September 2021

Food and Agriculture Organization of the United Nations

The International Treaty ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

FIFTH MEETING OF THE AD HOC TECHNICAL EXPERT GROUP ON CONSERVATION AND SUSTAINABLE USE OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

4 – 7 October 2021

COMPILATION AND SUMMARIES OF SUBMISSIONS AND EXAMPLES ON THE CONSERVATION AND SUSTAINABLE USE OF PLANT GENETIC RESORUCES FOR FOOD AND AGRICULTURE

I. INTRODUCTION

1. At its Eighth Session, through Resolution 5/2019,[1] the Governing Body requested:

- *Contracting Parties and stakeholders to continue reporting on their implementation of conservation and sustainable use of PGRFA and invited the Commission on Genetic Resources for Food and Agriculture to provide the Secretary of the Governing Body of the International Treaty with the reports received from its members on the implementation of the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture;*

- *The Secretary to compile and summarize these reports and submit the compilation and the summary to the Ad Hoc Technical Committee on Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture for further review, and to support the Committee in its work.*

2. The Governing Body further requested the Secretary, in collaboration with other stakeholders, and subject to the availability of financial resources, to:

- *Cooperate with the Commission on Genetic Resources for Food and Agriculture in organizing the International Symposium on "on-farm management and in situ conservation" that will take place in the next biennium;*
- *Facilitate training and capacity building to support the implementation of Articles 5 and 6 of the International Treaty.*

3. This document provides a summary of the work and some of the activities of Contracting Parties and other stakeholders with regard to the implementation of Articles 5 and 6 of the Treaty, as well as some initiatives undertaken by the Secretariat. It also provides an overview of the submissions received from Contracting Parties and stakeholders, as requested by the Governing Body.

[1] Resolution 5/2019, available at: http://www.fao.org/3/nb783en/nb783en.pdf

4. In order to broaden the information base to support the work of the Committee, the Secretariat has additionally included a synthesis of relevant information submitted by the Contracting Parties through their national reports in the context of the Compliance Mechanism of the International Treaty;[2] the experiences from the implementation of the Benefit-sharing Fund; and the measures and practices gathered from the regional training workshops facilitated by the Secretariat in 2019.[3]

II. SUMMARY OF INFORMATION ON CONSERVATION AND SUSTAINABLE USE OF PGRFA

A. Overview of Submissions Received from Contracting Parties and Stakeholders

4. In response to the request by the Governing Body, the Secretary issued a notification inviting Contracting Parties and stakeholders to report on the implementation of conservation and sustainable use of plant genetic resources for food and agriculture (PGRFA),[4] in particular, those who have not yet submitted any inputs or those who would like to update their previous reports.

5. As at the time of preparation of this document, submissions were received from the following Contracting Parties: Benin, Republic of Congo, Ecuador, Finland, Italy, Jordan, Norway, Sweden and Switzerland. Submissions from stakeholders were from: Cooperazione rurale in Africa e America Latina (ACRA), Farmers' Pride Project-EU, Green Foundation, International Seed Federation (ISF), and Programa Colaborativo de Fitomejoramiento Participativo en Mesoamérica (FMPA).

6. As there was no prescribed format for the submission of information, Contracting Parties and stakeholders provided information in different formats, including the Compliance Standard Reporting Format.[5] The compilation of the submissions is contained in in the document, IT/GB-9/ACSU-5/21/Inf.4.4, *Compilation of submissions by Contracting Parties and Stakeholders on the implementation of Articles 5 and 6 of the International Treaty on Plant Genetic Resources for Food and Agriculture*.

B. National Reports in accordance with the Compliance Procedures

7. Under the Compliance Procedures of the International Treaty, each Contracting Party is to submit a report on the measures it has taken to implement the International Treaty periodically. These national reports are a valuable source of information and include several sections that relate to conservation and sustainable use. All reports received are published on the website of the International Treaty[6] and the Compliance Committee develops a synthesis and analysis for each Session of the Governing Body.[7]

8. The following provides a short synthesis of the most recent information shared in the national reports regarding Articles 5 and 6 of the International Treaty. A more detailed summary of the measures and practices reported by Contracting Parties on their implementation of conservation and sustainable use is contained in the document, IT/GB-9/ACSU-5/21/Inf.4.1, *Summary of National Reports on Compliance submitted by Contracting Parties in relation to Articles 5 and 6 of the International Treaty on Plant Genetic Resources for Food and Agriculture.*

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[2] National Reports, available at: http://www.fao.org/plant-treaty/areas-of-work/compliance/compliance-reports/en/

[3] Regional Training Workshop on Conservation and Sustainable Use of PGRFA and Farmers' Rights: (1) Asia, hosted by the Philippines, 5-8 March 2019, attended by 55 participants from 12 Contracting Parties; (2) Africa, hosted by Senegal, 29 July-1 August 2019, attended by 60 participants from 30 countries; and (3) Latin America and the Caribbean, hosted by Uruguay, 5-8 August 2019, attended by 37 participants from 17 countries

[4] Issued 25 July 2020, available at: http://www.fao.org/3/cb0445en/cb0445en.pdf

[5] http://www.fao.org/3/ca8821en/ca8821en.pdf

[6] http://www.fao.org/plant-treaty/areas-of-work/compliance/compliance-reports/en/

