



Pacific
Community
Communauté
du Pacifique

Land Resources Division
ANNUAL REPORT
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FOREWORD

The 3rd Pacific Week of Agriculture and Forestry (PWAf) hosted by the Government of Fiji in March 2023 set a positive and ambitious tone for a busy but productive year for the Land Resources Division (LRD). Throughout the pages of this report, you will see the results of the efforts of our dedicated team members who have worked diligently to serve the needs of the region as articulated to us through the PWAf, the Heads and Ministers of Agriculture and Forestry meetings and the various technical networks such as PAPGREN, PHOVAPS and PPPO which we facilitate on behalf of our members.

We have continued to focus on delivering core regional public goods, such as CePaCT, biosecurity capability, sustainable land management support, plant, and animal health services, while also delivering projects focused on achieving outcomes on specific issues such as climate resilience, invasive management, value chain development and organic sector development.

As outcomes of the PHOAFS and PMAF we have also been investing with our partners on two key strategic priorities; facilitating the development of the first Pacific Agriculture and Forestry strategy using strategic foresight methodologies; and co-creating the regional agriculture and forestry research agenda. These will come to fruition in 2024 and it has been an inspiring journey so far with our members and partners to develop these two exciting and cornerstone pieces of work which will demonstrate the power of collective action in addressing the complex challenges facing our agriculture and forestry sectors.

Of course, not everything has been smooth! As project cycles have ended, we lost some key capabilities that SPC members much demand, and we are working hard to find ways to fund these capabilities more sustainably, and while it now seems long ago when we were still working to recover time lost in project implementation due to COVID.

Looking ahead, LRD remains committed to serving its members and building strategic partnerships to achieve this. We look forward to innovating with you and problem-solving with you as together we navigate the increasingly complex world that we live in. We do so with optimism, knowing that our efforts today will shape the world of tomorrow. I extend my deepest gratitude to our partners, stakeholders, and the governments, administrations, and communities we serve for their continued support and collaboration. Together, we will continue to chart a course towards a more sustainable and resilient future for all.

Karen Mapusua

Director - Land Resources Division
The Pacific Community (SPC)

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Land Resources Division remains committed to serving its members and building strategic partnerships and looks forward to innovating and problem-solving with you; together we navigate the increasingly complex world that we live in.

”

| KAREN MAPUSUA
DIRECTOR LRD

ACRONYMS

ACIAR	Australian Centre for International Agricultural Research
AFD	Agence Française de Développement
AH EPRP	Animal Health Emergency Preparedness and Response Plan
AMR	Antimicrobial Resistance
ANZIF	Forestry Australia and The New Zealand Institute of Forestry
APCC	Asia Pacific Coconut Community
ASF	Africa Swine Fever
BPWP	Building Prosperity for Women Producers, Processors and Women Owned Businesses
BQA	Bilateral Quarantine Agreement
CePaCT	Centre for Pacific Crops and Trees
CGIAR	Consultative Group for International Agricultural Research
COGENT	International Coconut Genetic Resources Network
CRGA	Committee of Representatives of Governments and Administrations
CROP	Council of Regional Organisations in the Pacific
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSO	Civil Society Organisation
DAFF	(Australian Government) Department of Agriculture, Fisheries and Forestry
DFAT	(Australian Government) Department of Foreign Affairs and Trade
EQAP	(SPC Division) Educational Quality and Assessment Programme
ERP	Early Response Plan
EU	European Union
EWS	Early Warning System
FAME	(SPC Division) Fisheries, Aquaculture and Marine Ecosystems
FAO	Food and Agriculture Organisation
FIBL	Research Institute of Organic Agriculture (German: Forschungsinstitut für Biologischen Landbau)
FNU	Fiji National University
FSM	Federated States of Micronesia
GCCE	Grin Global Community Edition
GCF	Green Climate Fund
GEDSI	Gender Equality Disability and Social Inclusion
GEM	(SPC Division) Geoscience, Energy and Maritime
GESI	Gender Equality and Social Inclusion

GF-TADS	Global Framework for the progressive control of Transboundary Animal Diseases
GHU	(CePaCT) Germplasm Health Unit
GIS	Geographic Information Systems
GIZ	German Development Cooperation (German: Deutsche Gesellschaft für Internationale Zusammenarbeit)
HACCP	Hazard Analysis Critical Control Point
HoAFS	(Pacific) Heads of Agriculture and Forestry Services
HOF	(Pacific) Heads of Fisheries
HRSD	(SPC Division) Human Rights and Social Development
IFAD	International Fund for Agricultural Development
IITA	International Institute of Tropical Agriculture
IOC	(UNESCO) Intergovernmental Oceanographic Commission
IP	Import Permit
IPCC	Intergovernmental Panel on Climate Change
IPPC	International Plant Protection Convention
IRA	Import Risk Assessment
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
KFA	(SPC) Key Focus Area
KIK	Kokonasi Industri Koporens
KJWA	Koronivia Joint Work on Agriculture
LRD	(SPC Division) Land Resources Division
MALFFB	(Vanuatu) Ministry for Agriculture, Livestock, Forestry, Fisheries and Biosecurity
MFAT	(New Zealand Government) Ministry of Foreign Affairs and Trade
MOA	Ministry of Agriculture
MOAF	(Pacific) Ministers of Agriculture and Forestry
MOAFS	(Pacific) Ministers of Agriculture and Forestry Services
MORDI	(MORDI Tonga Trust) Mainstreaming of Rural Development Innovation
MORDITT	Mainstreaming of Rural Development Innovation Tonga Trust
MOU	Memorandum of Understanding
MRL	Maximum Residual Level
MRV	Monitoring, Reporting, and Verification
NAP	National Adaptation Plans
NAPA	National Adaptation Programmes of Action
NAQIA	(Papua New Guinea) National Agriculture & Quarantine Inspection Authority

