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STRATEGY FOR THE IMPLEMENTATION OF THE GLOBAL PLAN OF ACTION FOR THE CONSERVATION, SUSTAINABLE USE AND DEVELOPMENT OF FOREST GENETIC RESOURCES

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I. INTRODUCTION

1. The Commission, at its Fourteenth Regular Session, reviewed and revised draft strategic priorities for action for forest genetic resources and agreed on them as the *Global Plan of Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources* (GPA FGR). It invited the Director-General of FAO to bring the GPA FGR to the attention of the FAO Conference. The FAO Conference, at its 38th Session in June 2013, adopted the GPA FGR.¹
2. The Commission, at its last session, also requested FAO to develop an “implementation strategy” for the GPA FGR.² Furthermore, the Commission encouraged the mobilization of adequate financial resources, preferably from voluntary contributions, particularly to support developing countries in the implementation of the GPA FGR.³ It invited its Intergovernmental Technical Working Group on Forest Genetic Resources (the Working Group) to review the implementation strategy.⁴
3. This document presents briefly possible elements of a strategy for the implementation of the GPA FGR and proposes a draft implementation strategy which the Working Group may wish to review and revise, as necessary, with a view to recommend its approval by the Commission.

II. RATIONALE

4. Approximately 31 percent of the globe’s land area is covered by complex forest ecosystems (compared with 45 percent in preindustrial times). Forests directly or indirectly provide vital goods and ecosystem services for humanity, including food, raw materials for shelter, energy and manufacturing, soil and water protection and habitat for 80 percent of terrestrial biodiversity. Forests are particularly important in light of climate change, containing more carbon than the atmosphere.
5. Deforestation continues to be a major threat to humanity with approximately 130,000 km² lost each year, mostly through conversion to other land uses. Reforestation and afforestation make up for some of the losses but still 200 km² of forest are lost each day. Degradation of forested land in various forms probably affects at least as much area. Important drivers of degradation of forest ecosystems and tree genetic resources include forest conversion, over-exploitation, over-grazing, insects, disease, drought, air pollution and fire as major factors. It is impossible to measure the erosion of tree genetic resources associated with these losses, but undoubtedly it is substantial⁵.
6. Conserving FGR is vital, as they are unique and irreplaceable resources for the future. Genetic diversity constitutes the evolutionary potential for forest tree species and has allowed tree species to persist through changing and often adverse environmental conditions for millennia. The immense genetic diversity among and within tree species represents a largely untapped reservoir of valuable resources for humankind. Among the estimated 80,000 to 100,000 tree species, 7,905 species have been reported by countries in their state of forest genetic resources, of which 30 percent are actively managed, 50 percent threatened or subject to genetic erosion, 30 percent conserved and less than 10 percent have been thoroughly studied to understand adaptive and productive potential. Selection of wild trees for traits such as fruit size or nutritional quality, or growth rate or form represents a huge untapped opportunity to increase the quantity, quality and productivity of tree products, as has been done for agricultural crops⁶.
7. When genetic resources represented by a unique population of a tree species are lost, for all practical purposes they are lost forever and will not be reconstituted within a foreseeable timeframe, if ever. This represents lost potential before it can be identified and opportunity costs that cannot be easily estimated. Perhaps the most underestimated but irreplaceable value of FGR is in their potential

¹ C 2013/REP, paragraph 77.

² CGRFA-14/13/Report, paragraph 53.

³ CGRFA-14/13/Report, paragraph 54.

⁴ CGRFA-14/13/Report, paragraph 123.

⁵ FAO. 2014. The State of World’s Forest Genetic Resources

⁶ Idem as footnote n° 5.

for adaptation to changing climates that are already changing pest dynamics and drought frequency, among other factors.

8. The sustainable management of forests and trees, including in plantations and agroforestry systems, requires a better understanding of tree biology, ecology and genetic resources. Many tree species may contain sufficient genetic diversity to withstand and adapt to future climatic conditions but without active management that specifically takes into consideration gene flow dynamics and population sizes, the potential for adaptation often will not be realized. Likewise, the untapped potential for improvement of valuable traits through selection and breeding must be maintained through active management and dynamic conservation.

9. *In situ* conservation of forest tree populations is necessary to maintain evolutionary potential under conditions allowing for natural selection and other ecological processes that influence genetic diversity. Many countries have established conservation areas, but few are actively managing or monitoring these areas to conserve genetic diversity. Ideally, for species found across multiple countries, selecting, managing and monitoring such areas should be coordinated across countries.