[7] IT/GB-8/19/13, *Report of the Compliance Committee* (http://www.fao.org/3/na412en/na412en.pdf)

Article 5. Conservation, Exploration, Collection, Characterization, Evaluation and Documentation of Plant Genetic Resources for Food and Agriculture

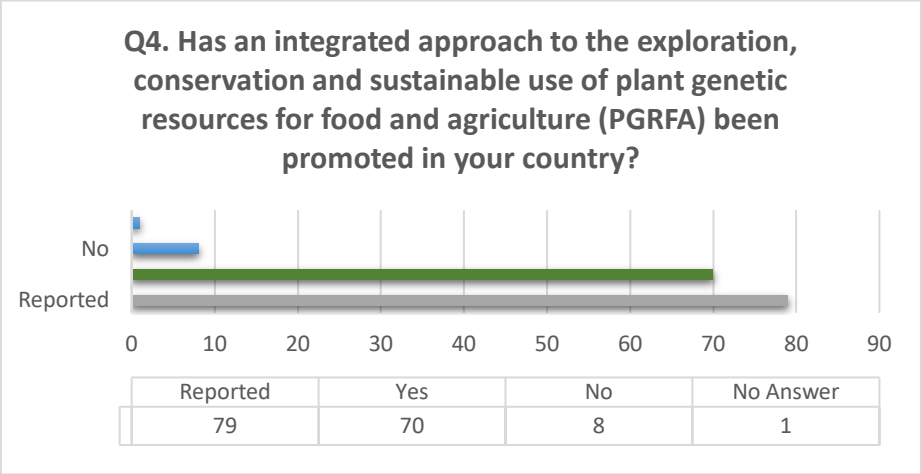

Figure 1. Reporting Contracting Parties with an integrated approach to the exploration, conservation and sustainable use of PGRFA (by number).

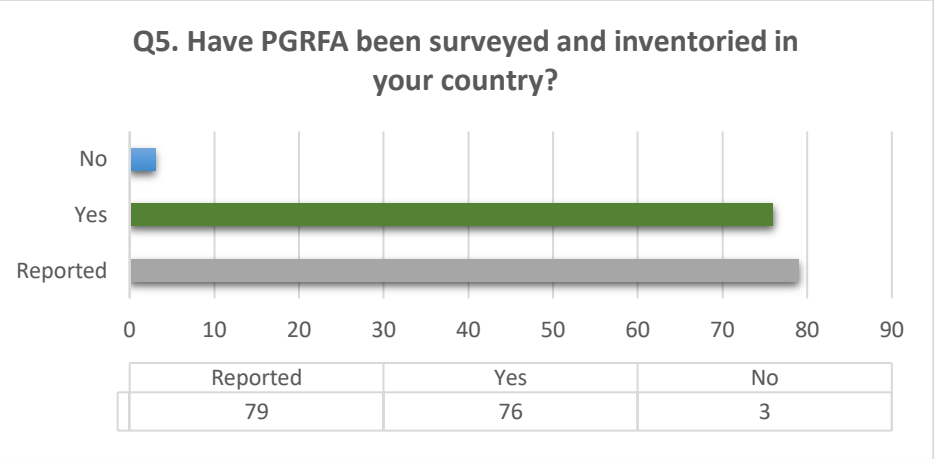

Figure 2. Reporting Contracting Parties that surveyed and inventoried PGRFA (by number).

9. Seventy reports (or 89%) state that they promoted an integrated approach to the exploration, conservation and sustainable use of plant genetic resources for food and agriculture (PGRFA). Seventy-six reports state that PGRFA have been surveyed and inventoried in their Contracting Parties and only three reporting (developing country) Contracting Party reported not having done so. The range of crops and species is broad, including both *in situ* and *ex situ* conservation, with most Contracting Parties providing detailed and comprehensive lists in their reports and several reports referring to the information provided in the reporting on the implementation of the Second Global Plan of Action.

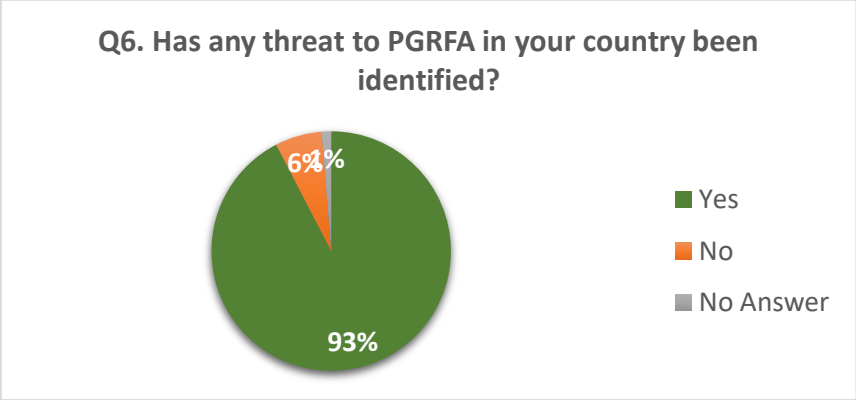

Figure 3. Reporting Contracting Parties that identified any threat to PGRFA.

10. Seventy-three Contracting Parties state that there are threats to PGRFA in their territories and only seven Contracting Parties reported that there are none (from both developing and developed countries).

