Food and Agriculture Organization of the United Nations

COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

CGRFA/WG-PGR-9/18/REPORT

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

Rome, Italy, 25 – 27 July 2018

CGRFA/WG-PGR-9/18/REPORT

COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

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

Rome, Italy, 25-27 July 2018

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2018

The documents prepared for the Ninth 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:

http://www.fao.org/agriculture/crops/core-themes/theme/seeds-pgr/itwg/9th/en/

They may also be obtained from
The Secretary of the Intergovernmental Technical Working Group
on Plant Genetic Resources for Food and Agriculture
Plant Production and Protection Division
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TABLE OF CONTENTS

I. INTRODUCTION

1. The Ninth Session of the Intergovernmental Technical Working Group on Plant Genetic Resources for Food and Agriculture (Working Group) was held in Rome, Italy, from 25 to 27 July 2018. The list of delegates and observers is available on the web site.[1]

II. OPENING OF THE SESSION AND ELECTION OF THE CHAIR, VICE-CHAIRS AND *RAPPORTEUR*

2. Mr Axel Diederichsen (Canada), Vice Chair of the Eight Session of the Working Group, welcomed delegates and observers.

3. Mr Hans Dreyer, Director, Plant Production and Protection Division of the Food and Agriculture Organization of the United Nations (FAO) welcomed delegates and observers. He emphasized FAO's commitment to support countries in achieving the Sustainable Development Goals (SDGs). He noted the need to produce more with less and recalled the important role PGRFA may play in addressing this need.

4. Mr Dan Leskien, Senior Liaison Officer, Commission on Genetic Resources for Food and Agriculture, stressed that genetic resources for food and agriculture demonstrate the need for multilateralism as they are a common concern of all countries, in that all countries depend on genetic resources that originated elsewhere.

5. Mr Diederichsen noted that, in line with Article III.1 of the Statutes of the Working Group,[2] Madagascar would replace Ghana, India would replace Afghanistan, and Mexico would replace Jamaica as Members of the Working Group. In line with Article III.4 of the Statutes, the Working Group, in consultation with the Asian region, replaced Nepal by Bangladesh as Member of the Working Group.

6. The Working Group elected Ms Katlyn Scholl (United States of America) as Chair and Mr Shin-ichi Yamamoto (Japan), Mr Pedro Antonio Moçambique (Angola), Mr Vlastimil Zedek (Czechia), Mr Nevio Aníbal Bonilla Morales (Costa Rica), Ms Joêlle Braidy (Lebanon) and Mr Tolo Iosefa (Samoa) as Vice-Chairs. Mr Ashwani Kumar (India) was elected *Rapporteur*.

7. The Working Group adopted the agenda as given in Appendix A.

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

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

8. The Working Group considered the document *FAO activities in support of the implementation of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture*[3] and took note of the relevant information documents.

[1] CGRFA/WG-PGR-9/18/Inf.21 available at: http://www.fao.org/agriculture/crops/core-themes/theme/seeds-pgr/itwg/9th/en/.
[2] CGRFA/WG-PGR-9/18/Inf.2
[3] CGRFA/WG- PGR-9/18/2/Rev.1.

In situ *conservation and on-farm management of plant genetic resources for food and agriculture*

9. The Working Group took note of the documents *Global networking on* in situ *conservation of plant genetic resources for food and agriculture*[4] and *Global networking on on-farm management of plant genetic resources for food and agriculture*.[5]

10. The Working Group recognized the importance of on-farm management of farmers' varieties/landraces. It agreed, however, that the creation of a global network on on-farm management of PGRFA is premature. The Working Group recommended that the proposal for a global network on on-farm management of PGRFA be revised to propose instead, subject to the availability of the necessary extra-budgetary resources, an international symposium, to be held in cooperation with the International Treaty on Plant Genetic Resources for Food and Agriculture (Treaty). The purpose of the symposium would be to share experiences with and best practices for on-farm management of farmers' varieties/landraces and discuss possible future activities, including the creation of possible information exchange and networking mechanisms.

11. The Working Group also recognized the importance of *in situ* conservation of crop wild relatives and wild food plants. It agreed, however, that the establishment of a global network is premature. The Working Group recommended that the proposal for a global network on *in situ* conservation of crop wild relatives and wild food plants be revised to propose instead an international symposium, to be held in cooperation with the Treaty. The purpose of this symposium will be to exchange information and experiences, and identify potential options for collaboration within a global community of practice, current needs and challenges. Key results of the proposed symposium should include setting priorities for future work, and preparation of a summary statement on the importance of *in situ* conservation of crop wild relatives and wild food plants for current and future food security. The Working Group recommended that the symposium be held prior to the Tenth Session of the Working Group, subject to the availability of the necessary extra-budgetary resources.

12. The Working Group recommended that the Commission request FAO to support countries in the development or revision of their national plans for the conservation and sustainable use of crop wild relatives and wild food plants, taking into account the Commission's *Voluntary Guidelines for the Conservation and Sustainable Use of Crop Wild Relatives and Wild Food Plants*.[6]

13. The Working Group took note of and reviewed the revised *Draft Voluntary Guidelines for the Conservation and Sustainable Use of Farmers' Varieties and Landraces*.[7] The Working Group invited Commission Members and observers to submit written comments to the Secretariat by 30 September 2018 and requested the Secretariat to revise the draft guidelines in the light of the comments received, for endorsement by the Commission at its next session.

Ex situ *conservation of plant genetic resources for food and agriculture*

14. The Working Group took note of the document *Facilitating the Implementation and Monitoring of the Genebank Standards*.[8]

15. The Working Group recommended that the Commission request FAO to continue to provide support to countries in their efforts to maintain genebanks for the continued collecting, conservation, characterization and evaluation of crop germplasm.

16. It recommended that the Commission request FAO to prepare practical guides to the use of the Genebank Standards based on the action steps outlined in the Annexes to the document

[4] CGRFA/WG-PGR-9/18/Inf.6.
[5] CGRFA/WG-PGR-9/18/Inf.5 Rev.1.

[6] FAO 2017. Voluntary Guidelines for the Conservation and Sustainable Use of Crop Wild Relatives and Wild Food Plants. FAO, Rome. Available online from: http://www.fao.org/3/a-i7788e.pdf
[7] CGRFA/WG-PGR-9/18/Inf.4.
[8] CGRFA/WG-PGR-9/18/Inf.3.

Facilitating the implementation and monitoring of the Genebank Standards,[9] for consideration by the Working Group at its next session. The Working Group stressed the voluntary nature of the Genebank Standards and recommended that the practical guides be also voluntary. The Working Group invited Commission Members and observers to submit written comments to the Secretariat by 30 September 2018 and requested the Secretariat to revise the document in the light of the comments received, for endorsement by the Commission at its next session.

17. The Working Group recommended that the application of the Genebank Standards not be monitored through the reporting mechanism for the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture (Second GPA). The Working Group also considered the development of additional indicators for monitoring the application of the Genebank Standards as unnecessary.