10. Yields from plantation forestry have been greatly enhanced through selection of proper seed sources, genetic improvement and silviculture; these same practices could and should be applied to forest ecosystem restoration, and would increase the sustainability and livelihood benefits of such efforts. This requires awareness and knowledge sharing among a broader set of stakeholders.

III. OVERVIEW OF THE GLOBAL PLAN OF ACTION FOR THE CONSERVATION, SUSTAINABLE USE AND DEVELOPMENT OF FOREST GENETIC RESOURCES

11. The GPA FGR is a strategic framework for the conservation and sustainable use of forest tree and other woody plant genetic resources. The Strategic Priorities of the GPA FGR were based on the findings of the first report on *The State of the World's Forest Genetic Resources*, developed on the basis of 86 country reports covering 85 percent of the globe's forested area, as well as input from regional consultations.⁷ These inputs were supplemented by a series of thematic studies developed by experts around the world.

12. The GPA FGR consists of a set of Strategic Priorities addressing major challenges and opportunities governments and other stakeholders face today in the conservation and sustainable use of FGR. It is intended as a framework, guide and catalyst for action at multiple levels, encouraging cooperation, coordination and planning in concert with strengthened capacities at multiple scales.

13. The GPA FGR falls into four Priority Areas which are:

1. Improving the availability of, and access to, information on FGR
2. *In situ* and *ex situ* conservation of FGR
3. Sustainable use, development and management of FGR
4. Policies, institutions and capacity building

14. The main aims of the Global Plan of Action are:

- to strengthen understanding and knowledge of FGR;
- to promote the sustainable use and management of FGR;
- to develop and strengthen *in situ* and *ex situ* FGR conservation programmes through collaboration at national, regional and global levels;
- to promote access to, and sharing of, information on FGR at regional and national levels;

⁷ CGRFA/WG-FGR-2/13/Inf.4.

- to create and strengthen national programmes to increase regional and international cooperation, including in research, education and training on the use and sustainable management of FGR, and to enhance institutional capacity;
- to assist countries, as appropriate, to integrate FGR conservation and management needs into wider national policies and programmes and frameworks of action at national, regional and global levels;
- to promote the assessment of FGR-related traditional knowledge, innovations and practices, the equitable sharing of benefits arising from their use, the recognition of their roles, and, where appropriate, the putting in place of effective policies and legislation addressing these matters;
- to promote adequate access to, and use of, quality forest reproductive material to support research and development programmes at national and regional levels and in line with the international laws and regulations regarding intellectual property;
- to promote ecosystem and ecoregional approaches as efficient means of promoting sustainable use and management of FGR;
- to assist countries and institutions responsible for the management of FGR to establish, implement and regularly review national priorities for the sustainable use and management of FGR; and
- to strengthen national programmes and enhance institutional capacity – in particular, in developing countries and countries with economies in transition – and develop relevant regional and international programmes. Such programmes should include education, research and training to address the characterization, inventory, monitoring, conservation, development and sustainable use of FGR.⁸

15. The Global Plan of Action is voluntary and non-binding and should not be interpreted or implemented in contradiction with existing national legislation and international agreements where applicable. It constitutes a rolling document that can be updated in line with any follow-up that the Commission on Genetic Resources for Food and Agriculture may decide upon.⁹

16. It is important to note that the relative priority of each Strategic Priority and associated actions of the GPA FGR may differ significantly in different countries and regions. Relative priority may depend on the genetic resources themselves, the natural environment or production systems involved, current management capacities, financial resources or policies already underway for the management of FGR.¹⁰

IV. TOWARDS A STRATEGY FOR THE IMPLEMENTATION OF THE GLOBAL PLAN OF ACTION FOR THE CONSERVATION, SUSTAINABLE USE AND DEVELOPMENT OF FOREST GENETIC RESOURCES

17. During its 30-year history, the Commission has developed various tools and mechanisms to support the implementation of policy instruments:

The Facilitating Mechanism¹¹ for the implementation of the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture was presented to the Commission on Genetic Resources for Food and Agriculture at its Ninth Session in 2002. The objective of the Facilitating Mechanism portal is to foster the implementation of the Global Plan of Action and encourage mobilization of technical and

⁸ GPA FGR, paragraph 16.

⁹ GPA FGR, paragraphs 6-7.

¹⁰ GPA FGR, paragraphs 8.

¹¹ <http://www.fao.org/agriculture/crops/thematic-sitemap/theme/seeds-pgr/gpa/fs0/en/>

financial resources. A wide range of information, including programmes, projects and activities and funding sources relevant for activities that contribute to the conservation and sustainable utilization of plant genetic resources can be viewed on the portal.

