Food and Agriculture Organization of the United Nations

The International Treaty ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Second Reporting Cycle

Report on the implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)

PAPUA NEW GUINEA

12/10/2023

ONLINE REPORTING SYSTEM

Second Report on Compliance of ITPGRFA

Online Reporting System on Compliance of the International Treaty on Plant Genetic Resources for Food and Agriculture

Pursuant to Article 21 of the Treaty, the Governing Body approved, at its Fourth Session, the Compliance Procedures that include, among others, provisions on monitoring and reporting: Resolution 2/2011.

According to the Compliance Procedures, each Contracting Party is to submit to the Compliance Committee, through the Secretary, a report on the measures it has taken to implement its obligations under the Treaty. This Online Reporting Systems facilitates the submission of such information in electronic format.

Should you need any additional information regarding the reporting on compliance or the use of the online system, please visit the Treaty's Website or contact the Secretariat at PGRFA-Treaty@fao.org.

Additional Reporting Information

Name and contact of the reporting officer

››› Birte Komolong, PNG National Focal Point, PNGPGRFA@nari.gov.pg

Institution(s) of affiliation

››› PNG National Agricultural Research Institute

Article 4: General Obligations

1. Are there any laws, regulations procedures or policies in place in your country that implement the Treaty?
Please select only one option
☐ Yes
☑ No

1A. If your answer is 'yes', please provide details of such laws, regulations, procedures or policies:
›››

2. Are there any other laws, regulations, procedures or policies in place in your country that apply to plant genetic resources?
Please select only one option
☑ Yes
☐ No

2A. If your answer is 'yes', please provide details of such laws, regulations, procedures or policies:
››› There are no laws, regulations, procedures or policies specific to PGRFA in the country but included in broader laws and policies:
The laws and policies are based on the country fourth goal the national constitution and its directive principles, which states “Papua New Guinea natural resources and environment should be conserved and used for collective benefit for all and should be replenished for future generations”.
Legislations:
Fauna Protection and Control Act 1966
International Trade (Fauna and Flora) Act 1979
Conservation Areas Act 1980.
International Trade Act 1982.
National Agriculture Research Institute Act 1996
Environment Act 2000
Kokonas Indastri Koperesen Act 2002
Conservation and Environment Protection Authority Act 2014
Protected Areas Bill 2018
Policies and Strategies:
PNG Vision 2050 - long-term development policy, conservation and sustainable use of biodiversity is captured in Pillar 5 –Environment Sustainability and Climate Change. This pillar aims to enhance conservation of biodiversity from its current level to 7% of the world biodiversity; establish a total of 20 national reserves, wilderness areas and national parks; and establish at least one million hectares of marine protected areas.
The PNG Protected area policy (2014) supports the development of a National Protected Area System (NPAS) and guide the stakeholders involved in biodiversity conservation to harmonize their efforts in an effective manner to develop and manage the protected areas.
2014 National Sustainable Land use Policy,
2015 National Food Security Policy: 2018-2027,
2016 Traditional Medicine Policy
(Draft) National Policy of Papua New Guinea on Access to Genetic Resources and Sharing of Benefits from Their Utilization 2022 – 2032
National Strategy for Responsible Sustainable Development for PNG (STARs) 2014
2019 National Biodiversity Strategy and Action Plan
2005 Plant Genetic Resources Strategy for PNG

3. Is there any law, regulation, procedure or policy in place in your country that needs to be adjusted / harmonized to ensure conformity with the obligations as provided in the Treaty?
Please select only one option
☑ Yes
☐ No

3A. If your answer is 'yes', please provide details of such adjustments and any plans to make those adjustments:
››› PNG lacks generally laws and policies that domesticate the international agreements signed into national laws and policies. That is one reason why e.g. PNG has not signed the Nagoya Protocol.
In particular:
Domestication of Nagoya Protocol into national policy and law - draft policy is in place and progress made with drafting a relevant law on Access and Benefit Sharing;
Domestication of the ITPGRFA into national policy and relevant legislation which would cover provisions of the Treaty:
National Seed Policy - a draft policy has been developed by the Department for Agriculture and Livestock but

now requires wider stakeholder consultation;
Incorporation of Farmer Rights interpreted in the national context and cultural norms into policies and laws lacking;
Incorporation of plant breeder rights, variety release and protection and other provisions for managing seed systems yet to be considered - considerations under draft seed policy;
absence of patent and IP laws and policies covering genetic resources use including understanding of DSI/GSD - no concrete plans in place

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

4. Has an integrated approach to the exploration, conservation and sustainable use of plant genetic resources for food and agriculture (PGRFA) been promoted in your country?
Please select only one option
☑ Yes
☐ No

5. Have PGRFA been surveyed and inventoried in your country?

Please select only one option
☑ Yes
☐ No

5A. If your answer is 'yes', please provide details of your findings, specifying species, sub-species and /or varieties, including those that are of potential use.
››› There have been a number of explorations and surveys concerning the most important staple crops over the past 25-30 years:
Yam (Dioscera alata, nummeralia,
Taro (Colocasia esculenta var esculenta)
Sweetpotato (Ipomea batatas)
Cassava (Manihot esculenta)
Banana (Musa spp.)
Coconut (Cocos nucifera)
Details of the collecting mission can be found in the attached document

You have attached the following documents to this answer.

Summary_of_collecting_missions_in_PNG_(rev_Sep23).docx - Summary of collecting missions and activities in PNG

5B. If your answer is 'no', please indicate:

Any difficulties encountered in surveying or inventorying PGRFA;
Any action plans to survey and inventory PGRFA;
The most important PGRFA that should be surveyed and inventoried
›››

6. Has any threat to PGRFA in your country been identified?
Please select only one option
☑ Yes
☐ No

6A. If your answer is 'yes', please indicate:

The species, subspecies and/or varieties subject to such threats;
The sources (causes) of these threats;
Any steps taken to minimise or eliminate these threats;
Any difficulties encountered in implementing such steps;
››› PGRFA in PNG is exposed to various threats that apply generally to the Biodiversity in the country. The last report of PNG to the CBD (6th report, 2019 attached) outlines that they are mostly related to anthropogenic activities of PNG's rapidly growing population. In relation to PGRFA, the main threats include:
• changes in land use in particular deforestation and forest from large-scale industrial logging, large–scale clearance for agricultural commodities, and small-scale clearance for gardens and subsistence agriculture (accounts for 45% of forest change): threats to diversity of Breadfruit (Altocarpus spp.), wild banana species, crop wild relatives (e.g. wild yam species) and others that are part of the natural forest flora;
• promotion of commercial agriculture: commercial pressures have impact on the diversity kept by rural communities with trends of only maintaining 1-3 varieties that have commercial value; applies to all relevant PGRFA;
• mining and associated waste disposal: similar to the issues with deforestation, impact of mining activities PGRFA is affected with destruction and changed soil and water conditions. While not an Annex 1 crop, the large Ok Tedi mine had major impacts on natural Sago (Metaxylon spp.) stands along the Fly River including the genetic diversity
• Climate change: agroecological conditions become unsuitable for many crop varieties and they disappear;

planting materials from the mostly vegetatively propagated crops are lost during prolonged drought or from wild fires during more frequently occurring El Nino events.
• Pest and Disease: incursions and emergence of new and previously minor pest and diseases. At present the Coconut collection is threatened by the emergence of a new phytoplasma disease. The same or a very similar phytoplasma is also affecting banana species and poses a potential threat to Banana diversity;
• Bogia Coconut Syndrome (BCS), a phytoplasma disease, killing coconuts of different varieties including talls and some dwarfs. A real threat to the PGR for Coconut in the PNG and the Pacific (ICG-SP). Sanitation and creation of buffer zones as short term steps to minimize threats but relocation to new site/province is long term.
• Coconut Rhynoceros Beetle (CRB), a coconut pest, that kills coconuts and is a threat to the coconut PGR in Madang. Sanitation as well as introduction of virus.
• The difficulties in implementing to minimise threat is lack of financial capacities and inconsistencies as well.
Mitigation of Threats:
In absence of an integrated National policy and strategy on PGRFA with assured long-term funding, measures taken to mitigate threats to PGRFA are only localised and sporadic depending on short term initiatives and project funding.
Earlier regional initiatives for banana,yam and taro established core collections and/or backed up important PGRFA in regional and international genebanks while NARI and the Kokonas Industry Korporesen maintain ex-situ collections. In response to the threat from the emerging phytoplasma the relocation of the coconut collection has been initiated into a disease free area in PNG as well as the duplication of the collection in two other countries in the Pacific (Samoa and Fiji).
A number of project that NARI is implementing are targeted towards encouraging communities and showing them the value of maintaining a range of crop varieties in their gardens.

You have attached the following documents to this answer.

PNG_6th_report_on_Biodiversity_to_CBD.pdf

7. Has the collection of PGRFA and relevant associated information on those plant genetic resources that are under threat or are of potential use been promoted in your country?
Please select only one option
☑ Yes
☐ No

7A. If your answer is 'yes', please provide details of the measures taken:
››› The National Agricultural Research Institute is mandated through it Act to manage PGRFA in the country. As part of its work programs and activities, the Institute publicizes from time to time its work on Plant Genetic resources in articles, posters and other published information to stakeholders. The current Strategic Plan has identified Genetic Resources including PGRFA conservation and utilisation as a priority area.
In a similar manner, the Kokonas Industri Korporesen (KIK) responsible for the regional Article 15 Coconut collection maintains public awareness on this collection. The collection is currently under threat from the Bogia Coconut Syndrome caused by a phytoplasma. In order to manage this threat, the collection is in the process of relocation in the country. This is the result from a concerted effort by KIK, the PNG Government with providing funding support and international donors.

8. Have farmers and local communities' efforts to manage and conserve PGRFA on-farm been promoted or supported in your country?
Please select only one option
☑ Yes
☐ No

8A. If your answer is 'yes', please provide details of the measures taken:
››› Only very few studies have tried to promote the concept of in-situ conservation of PGR FA. NARI has implemented some projects that encourage and promote the diversification of the farming system with wider range of food crops as well as a wider range of crop varieties per crop so households have suitable crops and crop varieties for changing weather and climate conditions.
Since 2018, NARI is implementing a project funded by the ITPGRFA Benefit Sharing fund that is amongst other activities, also promoting in-situ conservation of sweetpotato genetic resources in four communities in the country

9. Has in situ conservation of wild crop relatives and wild plants for food production been promoted in your country?
Please select only one option
☑ Yes
☐ No

9A. If your answer is 'yes', please indicate whether any measures have been taken to:

☐ Promote in situ conservation in protected areas
☑ Support the efforts of indigenous and local communities

9B. If such measures have been taken, please provide details of the measures taken:
››› Some minor efforts have been made especially in regards to the conservation of wild banana species but efforts were very localized and few.
The most recent initiative was done as part of a collection mission supported by Bioversity International to the Autonomous Region of Bougainville in 2017. Arrangement were made with a local farmer to maintain 23 accessions in her garden in Arawa (ARoB).

10. Are there any ex situ collections of PGRFA in your country?
Please select only one option
☑ Yes
☐ No

10 A. If your answer is 'yes', please provide information on the holder and content of such collections:
››› A number of ex-situ collections are managed in PNG. The National Agricultural Research Institute manages most collections with relevance to Annex 1 or the Treaty:
PNG National Agricultural Research Institute:
- Taro (Colocasia esculenta): 216 accessions (National collection located at the Momase Regional Centre (MRC) at Bubia, Morobe Province); 67 accession at the Southern Regional Centre Laloki, Port Moresby (SRC); 12 accessions at the Islands Regional Centre, East New Britain (working collection, WC)
- Yam (Dioscera spp.): 112 accessions (National collection located at the SRC; 24 accessions at MRC Bubia (WC);
- Cassava (Manihot esculenta): 125 accessions (National Lowlands collection located at the SRC Laloki); 34 accession (Highland Drought collection located at the Highlands Regional Centre (HRC) at Aiyura, Eastern Highlands Province)
Banana (Musa spp.): 259 accessions – National Collection located at the SRC Laloki; 56 accessions at MRC Bubia (WC), 30 accession at IRC Keravat (WC);
- Sweetpotato (Ipomea batatas): 855 accessions (National Highlands Collection located at the HRC at Aiyura, Eastern Highlands Province); 155 accessions at MRC Bubia., 52 accessions at the IRC Keravat;
- Breadfruit (Arthocarpus altilis): 32 accessions at SRC Laloki;
- Bean (Phaseolus spp.): 22 accessions at SRC Laloki
Kokonas Indastri Koporesen (KIK):
Coconut (Cocos nucifera): 54 accessions
Further information is provided in the uploaded file under Question 5A and uploaded file on status of the coconut collection here. PNG also reports on an annual basis on Indicator 2.5.1 to the FAO Commission on PGRFA

You have attached the following documents to this answer.