Sustainable use of plant genetic resources for food and agriculture

Strengthening seed systems

18. The Working Group took note of the *Review of the Status and Trends of Seed Policies and Seed Laws*.[10]

19. It recommended that the Commission request FAO to carry out, subject to the availability of extra-budgetary resources, in-depth case studies of the effects of seed policies, laws and regulations on farm-diversity of PGRFA, for consideration of the Working Group at its next session. The Working Group stressed the need to clarify the term "farmers' seed systems" and requested the Secretariat to collaborate closely with the Treaty in the preparation of the in-depth case studies to avoid duplication of activities.

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

21. The Working Group recommended that the Commission request FAO to continue to support, subject to the availability of extra-budgetary resources, countries in the development or revision of their national seed policy and legislation, taking into account the Commission's *Voluntary Guide for National Seed Policy Formulation.*[11]

Strengthening plant breeding

22. The Working Group took note of FAO's continued efforts to strengthen capacities for developing well-adapted crop varieties that are most suited to local agroecological conditions and farming systems.[12]

23. The Working Group recommended that the Commission request FAO to continue, in close coordination with the Treaty , supporting countries in strengthening their crop improvement capacity, including through the Global Partnership Initiative for Plant Breeding Capacity Building (GIPB) platform and the Joint Programme of FAO and the International Atomic Energy Agency (IAEA) and, in particular, in support of the implementation of the Second GPA and Article 6 of the Treaty.

24. The Working Group considered the discontinuation of funding for plant breeding activities to be a major concern that needs to be addressed. It stressed the importance of underutilised and neglected crops and crops adapted to harsher marginal conditions. While such crops may play an important role in providing healthy and variable diets in all regions of the world, they are not adequately addressed by current research platforms and activities.

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[9] CGRFA/WG-PGR-9/18/Inf.3 Annexes 1–3.
[10] CGRFA/WG-PGR-9/18/Inf.7.
[11] FAO. 2015. Voluntary Guide for National Seed Policy Formulation. Available from: http://www.fao.org/3/ai4916e.pdf
[12] CGRFA/WG-PGR-9/18/2 Rev.1, paragraphs 44–54.

Building sustainable institutions and human capacities

25. The Working Group recommended that the Commission call for extra-budgetary 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 its Funding Strategy.

STATUS OF DEVELOPMENT OF THE WORLD INFORMATION AND EARLY WARNING SYSTEM ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

26. The Working Group considered the document *Status of development of the World Information and Early Warning System on Plant Genetic Resources for Food and Agriculture*[13] and took note of the *Draft Revised Reporting Format for Monitoring the Implementation of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture*[14].

27. The Working Group stressed the role of the World Information and Early Warning System on Plant Genetic Resources for Food and Agriculture (WIEWS) as a relevant PGRFA information system. It welcomed the efforts made to provide improved access to the WIEWS data on the implementation of the Second GPA and SDG Target 2.5. It recognized WIEWS as one of the globally most comprehensive inventories of accession-level *ex situ* collections of PGRFA. It recommended that the Global Information System (GLIS) of the Treaty build on WIEWS. It also recommended cooperation of WIEWS with GENESYS of the Crop Trust. It called on GLIS, WIEWS and GENESYS to make an effort to cooperate in order to avoid duplication.

28. The Working Group recommended that the Commission request FAO to continue updating and improving the WIEWS portal, including through creation of a country profile module as well as the graphical visualization of all indicators and the publication of WIEWS in other languages.

29. The Working Group took note of and reviewed the *Draft Revised Reporting Format for Monitoring the Implementation of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture.*[15] It recommended that the Commission endorse the revised Reporting Format for the next reporting cycle on the implementation of the Second GPA through the WIEWS reporting tool. It requested that a comprehensive list of frequently asked questions be made available to assist countries in reporting on the implementation of the Second GPA.

30. The Working Group recommended that the Commission schedule in its Multi-Year Programme of Work (MYPOW) a review and evaluation of the Second GPA monitoring framework and based on this, further simplify it. It recommended that the Commission invite FAO to continue analysing, on an annual basis, the status of implementation of SDG target 2.5 and share results with the Working Group and the Commission. The Working Group recommended that FAO continue to provide technical support to countries.

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

31. The Working Group considered the document *Preparing The Third Report on the State of the World's Plant Genetic* Resources *for Food and Agriculture*[16]

32. The Working Group recommended that the Commission invite countries to report through WIEWS, starting in January 2020 and not later than 31 December 2020, on the implementation of the Second GPA during the period of July 2014 to December 2019. It agreed with the proposed reporting approach that would require countries to provide "summative narratives", rather than self-standing country reports, on progress made between January 2012

[13] CGRFA/WG-PGR-9/18/3.
[14] CGRFA/WG-PGR-9/18/Inf.8
[15] CGRFA/WG-PGR-9/18/Inf.8
[16] CGRFA/WG-PGR-9/18/4.

and December 2019 in the implementation of the Second GPA and on remaining gaps and constraints.

33. The Working Group reviewed and revised the proposed list of thematic studies. While it welcomed the preparation of thematic studies, subject to the availability of extra-budgetary resources, it requested the Secretariat to clarify, for consideration by the Commission at its next session, the contribution of all studies to the Third Report, theirpurpose, content and aim.

34. The Working Group recommended that the study on climate change examine, in particular, the effects of growing genetically heterogeneous crop varieties on the stability of productivity. The Working Group further recommended that the study on nutrition investigate the potentials of underutilized crops in addressing malnutrition and obesity and that the study on genotyping and phenotyping, including eco-geographical analysis, should address the lack of technology platforms for underutilized crops and crop wild relatives. The proposed study on safety duplicates should cover the lack of safety duplications as well as redundancies across collections. The Working Group also recommended the inclusion of two additional thematic studies on: (i) the existing plant breeding and pre-breeding activities for all crops, including those involving crop wild relatives, in all regions; and (ii) the impacts of socioeconomic drivers such as migration and conflicts on the conservation and sustainable use of PGRFA.

35. The Working Group recommended that the Commission invite donors to provide the necessary extra-budgetary resources for the preparation of the Third Report, including participation of developing and least developed countries in this process.

V. ACCESS AND BENEFIT-SHARING FOR PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

36. The Working Group considered the document, *Draft explanatory notes describing, within the context of the ABS Elements, the distinctive features of plant genetic resources for food and agriculture*[17] and took note of relevant information documents.[18].

37. The Working Group welcomed the International Workshop on Access and Benefit-sharing for Genetic Resources for Food and Agriculture convened by the secretariats of the Commission, the Treaty and the Convention on Biological Diversity in January 2018. It requested that the proceedings of the workshop be made available to the Commission's next session. The Working Group stressed the need to continue strengthening collaboration between the Commission and the Treaty with a view to promote coherence, and avoid duplication, in the development and implementation of the respective programmes of work of the two bodies, in particular with regard to access and benefit-sharing.