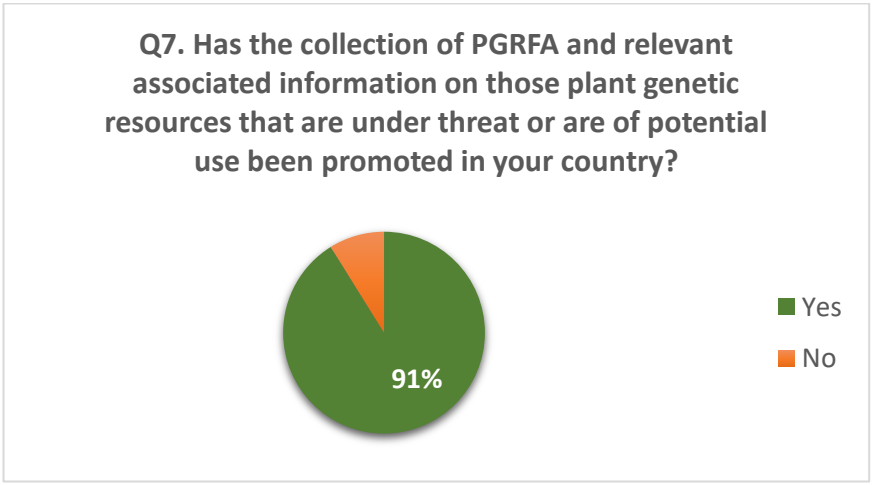

Figure 4. Contracting Parties reporting that the collection of PGRFA under threat and relevant associated information have been promoted.

11. Seventy-two Contracting Parties (from all Regions) report that the collection of PGRFA and relevant associated information that are under threat or are of potential use have been promoted. Most reports mention research, *ex situ* collections, with particular emphasis on traditional varieties, or development projects.

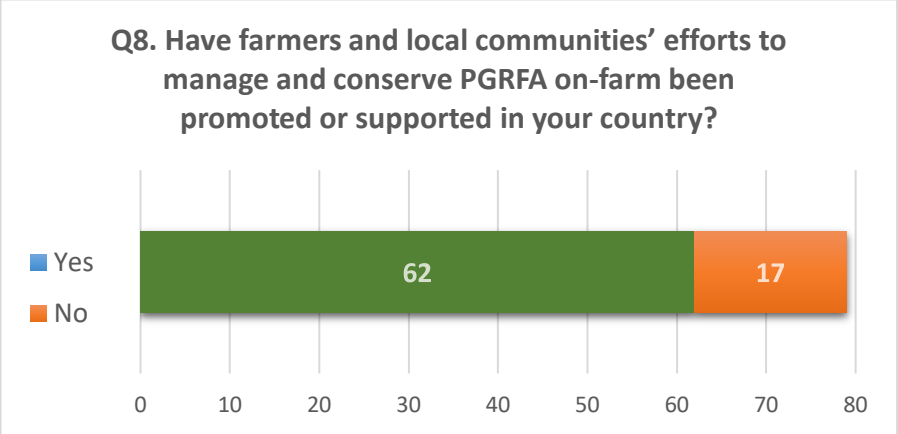

Figure 5. Reporting Contracting Parties promoting or supporting farmers and local communities' efforts to manage and conserve PGRFA on-farm (by number).

12. Sixty-two reporting Contracting Parties indicate that they have promoted or supported farmers and local communities' efforts to manage and conserve PGRFA on-farm, including through rural development programmes, training activities such as capacity-building workshops, financial support, and support for the registration of varieties in the plant variety registers. All reporting Contracting Parties of the GRULAC and North America Regions, as well as the vast majority of reporting Contracting Parties of the Asia, European and South West Pacific Regions, state having done so, whereas in the Africa and Near East Regions, no significant trend can be identified.

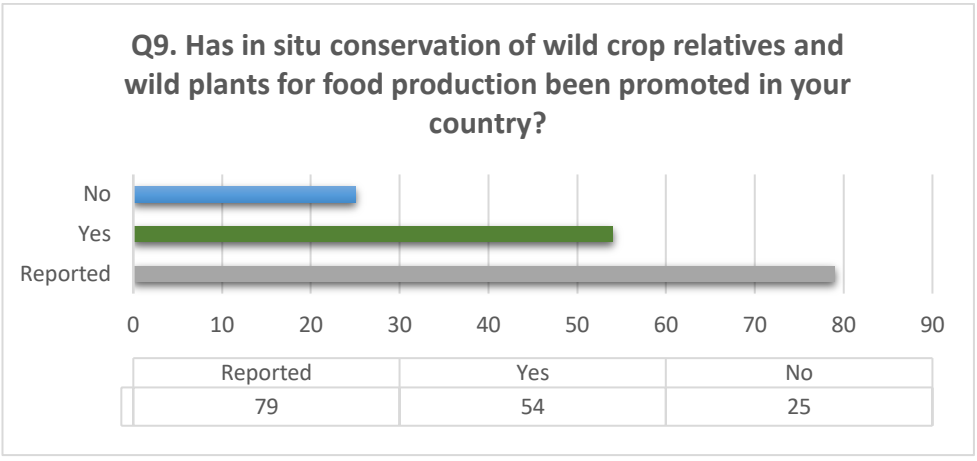

Figure 9. Reporting Contracting Parties promoting in situ *conservation of CWR and wild plants for food production (by number).*

13. Fifty-four Contracting Parties report that *in situ* conservation of wild crop relatives and wild plants for food production has been promoted, with forty-eight having taken measures to promote *in situ* conservation in protected areas and twenty-three having taken measures to support the efforts of indigenous and local communities, in particular awareness raising and sensitization about the importance of crop wild relatives. Twenty-five Contracting Parties, comprising both developing and developed countries, report that no such measures have been promoted by them. Whereas all or the vast majority of reporting Contracting Parties from the European, GRULAC, Near East, North America and SWP Regions replied positively to this question, no clear trend can be identified for the Africa and Asia Regions.