NCDs	Non-Communicable Diseases	POHAS 2023	2023 Pacific One Health & AMR Symposium
NDC	Nationally Determined Contributions	POLFN	Pacific Organic Learning Farm Network
NGO	Non-Governmental Organisation	PPHSN	Pacific Public Health Surveillance Network
NPK	Nitrogen Phosphorous and Potassium	PPIN	Promoting Pacific Island Nature-based Solutions
NPPOs	National Plant Protection Organisations	PPPO	Pacific Plant Protection Organisation
NZIF	The New Zealand Institute of Forestry	PRP	Pacific Regional Partnership
OIE	(French: Office International des Epizooties) of the World Organisation for Animal Health (WOAH)	PRPRS	Pacific Regional Pesticide Registration Scheme
PGRFA	Plant Genetic Resources for Food and Agriculture	PS4L	Pacific Seeds for Life
PAPGREN	Pacific Agricultural Plant Genetic Resources Network	PSP	Pacific Soils Partnership
PARAVET	Para veterinary	PSSR	Pacific Seed System Roadmap
PARC	Pacific Awareness and Response to the Coconut Rhinoceros Beetle	PWA	Pacific Week of Agriculture
PCA	People Centred Approach	PWAF	Pacific Week of Agriculture and Forestry
PCDP	Pacific Animal Health and Production Capacity Development Plan	RBM	Results Based Management
PGFRA	Plant Genetic Resources for Food and Agriculture	REDD+	Reducing Emissions from Deforestation and forest Degradation
PGR	Plant Genetic Resources	RFMM	Regional Fisheries Ministers Meeting
PGS	Participatory Guarantee System	RMI	Republic of Marshall Islands
PAHPF	Pacific Animal Health and Production Framework	RPGs	Regional Public Goods
PHC	Plant Health Clinic	RPPO	Regional Plant Protection Organisation
PHD	(SPC Division) Public Health Division	RRA	Regional Research Agenda
PHOAFS	Pacific Heads of Agriculture and Forestry Services	RRAF	Regional Research Agenda Framework
PHOVAPS	Pacific Heads of Veterinary and Animal Production Services	SAFE Pacific	Safe Agricultural Trade Facilitation Through Economic Integration in the Pacific
PicNet	Pacific Infection Control Network	SBPC	(2050) Strategy for Blue Pacific Continent
PICTs	Pacific Island Countries & Territories. PICT is also used to refer to SPC's members, but not including the four founding members: Australia, New Zealand, France, and the United States of America.	SDD	(SPC Division) Statistics for Development Division
PIDP	Pacific Islands Development Programme	SDGs	Sustainable Development Goals
PIFON	Pacific Island Farmers Organisation Network	SER	Social and Environmental Responsibility
PIFS	Pacific Islands Forum Secretariat	SPACNET	South Pacific Agricultural Chemistry Laboratory Network
PIFS	Pacific Islands Forum Secretariat	SPC	Pacific Community
PIRAS	Pacific Islands Rural Advisory Services	SPREP	Secretariat of the Pacific Regional Environment Programme
PLD	Pests List Database	SPS	Sanitary and Phytosanitary Standards
PMAFM	Pacific Ministers of Agriculture and Forestry Meeting	TAPE	Tools for Agroecology Performance and Evaluation
PMEL	Planning, Monitoring, Evaluation, and Learning	UNCCD	United Nations Convention to Combat Desertification
PNG	Papua New Guinea	UNDP	United Nations Development Programme
POETCom	Pacific Organic and Ethical Trade Community	USP	University of South Pacific
		WAHIS	World Animal Health Information System
		WHA	World Health Assembly
		WHO	World Health Organisation
		WOAH	World Organisation for Animal Health

HOW WE WORK

As a division of the Pacific Community (SPC), the Land Resources Division (LRD) is a hub of scientific and technical expertise in agriculture, forestry, and land use. Our primary goal is to help member countries and territories in the Pacific region achieve sustainable, resilient, and prosperous futures through our expert knowledge and services.

We work closely with governments, regional organisations, civil society, and other divisions within SPC to identify the specific needs and priorities of member countries and territories; offering tailored technical expertise in areas of genetic resource conservation, resilient agriculture, forestry, landscape management, biosecurity, pest and disease management, agricultural extension, plant pathology, entomology, and animal health to effectively address these needs and priorities.

