frameworks.

8. With regard to the FV/LR Guidelines, these were consulted by 65 percent (20) of the 31 reporting countries. As with the responses provided for the CWR/WFP Guidelines, these Guidelines were consulted mainly for activity planning (in 48 percent or 15 countries) and implementation (45 percent or 11 countries). As with the CWR/WFP Guidelines, existing policies and activities were the most commonly reported reason for their lack of use. Other reasons included lack of awareness of the Guidelines among stakeholders.

9. NFPs from nine countries provided suggestions for the further development of the Guidelines, including:

- increased focus on guidelines/best practices for the registration of FV/LR;
- more detailed guidance for developing capacities at different levels;
- greater emphasis on indigenous knowledge and participatory approaches;
- increased guidance on identifying, protecting, and managing FV/LR within their agroecosystems;
- highlighting of success stories/ case studies on the development of policies and actions for the conservation of FV/LR, with reference to the roles of the diverse stakeholders (one country);
- increased guidance on conserving and using neglected and underutilized (crop) species; and,
- development of a more user-friendly format, or videos for consulting the Guidelines.

10. At its last Regular Session, the Commission also recommended that FAO organize, subject to the availability of the necessary extra-budgetary resources, symposia and webinars on *in situ* conservation and on-farm management of PGRFA, at regular intervals, in collaboration with the Treaty and other relevant international instruments or organizations.¹⁷ In response, a webinar on on-farm

¹⁴ 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>

¹⁵ FAO. 2019. *Voluntary Guidelines for the Conservation and Sustainable Use of Farmers' Varieties/Landraces*. Rome. <http://www.fao.org/3/ca5601en/ca5601en.pdf>

¹⁶ CGRFA-19/23/Report, paragraph 50.

¹⁷ CGRFA-18/21/Report, paragraph 98.

management of PGRFA was held on 29 April 2024.¹⁸ The webinar, organized in collaboration with the International Treaty, aimed to raise awareness of the relevance of PGRFA for food security and nutrition and showcased national and international initiatives with the aim of sharing knowledge and best practices.

B. Direct support to Members

11. In line with the Commission's recommendation that FAO continue to support countries in *in situ* conservation and on-farm management of PGRFA,¹⁹ FAO supported during the reporting period several activities in collaboration with international and local partners, related to *in situ* conservation and on-farm management of PGRFA, including through GEF-funded projects in China,²⁰ Cuba,²¹ Ecuador,²² India,²³ Indonesia,²⁴ Mauritania,²⁵ Mexico,²⁶ Peru²⁷ and Tajikistan.²⁸ Many of these activities are cross-cutting, with inter-related components, including: developing and strengthening of policies; value chain development; increased technical capacities; and, improved knowledge management. PGRFA diversity was also promoted through agricultural investment plans and in the National Biodiversity Strategy and Action Plan of Zimbabwe.²⁹

12. Over the reporting period, FAO continued to support strengthening the operation of community seed banks (CSBs) in Angola, Botswana, Malawi, Namibia, the United Republic of Tanzania and Zimbabwe,³⁰ under the GEF's Dryland Sustainable Landscapes Impact Program in Southern Africa. Capacity development plans are being prepared and implemented with the aim of supporting communities to establish and manage community seed banks and to carry out ecogeographical surveys, seed fairs and diversity wheels for crops and varieties. These include learning and exchange visits to existing CSBs in the region.

¹⁸ Recording available from: <https://www.fao.org/plant-production-protection/resources/multimedia/video-detail/on-farm-management-of-farmers--varieties-landraces/en>

¹⁹ CGRFA-19/23/Report, paragraph 49.