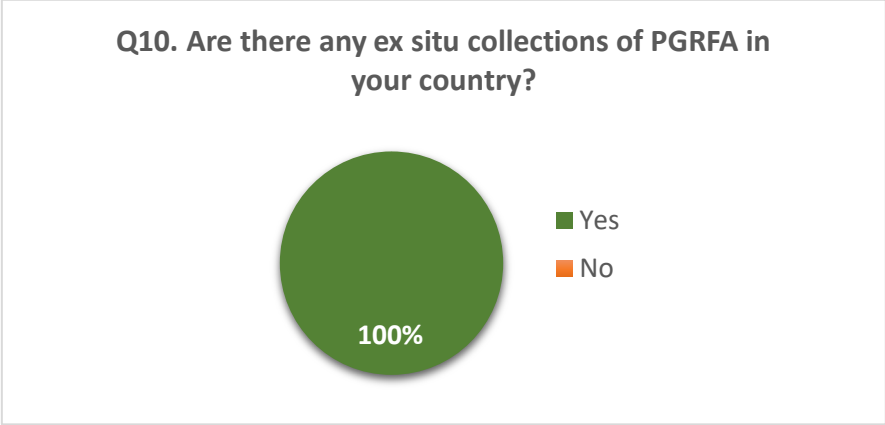

Figure 6. Reporting Contracting Parties with an ex situ *collection of PGRFA.*

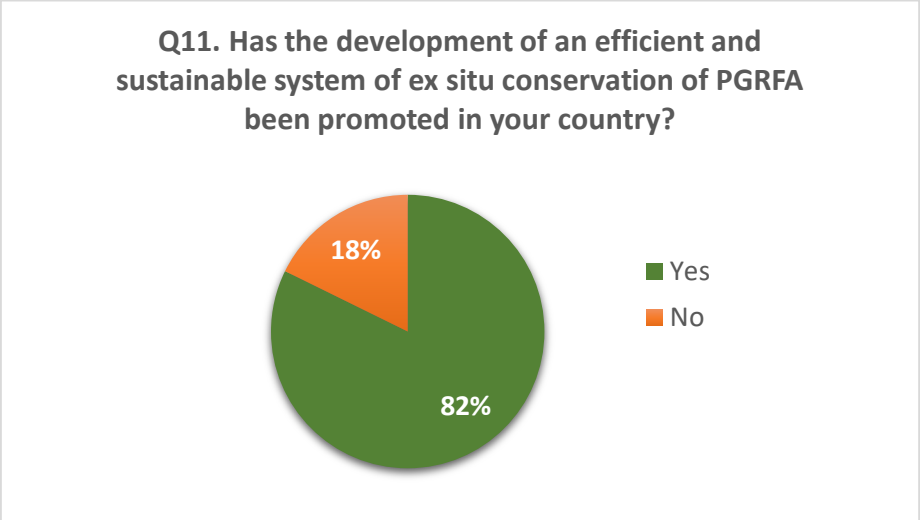

Figure 7. Reporting Contracting Parties promoting in situ *conservation of CWR and wild plants for food production.*

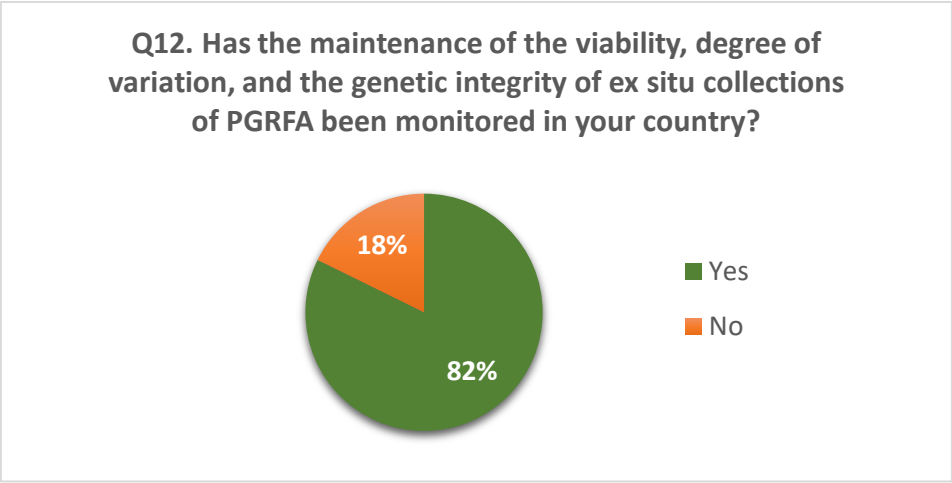

Figure 8. Reporting Contracting Parties monitoring the viability and genetic integrity of their ex situ *collections of PGRFA.*

14. All seventy-nine reporting Contracting Parties state that there are *ex situ* collections in their territories and the vast majority of the reports contain detailed lists of *ex situ* collections, with most reports listing the number of accessions. Sixty-five of the reports state that the Contracting Parties have promoted the development of an efficient and sustainable system of *ex situ* conservation of PGRFA, mainly through national or regional programmes, and sixty-five report that the maintenance of the viability, degree of variation, and the genetic integrity of *ex situ* collections of PGRFA have been monitored.