Our mission is to provide practical expert scientific advice, capacity building, and services on the conservation, development, and utilisation of plant genetic resources, forest and landscape management, resilient agricultural systems, diversification of livelihood strategies, access to markets, and maintenance of ecosystem services. We strive to improve land productivity, food and nutrition security, and the resilience of Pacific communities.

LRD's integrated programming is built around four main thematic work areas, or pillars, including Genetic Resources, Sustainable Forestry and Landscapes, Sustainable Agriculture, and Markets for Livelihoods. Our approach is progressively integrated, working towards achieving SPC's development goals and connecting the pillars with the wider alliance of the entire organisation and its seven other divisions. We deliver a holistic programme of work for the Pacific countries to realise the organisation-wide vision of a region of peace, harmony, security, social inclusion, and prosperity so that all Pacific people can live healthy and productive lives.

Fundamental to our endeavours are the organisational values of Care, Generosity, Unity, and Stewardship. We believe in caring for each other, sharing knowledge, working together, and looking after the world around us. Our work is all about ensuring that countries in the Pacific have the necessary resources and support to thrive and prosper. We are confident in our expertise and our ability to make a positive impact on the region.

LRD's **integrated programming** is built around four work areas or pillars, **Genetic Resources, Sustainable Forestry and Landscapes, Sustainable Agriculture, and Markets for Livelihoods.**

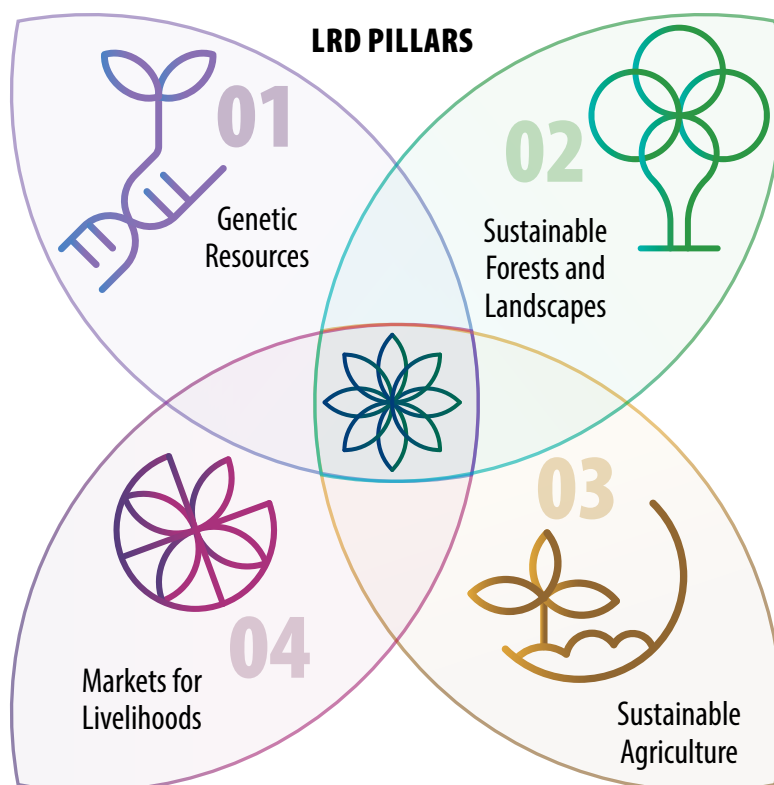


Integrated Programmes

LRD's Integrated Programmes: **Coconut Integrated Programme, Seeds for Life Integrated Programme.**

SPC's Flagships: **Food systems, Climate Change, Gender Equity and Oceans.**

LRD PILLARS



DONORS AND PARTNERS

Agence Française de Développement (AFD)
Australian Centre for International Agricultural Research (ACIAR)
Australian Government Department of Foreign Affairs & Trade (DFAT)
Cawthron Institute Trust Board
Delegation of the European Commission for the Pacific
Australian Government Department of Agriculture, Fisheries and Forestry (DAFF)
DT Global Australia Pty Ltd
UN Food and Agriculture Organisation (FAO)
ITC International Trade Centre
Landcare Research New Zealand Ltd
New Zealand Ministry of Foreign Affairs & Trade (MFAT)
New Zealand – Ministry for Primary Industries (MPI)
Pacific Islands Forum Secretariat (PIFS)
Palladium International Pty Ltd
The Global Crop Diversity Trust
University of New England UNE
World Organisation for Animal Health WOAH
Royal Botanic Gardens (KEW)

SPC ORGANISATIONAL VALUES



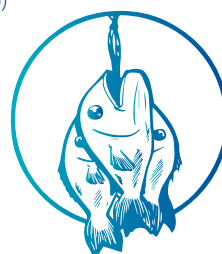
Gida Gaituvwa (Unity)



Aroha (Care)