²⁰ GCP /CPR/061/GFF: On-farm Conservation and Sustainable Use of Genetic Diversity of Crops originated in China (FSP)

²¹ GCP /CUB/017/GFF: Introduction of new farming methods for the conservation and sustainable use of biodiversity, including plant and animal genetic resources, in production landscapes in selected areas of Cuba (FSP)

²² GCP /ECU/105P/GFF: Conservación y uso sostenible de parientes silvestres de cultivos (PSC) y especies silvestres comestibles (ESC), bajo un marco institucional y desarrollo de iniciativas comunitarias rurales en Ecuador. (PPG)

²³ GCP /IND/183/GFF: Green-Agriculture: Transforming Indian agriculture for global environmental benefits and the conservation of critical biodiversity and forest landscapes (FSP).

²⁴ GCP /INS/804/GFF: Crop Diversity Conservation for Sustainable Use in Indonesia (PPG)

²⁵ GCP /MAU/001/GFF: Integrated ecosystem management program for the sustainable human development in Mauritania (FSP)

²⁶ GCP /MEX/305/GFF: Securing the Future of Global Agriculture in the face of climate change by conserving the Genetic Diversity of the Traditional Agroecosystems of Mexico (FSP).

²⁷ GCP /PER/045/GFF: Sustainable management of agro-biodiversity and vulnerable ecosystems recuperation in Peruvian Andean regions through Globally Important Agricultural Heritage Systems (GIAHS) approach

²⁸ GCP /TAJ/021/GFF: Facilitating agrobiodiversity (ABD) conservation and sustainable use to promote food and nutritional resilience in Tajikistan.

²⁹ GCP/GLO/006/EC: Capacity Building Related to Multilateral Environmental Agreements in ACP Countries

³⁰ GCP /GLO/980/GFF: Global coordination project for the Dryland Sustainable Landscapes Impact Program

IV. *EX SITU* CONSERVATION

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

13. At its last session the Commission welcomed the finalization and publication of three practical guides³¹ for the application of the *Genebank Standards for Plant Genetic Resources for Food and Agriculture*³² (Genebank Standards).³³ The Commission further recommended that FAO convene consultations on practical guides for (i) the conservation of plants producing recalcitrant seeds and (ii) conservation through cryopreservation.³⁴ More information on the status of development of these practical guides is provided in 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*.³⁵ The draft practical guides are contained in the documents *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*³⁶ and *Draft Practical Guides for the Application of the Genebank Standards for Plant Genetic Resources for Food and Agriculture: Conservation through cryopreservation*.³⁷

B. Direct support to Members

14. During the reporting period, FAO supported various *ex situ* conservation activities in several countries, including Azerbaijan,³⁸ Georgia,³⁹ Malawi,⁴⁰ Mongolia,⁴¹ Philippines,⁴² Samoa,⁴³ and Saudi Arabia.⁴⁴ Activities included assessing the status of the tissue culture facility and identifying areas in need of strengthening and capacity development in Samoa, and a targeted mobilization plan developed. In Azerbaijan, FAO supported the selection, characterization and passport data documentation of 84 hazelnut varieties at the national field genebank.

V. SUSTAINABLE USE

15. The Commission, at its last session, recommended that FAO continue assisting countries in strengthening national seed systems to facilitate the delivery of quality seeds and planting materials, in particular to smallholder farmers, adapted to their local conditions, preferences and needs. It further

³¹ FAO. 2022. *Practical guide for the application of the Genebank Standards for Plant Genetic Resources for Food and Agriculture: Conservation of orthodox seeds in seed genebanks*. Commission on Genetic Resources for Food and Agriculture. Rome. <https://doi.org/10.4060/cc0021en>; FAO. 2022. *Practical guide for the application of the Genebank Standards for Plant Genetic Resources for Food and Agriculture: Conservation in field genebanks*. Commission on Genetic Resources for Food and Agriculture. Rome. <https://doi.org/10.4060/cc0023en>; FAO. 2022. *Practical guide for the application of the Genebank Standards for Plant Genetic Resources for Food and Agriculture: Conservation via in vitro culture*. Commission on Genetic Resources for Food and Agriculture. Rome. <https://doi.org/10.4060/cc0025en>.