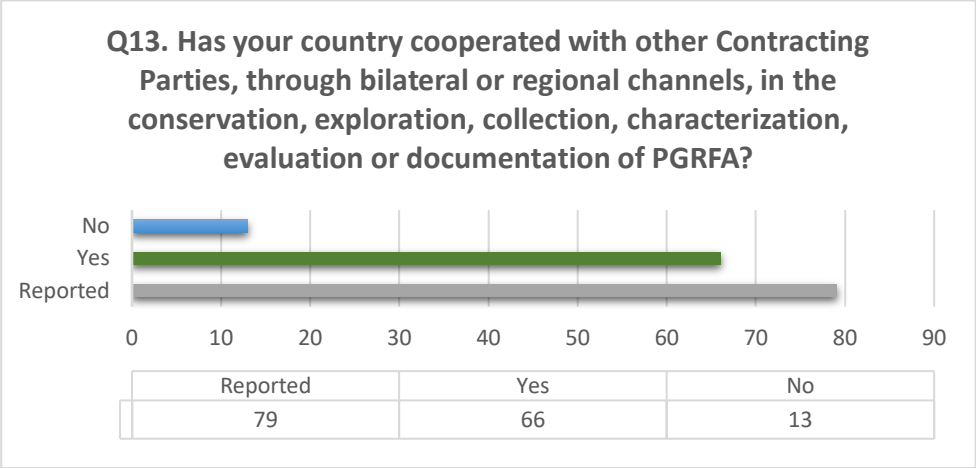

Figure 9. Reporting Contracting Parties cooperating bilaterally or regionally with other Contracting Parties on Articles 5 and 6 (by number).

15. Finally, Sixty-six reporting Contracting Parties indicate that they have cooperated with other Contracting Parties in the conservation, exploration, collection, characterization, evaluation or documentation of PGRFA.

Article 6. Sustainable Use of Plant Genetic Resources for Food and Agriculture

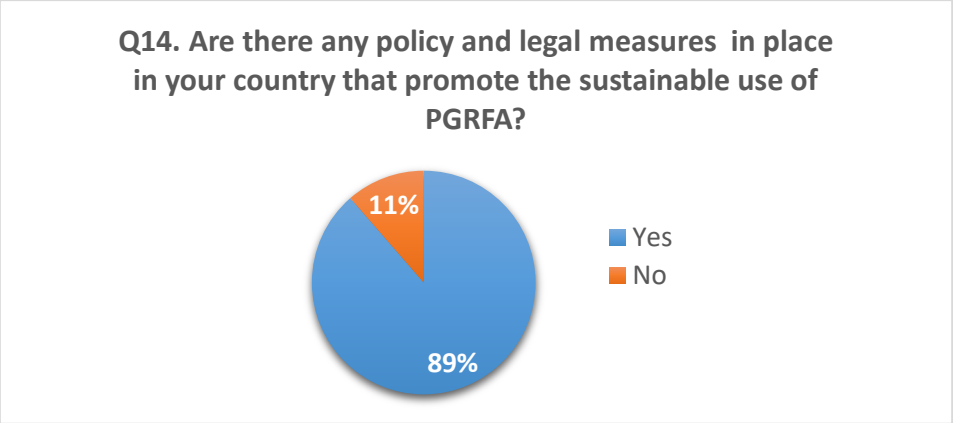

Figure 10a. Reporting Contracting Parties with policy and legal measures promoting the sustainable use of PGRFA (by percentage).