The **Funding Strategy for the Implementation of the Global Plan of Action for Animal Genetic Resources**, adopted in 2009 by the Commission aims to “enhance the availability, transparency, efficiency and effectiveness of the provision of substantial and additional financial resources, and to strengthen international cooperation to support and complement the efforts of developing countries and countries with economies in transition in the implementation of the Global Plan of Action.” It covers “all known and potential sources of financial resources” relevant to these objectives. It further recognizes that the main responsibility for its implementation lies with national governments. As envisaged in the Global Plan of Action for Animal Genetic Resources, an FAO Trust Account has been established for the receipt of voluntary contributions in support of the implementation of the GPA AnGR. Procedures for the use of resources in the Trust Account – agreed priorities, eligibility criteria, operational procedures and information and reporting requirements – are set out in the Funding Strategy for the Implementation of the Global Plan of Action for Animal Genetic Resources. Funds received by the Trust Account are used to support implementation activities at national or regional level.

In the areas of animal and plant genetic resources, the Commission considered and endorsed various guidelines and technical standards that aim to facilitate the implementation of the relevant global action plans, including guidelines for the preparation of national strategies and action plans for animal genetic resources¹², guidelines for breeding strategies for sustainable management of animal genetic resources¹³, and genebank standards for plant genetic resources for food and agriculture¹⁴.

18. While the above-mentioned implementation tools vary as to their specific contents, objectives, addressees and levels of implementation, they all have in common the objective to support the implementation of policy instruments prepared, finalized and endorsed or adopted by the Commission. They also reflect the broad range of elements that could potentially be included in a strategy for the implementation of the GPA FGR .

19. The Commission did not, however, specify in any detail which elements the strategy for the implementation of the GPA FGR should include. The *Draft Strategy for the Implementation of the Global Plan of Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources* (Draft Implementation Strategy), as given in *Appendix I* to this document, therefore provides a compilation of various elements which the Working Group may wish to recommend for inclusion to the Commission, but does not elaborate on any specific elements; instead it suggests steps the Working Group may wish to consider that would increasingly improve and strengthen the implementation of the GPA FGR. The elements considered in the Draft Implementation Strategy include:

- Advocacy and international awareness;
- Development and support of relevant global and regional networks;
- Supporting countries in the development of national and regional strategies for the implementation of the GPA FGR;
- Supporting countries in securing adequate and sustainable funding for the implementation of the GPA FGR;
- Development of international technical standards for FGR conservation, sustainable use and development and support to implement them;

¹² <http://www.fao.org/docrep/012/i0770e/i0770e.pdf>

¹³ <http://www.fao.org/docrep/012/i1103e/i1103e.pdf>

¹⁴ <http://www.fao.org/docrep/019/i3704e/i3704e.pdf>

- Funding strategy for the implementation of GPA FGR; and
- Monitoring and reporting on the implementation of the GPA FGR and the status and trends of FGR.

V. GUIDANCE SOUGHT

20. The Working Group is invited to review and revise, as necessary, the *Draft Strategy for the Implementation of the Global Plan of Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources*, as given in *Appendix I* to this document, and recommend that the Commission adopt it.

APPENDIX I

DRAFT STRATEGY FOR THE IMPLEMENTATION OF THE GLOBAL PLAN OF ACTION FOR THE CONSERVATION, SUSTAINABLE USE AND DEVELOPMENT OF FOREST GENETIC RESOURCES

OBJECTIVE

The aim of this Implementation Strategy is to identify tools and mechanisms through which the Commission can support and strengthen the implementation of the *Global Plan of Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources* (GPA FGR), adopted by the FAO Conference at its 38th session in June 2013.

AIMS OF THE GLOBAL PLAN OF ACTION FOR THE CONSERVATION, SUSTAINABLE USE AND DEVELOPMENT OF FOREST GENETIC RESOURCES

As stated in its paragraph 16, the aims of the GPA FGR are:

- to strengthen understanding and knowledge of forest genetic resources (FGR);
- to promote the sustainable use and management of FGR;
- to develop and strengthen *in situ* and *ex situ* FGR conservation programmes through collaboration at national, regional and global levels;
- to promote access to, and sharing of, information on FGR at regional and national levels;
- to create and strengthen national programmes to increase regional and international cooperation, including in research, education and training on the use and sustainable management of FGR, and to enhance institutional capacity;
- to assist countries, as appropriate, to integrate FGR conservation and management needs into wider national policies and programmes and frameworks of action at national, regional and global levels;
- to promote the assessment of FGR-related traditional knowledge, innovations and practices, the equitable sharing of benefits arising from their use, the recognition of their roles, and, where appropriate, the putting in place of effective policies and legislation addressing these matters;
- to promote adequate access to, and use of, quality forest reproductive material to support research and development programmes at national and regional levels and in line with the international laws and regulations regarding intellectual property;
- to promote ecosystem and ecoregional approaches as efficient means of promoting sustainable use and management of FGR;
- to assist countries and institutions responsible for the management of FGR to establish, implement and regularly review national priorities for the sustainable use and management of FGR; and
- to strengthen national programmes and enhance institutional capacity – in particular, in developing countries and countries with economies in transition – and develop relevant regional and international programmes. Such programmes should include education, research and training to address the characterization, inventory, monitoring, conservation, development and sustainable use of FGR.

