




Guam



Pacific  
Community  
Communauté  
du Pacifique

## PACIFIC COMMUNITY LAND RESOURCES DIVISION

# Overview of Current and Future Support

 **POPULATION  
(2020)**  
**176,664**

 **POPULATION  
GROWTH (2020)**  
**+0.94%**

 **GDP PER CAPITA  
(USD) 2020**  
**34,153**



### **OBJECTIVE 1: Land, agriculture, forestry and genetic resources are sustainable managed and conserved**

- The GRIN-Global genebank information system was installed to trial its compatibility with CePaCT's documentation systems. The new system will have a website where users can access information on crops that are available from the CePaCT genebank.
  - At end of March 2022, there were a total of 2,291 accessions of 18 crops and 38 trees conserved in tissue culture (97%), as seeds (2%) and in the field (1%). Fully 29.11% (667 accessions) of total accessions are duplicated on-site in the CePaCT emergency facility. Fully 66.26% of the accessions originated from the Pacific, representing diversity from 16 Pacific Island Countries and territories. Fully 100% of the accessions are documented in CePaCT internal database and 97% of accessions have passport data available online via the GENESYS database and can be accessed by all countries including Guam.
  - A total of 1,277 aroids (55.74% of the total collection) and 330 yam accessions (14.40% of the total collection) are conserved. Fully 100% of aroid and yam collections have passport data and are available online via the Genesys database and internally in the CePaCT accession database. A total of 361 aroids and 99 yam accessions (20% of the total collection) are duplicated on site in the CePaCT emergency facility.
  - The seeds of 116 accessions of 15 vegetable crops (Tomato, Pepper, Mungbean, Cucumber, Onion, Pumpkin, Bitter gourd, Amaranth, Chinese Cabbage, Pigeon pea, Bottle gourd, Luffa, Eggplant, Yardlong bean and Cowpea) from the World Vegetable Centre and plantlets (10 per accession) of 8 and 5 accessions of Cassava and Yam respectively from the International Institute of Tropical Agriculture (IITA) are being acquired under MFAT Pacific Seeds for Life project. The accessions are for six countries, including Guam.
- SMTAs (Standard Material Transfer Agreement) are being processed for the shipment of these accessions.
- An additional 5.2% of accessions has been designated available after health testing. This brings the new health tested (available) percentage to 31.73%. A total of 24.59% of aroid collections are physically (health test) and legally (SMTAs) available. Fully 11.21% of the yam collection is physically and legally available.
  - A Biosecurity plan will be presented to COGENT (Coconut Genetic Resources Network) /ITAG3 (International Thematic Action Group 3 – Phytopathology) group for funding for validation. Scientific research will be completed to validate the protocol in order to facilitate the exchange of germplasm across the globe, including guidelines and standards.
  - A research plan was prepared for the use of silver nitrate to improve long-term conservation of in-vitro collections.
  - A full seed lab unit was completed in 2021 by relocating the seed lab next to the cold storage room.
  - A new Centre for Pacific Crops and Trees (CePaCT) Quarantine Greenhouse was completed in 2021 and officially launched in April 2022 by the Australian Governor-General, David Hurley. The new greenhouse's main uses will be to support germplasm health testing of CePaCT collections, regeneration activities for conserved crop and tree collections, receipt of new plant imports and carrying out scientific research for phenotype plant varieties, particularly in different climatic conditions such as drought and waterlogging.
  - A new DNA/Molecular Lab was completed in 2021 and launched in April 2022 by the New Zealand Ambassador for Climate Change Kay Harrison. This will allow optimisation of diagnostic protocols for health testing, perform health testing for crops of Pacific interest and allow genotyping of crop diversities
  - A Coconut Risk Manual was completed by the LRD Genetic Resources Team, and this was published and disseminated through the SPC website.



- A literature review on global yams status was compiled and published.



## **OBJECTIVE 2: Enhanced ability to meet local and international market requirements for agricultural and forest products**

- A regional survey to identify crops sourced from CePaCT that are available at local Pacific markets is planned in 2023.
- COVID-19 delayed planned work on the diversification of livelihoods and value chains. However, the work is expected to be back on track now as the situation normalises. A gender and value-chain assessment toolkit is being developed.
- The gender and value-chain assessment training module for agricultural products is being developed. A financial training module, the Participatory Guarantee System and the Pacific Organic Standard are being revised.
- The LRD team is currently engaging a video production company to film biosecurity training videos on biosecurity operating procedures for pre-border, border and post-border risk assessments.
- Ongoing technical advice and support is being provided remotely to farmers on request. Organic farming practices were promoted through weekly posts and the POETCom (Pacific Organic and Ethical Trade Community) newsletter, as well as through POETCom's website and social media platforms.
- The regional information exchange workshop on phytosanitary information platforms (PLD, BIF, OCS, NRO, IPP, etc.) is scheduled for Quarter 4, 2022.
- Three (Melanesia, Micronesia, and Polynesia) sub-regional virtual consultations were completed to identify priorities and determine the preferred option for the PLD (Pacific Lists Database) backend upgrade.
- The hybrid 2022 PPPO executive committee meeting 1 (mix of face to face and virtual) was held in March 2022, where important biosecurity, plant health and trade related matters for the region, including Guam, were

were discussed. A tentative date for the workshop is set to be held in August or September 2022.

- A review of the generic Emergency Response Plan for Pacific Island countries has been completed in partnership with FAO but has not been disseminated.
- An Emergency Prepared Response Plan (ERP)/Early Warning System (EWS) gap analysis and prioritization of regional EWS needs project will take place in Quarter 4 of 2022.