38. The Working Group reviewed and revised the draft explanatory notes, as given in Appendix D, for further consideration by the Team of Technical and Legal Experts on Access and Benefit-sharing and the Commission, at their next sessions.

VI. "DIGITAL SEQUENCE INFORMATION" ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

39. The Working Group considered the document, *Review of the draft exploratory fact-finding scoping study on "digital sequence information" on genetic resources for food and agriculture*.[19]

[17] CGRFA/WG-PGR-9/18/5.
[18] *Inputs by Members and Observers on Access and Benefit-Sharing for Genetic Resources for Food and Agriculture* (CGRFA/WG-PGR-9/18/Inf.10 Rev.1); *Outputs of the International Workshop on Access and Benefit-Sharing for Genetic Resources for Food and Agriculture* (CGRFA/WG-PGR-9/18/Inf.11); *Proceedings of the International Workshop on Access and Benefit-Sharing for Genetic Resources for Food and Agriculture* (CGRFA/WG-PGR-9/18/Inf.12 Rev.1); *Access and Benefit-Sharing for Genetic Resources for Food and Agriculture: Survey Findings* (CGRFA/WG-PGR-9/18/Inf.13).
[19] CGRFA/WG-PGR-9/18/6 Rev.1.

40. The Working Group took note of the *Draft exploratory fact-finding scoping study in "digital sequence information" on genetic resources for food and agriculture*[20] provided to the Working Group for review and inputs, at the Commission's request. It noted that the study demonstrates the high relevance, importance and potential of "digital sequence information" (DSI) for the conservation and sustainable use of PGRFA, thereby promoting food security and nutrition.

41. The Working Group noted that the term "digital sequence information" has no universally agreed definition and requires further clarification, taking into account developments in other fora, including the Governing Body of the Treaty and the Conference of the Parties to the Convention on Biological Diversity.

42. The Working Group recommended to further develop and revise the study, with a view to include further examples of the use of DSIin the area of plant genetic resources, including for traceability, exchange and breeding, including new breeding techniques. The scoping study should reflect the most common and relevant applications of DSI in plant breeding and sustainable use of PGRFA.

43. The Working Group stressed the importance of open access to DSI for all stakeholders for the sustainable use and conservation of PGRFA. It noted, however, that the lack of human capacity and financial resources may limit some countries and researchers to benefit from access to and use of DSI.

44. The Working Group recommended that the Commission, in its future work on DSI, also consider the traceability of DSI and its implications for access to PGRFAand the fair and equitable sharing of benefits derived from their use, in coordination with the Treaty to avoid duplication.

VII. DRAFT WORK PLAN FOR FUTURE WORK ON SUSTAINABLE USE AND CONSERVATION OF MICRO-ORGANISM AND INVERTEBRATE GENETIC RESOURCES FOR FOOD AND AGRICULTURE

45. The Working Group considered the *Draft work plan for the sustainable use and conservation of micro-organism and invertebrate genetic resources for food and agriculture*.[21] It welcomed the draft work plan and its objectives, and reiterated the importance of micro-organism and invertebrate genetic resources to food and agriculture and to ecosystem services.

46. The Working Group noted that micro-organisms and invertebrates are relevant to the different sub-sectors of genetic resources and that work on these organisms should not be undertaken in isolation from the work of the sectoral working groups. It requested the Secretariat to analyse different options for organizing future work on micro-organisms and invertebrates, including their financial implications, and report to the Commission. The options should include the organization of work through (a) partnerships, (b) a standing agenda for the Commission's sectoral working groups, and (c) the establishment of either a sectoral working group or other subsidiary body.

47. The Working Group recommended to address at every session of the Commission two, instead of one, different functional groups of micro-organisms and invertebrates and to revise the list of functional groups in the draft work plan as given below:

CGRFA-18	Biological control agents and organisms that are pests and diseases Pollinators, including honey bees
CGRFA-19	Food processing and agro-industrial fermentation processes Organisms, including edible fungi, used as dietary components of food/feed
CGRFA-20	Soil micro-organisms and invertebrates in food and agriculture production Micro-organisms of relevance to animal digestion

[20] CGRFA/WG-PGR-9/18/Inf. 14.
[21] CGRFA/WG-AqGR-2/18/7/Rev.1.

48. The Working Group recommended including further areas of work in the work plan, namely the role of micro-organisms in abiotic and biotic stress conditions, and the use of micro-organisms to improve micronutrient use efficiency.

49. The Working Group recommended that the Commission address taxonomy and access and benefit-sharing for each functional group. It also suggested that the Commission consider to undertake a global country-driven assessment of micro-organism and invertebrate genetic resources for food and agriculture ensuring that duplication with the ongoing assessment on *The State of the World's Biodiversity for Food and Agriculture* is avoided.

VIII. DRAFT REVISED STRATEGIC PLAN FOR THE COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE (2018-2027)

50. The Working Group considered the document *Draft Revised Strategic Plan for the Commission on Genetic Resources for Food and Agriculture (2018–2027).*[22] It reviewed and revised Annexes 1 and 2 to Appendix I of the document, as given in Appendix E.

51. The Working Group recommended to refer in section III of the work plan to the Treaty and to stress the need to coordinate the work on PGRFA with the Treaty, with a view to avoid duplication of activities.

52. The Working Group agreed with the proposal to update the MYPOW (Appendix E, Annex 1) and Session planning (Appendix E, Annex 2) on a regular basis and review the Strategic Plan at every other session.

53. The Working Group thanked the Governments of Switzerland and Norway for their support to the MYPOW multidonor trust fund and encouraged other donors to follow their example.

54. The Working Group agreed with the proposal to consider in the future the reports on the implementation of sectoral action plans as part of the sectoral sections of the MYPOW. It requested FAO to apply existing indicators and continue reviewing and developing indicators, as appropriate.

IX. REPORTS FROM INTERNATIONAL ORGANIZATIONS AND INSTRUMENTS

55. The Working Group considered the document, *Reports from international organizations and instruments*,[23] which introduced reports to the Working Group from the CGIAR,[24] the Global Crop Diversity Trust,[25] the International Seed Federation,[26] the International Union for the Protection of New Varieties of Plants (UPOV),[27] and the Secretariat of the Treaty.[28] The Working Group took note of the reports from international organizations and instruments and recommended that the Commission continue to invite international organizations and instruments, as well as international farmer organizations to report on their work to the Commission and its Working Group.