ICG_appraisal_PNG_coconut_collection.pdf

11. Has the development of an efficient and sustainable system of ex situ conservation of PGRFA been promoted in your country?
Please select only one option
☑ Yes
☐ No

11A. If your answer is 'yes', please indicate the measures taken to promote ex situ conservation, in particular any measures to promote the development and transfer of technologies for this purpose:
››› The National Agricultural Research Institute as the mandated organsiation to manage most of the PGRFA listed in the Annex 1 with relevance to PNG developed a PGR strategy for PNG in 2005 (Kambuou RN (2005) Plant Genetic Resources Strategy for Papua New Guinea. Technical Bulletin No. 5. PNG National Agricultural Research Institute, Lae, Papua New Guinea)
The Strategy covers most important area for the efficient and sustainable management of PGR (ex situ and in situ) including collection, conservation, utilization, documentation, policy and legislation, on-going capacity building etc. Implementation of the strategy was affected by inconsistency and lack of funding.
NARI was able to secure funding support from a grant of the EU-ACP Science & Technology Program (Capacity Development in conservation and utilization of invaluable PGR in Western Pacific Countries, FED/2009/218780) to conduct a series of learning activities on pre-breeding techniques and procedures, screeing techniques for important traits and selection and utilization of PGR. Parcipants included also staff from the Ministry of Agriculture and Livestock Solomon Islands and the Vanuatu Agricultural and Technical Centre. The project was implemented from 2011- 2013.
PNG through NARI representation is a member of regional networks viz. Banana and Plantain Network for Asia and Pacific (BAPNET with the secretariat managed by Bioversity International) and Pacific Plant Genetic Resources Network (PAPGREN with the secretariat managed by the Land Resources Devision of the Pacific

Community in Fiji). Those networks promote the conservation, utilization and exchange of PGR in the region. PNG is a member of the International Coconut Genetic Resources Network (COGENT) and is represented by the Managing Director of KIK on its Steering Committee. PNG is the host of the International Coconut Genebank for South Pacific (ICG-SP), which is located at the KIK's Stewart Research Station, in the Madang Province. The major role of the the coconut genebank includes collection, conservation, characterization and utilization of selected and desirable coconut germplasm for breeding purposes. It is a regional genebank and will eventually become a service centre to facilitate germplasm exchange and utilization amongst the COGENT network countries with priority given to the Pacific Island Countries.
Since its establishment in mid 1990s, successful germplasm exchanges have been carried out within the South Pacific Region (SPR) and between a member country (Sri Lanka) of South East Asia Region (SAR) while the exchange with other member countries within SAR and other genebanks is still to be done.
Since 1994, COGENT has been providing financial and technical support to build capacity at SRS. This is to fulfil its obligation as a host on behalf of the Government of PNG and also to support the National Coconut Breeding Program through exchange and utilization of selected accessions from other genebanks.
The Coconut Embryo Culture Unit (Laboratory) at Stewart Research Station in Madang is responsible for importation of the designated varieties and selected germplasm for conservation at the ICG-SP. However, more funds are required to upgrade the Coconut Embryo Culture Unit and collect accessions from member countries as well as other Pacific Island countries for conservation in the Genebank (ICG-SP).

12. Has the maintenance of the viability, degree of variation, and the genetic integrity of ex situ collections of PGRFA been monitoring in your country?
Please select only one option
☑ Yes
☐ No

12A. If your answer is 'yes', please provide details of the main conclusions of these monitoring activities
››› This needs to be qualified that reasonable attempts are made within the capacity of the Institutions tasked to manage the collections. The greatest constraints are reliable program based funding and capacity of staff to conduct this work.
However, targeted studies on this topic have not been undertaken. The vast majority of the crop accessions managed in ex-situ collection are vegetatively propagated crops. The issues are to a lesser extent about degree of variation or genetic integrity and more about build-up of pests and diseases esp viruses, unfavourable weather events, as collections are all-year-round in the field, theft, mislabelling etc.

13. Has your country cooperated with other Contracting Parties, through bilateral or regional channels, in the conservation, exploration, collection, characterization, evaluation or documentation of PGRFA?
Please select only one option
☑ Yes
☐ No

13A. If your answer is 'yes', please indicate the other Contracting Parties with whom the cooperation was undertaken (where additional to cooperation through the Governing Body or Treaty mechanisms) and, where possible, details of any relevant projects:

››› PNG through NARI and KIK are mostly working with regional and international organisations in PGR conservation and utilization. Since accessions to the ITPGRFA the following activities were implemented:
Banana:
2015 Bioversity International/ITC and NARI – supply of seed of 3 wild banana species from the Autonomous Region of Bougainville (ARB) to the Banana International Transit Centre (ITC); SMTA signed
2016 Bioversity International/ITC and NARI – collection of wild and cultivated banana species from ARB and transfer of 63 accessions to ITC from the collecting mission and unique accessions from the PNG National Collection for purpose of conservation, exploration of options to conserve on-site and take samples for population genetic studies; SMTA signed
2017 Chiba University and NARI – Empirical Study of Diversity of Banana Varieties and Indigenous Farming Practices in Papua New Guinea; plant samples of 7 banana varieties collected for nutritional analysis; SMTA signed
2017 Bioversity International/ITC and NARI – collection of wild banana species from Morobe and Mandang and transfer of seeds of 21 accessions to ITC for conservation and population genetic studies of banana and to design more effective conservation strategies for wild banana species; SMTA signed
2018 Bioversity International/ITC and NARI – rapid assessment survey to establish diversity of Banana in two diversity hotspots (Madang and East New Britain Provinces)
2019 Bioversity/Meise Botanical Garden/KU Leuven and NARI – evaluation for drought tolerance in wild banana species (Crow Wild Relatives); SMTA-00AZ35-00AN81-190605
2020 Bioveristy/ITC and NARI - supply of banana accessions from West New Britain; SMTA-00AZ35-00BG88-210224
2020 Meise Botanical Garden and NARI - supply of banana seed samples of wild banana types; SMTA-00AZ35-