## **OBJECTIVE 3: Access to diverse and nutritious agriculture and forestry resources resilient to impact of climate change and disasters**

- An assessment of the seed production programme in Sigatoka and Legalega Research Station, Fiji, with targeted support collated to strengthen the seed unit, can also benefit the whole region, including Guam.
- LRD has developed models for crop variety development and seed production, dissemination of seeds and planting material, and Quality Declared Seeds/Quality Declared Planting Materials for sustainable seed systems in the Pacific that has benefitted Guam.
- Draft guidelines for seed production and germplasm evaluation were developed and are being finalised in partnership with Manaaki Whenua – Landcare Research
- An economic analysis of growing capsicum and tomato in the off season under a protected cropping system showed higher returns compared with field growing. The results provide an important decision tool for governments and farmers. Economic analysis of protected cropping is being incorporated in a new manual currently being finalised.
- The design of the coconut rhinoceros beetle (CRB) database was finalised. The database is now operational, with data entered using the KoBo Toolbox.
- The Plant Health Team, in partnership with country plant doctors, collated and analysed plant health clinic (PHC) data through results collected via WhatsApp. PHC results are compiled to support mapping of pests and disease trends and distributions in selected localities. The data will be incorporated into the pest database.





- A Plant Health Clinic manual was finalised and published and is used to support extension services in pest and disease surveillance and diagnostics at the farmer field level.
- The coconut rhinoceros beetle (CRB) training manual was finalised and published and will guide regional efforts in combating CRB.
- A draft protected cropping field manual is being developed in collaboration with Fiji's Ministry of Agriculture. The manual will provide a tool that governments and farmers can use to support scale-up of protected cropping systems.
- Distributed 4 accessions of 3 crops (giant swamp taro, xanthosoma and coconuts) to 2 countries (Belgium and Australia) for research and training purposes. This will improve LRD and SPC credibility to safeguard the varieties sent to CePaCT to improve protocols for conservation, which will benefit the region, including Guam.
- Under the PHAMA plus project, the Animal Health and Production (AHP) framework has been finalised and adopted for the region. This will benefit the region, including Guam. The PHOVAPS charted has been ratified by HOAFs and MOAFs in August 2021. The network has been revitalised and governance structure finalised with two countries from each subregion as part of the council.
- The Draft PHS (Plant Health System) framework initiated in 2021 has been circulated to countries and includes feedback that has been collated and incorporated. A follow-up consultation with countries is being planned for 2022 in order to submit the framework to the Pacific Heads of Agriculture and Forestry (PHOAFs) at their annual meeting for consideration.



#### **OBJECTIVE 4: Regional and national policies, programmes and services in agriculture and forestry are gender responsive, socially inclusive, and promote and protect cultural heritage and human rights.**

- The genebank policy under development will benefit the region, including Guam, and is expected to be further developed in the fourth quarter of 2022.
- The regional seed systems roadmap is currently being reviewed and edited for implementation by the Pacific Seeds for Life programme. It will be finalised by end of Quarter 3, 2022 during the PAPGREN virtual meeting. This benefits the region, including Guam.
- Technical input on the national seed policy has been provided by SPC and the Pacific Horticultural and Agricultural Market Access (PHAMA) programme.



#### **OBJECTIVE 5: Integrated farming systems and services strengthened**

- The soil sampling protocol is now being prepared for printing as a field booklet for distribution.
- The USP-SAFT (School of Agriculture Food and Technology) is currently developing soil correlation studies.
- The 'Soil Dr' programme developed in 2021 will be piloted in 2023 before finalisation of its guidelines that will provide an outline of how to address capacity building needs in soil management.
- Building capacity in pests and disease description such as diagnoses of insects, fungus, bacteria and unknown substances, as well as management for national Plant Health Clinic champions, is ongoing through the Centre of Agriculture and Biosciences International (CABI).

- LRD successfully facilitated the level 3 certification of the newly launched Plant Health Lab at the LRD campus in Fiji in coordination with the Biosecurity Authority of Fiji and the National Fire Authority of Fiji.
- A final review of the soil sampling and testing protocols that were developed in 2021 has been completed with approval from CSIRO for publishing. Pilot testing of the soil sampling protocols is planned to commence in Quarter 4, 2022.
- An African Swine Fever (ASF) technical video was completed for distribution. African swine fever rapid test kits were supplied, with training provided on the use of the kits.
- Access to NZMPI animal health laboratory for diagnostics of animal diseases of priority improved under the MoU between NZMPI and SPC



## LRD Priorities for Partnership with Guam

### LRD PRIORITIES

### SUSTAINABLE DEVELOPMENT GOAL

- Sustainable management of forests and landscapes to provide for our future
- Restoration of our ecosystems to safeguard our children through sustainable practices and systems
- Conservation and distribution of genetic resources



- Opportunities to collaborate on cross cutting regional problems (Climate Change, Food systems, Pests and Disease incursions)
- Convening power and ability that improves country visibility



- Access and linkages to international networks that support Pacific development



- Excellence in agriculture and forestry research and development in the Pacific
- Ability to mobilize technical resources
- Pacific Innovation Hub for agriculture and forestry



- Understanding of the regional environment and contexts that helps in developing Pacific solutions for Pacific problems



- International biosecurity laboratories for conservation and distribution of genetic resources and insects



- Expert technical knowledge built over time in atoll agriculture, genetic resources forestry and land use management and policies, biosecurity and value chain work



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