³² FAO. 2014. *Genebank Standards for Plant Genetic Resources for Food and Agriculture*. Rev. ed. Rome.

³³ CGRFA-19/23/Report, paragraph 51.

³⁴ CGRFA-19/23/Report, paragraph 52.

³⁵ CGRFA/WG-PGR-12/24/4.2

³⁶ CGRFA/WG-PGR-12/24/4.2/Inf.1.

³⁷ CGRFA/WG-PGR-12/24/4.2/Inf.2.

³⁸ UTF/AZE/016/AZE: *Catalysing the efficiency and sustainability of Azerbaijan's hazelnut sector*.

³⁹ GCP /GEO/023/SWI: Sustainable management of grape genetic resources in Abkhazia.

⁴⁰ GCP /MLW/072/EC: KULIMA - Promoting farming in Malawi "Revitalising Agricultural Clusters and Ulimi wa Mdandanda through Farmer Field Schools in Malawi"

⁴¹ TCP/MON/3902: Strengthening food safety and plant health protection systems.

⁴² GCP/PHI/062/GFF: *Dynamic conservation and sustainable use of agricultural biodiversity to ensure food security and ecosystems services and resiliency*.

⁴³ TCP/SAM/3803: Building capacities on tissue culture to support & sustain biodiversity for food security & nutrition.

⁴⁴ UTF/SAU/051/SAU: Strengthening MoEWA's Capacity to Implement its Sustainable Rural Agricultural Development (SRAD) Programme (2019-2025)

recommended that FAO continue supporting countries, at their request, in the development, revision and implementation of national seed policies and legislation, considering the Commission's *Voluntary Guide for National Seed Policy Formulation*,⁴⁵ and called upon donors to support countries in this regard.⁴⁶ The Commission also recommended that FAO report to the next session of the Commission on how it followed up on a number of requests the Commission had made at its Eighteenth Regular Session, including on taking a bottom-up, demand-driven approach to seed security and promoting farmers' participation in seed-related FAO activities.

A. Review of status and trends of seed policies

16. The Commission, at its last session, also reviewed and revised a draft concept note for further research, and recommended that FAO, in collaboration with the International Treaty, carry out further work on the effects of seed policies, laws and regulations, based on the concept note, as revised by the Commission, subject to the availability of resources.⁴⁷ The document, *Effects of seed policies, laws and regulations*⁴⁸ provides more information on the status of implementation of a proposal for 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.

B. Strengthening seed systems

17. Over the reporting period, FAO continued to support Members in strengthening their seed systems. Relevant seed sector activities have been implemented, especially in developing countries, through a combination of Technical Cooperation Projects (TCPs) and Trust Fund projects. In this regard, initiatives aimed at strengthening the seed delivery value chain were implemented in 11 countries.⁴⁹ These interventions included: support for the enhanced adoption of crop varieties; community-level seed production and delivery systems; pre-basic and basic seed production and supply; capacity development for seed testing laboratories and international accreditation; training and provision of seed processing equipment; and strengthening seed certification systems.

18. Seed value chains have been strengthened in Jamaica for hot peppers, through strengthening the capacity of private nurseries to produce and store breeder/foundation seeds for desired pepper varieties.⁵⁰ Linked to this is the development of appropriate legal frameworks in the context of the National Seed Policy and support for the development of seed certification programmes.

19. In Namibia,⁵¹ participatory research trials in different agroecological zones have been undertaken for on-farm seed production of foxtail millet and horticultural crops, and with demonstration plots established for rice and foxtail millet. In Egypt,⁵² newly registered vegetable varieties of tomato, pepper, eggplant, watermelon, cucumber, green beans, peas, and cowpea have been promoted in three locations through 120 demonstration plots, together with training for seed production of the new varieties. Support was also provided for the upgrading of a seed testing laboratory. In Sri Lanka, FAO supported capacity in producing hybrid maize seed.⁵³ In Azerbaijan, FAO provided support for

⁴⁵ FAO. 2015. *Voluntary Guide for National Seed Policy Formulation*. Rome.