00AC58-200114
2020/21 Bioversity/Crop Trust/NARI - Capacity Building through collecting in Myanmar and Papua New Guinea project;
Other crops:
- 2011 – 2015 NARI participated in the project ‘Adapting clonally propagated crops to climatic and economic changes’; receipt of 50 exotic taro accessions for participatory variety evaluation and increasing the genetic diversity of taro genetic resources in selected sites; 25 partner organisations in Central America, Europe, Africa, South-East Asia, Pacific; coordinated by SPC/CIRAD; (funded by EU); receipt under SMTA from CePaCT;
- 2015 – 2017 NARI particpated in the project ‘Sunda or Sahul? The origin of the greater yam’; diversity studies of local yam (Dioscera nummelaria); coordinated by CIRAD (funding EU Agropolis Foundation);
- 2015 SPC/CePaCT and NARI – supply of 5 drought tolerant sweetpotato varieties from CePaCT climate ready collection; SMTA signed;
- 2015 Africa Rice and NARI – supply of 78 NERICA rice varieties from Africa Rice in support of climate change adaptation strategies; SMTA signed;
- 2015 CIMMYT and NARI – supply of 98 wheat varieties for diversification of Highland sweetpotato systems; SMTA signed;
- 2017 SPC/CePaCT and NARI – supply of 5 Banana, 2 Pineapple, 5 sweetpotato varieties through EUPAPP/FA Treaty assistance; SMTA signed;
- 2019 World Vegetable Centre and NARI – supply of 500 seed kits in different combinatons of 6 vegetable species (Amaranthus tricolor, Vigna radiata, Abelmoschus esulentus, Basella alba, Corchorus olitorium, Ipomoea aquatica);
- 2019 NARI and CIRAD; supply of yam leaf samples; SMTA signed
- 2020 CIRAD and NARI - supply of yam leaf samples for phylogentic analysis; SMTA-00AZ35-00BG88-201210-C
- 2021 CIRAD and NARI - supply of yam leaf samples for phylogentic analysis; SMTA-00AZ35-00BG88-210224;
- 2018-2023 Collaboration with CePaCT and CIP in accessing sweetpotato accessions from other genepools as part of the project "In situ Conservation and utilization of sweetpotato (Ipomoea batatas) for climate Smart agriculture Vulnerable farming communities in Papua New Guinea" funded by the ITPGRFA BSF;
- 2022-2023 Collaboration with Crop Trust in the "Biodiversity for Opportunities, Livelihoods and Development (BOLD)" initiative with the project: Regeneration, Conservation and Safety Duplication of Papua New Guinea Sweetpotato Germplasm Collection through Botanical Seeds at the Svalbard Global Seed Vault; storage of sweetpotato true seed from the PNG National Collection in the Vault to conserve genes;
Coconut:
- 2014 to 2019 (and beyond) – Bogia Coconut Syndrome (BCS) response to the threat posed by the BCS phytoplasma to the collection:
- 2014/2015 Government of PNG approves 2.5 million Kina ($0.75 Million) to support the relocation of the International Coconut Genebank (ICG) to a new site in PNG (Puni-Puni, Milne Bay Province);
- Crop Trust, Bioversity and Australian Centre for International Agricultural Research (ACIAR) fund a meeting to discuss the genebank
COGENT/CIRAD assisted with funds to do fingerprinting and selection of priority accessions among the ICG;
- 2014 – 2019 ACIAR funded project ‘Bogia coconut syndrome and related phytoplasma syndromes in Papua New Guinea: developing biological knowledge and a risk management strategy’;
- 2016 – 2019: Bioversity/COGENT/SPC and PNG/KIK (and Fiji and Samoa) implementation of the project ‘Upgrading and broadening the new South-Pacific International Coconut Genebank’ funded by the Darwin Initiative; includes support for the genebank relocation, duplication of the collection in Fiji and Samoa, collection and conservation of other unique coconut resources;
- 2019 - 2024: Safeguarding and deploying coconut diversity for improving livelihoods in the Pacific Islands; funded by ACIAR; to improve in-vitro and cryopreservation techniques for conservation and use of coconut germplasm; management of biotic threats (Coconut Rhinozeros Beetle, Bogia Coconut Syndrom);
- 2020-current: FAO-ITPGRFA- BSF-PR363-Fiji-“Safeguarding Threatened Coconut Diversity Within the Upgraded International Coconut Genebank for the South Pacific”; partnership of KIK with LRD Pacific Community and others;

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

14. Are there any policy and legal measures in place in your country that promote the sustainable use of PGRFA

Please select only one option

☑ Yes
☐ No

14A. If your answer is 'yes', please indicate whether such policy and legal measures include:

☐ Pursuing 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;
☑ Strengthening research that enhances and conserves biological diversity by maximizing intra- and inter-specific variation for the benefit of farmers;
☑ Promoting 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;
☑ Broadening the genetic base of crops and increasing the range of genetic diversity available to farmers
☐ Promoting the expanded use of local and locally adapted crops, varieties and underutilised species
☑ Supporting 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
☑ Reviewing and adjusting breeding strategies and regulations concerning variety release and seed distribution

14B. If such policy and legal measures are in place, please provide details of the measures taken and any difficulties encountered in implementing them:

››› National level policies do not address any of the above measures specifically and are more directed towards biodiversity in general. And while the intent is clearly there in policies to promote the sustainable use of plant genetic resources, implementation is often problematic and not well supported:
PNG Vision 2050 the countries long-term strategy aims for Conservation and use of the countries natural resources and environment for collective benefit and for future generation with "Professional competence and world standard research programs on environment and climate change" as a Key performance indicator.
StaRS - The National Strategy for Responsible and Sustainable Development emphasizes on the need for investment in shifting to a green economy. Conservation of forest and biodiversity, prevention of loss of biodiversity are important consideration. StaRS also calls for economic development building on the strategic assets of the country especially relating to the rich endowment of the country with natural resources, among them the rich biodiversity and diversity in PGRFA in particular.
The Medium-Term-Development-Plan IV 2023-2027 emphasises as part of the Strategic Priority Area 10 Climate Change and natural environment protection, Deliberate Intervention Program 10.2 Environmental Protection on the need to better protect and manage its wealth of terrestrial and marine resources. The Government will develop and adopt relevant legislation and policies to ensure the protection and conservation of our natural resources for future generations.
The Strategy Results Framework 2022-2032 of the PNG National Agricultural Research Institute has identified Genetic Resources Management as a major Result Area under its Priority 2 on Resilient systems. Emphasis is placed on improving management of collections, expanding collections and increased use of PGRFA. In that context many projects have been and continue to be implemented to address those strategies. Some have been mentioned in the previous section of this report.