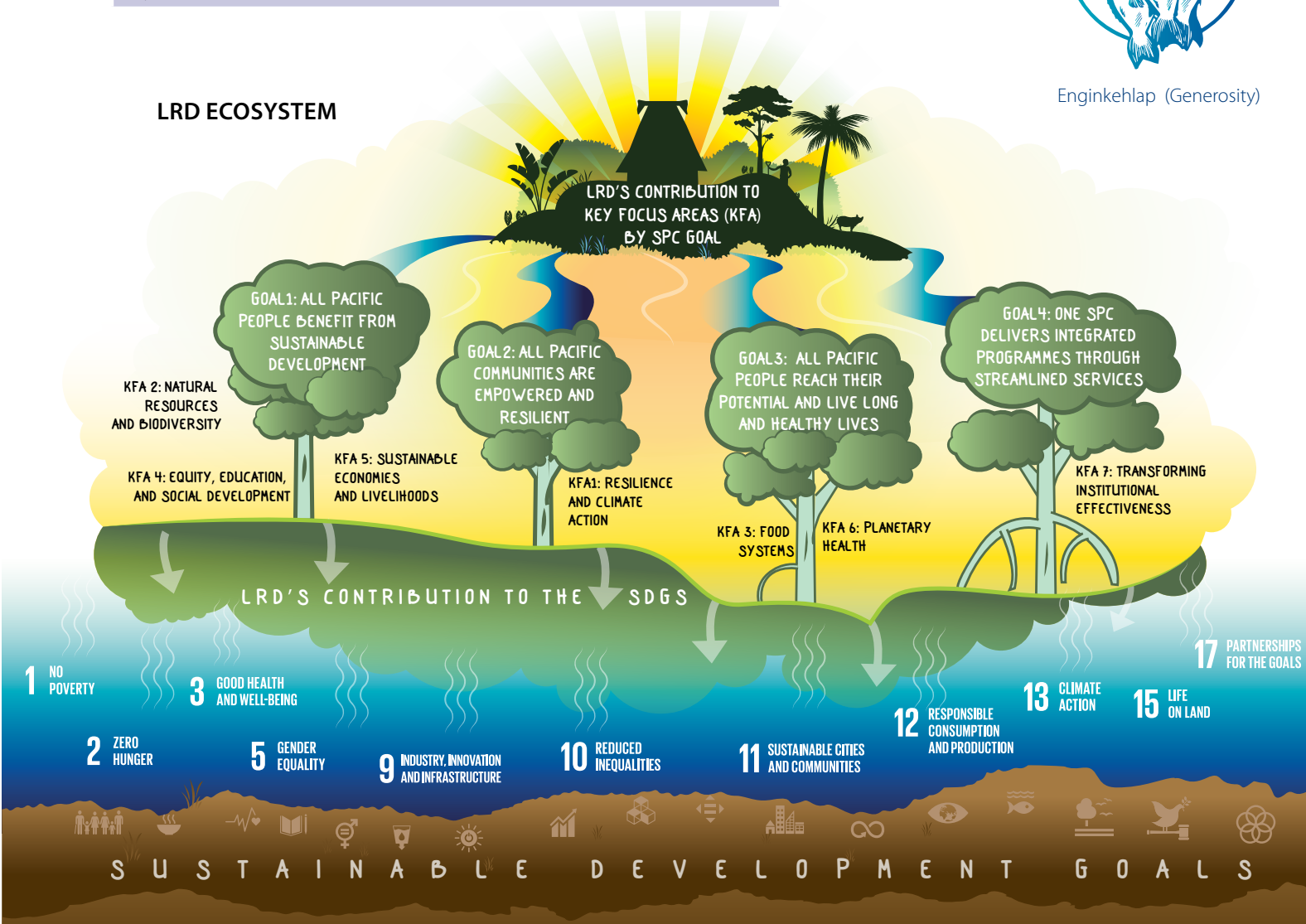


Kaitiakitanga (Stewardship)



Enginkehlap (Generosity)

LRD ECOSYSTEM



DELIVERY OF LRD PRIORITIES IN 2023

As we looked ahead to 2023, expectations were high to transition from recovery to accelerated progress. The Land Resources Division (LRD) eagerly anticipated reconnecting and re-energising its face-to-face collaborations with partners and communities. While COVID had not been completely eradicated in the Pacific, the pandemic's regional slowdown allowed LRD programming to operate at nearly full capacity by the end of 2023.

In 2023, LRD continued expanding its face-to-face engagements with Pacific communities. We were prepared to share stories and advance Pacific agriculture and forestry through in-person participation during the 3rd Pacific Week of Agriculture and Forestry (PWAf) 2023, where Heads and Ministers of Agriculture and Forestry convened.

The biannual PWAf event, initially scheduled for earlier, was postponed to early 2023. LRD collaborated closely with the host country, Fiji, to address various pressing issues shaping the future trajectory of the agriculture and forestry sectors. During the gathering, the Pacific Ministers of Agriculture and Forestry (PMAf), as well as the Heads of Agriculture and Forestry Services (HOAFS) addressed priorities such as the development of a Pacific agriculture and forestry strategy, the launch of a regional research agenda (RRA), and contribution to the United Nations Framework Convention on Climate Change (UNFCCC) agriculture workstream to tackle common regional challenges like soil health, livestock management, and food security.