<https://www.fao.org/3/i4916e/i4916e.pdf>

⁴⁶ CGRFA-19/23/Report, paragraph 54

⁴⁷ CGRFA-19/23/Report, paragraph 60-61

⁴⁸ CGRFA/WG-PGR-12/24/4.3

⁴⁹ Azerbaijan, Cambodia, Egypt, Jamaica, Mozambique, Nicaragua, Namibia, Sierra Leone, Sudan, Sri Lanka and Venezuela.

⁵⁰ MTF /JAM/023/STF: Improving phytosanitary, food safety and market access opportunities along the hot pepper value-chain

⁵¹ GCP/NAM/019/CPR: South-South cooperation (SSC) between the People's Republic of China and the Republic of Namibia on Agriculture and Fishery Production

⁵² TCP/EGY/3807: Propagation and Promotion of local seeds and hybrids in Egypt

⁵³ TCP/SRL/3802: Support capacity development of supply chain of maize hybrid seeds

strengthening the variety registration process, seed certification and seed quality control, including international accreditation of the seed testing laboratory and seed certification system.⁵⁴

20. FAO also continued to support community-level seed delivery systems, especially through the creation of an enabling environment for the establishment of small- and medium-size seed enterprises. In Sudan, for instance, smallholder farmers have been trained in quality seed production of local sorghum varieties.⁵⁵ In Venezuela, FAO supported the promotion of quality seed production through the development of community seed enterprises producing cereals and legumes, and aiming at inclusive markets.⁵⁶ In Mozambique, FAO has facilitated policy dialogue in seed sector development, the establishment of a seed traceability system, and promotion of locally-adapted varieties through farmers field schools.⁵⁷

21. Seed legislations and regulatory frameworks at national and regional levels are essential for creating a robust enabling environment for efficient and effective seed sectors. Over the reporting period, FAO continued to respond to requests of Members and assisted in the development of national seed policies, legislations and regulations in six countries⁵⁸ across different regions. National seed policy development has been supported in Belize, Nicaragua, Sierra Leone⁵⁹ and Zimbabwe. In Cambodia, technical national guidelines were produced for Quality Declared Seed and Planting Material System for maize, cassava, mung bean and soybean.⁶⁰

C. Rehabilitation of seed systems

22. FAO assists countries in restoring agricultural production systems after disasters and conflict, including through the provision of emergency seed relief. To support this, FAO, in partnership with other organizations, conducts seed security assessments in nations that restart crop production following crises.

23. During the reporting period, FAO, alongside national and international partners, implemented seed security assessments, or reported on findings to guide programme development, in Afghanistan, Somalia, the Syrian Arab Republic and Yemen⁶¹, as well as a rapid assessment in eight countries across Southern Africa on the seed security impacts caused by severe drought related to El Niño in 2023-24⁶².

24. The remarkable expansion of the scale of scope of emergency responses involving seeds and planting materials has continued through the reporting period. Seeds and planting materials valued at USD 90 million were procured in 2023, with USD 64 million procured in 2024 up to 20 September. This compares with USD 83 million in 2022, USD 50 million for 2021, and USD 42 million for 2020.

25. During the reporting period, FAO has provided technical assistance for the provision of seeds and planting materials in emergencies stemming from droughts, floods, tropical storms, civil unrest, population displacement, and pest outbreaks, as well as complex emergencies. Assistance was provided to 80 different countries or regions, in support of over 300 different projects. Extensive support was

⁵⁴ UTF /AZE/021/AZE: Improvement of Seed and Agro-Chemical Lab and Certification Services under Agrarian Services Agency.