Article 7: National Commitments and international Cooperation

15. Has the conservation, exploration, collection, characterization, evaluation, documentation and sustainable use of PGRFA been integrated into your country's programmes and policies?
Please select only one option
☐ Yes
☐ No

15A. If your answer is 'yes', please provide details of the integration of such activities:
☐ Conservation
☐ Exploration
☐ Collection
☐ Characterization
☐ Evaluation
☐ Documentation
☐ Sustainable Use

Please indicate into which type of programmes and policies:
☐ Agriculture and rural development
☐ Food security
☐ Biodiversity conservation
☐ Climate change
☐ Other

Additional details:
›››

16. Has your country cooperated with other Contracting Parties, through bilateral or regional channels, in the conservation and sustainable use of PGRFA?
Please select only one option
☑ Yes
☐ No

16A. If your answer is 'yes', please indicate whether the aim of such cooperation is to:
☑ Strengthen the capability of developing countries and countries with economies in transition with respect to conservation and sustainable use of PGRFA
☑ Enhance international activities to promote conservation, evaluation, documentation, genetic enhancement, plant breeding, seed multiplication, and sharing, providing access to and exchanging PGRFA and appropriate information and technology, in conformity with the Multilateral System of Access and Benefit-Sharing under the Treaty

16B. If, in addition to cooperation through the Governing Body or other Treaty mechanisms, your country has cooperated with other Contracting Parties directly or through FAO and other relevant international organizations, please indicate such other Contracting Parties and, where possible, details of any relevant projects:
››› In regards to the International Coconut Genebank for the South Pacific region in Papua New Guinea there were some Contracting Parties as partners during the germplasm establishment and development as well as Benefit Sharing. Hence, International collaboration on coconut research and development in Papua New Guinea is worth mentioning. Notable contributers are ACIAR, CIRAD, IPGRI (Bioversity International) and COGENT for financial and technical support. Other financial support is provided by EU, ADB, and AusAID. Cogent since its establishment in 1992, has been very active in the necessary technical and financial support. COGENT has been instrumental in centralizing coconut genebanks nationwide to facilitate respective breeding programs through exchange and utilization of already selected populations in each country including Papua New Guinea, who was nominated to be the centre for South Pacific Region.
The plan for PNG ex-situ collections by COGENT is to introduce a total of 200 different coconut varieties to make them available for the breeding program and also for exchange with the member countries in the region. For such exchange to eventuate, Coconut Embryo Culture facility was built to enable KIK (formerly PNGCCI) to introduce coconut via embryos in test tubes. Coconut Embryo Culture was an ACIAR funded Project that includes several Parties or Partners;
 University of Queensland - Australia
 Research Institute for Coconut and Other Palmae – Indonesia
 Phillippine Coconut Authority – Phillippines
 Oil Palm Institute – Vietnam
 PNG Cocoa Coconut Institute – Papua New Guinea
Duration of project: Three (3) Years
Starting Date: 01 July 2002
Completion Date: 30 July 2005

However, since 1980s, Bogia Coconut Syndrome (BCS) was killing coconut palms, and over a period of time, the disease has spread and has now become a threat to the International Coconut Genebank for South Pacific in Madang province. The government of Papua New Guinea is so concerned that BCS is no longer a national issue but an international one due to the need to better conserve the coconuts for the current and future wellbeing. Hence, in 2007, the Government of Papua New Guinea (PNG) signed a Memorandum of Agreement with FAO and Bioversity International as COGENT's host, placing the coconut genebank located in Madang Province under the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). Because of that MOA, in 2013 and 2015, the international Coconut Genetic Resources Network (COGENT), with funds from the CGIAR research program, Forests trees and Agroforests (CRP FTA), consider replacing with assigned expert from CIRAD, Dr. Michel Dollet to assess the sanitary status of the collection. The assessment identified that BCS is a real threat to the ICG-SP because it is only 15 km away from the ex-situ collections site. A workshop was then organised by the Global Crop Diversity Trust (GCDT) with the help of COGENT and SPC and supported by ACIAR where a certain number of experts from APCC, CIRAD, PCA, KIK and other relevant institutions were invited. This workshop led to the writing of a work plan and proposal that was submitted to the PNG Government in 2015 and a first phase of the genebank relocation project was funded in 2016. The Genebank Relocation Project from Madang to Milne Bay Province is an important step forward to conserve the threatened International Coconut Genebank for South Pacific in Papua New Guinea. The current status of this project is still ongoing

Article 8: Techical Assistance

17. Has your country promoted the provision of technical assistance to developing countries and countries with economies in transition, with the objective of facilitating the implementation of the Treaty?
Please select only one option
☐ Yes
☐ No
☑ Not applicable

17A. If your answer is 'yes', please provide details of the measures taken
☐ Exchange of information
☐ Access to and transfer of technology
☐ Capacity building

Please explain:
›››

18. Has your country received technical assistance with the objective of facilitating the implementation of the Treaty?
Please select only one option
☑ Yes
☐ No
☐ Not applicable

18 A. If your answer is 'yes', please provide details of such technical assistance:
☑ Exchange of information
☑ Access to and transfer of technology
☐ Capacity building

Please explain:
››› So far the only more direct support in assisting with implementation of the Treaty would have come from the award of projects funded through the ITPGRFA Benefit Sharing Fund. This involved some exchange of information and access to PGRFA from international genebanks as part of project implementation.