In 2023, the prioritisation of multiplying crop and tree varieties at CePaCT remained paramount. This included conducting a thorough review of CePaCT's investment plan to assess its performance and impact over the preceding five years, thereby shaping the direction for the next five years of its business investment plan.

In 2023, with the Pacific region fully reopened, agriculture and forestry encountered notable challenges. Heightened transportation and trade activities presented risks, including the spread of pests like the coconut rhinoceros beetle (CRB) Guam Biotype (CRB-G). To address this, LRD intensified pest and disease surveillance and training efforts throughout the year.

LRD extended its in-person training, notably in Solomon Islands, and mobilised resources to strengthen the biosecurity team's capacity to manage bio-safety during the Pacific Games. Furthermore, the concept of One Health (OH) gained momentum in the Pacific region, recognising the interconnectedness of human, animal, and environmental health. LRD facilitated discussions and collaborations on One Health, creating a platform for engagement with government decision-makers at the highest levels, including Ministers and Heads of Agriculture and Forestry Services (MOAFs and HOAFS), to explore opportunities and partnerships in addressing holistic health challenges.

Field research became a priority, with LRD driving the development of the regional research agenda in accordance with the RRA framework completed in late 2022.

As countries sought to bolster resilience in land resources planning and programming post-pandemic, LRD continued to develop its food systems flagship initiative in collaboration with regional partners and other SPC divisions.

Organic agriculture also remained a focus, with efforts to expand the Pacific Organic Learning Farms Network (POLFN) and trainings led by the Pacific Organic and Ethical Trade Community (POETCom).

In 2023, LRD maintained a focus on ensuring regional recovery and safety in the face of ongoing challenges posed by climate change. As part of this effort, significant attention was directed towards charting a way forward for a Regional Forestry Network, aimed at fostering collaboration among regional stakeholders to effectively address the impacts of climate change on forestry and related sectors.

Throughout 2023, major programmes and projects critical to LRD's full-capacity operation progressed, including the Coconut Integrated Programme and SAFE Pacific project. These initiatives aimed to expand markets and trade access through activities such as biosecurity training and a 16-week paravet training course.

Despite the prolonged disruption caused by COVID, staff remained committed and energised to realise these projects for the benefit of Pacific communities.



Animal surveillance training leads to early detection and fast response in Solomon Islands



With fertile volcanic soils, abundant rainfall and a culture rooted in agriculture, Solomon Islands foster a lush environment ideal for diverse crop cultivation and livestock raising. A significant proportion of the population (85%) depends on this sector as a primary source of livelihood, contributing significantly to the country's GDP. Despite the challenges, the industry remains vital for the nation's stability and development.

In 2022 and with funding from the European Union, LRD and the Australian Department of Agriculture, Fisheries and Forestry (DAFF) partnered with the Solomon Islands Ministry of Agriculture and Livestock (MAL) in conducting a training to enhance animal disease preparedness and surveillance.

In July 2023, the effectiveness of this surveillance training came to the forefront as Livestock officers from MAL received reports of mass chicken deaths on farms, resulting in the detection of a virus responsible for high mortality rates of chicks in Guadalcanal, Solomon Islands.

MAL Livestock Department Deputy Director Mr Ricky Wate stated: "Farmers are urged to report any suspected cases and monitor for unusual animal deaths. It's important to restrict movement between farms or when interacting with animals. Protective wear and proper hygiene on farms are a must!"

SPC's Animal Health and Production Adviser, Dr Sripad Sosale, expressed: "Thanks to the vigilance of MAL in their ongoing surveillance and farmers, we've responded quickly. As we're working to combat the avian disease, it's also important for farmers and farming communities to adhere to biosecurity guidelines and preventative measures".

MAL officers successfully applied the knowledge acquired to conduct surveillance and monitoring activities in Solomon Islands.

The training emphasised the importance of collaboration between different stakeholders. When faced with a disease that transcends boundaries, national and regional networks are crucial for disseminating notifications.

Surveillance and monitoring remain critical for the early detection and containment of disease outbreaks, particularly transboundary animal diseases.



OBJECTIVES

OBJECTIVE 1: Land, agriculture, forestry and genetic resources are sustainably managed and conserved.

Elevating Gene Bank Standards

CePaCT has made remarkable progress in adopting the international genebank quality management system (QMS). An independent technical review carried out by the Crop Trust from May to June 2023 highlighted the successful implementation of crucial QMS elements.

The 2023 review was a follow-up of the initial technical assessment conducted by Crop Trust in 2017, which recommended the adoption of QMS for continuous improvement and assessment of CePaCT Genebank.