X. CLOSING REMARKS

56. The Chairperson thanked delegates, Vice-Chairs and the Rapporteur, as well as the observers for their important inputs and commended the Working Group for working diligently to get through a full agenda. Ms Hoffmann, Secretary of the Commission, thanked the Chairperson for her smooth and skillful guidance. She thanked the Working Group for their recommendations on sectoral and cross-sectoral matters, which will be

[22] CGRFA/WG-PGR-9/18/8.
[23] CGRFA/WG-PGR-9/18/9.
[24] CGRFA/WG-PGR-9/18/Inf.15.
[25] CGRFA/WG-PGR-9/18/Inf.16.
[26] CGRFA/WG-PGR-9/18/Inf.17.
[27] CGRFA/WG-PGR-9/18/Inf.18.
[28] CGRFA/WG-PGR-9/18/Inf.19.

reviewed by the Commission together with those from other Working Groups. Mr Diulgheroff, Secretary of the Working Group, thanked the participants for their contributions, the outcomes of which will aid FAO member countries in striving towards the Sustainable Development Goals. He noted the wide range of topics that had been covered and appreciated the commitment of member countries to the conservation and sustainable use of PGRFA, essential for improved food security and nutrition

APPENDIX A

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

1. Election of the Chair, the Vice-Chair(s) and the Rapporteur
2. Adoption of the agenda and timetable
3. Status of implementation of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture
    - 3.1. Review of the implementation of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture
    - 3.2. Status of development of the World Information and Early Warning System on Plant Genetic Resources for Food and Agriculture
4. Preparation of The Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture
5. Access and benefit-sharing for plant genetic resources for food and agriculture
6. “Digital sequence information” on plant genetic resources for food and agriculture
7. Draft work plan for future work on sustainable use and conservation of micro-organism and invertebrate genetic resources for food and agriculture
8. Draft Revised Strategic Plan for the Commission on Genetic Resources for Food and Agriculture (2018-2027)
9. Reports from international organizations and instruments
10. Other business
11. Adoption of the Report

APPENDIX B

LIST OF DOCUMENTS

WORKING DOCUMENTS

CGRFA/WG-PGR-9/18/1 Rev.1	Provisional agenda
CGRFA/WG-PGR-9/18/1 Add.1 Rev.2	Provisional annotated agenda and timetable
CGRFA/WG-PGR-9/18/2 Rev.1	FAO activities in support of the implementation of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-9/18/3	Status of Development of the World Information and Early Warning System on Plant Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-9/18/4	Preparing *The Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture*
CGRFA/WG-PGR-9/18/5	Draft explanatory notes describing, within the context of the ABS elements, the distinctive features of plant genetic resources for food and agriculture
CGRFA/WG-PGR-9/18/6 Rev.1	Review of the Draft Exploratory Fact-finding Scoping Study on "Digital Sequence Information" on Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-9/18/7	Draft Work Plan for the Sustainable Use and Conservation of Micro-Organism and Invertebrate Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-9/18/8	Draft Revised Strategic Plan for the Commission on Genetic Resources for Food and Agriculture (2018-2027)
CGRFA/WG-PGR-9/18/9	Reports from international organizations and instruments

INFORMATION DOCUMENTS

CGRFA/WG-PGR-9/18/Inf.1 Rev.1	Information Note for Participants
CGRFA/WG-PGR-9/18/Inf.2	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 Sixteenth Regular Session
CGRFA/WG-PGR-9/18/Inf.3	Facilitating the Implementation and Monitoring of the Genebank Standards

CGRFA/WG-PGR-9/18/Inf.4	Draft Voluntary Guidelines for the National Level Conservation and Sustainable Use of Farmers' Varieties/Landraces
CGRFA/WG-PGR-9/18/Inf.5 Rev.1	Global Networking on On-farm Management of Plant Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-9/18/Inf.6	Global Networking on *In Situ* Conservation of Plant Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-9/18/Inf.7	Review of the Status and Trends of Seed Policies and Seed Laws
CGRFA/WG-PGR-9/18/Inf.8	Draft Revised Reporting Format for Monitoring the Implementation of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-9/18/Inf.9	Preparation of Country Reports for *The Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture*
CGRFA/WG-PGR-9/18/Inf.10 Rev.1	Inputs by Members and Observers on Access and Benefit-Sharing for Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-9/18/Inf.11	Outputs of the International Workshop on Access and Benefit-Sharing for Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-9/18/Inf.12 Rev.1	Proceedings of the International Workshop on Access and Benefit-Sharing for Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-9/18/Inf.13	Access and Benefit-Sharing for Genetic Resources for Food and Agriculture: Survey Findings
CGRFA/WG-PGR-9/18/Inf.14	Draft exploratory fact-finding scoping study on "digital sequence information" on genetic resources for food and agriculture
CGRFA/WG-PGR-9/18/Inf.15	Report from the CGIAR
CGRFA/WG-PGR-9/18/Inf.16	Report from the Global Crop Diversity Trust
CGRFA/WG-PGR-9/18/Inf.17	Report from the International Seed Federation
CGRFA/WG-PGR-9/18/Inf.18	Report from the International Union for the Protection of New Varieties of Plants (UPOV)
CGRFA/WG-PGR-9/18/Inf.19	Report from the International Treaty on Plant Genetic Resources for Food and Agriculture
CGRFA/WG-PGR-9/18/Inf.20	List of Delegates and Observers
CGRFA/WG-PGR-9/18/Inf.21	List of Documents

APPENDIX C

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

Composition (no. of countries per region)		*Country*
Africa		Algeria
(5)		Angola
		Central African Republic
		Ghana
		Uganda
	First Alternate	Madagascar
	Second Alternate	Niger
Asia		Afghanistan
(5)		Bhutan
		Japan
		Malaysia
		Nepal
	First Alternate	India
	Second Alternate	Lao People's Democratic Republic
Europe		Czechia
(5)		Finland
		Italy
		Netherlands
		Norway
	First Alternate	Sweden
	Second Alternate	France
Latin America and the Caribbean		Brazil
(5)		Chile
		Costa Rica
		Ecuador
		Jamaica
	First Alternate	Mexico
	Second Alternate	Argentina
Near East		Egypt
(3)		Iran (Islamic Republic of)
		Lebanon
		Saudi Arabia
	First Alternate	Jordan
	Second Alternate	Sudan
North America		Canada
(2)		United States of America
Southwest Pacific		Cook Islands
(2)		Samoa
	First Alternate	Papua New Guinea
	Second Alternate	Fiji

APPENDIX D

DRAFT EXPLANATORY NOTES DESCRIBING, WITHIN THE CONTEXT OF THE ABS ELEMENTS, THE DISTINCTIVE FEATURES OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

1. The following draft explanatory notes aim to (i) provide relevant background information on the plant sector to policy-makers developing, adapting or implementing ABS measures and (ii) clarify some of the issues raised in the ABS Elements as they are relevant to PGRFA.

Background information on plant genetic resources for food and agriculture

2. ABS policy-makers may find it useful to receive some background information on the use and exchange of PGRFA.[29] Explanatory notes should therefore explain that:

PGRFA have been used and exchanged since the beginnings of agriculture, some 10 000 years ago. Farmers and farming communities have planted, selected and exchanged seeds and vegetative propagating material, and a combination of natural and artificial selection has domesticated plant species and adapted them to the changing needs of farming and consumption. Migration, trade and colonization spread many species beyond their regions of origin, which spurred further selective pressures. Since the mid-nineteenth century, professional seed suppliers, followed by specialized plant breeders and biotechnologists, have developed advanced methods for selecting PGRFA at the phenotypic, genotypic and molecular levels to further shape crops and contribute to advanced agricultural systems and the production and supply of agricultural products and cultivars with distinctive characteristics.