Article 9: Farmers' Rights

19. Subject to national law, as appropriate, have any measures been taken to protect and promote farmers' rights in your country?
Please select only one option
☐ Yes
☑ No

19 A. If your answer is 'yes', please indicate whether such measures were related to:
☐ Recognition of the enormous contribution that local and indigenous communities and farmers of all regions of the world have made and will continue to make for the conservation and development of plant genetic resources;
☐ The protection of traditional knowledge relevant to PGRFA
☐ The right to equitably participate in sharing benefit arising from the utilisation of PGRFA
☐ The right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of PGRFA
☐ Any rights that farmers have to save, use, exchange, and sell farm-saved seed/propagating material

19B. If such measures were taken, please provide details of the measures taken and any difficulties encountered in implementing them:
›››

Article 11: Coverage of the Multilateral System

20. Has your country notified all PGRFA listed in Annex I to the Treaty that are under the management and control of your Government and in the public domain as included in the Multilateral System of Access and Benefit-Sharing (MLS)?
Please select only one option
☑ All
☐ Partially
☐ None

20A. If your answer is 'all', please provide details of any difficulties encountered in including Annex 1 PGRFA in the MLS:
››› There are no particular difficulties encountered with the transfer of the PGRFA (Taro, yam, banana, sweetpotato, cassava, coconut).
PNG however, is primarily a donor country into the MLS. We do access new PGRFA from the MLS, e.g. rice, wheat, corn, vegetable varieties with simple evaluations done to identify accessions that are suitable for use in the country.
PNG joins other primarily donor countries in its concern on the use of DSI/GSD by developed countries that are having the capacity for use of technologically advanced research and breeding options. The use of DSI/GSD are generated from the physical resource is not transparent enough to allow for trust to develop in releasing further material into the MLS.
The DOI system may hold some promise to improve transparency to some extent if also applied to plant parts, leaf samples etc. to at least trace origin of the original DSI/GSD. In another case, PNG supplied seed of wild banana species for research into drought tolerance traits in wild bananas. Plants were generated from the seeds through advance embryo rescue technologies and trials conducted. While seeds had local accession numbers recorded in the SMTA, a question arises now how to maintain an ability to trace what further happens to the plants generated from the seed.
PNG has donated a considerable number of accessions from a range of crops into the MLS. The accessions to a large extent were already collected well before CBD or the Treaty came into effect and are now managed and made available under the MLS. This is on one hand good, on the other hand the country did not have much say in agreeing to it.

20B. If your answer is 'partially', please provide details of:

The extend to which Annex 1 PGRFA have been included in the MLS
The crops that have been included in the MLS; and
The difficulties encountered in including Annex 1 PGRFA in the MLS:
›››

20C. If your answer is 'none', please provide details of the difficulties encountered in including Annex 1 PGRFA in the MLS:
☐ Lack of guidelines for the identification and inclusion of material;
☐ There is no national genebank;
☐ Lack of catalogue of PGRFA in the country;
☐ Lack of specialised human resources;
☐ Limited economic resources and the need for capacity building;

Other, please explain:
›››

21. Has your country taken measures to encourage natural and legal persons within your jurisdiction who hold Annex 1 PGRFA to include those resources in the MLS?
Please select only one option
☐ Yes
☑ No

21A. If your answer is 'yes', please provide details of:

The natural or legal persons within your jurisdiction that included Annex 1 PGRFA in the MLS;
The crops that have been included in the MLS by these persons; and
Any difficulties these persons encountered in including Annex 1 PGRFA in the MLS:
›››

21B. If your answer is 'no', please provide details, in particular details of any difficulties encountered in encouraging these persons to include Annex 1 PGRFA in the MLS:
››› PGRFA in PNG belongs to families/clans/tribes and not to single individuals. So far NARI and KIK as the

custodians the Annex 1 PGRFA have faciliated the access to the PGRFA and the transfer of the PGRFA into the MLS on behalf of the traditional owners of the resources. There is a need however, to strengthen the Farmer/traditional owner rights in the country through relevant laws or policies and strategies.
There are also no other 'natural or legal' persons in the country that have any holdings of Annex 1 PGRFA.

Article 12: Facilitated access to plant genetic resources for food and agriculture within the Multilateral System

22. Has your country taken measures to provide facilitated access to Annex 1 PGRFA, in accordance with the conditions set out in Article 12.4 of the Treaty?
Please select only one option
☑ Yes
☐ No

22A. If your answer is 'yes', please provide details of such measures:
››› Access to Annex 1 PGRFA has been faciliated using Standard Material Transfer Agreements as required by the ITPGRFA;
The country has donated Annex 1 PGRFA to international genebanks who are now facilitating access to the material;

22B. If your answer is 'no', please provide details of any difficulties encountered in providing facilitated access to Annex 1 PGRFA:
›››

23. Has facilitated access been provided in your country to Annex 1 PGRFA using the Standard Material Transfer Agreement (SMTA)?
Please select only one option
☑ Yes
☐ No

23B. If your answer is 'no', please provide details of any difficulties encountered in providing facilitated access to Annex 1 PGRFA using the SMTA:
›››

24. Has the SMTA been used voluntarily in your country to provide access to non-Annex 1 PGRFA?
Please select only one option
☑ Yes
☐ No
☐ No, but the issue is under consideration

25. Does the legal system of your country provide an opportunity for parties to material transfer agreements (MTAs) to seek recourse in case of contractual disputes arising under such agreements?
Please select only one option
☐ Yes
☑ No

25A. If your answer is 'yes', please provide details of the relevant laws, regulations or procedures:
›››

26. Does the legal system of your country provide for the enforcement of arbitral decisions related to disputes arising under the SMTA?
Please select only one option
☐ Yes
☑ No

26A. If your answer is 'yes', please provide details of the relevant laws, regulations or procedures:
›››

27. Have there been any emergency disaster situations in respect of which your country has provided facilitated access to Annex 1 PGRFA for the purpose of contributing to the re-establishment of agricultural systems?
Please select only one option
☑ Yes
☐ No

27A. If your answer is 'yes', please provide details of such emergency disaster situations and the Annex 1 PGRFA to which access was provided:
››› The 'yes' is a qualified response. There has not been any particular disaster situation whereby the country has provided access directly to another country to support rehabilitation efforts.
However the country has accessed material in the MLS such as rice, wheat, corn and vegetable seed in order

to have crops available with a short maturity period and that are incorporated in relief efforts to quickly re-establish food supply. This is in particular for extended drought situations as part of strong El-Nino events including destruction of crops after frost events in the Highlands regions of the country. Also in other disaster situations such as floods etc.