Specifically, CePaCT made strides in enhancing its operational standards through the following efforts:

1. In vitro culture protocol of coconuts was successful in producing good seedlings that have been acclimatised to the screen house.
2. Finalised the Standard Operating Procedures (SOPs) for the Germplasm Health Unit (GHU) within CePaCT, with updated inclusion of additional crops. Presently, the GHU boasts SOPs covering yam, banana, aroids, cassava, bele, coconut, sugarcane, and pineapple.
3. Developed a Memorandum of Understanding (MOU) between CePaCT and the International Institute of Tropical Agriculture (IITA). This MOU is poised to facilitate safety duplication processes at IITA, furthering collaborative efforts in germplasm preservation.
4. Improved data documentation through the utilisation of the GRIN Global Community Edition (GGCE) data management system.

Having more robust standards at the Centre will further ensure that the conserved stock is sufficiently screened to survive different environmental conditions for biotic (diseases and insect pests) and abiotic (salinity, drought, flooding) stresses. The Centre can now undertake nutritional analysis of more crop varieties to determine their nutritional value for a diversity of diets.

Conservation of Crop and Tree Varieties

LRD made significant strides in conserving and restoring plant diversity in the Pacific, aligning closely with the strategies and action plan for the conservation, management, and sustainable use of forest and genetic resources in Member countries. CePaCT has conserved a total of 2,440 CePaCT collections (comprising crop and tree accessions), with 89% conserved in vitro, 10% as seeds, and 1% in the field. This represents a notable 6.89% increase in 2023, equivalent to

158 additional accessions compared to 2022. Notably, 64% of these collections consist of plant accessions originating from 16 Pacific countries of Cook Islands, Fiji, French Polynesia, Kiribati, FSM, Marshall Islands, Niue, Palau, PNG, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, and New Caledonia.

Maintenance activities for Dilo plots were conducted in May at the Sigatoka Sand dunes, with additional maintenance work performed on the Dilo trial plot in Vunimaqo in September. These trials at Sigatoka Sand Dunes and Vunimaqo are field experiments (provenance trials) to test the viability and genetic conservation of seeds for both Japanese and Fijian Dilo plants (also known as Dilo seed orchards) towards increased crop and tree conservation.

Capacity Enhancement in Genetic Resource Conservation and Duplication

To ensure that farmers benefit from CePaCT's efforts, the Centre is enhancing capacity at national and community levels in the safe handling and management of tissue-cultured planting stock, focused on genetic resource conservation and duplication. Through targeted training programmes and workshops, CePaCT empowered participants from member countries with the necessary skills and knowledge to effectively manage and preserve genetic resources which are critical for food security and biodiversity in the different countries.

Training on Plant Mutation Induction and Breeding:

Fifteen participants from four member countries (Fiji, Marshall Islands, Papua New Guinea, and Vanuatu) received training on plant mutation induction and breeding techniques. This initiative aimed to enhance their expertise in genetic improvement strategies for crops.

Onsite Training on Coconut Embryo Culture:

Five Samoa government officials enhanced their skills in coconut embryo culture and acclimatisation. This hands-on training equipped them with the skills needed to propagate and cultivate coconut varieties.

Tissue culture transfer, and acclimatisation training:

11 officials from the Mainstreaming of Rural Development Innovation Tonga Trust (MORDITT) in Tonga, as well as agriculture officials from Kiribati, Tonga, Vanuatu, and Tuvalu, received training on seed processes, tissue culture transfer, and acclimatisation.

Seed quality and production training: A total of 46 officials from the Ministry of Forestry in Fiji were trained on tree and crop seed systems to improve seed quality and production.



2,440

CePaCT collections (crop and tree accessions) conserved at CePaCT.



36%

or 878/2,440) accessions of CePaCT's collections available for distribution to countries.



316

Government officials trained in Management & Conservation of Genetic Resources. (122 females, 194 males) in 9 countries.



7

demonstration farms established in 4 countries: Fiji, Nauru, Solomon Islands, Tonga.

Quality seed production training: SPC conducted training for 78 government officials from Kiribati, Vanuatu, and Tonga on quality seed production, crop variety evaluation, pest and disease management, and agronomic practices.

Mutation breeding and seed technology training: Regional trainings were conducted on mutation breeding, seed technologies, molecular diagnostics, coconut tissue culture techniques, and allometric protocols, benefiting participants from Fiji, Marshall Islands, Papua New Guinea, Samoa, Solomon Islands, and Vanuatu).

Advancing Biodiversity and Genetic Resource Management

Significant progress has been achieved in promoting biodiversity conservation and genetic resource management through the promotion of agroecological practices and fostering transition towards sustainable land management (SLM).