MONITORING AND REVIEW OF THE IMPLEMENTATION STRATEGY

The Commission will monitor the execution of and review and revise this implementation strategy, as necessary and appropriate, to respond to gaps and needs in the implementation of the GPA FGR.

IMPLEMENTATION STRATEGY AREAS

This Implementation Strategy foresees specific action in the following areas:

- Advocacy and international awareness;
- Development and support of relevant global and regional networks;
- Supporting countries in the development of national and regional strategies for the implementation of the GPA FGR;
- Supporting countries in securing adequate and sustainable funding for the implementation of the GPA FGR;
- Development of international technical standards for FGR and support to implement them;
- Funding strategy for the implementation of GPA FGR; and
- Monitoring and reporting on the implementation of the GPA FGR and the status and trends of FGR.

I. Advocacy and international awareness

Strategic Priority 26 requires advocacy measures and tools to be developed at international level to ensure effective communication and information sharing related to the conservation sustainable use and development of FGR.

The first report on *The State of the World's Forest Genetic Resources*, as well as the Synthetic Account¹⁵ are important communication and awareness-raising tools. However, it will be important to develop a communication strategy that communicates the essential value of FGR and the need to take action for their sustainable management and use to (1) policy makers and (2) forestry technicians and administration managers.

ACTION: The Commission invites FAO to develop a communication strategy and tools to ensure effective communication and information sharing related to the conservation sustainable use and development of FGR. In collaboration with its partners, FAO should contribute to the training of forestry technicians and administration managers.

II. Development and support of relevant global and regional network

Strategic Priorities 24 and 25 encourage the establishment and strengthening of regional and global networks.

Regional coordination is needed, recognizing that gene flow does not stop at national borders and many issues are best addressed across countries. The FAO Regional Forestry Commissions should play an important role in this regard. Regional intergovernmental institutions/processes such as Forest Europe, the Central Africa Forests Commission (COMIFAC), the Secretariat of the Pacific Community (SPC), and the Amazon Cooperation Treaty Organization have an important role and mandate in sustainable forest management at the regional level. They will need to play a key role in the implementation of the GPA-FGR, including by facilitating its integration, as considered relevant,

¹⁵ FAO 2014. *The State of the World's Forest Genetic Resources – Synthetic Account*.

into regional strategies and programmes. Regional networks (e.g. EUFORGEN, SAFORGEN, LAFORGEN, APFORGEN) are well placed to enhance coordination and collaboration between research institutions, on technology, monitoring, *in situ* and *ex situ* conservation, awareness raising, policy implementation, resource mobilization and information sharing.

Regional networks may play an essential role for the implementation of the GPA FGR by:

- Promoting efficient monitoring and reporting on the status FGR for transnational species;
- Coordinating risk assessments and conservation measures for regionally important species;
- Identifying research needs and planning and developing joint project proposals;
- Acting as an independent “honest broker” to facilitate bilateral and multilateral cooperation among countries and for mobilizing funds for tasks;
- Developing and maintaining regional databases for FGR;
- Encouraging and promoting genetic improvement programmes and domestication for valuable tree species as a component of forest conservation and as a contribution to livelihoods;
- Building consensus on regional issues and policies affecting FGR;
- Promoting awareness of FGR issues within regional organizations and forums;
- Strengthening the voice for the region in international discussions on FGR conservation and management.

ACTION: The Commission encourages international and regional networking and requests FAO, in collaboration with its partners, to support and strengthen existing networks subject to the availability of the necessary resources, including through series of workshops and the identification of best practices of information sharing, regional and global networking, which enhance coordination and collaboration on technology, monitoring, *in situ* and *ex situ* conservation, awareness raising, policy implementation, resource mobilization and information sharing. The Commission further recommends that FAO identify strategic partners, including international organizations, relevant centers of the Consultative Group on International Agricultural Research (CGIAR) and other research organizations and NGOs, to play a facilitation role in the implementation of specific strategic priorities.