PGRFA are maintained both *in situ*, on-farm and *ex situ*. A considerable amount of crop genetic diversity is held in farmers' fields and in the breeding pools of specialized plant breeders. Many wild relatives of today's crops are conserved in protected areas or within agricultural ecosystems. In addition, much of the diversity originally found *in situ* has been collected and stored in *ex situ* facilities. The establishment of these collection (genebank) was initiated by plant breeders and associated research, concerned about the loss of genetic diversity, at the end of the 19th century and they are mainly held by public genebanks at national level and by international research centres, with some of the most relevant collections being managed by the centres of the Consultative Group on International Agricultural Research (CGIAR). Overall, it is estimated that approximately 7 million accessions of PGRFA are stored *ex situ*, and it can be said that these collections play an important role in the functioning of the sector. Apart from the public genebanks, PGRFA are also held *ex situ* in the breeding collections of a variety of entities including private individuals, universities and private companies. However, the extent of these private collections is mostly unknown and the stored genetic material may not be publicly available.

The sector using PGRFA for breeding purposes is quite diverse and its organization is highly dependent on the crops bred and on the geographic area and type of user group targeted. Large private corporations increasingly dominate the commercial seed market for some of the major and high-value crops, such as maize and major vegetables. Medium- and smaller-sized breeding companies continue to operate in smaller seed markets for commercially less attractive crops, such as some self-pollinating staple crops. Public-sector institutions at national and international levels continue to play a major, actually important role in breeding and variety development both for crops not served sufficiently by the private sector and for crops grown in marginal environments or by resource-poor farmers who are not likely to be reached by the commercial sector. At the level of research for breeding, including rather fundamental research as well as pre-breeding, both large and small biotechnology companies, sometimes integrated with plant breeding and seed production, and universities are the main players. Other users of PGRFA for breeding include farmer groups and civil society organizations supporting them. They may contribute to the reintroduction of PGRFA from genebanks into farming systems, sometimes combined with participatory plant breeding or participatory variety selection activities involving both farmers and trained breeders.

Different types of PGRFA may be used in plant breeding and cultivar development. The development of new cultivars is usually based upon the use of advanced genetic material, as it is a costly and time-

[29] See also Background Study Paper No. 45.

consuming process to bring less-advanced material to the same performance levels. However, old cultivars, landraces and crop wild relatives may be used to introduce particular traits into breeding populations. The genetic diversity contained in landraces and traditional cultivars may also be used for base-broadening activities and for the development of cultivars adapted to less-favourable environmental conditions and low-input production systems.

Historically, crops and PGRFA have been widely exchanged throughout the world, and many people in many different places have contributed in one way or another to the development of today's crop genetic diversity. As a consequence, an important part of current crop production relies on the use of introduced genetic resources and all countries depend to some extent on genetic diversity that originated elsewhere.

The current international flow of PGRFA takes place in many different forms, including for example, through the exchange of germplasm samples from *ex situ* collections, the sale of commercial seed and vegetative propagating material, or within a company or as part of international breeding nurseries with material under development. The international exchange of genebank accessions amounts to several tens of thousands of transfers annually and plays an important role in conservation, research and development both in developing and developed countries. At the same time, it has to be noted that the majority of genetic material used directly in breeding and variety development comes from the breeding pools within one region and new "exotic" material is only occasionally accessed.

The modalities for the exchange of PGRFA depend on the crop in question and on the type of exchange partners. Generally speaking, the trend is towards more formalized exchange practices, mainly through material transfer agreements (MTAs). Transfers of germplasm samples from genebanks are, for instance, increasingly regulated by MTAs. Contracting Parties to the International Treaty on Plant Genetic Resources for Food and Agriculture (Treaty) have agreed to use a standard contract, the SMTA, for each transfer of material falling under the coverage of the Multilateral system of access and benefit sharing under the Treaty.

This Multilateral System includes "all PGRFA listed in Annex I of the Treaty [64 crops and forages] that are under the management and control of the Contracting Parties and in the public domain" (Article 11.2). PGRFA held by the International Agricultural Research Centres of the CGIAR and other international organizations under Article 15 are made available under the same conditions. Many genebanks voluntarily provide access to their collections using the same conditions regardless of whether their accessions are covered by the MLS or not. Exchange among commercial breeders free (in the case of the use of commercial cultivars for further breeding) or regulated by commercial material transfer agreements. Exchange among farmers is limited by distance and social factors, but is generally free.

The legal landscape

3. The ABS Elements point out that the Nagoya Protocol "leaves room for other international agreements in the field of ABS […], including other specialized ABS agreements, provided that they are supportive of and do not run counter to the objectives of the CBD and the Protocol."[30] Explanatory notes should explain that:

The Treaty is a "specialized international access and benefit-sharing instrument" as referred to in Article 4.4 of the Nagoya Protocol. The Treaty has established a Multilateral System of Access and Benefit sharing to facilitate access to the genetic materials of the 64 crops and forages for the purpose of research, breeding and training for food and agriculture. These 64 crops and forages are listed in Annex 1 of the Treaty, which were selected according to criteria of food security and interdependence. All genetic resources included in the MLS and which are exchanged using the SMTA for the purposes considered by the Treaty, including those held in the Article 15 institutions, do not fall within the application of the Nagoya Protocol. Furthermore, Contracting Parties to the Treaty can decide to exchange accessions of PGRFA of species not included in the Annex I according to the terms and conditions of the SMTA. The Treaty has established the Benefit-sharing Fund as its mechanism for monetary benefit-sharing. The contracting parties recognise that facilitated access to PGRFA in the MLS constitutes itself a major benefit of the MLS.

Identification and consultation of relevant governmental entities and non-governmental stakeholders holding, providing or using GRFA

4. The ABS Elements recommend consulting government entities and non-governmental stakeholders holding, providing or using GRFA.[31] Explanatory notes should explain that:

[30] ABS Elements, paragraph 9.
[31] ABS Elements, paragraph 15.II.

The responsibility for the Treaty may often lie with the agriculture authorities, the responsibility for the Nagoya Protocol with environmental authorities. It is therefore possible that certain (uses of) of certain PGRFA fall in the competence of one authority, whereas (other uses of) other PGRFA fall in the competence of a different authority. Direct consultations among relevant governmental entities and non-governmental stakeholders are therefore critical and should possibly also seek to clarify the allocation of responsibilities among different competent authorities.

Integration of ABS measures with broader food security and sustainable agricultural development policies and strategies

5. The ABS Elements recommend considering ABS for GRFA in the wider context of sustainable agricultural development and food security.[32] Explanatory notes should therefore explicitly refer to policies and legislation in the areas of food security and plant production, which could either integrate or refer to relevant provisions for ABS for PGRFA:

Plant genetic resources play a key role in providing food, feed and fibre. PGRFA play multiple roles in helping ensure food security, for example: producing more and better food for rural and urban consumers; providing healthy and more nutritious food; and enhancing income generation and rural development.