Article 13: Benefit-sharing in the Multilateral System

28. Has your country made any information available regarding Annex I PGRFA?

Please select only one option
☑ Yes
☐ No

28A. If your answer is 'yes', please provide details of any information made available regarding Annex 1 PGRFA:
☑ Catalogues and inventories
☑ Information on technologies
☑ Results of scientific and socio-economic research, including characterisation, evaluation and utilisation
☐ Other

29. Has your country provided or facilitated access to technologies for the conservation, characterisation, evaluation and use of Annex I PGRFA?

Please select only one option
☐ Yes
☑ No

29A. If your answer is 'yes', please indicate whether your country:
☐ Has established or participated in crop-based thematic groups on utilisation of PGRFA
☐ Is aware of any partnerships in your country in research and development and in commercial joint ventures relating to the material received through the MLS, human resource development and effective access to research facilities.

Please provide details:
›››

30. Has your country provided for and/or benefitted from capacity building measures in respect of Annex 1 PGRFA?

Please note that this question differs from question 15 as it only concerns Annex I PGRFA and is more specific.
Please select only one option
☑ Yes
☐ No

30A. If your answer is 'yes', please indicate whether such measures were related to:
☐ Establishing and/or strengthening programmes for scientific and technical education and training in conservation and sustainable use of PGRFA;
☑ Developing and strengthening facilities for conservation and sustainable use of PGRFA;
☑ Carrying out scientific research and developing capacity for such research.

30B. If your country provided for and/or benefitted from such measures, please provide details:
››› The following measures are major capacity building measures to enhance PGR management capacity in the country and not directly measures supported by or arising from Treaty activities.
NARI was able to secure funding support from a grant of the EU-ACP Science & Technology Program (Capacity Development in conservation and utilization of invaluable PGR in Western Pacific Countries, FED/2009/218780) to conduct a series of learning activities on pre-breeding techniques and procedures, screening techniques for important traits and selection and utilization of PGR. Participants included also staff from the Ministry of Agriculture and Livestock Solomon Islands and the Vanuatu Agricultural and Technical Centre. The project was implemented from 2011- 2013.
NARI is participating (2018-2025) in a regional capacity building program (RAS5079 and RAS5098) on mutation breeding for nutrient rich crops funded through the FAO/IAEA regional corporation program and implemented by IAEA and SPC. NARI is using banana and sweetpotato iand exposing plantlets to irradiation and screening the irradiated plants for mutants with enhanced traits for resistance to banana sigatoka disease and sweetpotato scab, respectively.
NARI has secured a grant from the ITPGRFA Benefit Sharing Fund to support in-situ conservation and participatory plant breeding in sweetpotato and increase capacity among national staff to implement areas of sweetpotato GR management (2019-2024). A second grant from the BSF was secured from the 5th call. This will enable NARI to start work on breadfruit. As a centre of diversity, PNG has not captured any of the diversity of breadfruit in the country. The BSF grant will enable NARI and partners to build capacity in doing this research (2023-2027).
NARI has also secured funding from the CGIAR Genebank initiative (20

Since 1994, COGENT has been providing financial and technical support to build capacity at SPS. This is to fulfil its obligation as a host on behalf of the Government of PNG and also to support the National Coconut Breeding Program through exchange and utilization of selected accessions from other genebanks.
The Coconut Embryo Culture Unit (Laboratory) at Stewart Research Station in Madang is responsible for importation of the designated varieties and selected germplasm for conservation at the ICG-SP. However, more funds are required to upgrade the Coconut Embryo Culture Unit and collect accessions from member countries as well as other Pacific Island countries for conservation in the Genebank (ICG-SP).

Article 14: Global Plan of Action

31. Has your country promoted the implementation of the Global Plan of Action for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture?

Please select only one option
☑ Yes
☐ No

31A. If your answer is 'yes', please indicate whether the implementation of the plan was promoted through:
☑ National actions
☑ International cooperation
☐ Other actions

Please provide details:
››› The Conservation and Environmental Protection Agency is the National Competent Agency to manage implementation of the CBD. As part of that, CEPA has developed the National Biodiversity Strategic Action Plan 2019-2024. This is an overarching framework for the country.
The 2nd Global Plan of Action for conservation and sustainable use of PGRFA is under the auspices of FAO Commission on Genetic Resources. PNG produced the requested 3rd report on the global state of PGRFA in 2021.

Article 15: Ex Situ Collections of Plant Genetic Resources for Food and Agriculture held by the International Agricultural Research Centres of the Consultative Group on International Agricultural Research and other International Institutions

32. Has facilitated access to Annex I PGRFA been provided in your country to the International Agricultural Research Centres of the Consultative Group on International Agricultural Research (IARCs) or other international institutions that have signed agreements with the Governing Body of the Treaty?
Please select only one option
☑ Yes
☐ No

32A. If your answer is 'yes', please indicate:

To which IARCs or other international institutions facilitated access was provided;
The number of SMTAs entered into with each IARC or other international institution:
››› Bioversity International/KU Leuven - NARI – 6 SMTAs
Chiba University (Japan) - NARI - 1 SMTA
CIRAD - NARI - 3 SMTAs
see attached file for details
PNG through its ICG-SP as a member of COGENT provided 12 of its accessions to Sri Lanka in 2004 (also see attached file)

You have attached the following documents to this answer.