⁵⁵ TCP/SUD/3902: Support to Community-based Seed Production System in South Kordofan State

⁵⁶ GCP/VEN/019/EC: Promoción de la Seguridad Alimentaria a través de un Enfoque Multi-Actores para el Desarrollo de la Cadena de Valor de Semillas de Cereales y Leguminosas en Venezuela

⁵⁷ GCP /MOZ/127/EC: PROMOVE Agribiz

⁵⁸ Belize, Cambodia, Mozambique, Nicaragua, Sierra Leone, Zimbabwe,

⁵⁹ TCP/SIL/3807: Strengthening of the Seed Certification and Regulatory Agency in in Sierra Leone

⁶⁰ TCP/CMB/3804: Support to strengthen the seed management system

⁶¹ GCP /AFG/106/USA; OSRO/SOM/211/USA; GCP /SYR/023/EC; OSRO/YEM/206/WBK.

⁶² Angola, southern Madagascar, Malawi, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe

provided to Afghanistan⁶³, Sudan⁶⁴, South Sudan⁶⁵, Ukraine⁶⁶, Ethiopia⁶⁷, Pakistan⁶⁸, Central African Republic⁶⁹, Chad⁷⁰, Nigeria⁷¹, Myanmar⁷² and Haiti⁷³, where farmers' access to quality seed of improved varieties of staple crops was enhanced, mainly through direct, in-kind distribution.

26. To promote longer-term recovery in crisis-affected countries and more resilient seed systems, FAO supported quality seed production by farmer groups and small enterprises, as well as supported the enabling environment for quality assurance, distribution and marketing. These activities have supported farmers' access to quality seeds and planting materials of a wide range of crops and varieties in Afghanistan⁷⁴, the Democratic Republic of the Congo⁷⁵, Madagascar⁷⁶, Comoros⁷⁷, South Sudan⁷⁸, and Yemen⁷⁹, among other countries.

27. Where feasible, FAO aims to take a bottom-up, demand-driven approach to seed security and to promoting farmers' participation in seed-related activities. Seed security assessments are primarily based on smallholder farmers' perspectives in relation to seed security, and the actions they do to access the quality seeds and planting materials of a diverse range of crops and varieties that they require. Through focus groups, including discussions specifically with women farmers, surveys and key informant interviews, these assessments identify the challenges and opportunities facing smallholder farmers' seed security, and use this information to develop recommendations to guide seed security responses. Seed security responses are based on evidence gathered from vulnerability analyses, risk monitoring and emergency needs assessments using a range of tools and information sources,⁸⁰ and aim to support agricultural households and resilient livelihoods. Crops and varieties that are adapted to the targeted areas and the emergency context and are preferred by beneficiaries are chosen in emergency responses, in line with FAO technical guidance.⁸¹ Where emergency responses use seed vouchers as the main modality for seed distribution, farmers can select the crops and varieties they preferred.⁸² Further, support to quality seed production is routinely directed at small enterprises or associations of farmers, and includes support of these farmers in marketing their produce to other farmers. To be sustainable, seed enterprises must meet farmers' demand for their seed. Seed sector development is therefore inherently demand-driven.

28. FAO has also been investing in the localization of its emergency and resilience-building activities, supporting and prioritizing the capacities of local and national actors (LNAs), which include community-based organizations and national non-governmental organizations. Through localization, LNAs are partners in the design and implementation of activities. Bottom-up identification of needs and priorities and locally led solutions are central to localization.

⁶³ OSRO/AFG/213/WBK; OSRO/AFG/111/EC; OSRO/AFG/215/USA

⁶⁴ OSRO/SUD/127/CHA; OSRO/SUD/122/SWI; OSRO/SUD/200/USA; OSRO/INT/1040/GER

⁶⁵ OSRO/SSD/037/NOR; UTF /SSD/019/SSD; OSRO/SSD/029/USA

⁶⁶ OSRO/UKR/016/JPN; GCP /UKR/012/EC; OSRO/UKR/020/FRA

⁶⁷ OSRO/GLO/013/MTC; OSRO/ETH/200/USA; UNJP/ETH/122/IOM

⁶⁸ OSRO/PAK/021/JPN; UTF /PAK/165/PAK; GCP/PAK/152/EC

⁶⁹ OSRO/CAF/028/NOR; UTF/CAF/025/CAF

⁷⁰ UNJP/CHD/051/EC; OSRO/CHD/209/CAN

⁷¹ OSRO/NIR/206/NOR; OSRO/NIR/202/SWE; OSRO/NIR/203/SWI; OSRO/NIR/205/UAE;