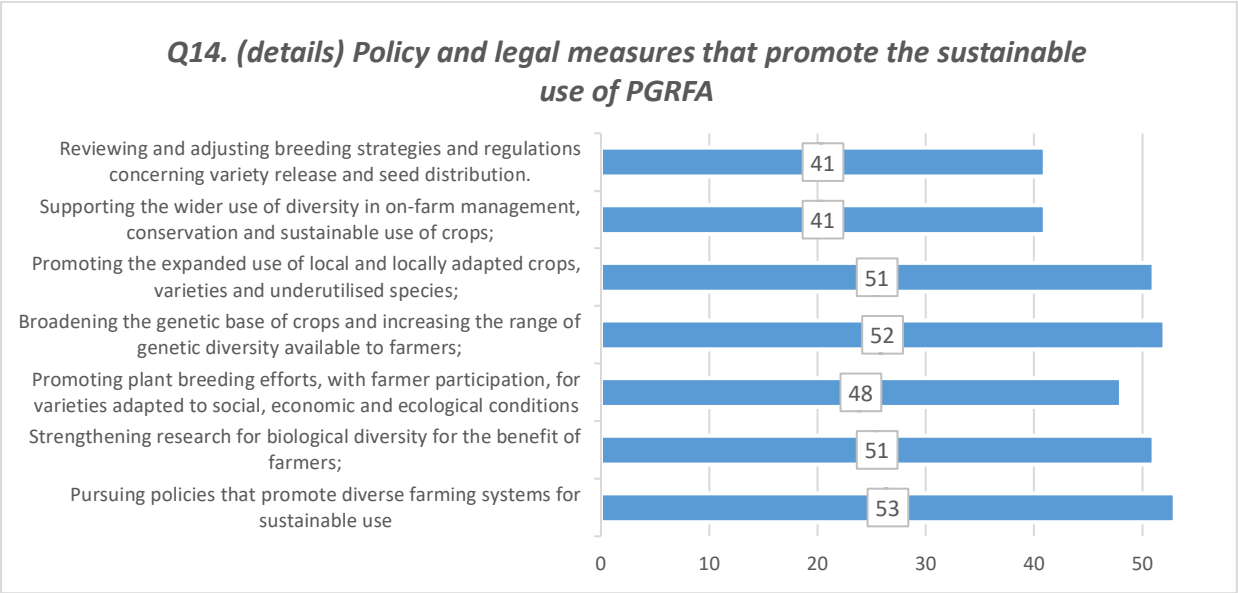

Figure 10b. Details for positive replies to Question 14 on policy and legal measures promoting the sustainable use of PGRFA (total positive replies n = 70).

16. Seventy reports indicate that policy or legal measures that promote the sustainable use of PGRFA are in place in the Contracting Parties, whereas only nine Contracting Parties report not having any such measures in place.

17. Regarding such policy and legal measures,

- Fifty-three Contracting Parties report that they pursue fair agricultural policies that promote the development and maintenance of diverse farming systems that enhance the sustainable use of agricultural biological diversity and other natural resources;
- Fifty-one that they strengthen research that enhances and conserves biological diversity by maximizing intra- and inter-specific variation for the benefit of farmers;
- Forty-eight that they promote plant breeding efforts, with the participation of farmers, that strengthen the capacity to develop varieties particularly adapted to social, economic and ecological conditions, including in marginal areas.
- Additionally, fifty-two Contracting Parties report that they have broadened the genetic base of crops and increased the range of genetic diversity available to farmers;
- Fifty-one, that they promote the expanded use of local and locally adapted crops, varieties and underutilized species;
- Forty-one, that they support the wider use of diversity of varieties and species in on-farm management, conservation and sustainable use of crops and creating strong links to plant breeding and agricultural development; and
- Forty-one, that they review and adjust breeding strategies and regulations concerning variety release and seed distribution.

C. Implementation of the Benefit-sharing Fund

18. The Benefit-sharing Fund (BSF) supports projects in developing countries to address food security, climate change adaptation and sustainable agriculture through the sustainable use, management and conservation of plant genetic diversity – for improved livelihoods and economic development. The BSF integrates the sustainable use and conservation of PGRFA and the access and exchange of genetic diversity as instrumental in addressing climate vulnerabilities and building capacities for resilient livelihoods.

19. The BSF plays a catalytic role in international cooperation on conservation and sustainable use of PGRFA. Since its establishment in 2009, the BSF has invested more than USD 26 million, through four project cycles, to sustain resilient livelihoods and enhance adaptation for farmers in 67 developing countries. The Fund strengthens the implementation of some of the main provisions of the International Treaty, including its Articles 5 and 6, and contributes to the following Sustainable Development Goals (SDGs): 1 (No Poverty), 2 (Zero Hunger), 13 (Climate Action), 15 (Life on Land) and 17 (Partnerships for the Goals).

20. The BSF interventions support on-farm and in situ management of PGRFA. The Fund strengthens the connection between conservation efforts at different levels, ranging from farming communities to national and international genebanks. It integrates research for development from local to global levels. Knowledge, information and germplasm generated in the Fund are made available through the International Treaty enabling mechanisms, in particular the Multilateral System and Global Information System (GLIS).

21. The BSF draws on the Multilateral System of the International Treaty to enable access to and facilitate the use of PGRFA, which in turn generates new materials for farmers and the MLS. By supporting in situ and on-farm management and conservation, the BSF strengthens the linkages with broader ex-situ conservation efforts, facilitates farmer to farmer exchanges of seeds and enables the flow of PGRFA material from farmers to ex-situ collections and back. More than just conserving diversity, the BSF strengthens the systems that maintain and create diversity for climate resilient food and agriculture. The BSF integrates research for development with vulnerable communities through participatory selection, development, dissemination, conservation and sustainable use of PGRFA.

22. Throughout four project cycles, the Fund worked directly with more than 100 institutions and partnered with more than 500 organizations representing relevant stakeholders in the spectrum of in-situ and ex-situ PGRFA management and conservation (including community seed banks, civil societies, universities, plant breeding institutes, extension services, national governments, national and international genebanks, research organizations, local and national markets and seed companies). The BSF funded activities have reached directly and indirectly more than 1 million people including small-scale farmers, researches, breeders, genebank curators, governmental officials, students and academia.