Article_15_32A_coconunt_accessions_exchange.docx
List_of_SMTAs_for_NARI.pdf

32B. If your answer is 'no', please provide details of any difficulties encountered in providing facilitated access to Annex 1 PGRFA to IARCs and other international institutions that have signed agreements with the Governing Body of the Treaty
›››

33. Has access to non-Annex I PGRFA been provided in your country to IARCs or other international institutions that have signed agreements with the Governing Body of the Treaty?
Please select only one option
☑ Yes
☐ No

33A. If your answer is 'yes', please indicate:

To which IARCs or other international institutions access was provided;
The number of MTAs entered into with each IARC or other international institution:
››› World Vegetable Centre – 1 SMTA (transfer of Amaranthus and Solanum nigrum accessions to World Veg) since accession to the Treaty

33B. If your answer is 'no', please provide details of any difficulties encountered in providing access to non-Annex 1 PGRFA to IARCs and other international institutions that have signed agreements with the Governing Body of the Treaty:
›››

Article 16: International Plant Genetic Resources Networks

34. Has your country undertaken any activities to encourage government, private, non- governmental, research, breeding and other institutions to participate in the international plant genetic resources networks?

Please select only one option
☑ Yes
☐ No

34A. If your answer is 'yes', please provide details of such activities:
››› Coconut Collection initiatives:
Relocation of the Coconut Genebank from Madang to Milne Bay Province activities due to BCS threat has got the attention of the government and international institutions to participate in the international PGR networks. The following institutions that worked with Kokonas Indastri Koporesen are;
-COGENT
- Darwin Initiative Project (Training on Coconut Prospection with additional descriptors and procurement of desktop computers and laptops for Coconut Data Entry and Storage).
- University of Queensland for development of diagnostic kit to test for BCS (Professor Jimmy Botella)
- University of Queensland on Coconut Embryo Culture Training in July, 2017 (Professor Steve Adkins)
-CIRAD through Bioversity International
-Government of Papua New Guinea involvement to get the treaty on ITPGRFA for its initial relocation funding in 2016 of around US$300,000.
Request made to the National Department of Agriculture and Livestock to fund participation of a second delegate to participate in the Governing Body meetings. Subsequently, in 2022 PNG was represented at the 9th GB meeting with 2 delegates and 1 Advisor;

Article 18: Financial Resources

35. Has your country provided financial resources for national activities for the conservation and sustainable use of PGRFA?

Please select only one option
☑ Yes
☐ No

35A. If your answer is 'yes', please provide the estimated amount of funds provided during the last five years, including government resources:
››› As Government funded agencies, NARI and KIK receive government grants as part of the recurrent National budget allocations. Those funds are primarily to support technical staff engaged in PGRFA conservation and use.
At NARI, the primarily support is towards engagement of technical staff with approximately USD 0.7 million and 0.1 million support for operational expenses.
The Government has also provided additional support through a Public Investment Program to KIK for the relocation of the ICG after the detection of a new disease affecting coconuts (Bogia Coconut syndrome, causal agent Phytoplasma) in the province Madang where the ICG is located.
Over past 5 years period approximately PGK17 Million (= USD4.8 Million) funding provided for Coconut Disease Containment and Genebank Relocation from the Public Investment Program of the GoPNG.

35B. Please indicate if your country has developed a strategy or other measures to enhance the availability, transparency, efficiency and effectiveness of the provision of financial resources to implement the International Treaty:
››› At present, there is no dedicated funding available towards the implementation of the international treaty. Funds allocated above are monitored through the regular Government financial management and monitoring system.

36. Has your country provided financial resources for the implementation of the International Treaty?
Please select only one option
☐ Yes
☑ No

36A. If your answer is 'yes', where possible, please provide details of such channels and the amount of the financial resources involved during the last 5 years::
›››

36B Channel:
☐ Bilateral
☐ Regional
☐ Multilateral

36C. Please provide details:
›››

37. Has your country received financial resources for the implementation of the International Treaty?
Please select only one option
☑ Yes
☐ No

37A. If your answer is 'yes', where possible, please provide details of such channels and the amount of the financial resources involved during the last 5 years:
››› The country has received support from the ITPGRFA Benefit Sharing fund.

37B. Channel:
☑ Bilateral
☑ Regional
☐ Multilateral

37C. Please provide details:
››› NARI received a grant from the BSF Cycle 4 for implementation of the project "In situ Conservation and Utilization of Sweetpotato (Ipomoea batatas) for Climate Smart Agriculture Vulnerable Farmers in Papua New Guinea" (
Total Value USD249,653

NARI received the approval for a grant supporting the project "Raising the profile of breadfruit production in coastal and island food systems in PNG" from Cycle 5 of the BSF. Implementation is yet to start.
Total value USD248,529
KIK is part of a regional project "Safeguarding threatened coconut diversity within the upgraded International Coconut Genebank for the South Pacific" (CFP4-PR-363-Fiji)
Total value USD162,691

General remarks on the implementation of the ITPGRFA

38. You may use this box to share any advice you may have arising from your country´s experience with implementation of the Treaty:

››› no comments

39. You may use this box to share any additional information that may be useful to provide a broader perspective of difficulties in implementation of the Treaty:

››› The ITPGRFA is an important international agreement that binds contracting parties to a common goal and emphasises on the humanitarian needs for securing food and quality nutrition across the globe for the future. There are provisions made in the Treaty to enable participation and support implementation regardless of the size of a country and its population or the size of its economy. That is important. The divide in access to financial resources, technical and scientific capacity in research in terms of expertise and available facilities is a still a major factor how well contracting parties can comply with and gain benefits from the provisions in the Treaty.
This divide is also a key in the debate around the enhancements of the MLS especially how to deal with DSI/GSD and expansion of the Annex 1. It is not only the economic benefits arising from the use of DSI/GSD by those who have the means and capability to do so, it is also about non-monetary benefits in e.g. individuals gaining recognition for achieving scientific discoveries and outputs and low capacity CPs missing out on such national achievements by their own scientists. Often enough in collaborations, local scientists or countries of origin are not even mentioned in scientific publications.
In PNG and more so in the other Pacific Island country CPs, overall capacity is so small. National Focal Points have a multitude of other roles and there is no depth in capacity to fill gaps when they arise through natural staff attrition or movements. Ongoing encouragement and follow up will need to continue to keep the interest in Treaty implementation going.

40. You may use this box to share any additional information that may be useful to provide a broader perspective of measures that could help to promote compliance:

››› see points made in Question 39

About this reporting

41. Have you encountered any difficulties in completing this reporting format?

Please select only one option
☐ Yes
☑ No

41A. If your answer is 'yes', please provide details on such difficulties:
›››

41B. If you have suggestions for improvement of this reporting format, please share them:

›››