Establishment of Demonstration Farms:

Seven demonstration farms were established in Fiji, Nauru, Solomon Islands, and Tonga to train farmers and promote organic farming. The farms serve as models for sustainable land management practices, showcasing the viability of agroecological approaches:

1. Max Dowedia Organic Farm in Nauru
2. Zai Na Tina Organic Farm in Solomon Islands
3. Gwa'unafiu Organic Learning Farm in Solomon Islands
4. Mudrenicagi Farm in Bua Province, Fiji
5. Navuso Farm in Rewa Province, Fiji
6. Mahuleva Farm in Tongatapu, Tonga
7. Ovava Farm in Vava'u, Tonga

Cocoa Market Exploration: Solomon Islands and Tonga identified cocoa as a priority crop for exploring market opportunities. Technical support provided by LRD covered genetic resource alignment, product optimisation, and postharvest system enhancement through DNA testing of cocoa leaf samples collected from various regions in Tonga to identify superior cocoa varieties, as well as soil and cocoa bean sample collection in Solomon Islands to test for heavy metals.

Two officials, one female and one male, from the Vanuatu Agriculture Research and Technical Center (VRTC) enhanced their knowledge about connecting product development with markets through the cocoa value chain. The training was held at the Queensland Department of Agriculture and Forestry Research Centre in Cairns, Australia.

Fermentation Audits: Three fermentation audits were held in Vanuatu (Matalava, Ambae, and Araki) evaluating cocoa bean quality, with all audits confirming acceptable quality. Proper fermentation is essential for achieving desirable taste, aroma, and colour in cocoa beans.



Development of Budwood Gardens: Recommendations were made to establish budwood gardens in strategic locations in Fiji and Vanuatu, to bolster cocoa production to meet present and future market demands while mitigating the effects of climate change. The missions involved identifying prominent pests and diseases, as well as assessing resilient cocoa varieties across diverse regions in the two countries.

Advancing Sustainable Land Management Practices

In our ongoing commitment to promote sustainable land management (SLM) practices, policies, and plans, significant strides have been made in mitigating loss and damage across member countries.

Reforestation efforts in Fiji and Tonga

In collaboration with the Ministries of Forestry and relevant stakeholders, forest plantations were established in Fiji (4.6 hectares) and Tonga (15 hectares), aimed at enhancing land resilience and biodiversity conservation.

Since 2019, a total area of 799.56 hectares have been successfully reforested in Fiji, contributing to the restoration of degraded landscapes and the promotion of sustainable land use practices.

Tonga received 0.5 kg of pine seeds and 10 cocoa pods (Criollo) for its reforestation programme covering 15 hectares, to facilitate the establishment of seed orchards.

Natural Resources Management Policies and Guidelines

In 2023, significant strides were made in Fiji's commitment to sustainable wood processing and coconut harvesting practices. The endorsement of the Code of Practice for Wood Processing Facilities by the Fiji Cabinet, alongside the publication of Coconut Harvesting Guidelines, underscored the nation's dedication to environmental preservation and safety standards. Furthermore, technical assistance was provided during the Pacific One Health symposium, contributing to the development of guidelines addressing antimicrobial resistance in animal production. This aligns with Fiji's ongoing efforts to promote sustainable agricultural practices.

OBJECTIVE 2: Enhanced ability to meet local and international market requirements for agriculture and forestry products.

Advancing Market Access: PGS Licensing Boosts Organic Certification in the Pacific

Two Participatory Guarantee Systems (PGS) licensing agreements were signed for the Palau Organic Growers Association (POGA) and Corner Stone Niue Enterprise, Fiji. With these agreements in place, the licensees are now authorised to market their organic products under the label 'Organic Pasifika' to regional markets that recognise the PGS certification mechanism. This initiative not only streamlines market access but also empowers small-scale farmers, who may face financial constraints in engaging third-party certifiers, to label and sell their produce as certified organic. By joining the PGS initiative, farmers can elevate their visibility in the market and contribute to promoting organic farming practices in the Pacific region.

Additionally, POETCom managed 14 PGS groups, with 12 operational in six member countries (Cook Islands, Fiji, French Polynesia, New Caledonia, Solomon Islands, Vanuatu). This further resulted in the certification of 2,939 producers, as well as a total of 98,776 hectares of organic land, of which 17,988.66 hectares were certified by the 12 groups in eight countries (Cook Islands, Fiji, French Polynesia, New Caledonia, Papua New Guinea, Samoa, Solomon Islands and Vanuatu).

The Rabi Island Women's Group production of hand sanitisers and lip balms, together with Sea & Soils' launch of 16 organic inputs, bolstered organic agriculture development in the region. POETCom supported monitoring of organic certification across the region by collecting and reporting data to the FiBL (Forschungsinstitut für biologischen Landbau). This is part of regional initiative to increase access to organic information for policy making.

Expansion of Organic Product Range in Pacific Markets

LRD made strides in broadening the range of organic products available in local and international markets across the Pacific region.

New Range of certified products and approved inputs were launched in Fiji and Palau under the POETCom Pacific Organic Standards. The products and inputs were produced by 6 agencies: Sea & Soil (25), Fiji Ministry of Agriculture (1), Goodman Fielders (3), Organic Plant (1), Lino Racumu (1), and Pure Palau (1).

Building Capacity in Value Chains for Agricultural Sustainability

As part of the ongoing SAFE Pacific project, consultations were conducted with kava stakeholders in Vanuatu to address trade barriers in the kava industry. These consultations aimed to identify new trade pathways and bolster value chains for kava in the region.