⁷² GCP /MYA/035/ROK; GCP/MYA/027/GAF

⁷³ OSRO/HAI/103/EC; TCP/HAI/3904

⁷⁴ OSRO/AFG/140/WBK

⁷⁵ GCP /DRC/076/GER

⁷⁶ GCP/MAG/111/NOR

⁷⁷ UTF /COI/006/COI

⁷⁸ UTF/SSD/027/SSD

⁷⁹ OSRO/YEM/104/WBK

⁸⁰ <https://www.fao.org/emergencies/our-focus/analysis-and-evidence/3/en>

⁸¹ <https://openknowledge.fao.org/items/ac565525-12ba-46c0-a8d9-3a948bcd0967>

⁸² e.g. GCP/MOZ/111/EC; <https://www.fao.org/emergencies/our-focus/cash-and-voucher-assistance/4/en>

D. Strengthening plant breeding

29. The Commission requested that FAO continue supporting countries, in close coordination with the International Treaty, in strengthening their crop breeding systems, including for underutilized crops, as well as their crop improvement capacity, including through the CGIAR Centres and other relevant partners. The Commission further requested FAO to continue taking into account participatory approaches in supporting breeding efforts of locally adapted varieties to ensure sufficient availability of quality seeds for smallholder farmers.⁸³

30. The Joint FAO/IAEA Centre for Nuclear Techniques in Food and Agriculture (CJN), through its Plant Breeding and Genetics (PBG) subprogramme, supports Member States in designing and implementing innovative plant breeding programmes that utilize radiation-induced mutation—such as gamma and X-ray irradiation—to create genetic diversity and develop new crop varieties resilient to biotic and abiotic stresses. These efforts aim to enhance global food security and promote sustainable crop production systems.

31. Currently, the subprogramme is involved in the design and implementation of 61 national and regional Technical Cooperation Projects (TCPs) related to crop improvement, benefitting over 100 countries. The subprogramme's outputs include human capacity building, technology transfer, infrastructure upgrades, and technical guidance to ensure the effective use of mutation breeding in crop improvement. Additionally, through the Coordinated Research Projects (CRPs) mechanism, CJN facilitates collaboration among researchers from over 50 institutions across 42 countries within five crop-improvement-focused projects. As a result of these TCPs, CRPs, and CJN's ongoing support, 87 new crop varieties have been released in Member States between 2021 and 2024. As of October 2024, the FAO/IAEA Mutant Variety Database held records of 3,448 mutant varieties across 238 crop species that have been released for cultivation in 75 countries.

32. With a meeting held in Vienna in July 2024, the PBG subprogramme provided technical leadership for the Mutation Breeding Network, which originated in Asia and expanded to Africa and Latin America. This network gathered international researchers from 23 countries focused on improving various crops through mutation induction. An inter-regional TCP on strengthening Member States' capacities to combat TR4, particularly through early detection, is currently underway with participation from 20 countries in Latin America, Asia, and Africa.

33. The PBG has also delivered irradiation services for 47 requests, covering 335 crop accessions and varieties from 28 Member States between January 2023 and October 2024. In addition, seeds sent by the PBG to the International Space Station for irradiation in 2023 are currently undergoing phenotypic and genotypic evaluations. These evaluations aim to enhance the understanding of induced genetic diversity and advance plant mutation breeding efforts.