23. To date, the Fund enabled access to and management, exchange and conservation of a wide range of PGRFA thus contributing to various provisions of articles 5 and 6 of the Treaty as follows:

- Almost 30 000 varieties have been characterized and evaluated, tested and adapted to multiple locations and within diverse agro-ecologies around the world (Article 6.2 b .c.d)
- 150 community seed banks have been established as repositories of local diversity and facilitating access to diverse seeds. The majority of these seed reserves are linked to the national genebanks, to support restoration of lost local varieties and to back-up community collections (Article 5.1 c. e).
- Around 200 Farmer Field Schools served as interactive, bottom up learning platforms to research, conservation, sustainable management to deploy climate-resilient crops (Articles 5.1.b.c.d.e. and. 6.2.b.c.d)

- 400 new varieties have been developed through participatory approaches (PVS, PVE,PPB) to meet farmers' preferences in terms of taste, nutrition, yields, economic and cultural values (Articles 5.1.c.d.e. and. 6.2.b.c.d).
  Over 6 200 plant genetic resources, including landraces and underutilized crops were collected and inventoried by BSF partners. This material is being conserved in community seed banks and national genebanks and in some cases in the national collections and the Global Seed Vault (such as these Malian rice varieties[8]) (Article 5.1 a. b)
- The Fund enabled access to and use of PGRFA, by drawing on the MLS, which in turn generated almost 10 000 new materials in the MLS, demonstrating the cyclical nature of the MLS (Articles 5.1.c.d.e. and 6.2.b.c.d).
  More than 26 000 Digital Object Identifiers (DOIs) have been assigned to plant genetic resources managed in the BSF portfolios (Article 5.1.b).[9]

24. Through capacity building on conservation and sustainable use of PGRFA, that reached directly more than 90 000 people (mainly farmers), the Fund contributed to the participatory development and adoption of climate resilient strategies. A more detailed information on the BSF programme and its contribution to the conservation and sustainable use of PGRFA is contained in the document, IT/GB-9/ACSU-5/21/Inf.4.2, *Summary of the experiences, lessons learned and best practices on conservation and sustainable use from projects implemented under the Benefit-sharing Fund of the International Treaty.*

D. Information gathered from the Regional Training Workshops

25. In 2019, the Secretariat facilitated three regional training workshops on conservation and sustainable use of PGRFA and Farmers' Rights in the Asia, Africa, and Latin America and the Caribbean (LAC) regions. The training workshops' overall goal was to enhance the implementation of the International Treaty through a greater understanding of the importance of the conservation and sustainable use of PGRFA and Farmers' Rights and contribute to zero hunger and the 2030 Sustainable Development Goals (SDGs). Among the specific objectives of the regional training was to provide a platform for sharing experiences and lessons learned on the conservation and sustainable use of PGRFA and implementation of Farmers' Rights between and among Contracting Parties.

26. Participants in the training workshops shared their experiences and lessons learned in implementing national measures to promote conservation and sustainable use of PGRFA.[10] They highlighted some of their initiatives and activities on ex situ and in situ/on-farm conservation of PGRFA, integrated and participatory approaches to sustainable use of PGRFA. The measures included the following activities and practices:

Ex-situ conservation activities

- Ex situ collections/genebanks
- Field gardens, botanical gardens, field nurseries, in-vitro laboratories
- Germplasm exchange
- Germplasm duplications at CGIAR centres and other genebanks
- Establishment and promotion of community seedbanks, seed lots or seed houses

In situ/on-farm conservation activities

- Promotion of participatory plant breeding and varietal selection, grassroots breeding/landrace enhancement
- Research on germplasm characterization, utilization, regeneration and evaluation of local crops, including crop wild relatives

[8] Press release on deposit of rice varieties collected through BSF-4 project in the Global Seed Vault available at: http://www.fao.org/plant-treaty/news/news-detail/en/c/1392958/
[9] The list of DOIs assigned to material managed through BSF projects are available at: https://ssl.fao.org/glis/stats/by-project
[10] Types of measures may be classified as Administrative, Legal, Technical, or Other

- Documentation, characterization and revitalization of local, indigenous crops, neglected crops and underutilized crop species
- Publication of catalogues
- Community biodiversity registries
- Knowledge sharing and documentation of PGRFA and associated traditional and cultural practices
- Awareness raising and information dissemination through promotion of Farmers' Field School (FFS), Farmers' Field Day, Biodiversity/Agrobiodiversity Fairs, Seed Fairs, Diversity Fairs, Agri-Food Fairs, and other similar terms of the same contexts
- Development of local protocols on crop conservation and management
- Support to local seed systems development
- Promotion of biodiverse production system, agroecological and adaptive management practices
- Crop diversification and broadening genetic base for enhancing resilience and increase farmers food, nutrition and livelihoods security
- Incentive mechanisms and rewards for farmers and communities who conserve and sustain PGRFA
- Establishment of conservation areas/sites, fields or pilot models
- Promotion of farmer-scientist collaboration
- Capacity development and empowerment of farming communities
- Crop improvement to adapt to climate change and food security goals
- Enhancement of benefits derived by farmers from conservation and sustainable use of PGRFA through value-addition and other incentive mechanisms and market opportunities

27. Participants also presented the existing regulatory frameworks and relevant policies, and administrative measures that, directly and indirectly, support the conservation and sustainable use of PGRFA in their respective countries.