In many countries ABS measures have been or are being developed as stand-alone legislation or policy. It is, however, important to develop ABS measures in harmony with other related policies and to integrate them with these policies, such as agricultural development or poverty reduction strategies. It is likewise important to involve the plant breeding and production sectors from the outset in the development and implementation of ABS measures to ensure that policy-makers have full understanding of the plant sector, exchanges of PGRFA and potential implications of ABS measures on plant production. Some countries have included ABS measures in laws on intellectual property rights by including requirements to disclose the origin of the material when applying for plant variety protection or patents.

Integration of implementation of ABS measures into the institutional landscape

6. The ABS Elements recommend identifying existing institutional arrangements that may be used to address ABS.[33] Explanatory notes should explain that:

Responsibility for the national ABS framework is often with one single competent authority. In fact, national interim reports on the implementation of the Nagoya Protocol show that many countries have chosen to select a single competent authority for ABS, rather than taking a sector or subsector-specific approach to ABS. However, several authorities within one country may share the responsibility for ABS and thus ABS for PGRFA could fall in the competence of a specialized authority dealing with plant production. Whether such sharing of ABS competences is useful will depend on the institutional landscape and other country-specific circumstances.

Communication of, and awareness-raising regarding, ABS measures for potential providers and users of GRFA

7. The ABS Elements stress the importance of communicating ABS measures to potential providers, holders and users of GRFA.[34] Explanatory notes should explain that:

Awareness-raising measures at national level should target breeders and farmers, indigenous peoples and local communities, scientists, taxonomists, private sector, botanical gardens and genebanks. Events such as relevant scientific conferences and meetings of plant breeder associations and seed fairs provide excellent opportunities to provide information on ABS to relevant stakeholders and information multipliers.

[32] ABS Elements, paragraph 15.III.
[33] ABS Elements, paragraph 30.
[34] ABS Elements, 3.VI.

Access and benefit-sharing for genetic resources for food and agriculture: the international legal framework

8. The ABS Elements refer to three international instruments, which are part of the global framework for ABS for genetic resources: the CBD, the Nagoya Protocol and the Treaty. Explanatory notes could provide information on the status of "specialized instruments" under the Nagoya Protocol.[35] Explanatory notes should explain that:

> The Treaty, although often quoted as a model for access and benefit-sharing for genetic resources in general, plays a particularly important role for PGRFA. The Treaty provides a comprehensive international agreement in harmony with the CBD, which standardizes conditions of access and the modalities of benefit-sharing. It also recognises Farmers' Rights in Article 9 of the Treaty. The Treaty also considers information sharing as non-monetary benefit sharing. Countries that have not yet done so should seriously consider becoming Contracting Parties to the Treaty.

Rationale of access and benefit-sharing measures for genetic resources for food and agriculture

9. According to the ABS Elements, "ABS measures may be instrumental in furthering the achievement of food security and improving nutrition. (…) Therefore, ABS measures aimed at achieving food security and the conservation of GRFA should aim to facilitate and actively encourage the continued use and exchange of GRFA for research and development and benefit-sharing".[36] Explanatory notes should explain that:

> Continuous availability of PGRFA for research and development is indispensable for the improvement of crops. PGRFA offer the potential to provide traits that can help meet future challenges, such as the need to adapt crops to changing climatic conditions or disease outbreaks. Continued access to PGRFA is therefore important to meet the rising food demand of a growing population in meeting the challenges of predicted environmental changes. This includes the access to neglected and underutilised crops, given their importance for nutrition.

Flows of germplasm, including international flows and possible gaps in ABS measures

10. The ABS Elements recommend that in developing, adapting and implementing ABS measures, the relevance of germplasm flows should be considered.[37] Explanatory notes should explain that:

> Today, the agriculture of virtually all countries is heavily dependent on a supply of PGRFA from other parts of the world. Crops such as cassava, maize, groundnut and beans, which originated in Latin America but have become staple food crops in many countries in Africa south of the Sahara, demonstrate the interdependence of crop species between developing countries; the same applies for vegetables, for example tomatoes. Even though many countries hold a significant amount of plant genetic diversity for food and agriculture in their genebanks and farmers' fields, in the long-term, they are likely to require access to additional diversity from the crop species' centres of diversity or cultivars bred elsewhere. There is a continued need for exchange of plant genetic resources therefore.

Categories of genetic resources use covered by ABS measures

11. The ABS Elements stress that ABS measures need to be clear as to which GRFA are covered by relevant access provisions and which are not.[38] This consideration applies likewise to the temporal and the subject-matter scope of ABS measures. Explanatory notes should explain that:

> PGRFA made available for direct use, e.g. for consumption, or multiplication, can often also be used for research and development, including breeding. There is a concern that genetic resources that have been originally accessed for direct use could end up being used for research and development. Some laws therefore require PIC and MAT for access to genetic resources for both research and development and direct use.
>
> However, regulating access to PGRFA for direct use may have a significant impact on trade of seeds and even foods and therefore on food security. If ABS measures refrain from regulating access to PGRFA for direct use, they could still require PIC and benefit-sharing when the intention changes and seeds or foods originally intended for direct use are suddenly being used for research and development.

[35] ABS Elements, Chapter IV.
[36] ABS Elements, Chapter 5.
[37] ABS Elements. paragraph 15 I.e.
[38] ABS Elements, paragraph 36.

PGRFA provided by countries of origin/ countries that acquired them in accordance with the CBD

12. Under the Nagoya Protocol, "[…] access to genetic resources for their utilization shall be subject to the prior informed consent of the Party providing such resources that is the country of origin of such resources or a Party that has acquired the genetic resources in accordance with the Convention […]." The ABS Elements refer to difficulties "to determine with certainty the country of origin" of GRFA as many GRFA have been widely exchanged across regions countries and communities and often over long period of time.[39] Explanatory notes should suggest:

> The "country of origin" of a PGRFA is not necessarily its "centre of origin". ABS measures could provide guidance as to the circumstances under which domesticated crops are considered to have developed their "distinctive properties" within or outside the area of jurisdiction to which the ABS measures applies.
> ABS measures could also provide guidance as to whether or to what extent "distinctive properties" (CBD, Article 2) are those properties that make domesticated or cultivated species "clearly distinguishable from any other variety", as provided in Article 7 of the 1991 UPOV Act.