VI. BUILDING SUSTAINABLE INSTITUTIONS AND HUMAN CAPACITIES

34. The Commission recommended that FAO continue to strengthen human and institutional capacities for PGRFA research and development, and call upon donors to make funds available 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 its Funding Strategy.⁸⁴

35. In response to the Commission's recommendation, FAO continued to support the strengthening of human and institutional capacities for the conservation and sustainable use of PGRFA, especially in developing countries. The strengthening of partnerships and linkages was a critical delivery mechanism for FAO's work in this regard. Work in countries was facilitated through collaboration with various partners, including the United Nations system, especially World Food Programme, World Meteorological Organization, in addition to the CGIAR Centres, Global Crop Diversity Trust, International Seed Federation and International Seed Testing Association (ISTA).

⁸³ CGRFA-19/23/Report, paragraph 55

⁸⁴ CGRFA-19/23/Report, paragraph 56.

36. Networks were also key to effective collaborations among partners for implementing the Second GPA with enhanced efficiencies. Over the reporting period, FAO provided support to various networks and bodies, including the Global Food Security Cluster, Standards for Supporting Agricultural Livelihoods in Emergencies, Integrated Seed Sector Development Africa programme (ISSD-Africa) and Vision for Adapted Crops and Soils (VACS)

A. Capacity-building activities

37. At its last session, the Commission recommended that FAO continue to strengthen human and institutional capacities for PGRFA research and development, and called upon donors to make funds available 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 its Funding Strategy.⁸⁵

38. FAO has continued to implement several field activities with the aim of strengthening capacities in countries. For instance, in Armenia, Kyrgyzstan, North Macedonia and Tajikistan, FAO supported capacity development for seed propagation, breeding technologies and variety recovering.⁸⁶ In Papua New Guinea, sweet potato multiplication plots were established and capacity developed for seed multiplication and distribution, sustainable gardening, and food processing techniques. In Sri Lanka, FAO provided support to the development of the national seed production system through a series of studies and capacity building activities for open pollinated varieties.⁸⁷ FAO has conducted training programs for enhancing capacities in nursery and field inspections, pruning, Integrated Pest Management (IPM), and varietal selection of fruit and nut saplings (including almond, walnut, hazelnut, berry crops, apple and grape).⁸⁸ In Tajikistan, training was delivered to national experts and farmers, for producing seed potato, and guidelines for seed potato production developed and disseminated.⁸⁹

39. Capacity building of national experts and farmers in using improved varieties was also supported through pilot demonstrations and trainings. For instance, in Tanzania and Zimbabwe, on-farm conservation and diversity of PGRFA was promoted through farmer-field schools.⁹⁰ In Georgia, trainings have been delivered to local grape growers and viticulturists, with the aim of enhancing preservation of local grape varieties and improving knowledge on grapevine management.⁹¹ Similarly, in Uzbekistan extension materials on quality seed production of rice were developed.⁹² Building capacity at the national level for varietal maintenance and seed production was undertaken in Venezuela,⁹³ while in the Niger, FAO strengthened the capacity in the national laboratory for *in vitro* potato production.⁹⁴ FAO strengthened the capacities of different institutions and experts in Mali, Mauritania and Niger in quality control, seed testing, seed certification as means to sustainable quality seed production. Capacities were also strengthened for the adoption of new crop varieties in Niger.

B. National Focal Points

40. Over the reporting period, the Commission's National Focal Points on PGRFA have continued to play an important role in the work of the Commission, in the preparation of *The Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture* (Third Report) and the review of

⁸⁵ CGRFA-19/23/Report, paragraph 56.

⁸⁶ TCP/RER/3802: Creating enabling environments for enhanced climate resilience in agriculture.

⁸⁷ TCP/SRL/3901: Streamlining of good quality seed and planting material production, quality assurance and marketing system

⁸⁸ UNJP/GEO/013/EC: EU/UN innovative action for private sector competitiveness in Georgia.

⁸⁹ UTF /TAJ/023/TAJ: Strengthening Resilience of the Agriculture Sector.