Legal frameworks

- Seed laws and ordinances
- Plant Variety Protection laws
- Biodiversity management legislations and related policies
- Agricultural development laws
- Environmental laws
- Poverty alleviation and Rural development laws
- Food security
- Climate change adaptation related policies

Administrative

- PGRFA is mainstreamed in the sectoral and intersectoral action plans and programmes
- Guidelines and protocols relating to sustainable use of agrobiodiversity, management and conservation including protection to associated knowledge systems

28. While most of the country presentations indicated specific government budgetary allocation for PGRFA conservation, however, many of them mentioned the inadequacy of financial resources to promote and sustain both ex situ and in situ /on-farm conservation efforts. Thus, many of the country programmes and initiatives are funded through bilateral and multilateral funding sources or mechanisms.[11]

[11] For example, the Global Environment Facility, private sectors, and other financing mechanisms. Examples of projects funded under the bilateral and multilateral funding mechanisms: in situ on-farm conservation of agrobiodiversity, dynamic conservation of traditional crops, community-based biodiversity management that takes into account the social-economic,

29. Consolidated summaries of the presentations at the regional training workshops are provided in the information document, IT/GB-9/ACSU-5/21/Inf.4.3, *Regional training workshop on conservation and sustainable Use of PGRFA and Farmers' Rights: summaries of presentations.*

III. INTERNATIONAL SYMPOSIUM ON "ON-FARM MANAGEMENT AND IN SITU CONSERVATION, CO-ORGANIZED WITH THE COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

30. In accordance with the request of the Governing Body at its Eighth Session, the Secretariat cooperated with the Secretariat of the Commission on Genetic Resources for Food and Agriculture (CGRFA) in organizing the International Symposium on on-farm management and in situ conservation of PGRFA.

31. The Symposium, originally foreseen to be held face-to-face, was held on 29 and 30 March 2021 as a virtual event due to the COVID-19 pandemic and titled, the "First International Multi-Stakeholder Symposium on Plant Genetic Resources for Food and Agriculture: Technical Consultation on *in situ* conservation and on-farm management of plant genetic resources for food and agriculture (PGRFA)". The event was attended by more than 800 participants. All the presentations are available on the Symposium webpage.[12]

32. The Symposium highlighted the current state of knowledge and the enabling environment for *in situ* conservation and on-farm management of PGRFA. It provided a forum for the exchange of information and experiences among experts, practitioners and other stakeholders. The Symposium also contributed to an increased understanding of the role and importance of *in situ* conservation of crop wild relatives (CWR) and wild food plants and on-farm management of farmers' varieties/landraces. A full report of the Symposium is made available to the Eighteenth Regular Session of the Commission.[13] Similar information on the outcomes will also be provided to the Governing Body at its Ninth Session.

IV. SUMMARY OF MEASURES AND PRACTICES ON CONSERVATION AND SUSTAINABLE USE OF PGRFA SUBMITTED BY CONTRACTING PARTIES AND STAKEHOLDERS

33. This section summarises some of the measures and practices found in the submissions and presentations of Contracting Parties and stakeholders. It is to be noted that the measures and practices were presented in the respective national contexts and consequently vary from one Contracting Party to another as well as between Regions.

i. Establishment of an inventory of PGRFA and assessments of threats and gaps;
ii. Seed systems (formal and informal sector complementarity), including the contributions of diverse actors to their functioning and development;
iii. Integrated approaches (in situ and ex situ) for the conservation and sustainable use of PGRFA;
iv. Documentation and management of scientific and traditional knowledge for the conservation and sustainable use of PGRFA;
v. Technical and financial support to conservation and sustainable use of PGRFA;

ecological and cultural values of PGRFA, product development and marketing support, capacity development, and other sustainable livelihood conservation approaches

[12] http://www.fao.org/about/meetings/multi-stakeholder-symposium-on-pgrfa/en/

[13] See CGRFA-18/21/12.2/Inf.3, available at: http://www.fao.org/3/ng945en/ng945en.pdf

vi. Awareness raising on the value of crop genetic diversity and local activities such as seed fairs, seed exchange, seed networks, community seed bank, community biodiversity management, participatory plant breeding and varietal selection, farmers' field school;

vii. Recognition schemes for farmers, indigenous peoples and local communities who conserve and develop PGRFA;

viii. Role of traditional knowledge, adaptive management system, and/or agroecological farming systems and practices for the conservation and sustainable use of PGRFA;

ix. Crop wild relatives (CWR) and wild edible species for food production, including status and degree of variation in existing populations, potential threats to them and possible approaches for their conservation and use, including approaches for value-chain development;

x. In situ conservation and management (and/or protection) of crop wild relatives, wild plants, native species for food production are promoted through local or national system of protected areas /zones such as conservation sites, botanical gardens, parks, biosphere reserves, nature reserves, sanctuaries, and through other environmental conservation measures;

xi. Enhanced coordination and partnerships among public institutions, researchers, private entities, and other stakeholders; and

xii. Policies and regulatory frameworks supporting the conservation and sustainable use of PGRFA, including CWR, by integrated in national sectoral and intersectoral plans, programmes and strategies, such as for enhancing national food security, climate change adaptation, environment, rural livelihoods, poverty alleviation, biodiversity protection, agricultural development, etc.

V. GUIDANCE SOUGHT

34. The Committee is invited to:

i. review the information provided in this document, and

ii. based on this review, identify examples and opportunities to support and assist Contracting Parties and stakeholders in promoting, enhancing and further developing the conservation and sustainable use of PGRFA.