Development of PGRFA in the course of farming

13. Access to genetic resources for their "utilization", as defined by the Nagoya Protocol, will usually trigger the application of ABS measures. According to the Nagoya Protocol, "utilization" means "to conduct research and development on the genetic and/or biochemical composition of genetic resources".[40] The ABS Elements point out that it may be difficult in some cases to decide whether a GRFA is utilized within the meaning of the Nagoya Protocol as there are activities that may serve several purposes, including research and development, at the same time.[41] Explanatory notes should explain that:

> There is a need to clearly identify activities related to PGRFA that are considered "utilization" and those which are not. Plant breeding is generally considered "utilization". However, it is less clear whether farmer-breeding or activities like mass or pure line selection of seeds or the creation and selection of spontaneous crosses or mutations are considered "utilization".
>
> On the other hand, trade in PGRFA for direct use as seeds or food/feed will usually clearly not qualify as "utilization", and therefore, dependent on the applicable laws, not trigger the application of ABS measures.
>
> Policy-makers may also wish to address the "re-utilization" of PGRA previously generated through "utilization" with PIC and MAT. If "re-utilization" requires PIC and MAT just like the first utilization of PGRFA, this could lead to complex stacking obligations and complicate the future "utilization" of PGRFA. Plant breeders could choose to avoid, rather than use, conserve and further improve PGRFA, creating a situation which would be in striking contradiction with the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture which encourages breeders to pursue base-broadening strategies that seek to widen the genetic diversity in plant breeding programmes and in the products of such programmes. The ABS Expert Team suggested that governments consider distinctive solutions to this issue, including through supporting the development of subsector standards building on current best practices, such as the breeders' exemption in plant variety protection legislation, or putting in place multilateral solutions.[42]

Research and development for food and agriculture

14. The ABS Elements refer to Article 8(c) of the Nagoya Protocol, which calls upon Parties to consider the importance of GRFA and their special role for food security in the development of ABS legislation or regulatory requirements. Explanatory notes should explain that:

> To acknowledge the special role of GRFA for food security, governments could consider treating access to and utilization of genetic resources differently if they are intended to contribute to food and agricultural research and development. In the area of PGRFA, the Treaty provides a comprehensive ABS regime policy makers may wish to opt for. In fact, a steadily growing group of countries have chosen the Treaty as special regime for the most important PGRFA. For PGRFA currently not covered by the Treaty's Multilateral System of Access and Benefit-sharing, policy-makers could provide for simplifications, such as to apply the terms and conditions to the SMTA or even waive PIC and MAT requirements.

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[39] ABS Elements, pargraph 35.
[40] Nagoya Protocol, Article 2.
[41] ABS Elements, paragraph 46–48.
[42] CGRFA/TTLE-ABS-3/16/Report 5, paragraph 20.

Commercial/non-commercial research and development

15. ABS measures sometimes distinguish between commercial and non-commercial utilization of genetic resources.[43] Explanatory notes should explain that:

> Many activities in the plant breeding sector ultimately aim at the development of a product and might therefore be considered "commercial". The plant breeding sector might therefore not greatly benefit from a distinction between commercial and non-commercial activities and a simplifications granted by ABS measures for the latter. However, policymakers could consider to exclude non-commercial plant breeding research from the application of their ABS measures which, however, would require a clear definition or specification of activities falling under such an exemption.

Standardization of PIC and MAT

16. The ABS Elements encourage governments to consider the different options of authorization procedures, including the option of standardizing procedures, terms and conditions. The ABS Elements explicitly refer to the Standard Material Transfer Agreement of the Treaty, as a "fully functioning precedent" for standardization of PIC and MAT.[44] Explanatory notes should explain that:

> The SMTA of the Treaty offers a ready-made and tailor-made solution for PIC and MAT. For PGRFA that are not exchanged by using the SMTA, bi-lateral case-by-case arrangements should not be considered as only possible alternative. The application of SMTA to non-Annex1 PGRFA is an option. ABS measures could allow for the conclusion of framework agreements covering a whole range or type of accessions and providing for modalities for the sharing of benefits derived from the utilization of all these accessions.

Access to traditional knowledge associated with GRFA

17. The ABS Elements refer to the obligation of Parties to the Nagoya Protocol to take measures, in accordance with domestic law and as appropriate, with the aim of ensuring that traditional knowledge associated with genetic resources is accessed with the PIC or approval and involvement of the indigenous and local communities holding such traditional knowledge, and that MAT have been established.[45] Explanatory notes should explain that:

> Procedures for involving indigenous peoples and local communities (IPLC) in granting traditional knowledge (TK) to PGRFA are diverse, and under development in many countries. IPLC should be involved in decisions that concern their TK associated with PGRFA, and the domestic ABS regulatory measures should respect Bio-cultural Community Protocols and specific institutional arrangements developed by these communities. In cases where several communities share TK associated with PGRFA, and only one has granted PIC, a mechanism for benefit-sharing involving all relevant IPLCs might be considered in line with national laws as necessary.

Fair and equitable sharing of benefits for pre-existing PGRFA

18. The ABS Elements note that many GRFA have been collected long before the application of national ABS measures. Therefore, national ABS measures should be clear as to whether they require the sharing of benefits arising from new or continued uses of genetic resources or associated TK accessed prior to the ABS measures having been put into place.[46] Explanatory notes should explain that:

> PGRFA have been widely exchanged throughout the world, and actors in many different places have contributed in one way or another to the development of today's crop genetic diversity. As a consequence, an important part of current crop production relies on the use of the genetic diversity from other places, and all countries depend to some extent on genetic diversity that originated elsewhere.

[43] ABS Elements paragraph 50.
[44] ABS Elements, paragraph 57.
[45] ABS Elements, paragraph 63.
[46] ABS Elements, paragraph 66.

Benefit-sharing through cooperation agreements

19. The ABS Elements stress the importance of sharing monetary and non-monetary benefits and note that the terms and conditions of such benefit-sharing will often depend on the particularities and specificities of the subsector, the species, the concrete intended use, etc.[47] The ABS Elements note that GRFA are often exchanged in the framework of working collaborations and partnerships. ABS measures could therefore allow for benefit-sharing arrangements tailor-made to the subsector's collaboration and partnership practices.[48] Explanatory notes should explain that:

> ABS measures could encourage stakeholders to address ABS issues, where possible and appropriate, including through use of SMTA or other ABS agreements, as part of scientific partnership agreements. Partnership agreements could make individual ABS permits on a case-by-case basis for single transfers unnecessary and, at the same time, encourage joint research activities going beyond the exchange of PGRFA.

[47] ABS Elements, paragraph 73.
[48] ABS Elements, paragraph 74.