⁹⁰ GCP/GLO/006/EC: Capacity Building Related to Multilateral Environmental Agreements in ACP Countries

⁹¹ GCP /GEO/023/SWI: Sustainable management of grape genetic resources in Abkhazia.

⁹² TCP/UZB/3803/C3: TCPF: Rice Crop Production and Management Support.

⁹³ GCP /VEN/019/EC: Promoción de la SAN para el Desarrollo de la Cadena de Valor de Semillas de Cereales y Leguminosas.

⁹⁴ TCP/NER/3901: Projet d'Appui à la production de semences certifiées de pomme de terre dans la Région d'Agadez.

the Second GPA. To date, 136 countries have nominated National Focal Points (NFPs), reflecting a high level of commitment for the implementation of the Second GPA.

C. World Information and Early Warning System on Plant Genetic Resources for Food and Agriculture

41. The Commission recommended that FAO continue to report annually on the status of implementation of Sustainable Development Goal (SDG) Target 2.5, further develop the World Information and Early Warning System on Plant Genetic Resources (WIEWS), including through improved graphical features and reports, and strengthen cooperation with the International Treaty's Global Information System for PGRFA (GLIS)⁹⁵ and with Genesys,⁹⁶ with a view to avoiding duplication of efforts.⁹⁷ Following the finalization of the Third Report and clarification of a number of issues reported by countries, WIEWS data have been updated and amended accordingly and all data are being made accessible through the portal.

VII. GUIDANCE SOUGHT

42. The Working Group may wish to recommend:

CONSERVATION AND MANAGEMENT OF PGRFA

(i) to invite countries to strengthen their efforts to conserve PGRFA *in situ*, *ex situ*, and to maintain them on-farm and to strengthen the links and complementarity between *ex situ* and *in situ* conservation;

(ii) that FAO provide support to countries, 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 Commission's *Voluntary Guidelines for the Conservation and Sustainable Use of Crop Wild Relatives and Wild Food Plants*⁹⁸ and the *Voluntary Guidelines for the Conservation and Sustainable Use of Farmers' Varieties/Landraces*,⁹⁹

(iii) that FAO continue providing support to countries in their efforts to conserve PGRFA *in situ* and *ex situ*, and to manage them on-farm, including for the continued surveying, collecting, preservation, characterization and evaluation, and documentation of crop germplasm;

SUSTAINABLE USE

(iv) that FAO to continue assisting countries in strengthening national seed systems for the delivery of quality seeds and planting materials, in particular to smallholder farmers;

(v) to invite countries to develop or revise their national seed policies and legislations, taking into account the Commission's *Voluntary Guide for National Seed Policy Formulation*;

(vi) to invite donors to support countries, in their review, development and implementation of national seed policies and legislations;

(vii) to invite countries to strengthen their crop breeding systems, including for underutilized crops;

⁹⁵ <https://glis.fao.org/glis/>

⁹⁶ <https://www.genesys-pgr.org/>

⁹⁷ CGRFA-19/23/Report, paragraph 57

⁹⁸ FAO. 2017. [Voluntary Guidelines for the Conservation and Sustainable Use of Crop Wild Relatives and Wild Food Plants](#). Rome.

⁹⁹ FAO. 2019. [Voluntary Guidelines for the Conservation and Sustainable Use of Farmers' Varieties/Landraces](#). Rome.

(viii) that FAO continue supporting countries, in close coordination with the 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 Treaty;

BUILDING SUSTAINABLE INSTITUTIONS AND HUMAN CAPACITIES

(ix) to invite countries to strengthen their PGRFA-related human and institutional capacities for research and development;

(x) 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 Treaty and in line with its Funding Strategy;

(xi) that FAO continue reporting, on an annual basis, on the status of implementation of SDG Target 2.5 and share results with the Working Group and the Commission; and

(xii) that FAO continue operating and further developing the WIEWS portal and strengthening cooperation with GLIS and Genesys to avoid duplication of efforts.