III. Supporting countries in the development of national and regional strategies for the conservation, sustainable use and development of forest genetic resources

Strategic Priority 18 explicitly recognizes the importance of national strategies for *in situ* and *ex situ* conservation of FGR and their sustainable use. The GPA FGR provides an agreed international framework for efforts to enhance the sustainable management and use of FGR. The aim is clear: to support the sustainable use and management of FGR to ensure that forest trees can survive, adapt and evolve under changing environmental conditions in order to meet present and future challenges of food security, poverty alleviation and sustainable development.

National and regional strategies provide effective means to translate the GPA FGR and the international momentum that has been created into national and regional actions needed to ensure the implementation of the GPA FGR. Well-prepared Regional as well as National Strategy and Action Plans may provide a basis for identifying the national, regional and global interventions that will most effectively mobilize and use financial resources for capacity building in forest genetic resources management.

Regional and national strategies and action plans may include, but not be limited to: Identifying priorities within the GPA-FGR; establishing and/or strengthening monitoring systems and evaluating status and threats to FGR; appointing national focal points and stakeholder committees overseeing the implementation of the GPA FGR and reporting to the Commission.

ACTION: FAO is requested to develop Guidelines for the preparation of regional and national strategies and action plans for the conservation, sustainable use and development of FGR and as appropriate develop synergies with other relevant instruments and strategies such as the National Biodiversity Strategy and Action Plan (NBSAP).

IV. Support countries in securing adequate and sustainable funding for the implementation of the Global Plan of Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources

Strategic Priority 27 calls for assistance to countries and stakeholders to design appropriate programmes for the conservation, sustainable use and development of FGR and to secure adequate and sustainable funding.

Information on donor mandates, policies, eligibility criteria, and procedures for submitting funding proposals may help countries to more effectively mobilize financial resources and to secure funding from sources previously not available. Such information could be collected and maintained by FAO and made available to the members of the Commission.

ACTION: FAO is requested to collect, maintain and regularly update on its website information on donor mandates, policies, eligibility criteria, and procedures for submitting funding proposals for the conservation, sustainable use and development of FGR. FAO is further requested to inform donors, as appropriate, of the importance and role of FGR in contributing to solving important global issues such food insecurity, land degradation and climate change effects and to put efforts in joint project development and implementation.

V. Development of international technical standards for the conservation, sustainable use and development of FGR and support to implement them

Strategic Priority 3 calls for the development of international technical standards, protocols and indicators for FGR inventories, characterization and monitoring of trends and risks. A set of proposed indicators for assessing the status and trends of FGR can be found in the FAO thematic study on indicators,¹⁶ however more work is still necessary to further develop indicators and to make them operational.

ACTION: FAO is requested to strengthen collaboration with relevant partners, including the CGIAR centres, and to further develop, subject to the availability of the necessary funds, international technical standards, protocols and indicators for assessing the status and trends of FGR and for the characterization and monitoring of trends and risks within national forest inventories and other forest-related programmes.

VI. Funding strategy for the implementation of GPA FGR

While the GPA FGR does not call for the establishment of a funding strategy for the implementation of the GPA FGR, its effective implementation, in particular in developing countries, will depend on the availability of additional financial resources.

ACTION: FAO is requested to prepare a draft Funding Strategy for the Implementation of the GPA FGR, including procedures for the use of resources under a FAO Trust Account to be established.

¹⁶ Graudal, L. et al. 2014. *Indicators of forest genetic diversity, erosion and vulnerability*. Thematic Study for The State of the World's Forest Genetic Resources. Rome, FAO (In press).

VII. Monitoring and reporting on the implementation of the GPA FGR and the status and trends of FGR.

The Second Report on the State of the World's Forest Genetic Resources is currently scheduled for 2022/23 (CGRFA-19)¹⁷. Between now and then, countries/ focal points should report in regular intervals on their implementation of the GPA FGR. National strategies and action plans for the implementation of the GPA FGR could be made available by FAO on a dedicated website. In addition, status of implementation reports and reports on the status and trends of FGR could be uploaded by countries (or their national focal points) on a dedicated website. This would require an agreement of the Commission on reporting intervals. On the basis of country reports received, FAO could publish status and trends report at regular intervals and the Working Group FGR and the Commission could review them.

ACTION: FAO is requested to provide, for review by the Working Group and the Commission, at their next sessions, a draft Schedule and guidelines in line with the approved indicators, for Monitoring and Reporting on the Implementation of the GPA FGR.

¹⁷ See CGRFA-14/13/Report, paragraph 65.