APPENDIX E
DRAFT REVISED STRATEGIC PLAN
Annex I
MULTI-YEAR PROGRAMME OF WORK: MAJOR OUTPUTS AND MILESTONES (2018-2027)

	17th Session 2019	18th Session 2021	19th Session 2023	20th Session 2025	21st Session 2027
Sectoral matters					
Animal genetic resources		Review of implementation of the Global Plan of Action for Animal Genetic Resources		Presentation of *The Third Report on the State of the World's Animal Genetic Resources for Food and Agriculture*	Review of the Global Plan of Action for Animal Genetic Resources
Aquatic genetic resources	Presentation of the finalized *State of the World's Aquatic Genetic Resources for Food and Agriculture*	Follow-up to *The State of the World's Aquatic Genetic Resources for Food and Agriculture*		Follow-up to *The State of the World's Aquatic Genetic Resources for Food and Agriculture*	
Forest genetic resources	Review of implementation of the *Global Plan of Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources*		Presentation of *The Second Report on the State of the World's Forest Genetic Resources*	Review of the Global Plan of Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources	
Micro-organisms and invertebrates		Review of work on micro-organisms and invertebrates		Review of work on micro-organisms and invertebrates	
Plant genetic resources	Review of status and trends of seed policies	Thorough review and evaluation of the current GPA-2 reporting system	Presentation of *The Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture* Review of GPA-2 and GPA-2 reporting system		Review of implementation of the (Second) Global Plan of Action for Plant Genetic Resources for Food and Agriculture
Cross-sectoral matters					
The State of the World's Biodiversity for Food and Agriculture	Follow-up to *The State of the World's Biodiversity for Food and Agriculture*		Follow-up to *The State of the World's Biodiversity for Food and Agriculture*		Presentation of *The Second Report on the State of the World's Biodiversity for Food and Agriculture*
Access and benefit-sharing (ABS)	Develop explanatory notes for subsectors of GRFA to complement the ABS Elements	Review of work on ABS		Review of work on ABS	
Biotechnologies		Review of the development of biotechnologies and their potential impact or implications for the conservation and sustainable use of GRFA		Review of the development of biotechnologies and their potential impact or implications for the conservation and sustainable use of GRFA	
"Digital sequence information on GRFA"	Consider the use of "digital sequence information on GRFA" and the potential implications for conservation, sustainable use and ABS of GRFA		Consider the use of "digital sequence information on GRFA" and the potential implications for conservation, sustainable use and ABS of GRFA		
Climate change		Review of work on climate change and GRFA	Review of a country-driven global assessment of climate change effects and genetic resource adaptation and mitigation measures	Review of work on climate change and GRFA	
Nutrition and Health	Review of work on GRFA and nutrition	Concept note on biodiversity for food and agriculture and human health	Review of work on GRFA and nutrition and health		Review of work on GRFA and nutrition and health
Management	Progress report/review of the Strategic Plan Reporting on SDGs		Progress report/review of the Strategic Plan Reporting on SDGs		Progress report/review of the Strategic Plan Reporting on SDGs

Annex II
SESSION PLANNING FOR CGRFA-18 AND CGRFA-19
Activities in preparation of CGRFA-18 (2020/ 2021)

Sectoral matters	
Animal genetic resources	• Prepare draft outline, timeline and budget and develop process for collecting national data to support the preparation of *The Third Report on the State of the World's Animal Genetic Resources for Food and Agriculture* • Prepare synthesis progress report to provide a global overview of progress made to implement the Global Plan of Action • Prepare FAO progress report on the implementation of the Global Plan of Action and the Funding Strategy • Prepare international organizations progress report • Prepare brief report on the status and trends of animal genetic resources
Aquatic genetic resources	• Develop follow-up to *The State of the World's Aquatic Genetic Resources for Food and Agriculture* • Prepare 'in brief' version of *The State of the World's Aquatic Genetic Resources for Food and Agriculture* • Publish country reports submitted for the preparation of *The State of the World's Aquatic Genetic Resources for Food and Agriculture*
Forest genetic resources	• Prepare FAO progress report on the implementation of the Global Plan of Action for Forest Genetic Resources • Prepare an update on the preparation of Second Implementation Report and *The Second Report on the State of the World's Forest Genetic Resources* (including collection of national data)
Micro-organisms and invertebrates	• Review of work on micro-organisms and invertebrates • Thematic Study on biological control agents and organisms that are pests and diseases • Thematic Study on pollinators, including honey bees • Follow-up on previous recommendations by the Commission on this matter
Plant genetic resources	• Prepare FAO progress report on the implementation of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture • Prepare update on the preparation of *The Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture*
Cross-sectoral matters	
The State of the World's Biodiversity for Food and Agriculture	• Prepare progress report on the implementation of the follow-up to *The State of the World's Biodiversity for Food and Agriculture*
Access and benefit-sharing (ABS)	• Prepare review of existing access and benefit-sharing instruments and their impact on genetic resources for food and agriculture and define future work • Follow-up on previous recommendations by the Commission on this matter
Biotechnologies	• Review of the development of biotechnologies and their potential impact or implications for the conservation and sustainable use of genetic resources for food and agriculture
'Digital sequence information' on GRFA	• Follow-up on previous recommendations by the Commission on this matter
Climate change	• Status of preparation of the global assessment of the role of genetic resources for food and agriculture for climate change adaptation and mitigation • Follow-up on previous recommendations by the Commission on this matter
Nutrition and health	• Follow-up on previous recommendations by the Commission on this matter • Concept note on biodiversity for food and agriculture and human health
Management	• Prepare progress report of the Strategic Plan, MYPOW review

Other matters	• Invite international instruments and organizations to report on their work in supporting the activities of the Commission and collate their inputs

Activities in preparation of CGRFA-19 (2022/ 2023)

Sectoral matters	
Animal genetic resources	• Advance preparation of *The Third Report on the State of the World's Animal Genetic Resources for Food and Agriculture* and report on progress made • Prepare document on the implementation and possible updating of the (Second) Global Plan of Action for Animal Genetic Resources • Prepare FAO progress report on the implementation of the Global Plan of Action for Animal Genetic Resources • Prepare brief report on the status and trends of animal genetic resources
Aquatic genetic resources	• Prepare review of the implementation of follow-up action taken in response to *The State of the World's Aquatic Genetic Resources for Food and Agriculture* • Follow-up on previous recommendations by the Commission on this matter
Forest genetic resources	• Presentation of *The Second Report on the State of the World's Forest Genetic Resources* and the Second GPA Implementation Report • Prepare FAO progress report on the implementation of the Global Plan of Action for Forest Genetic Resources
Microorganisms & invertebrates	• Review of work on microorganisms and invertebrates • Follow-up on previous recommendations by the Commission on this matter
Plant genetic resources	• Presentation of *The Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture* • Progress report on the implementation of the Second Global Plan of Action for Plant Genetic Resources • Prepare draft Third Global Plan of Action for Plant Genetic Resources, if relevant
Cross-sectoral matters	
The State of the World's Biodiversity for Food and Agriculture	• Prepare progress report on the implementation of the follow-up to *The State of the World's Biodiversity for Food and Agriculture*
Access and benefit-sharing (ABS)	• Follow-up on previous recommendations by the Commission on this matter
'Digital sequence information on GRFA'	• Consider the use of "digital sequence information on GRFA" and the potential implications for conservation, sustainable use and ABS of GRFA
Biotechnologies	• Follow-up on previous recommendations by the Commission on this matter
Climate change	• Review of a country-driven global assessment of climate change effects and genetic resource adaptation and mitigation measures • Prepare follow-up to the assessment
Nutrition and health	• Review of work on GRFA and nutrition and health
Management	• Progress report/review of the Strategic Plan and MYPOW • Follow-up on previous recommendations by the Commission on targets and indicators
Other matters	• Invite international instruments and organizations to report on their work in supporting the activities of the Commission and collate their inputs