Farmers and producers in the Marshall Islands were exposed to practical insights of conducting organic assessments using PGS tools through a 3-day training programme on organic agriculture and PGS certification.

Furthermore, 25 farmers from 14 member countries enhanced their understanding of organic certification, product delivery, and market access through training on PGS operations conducted in Nadi, Fiji, during the sidelines of the Pacific Week of Agriculture.

During the Pacific Week of Agriculture and Forestry, 32 delegates had the unique opportunity to visit the Bulaccino farm, an organic farm in Nadi. The tour, titled "Walk-the-Talk - This is What Organics Looks Like," provided delegates with real-life examples of managing an organic farm, focusing on the significance and potential of organic farming in reshaping the Pacific food system. By showcasing the practices and outcomes of organic farming, delegates were exposed to firsthand experiences of sustainable agricultural practices through organic farming.

20 extension staff of the Fiji Ministry of Agriculture were introduced to the Tools for Agroecology Performance and Evaluation (TAPE) methodology to enable them to conduct farm assessments effectively. TAPE offers a comprehensive approach to measuring the multi-dimensional performance of agroecological systems, contributing to sustainable agricultural practices. During the training, extension workers observed a positive inclination among most farmers towards transitioning from synthetic chemicals and fertilisers to more agroecologically sound alternatives. However, they emphasised the need for guidance and support, particularly in the form of market incentives, to facilitate this transition. This highlights the importance of tailored interventions and incentives to encourage sustainable farming practices among local farmers.

Strengthening Environmental Food Safety Standards and Sanitary and Phytosanitary Standards (SPS) Compliance

Significant strides were made in advancing environmental food safety standards across the Pacific region. This progress encompasses two major achievements: the formulation of a regional standard operating procedure (SOP) aimed at improving plant health and the endorsement of three memoranda of understanding (MOUs) under the Pacific Regional Pesticide Registration Scheme (PRPRS) by Cook Islands, Kiribati, and Solomon Islands.

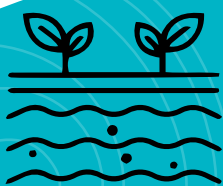
During the Pacific Week of Agriculture & Forestry (PWAFF), a sideline event, organised by LRD, successfully drew the attention of senior officials from the Ministry of Agriculture in five countries about the importance of joint efforts in adopting ecologically based alternatives to highly hazardous pesticides. The event was significant in getting the attention of policymakers on the importance of becoming members of the PRPRS as a joint effort to control pest incursions in the region.

Efficient allocation of resources, strategic partnerships, and collaborative efforts continued being instrumental in addressing environmental food safety, SPS, and other voluntary standards. During the Pacific Games in Honiara, Solomon Islands, the heightened regional travel posed increased risks of introducing and spreading

harmful pests and diseases. In response, LRD, in close coordination with Biosecurity Solomon Islands (BSI) and the Solomon Islands Biosecurity Development Program (SIBDP) administered by the Australian Department of Agriculture, Fisheries and Forestry (DAFF), diligently worked together to mitigate the risks. Two officials of the Cook Islands biosecurity were included in the team to acquire hands-on experience and assess the efficacy of applied safety protocols.

LRD continued implementing the regional Generic ePhyto National System (GeNS) project aimed at increasing the resilience and capability of NPPOs in safeguarding their countries against biosecurity risks and ensuring safe trade. A regional work plan and onboarding was undertaken for eight countries: Cook Islands, Kiribati, Niue, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, and Vanuatu, as a 1st phase, while the 2nd phase will bring onboard an additional eight countries. The electronic phytosanitary certificate, known as ePhyto, is a digital tool that processes phytosanitary certificate information into a digital phytosanitary certificate, thereby increasing cost-effectiveness in trade, as well as reducing fraud that could emerge while producing paper-based certificates.

Furthermore, notable achievements were observed in addressing environmental food safety concerns, including successful pest management initiatives in Tuvalu and Solomon Islands. These efforts were complemented by capacity-building initiatives, such as the training of animal health focal points from 10 countries on utilising the World Animal Health Information System (WAHIS) for comprehensive disease reporting and control strategies.



98,776

hectares of organic land
certified in **8** countries



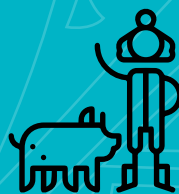
17,988.66

hectares and **2,939** producers
certified by **12** producer groups
under the PGS in **8** countries



305

farmers and producers
(**230** Female, **75** Male) trained
in value chains, post-harvest handling,
organic certification



37

Certified Paravets
21 females, **6** males
from **3** countries



272

participants (**68** females, **204** males)
trained in Animal Health,
Pest and Disease Surveillance
from 17 countries



Building Capacities for Environmental and Food Safety

Voluntary reporting plays a critical role in informing regional and national strategies for animal disease control. As part of this effort, a comprehensive training initiative equipped 14 animal health focal points from 10 member countries with skills in utilising the World Animal Health Information System (WAHIS). The aim was to strengthen the reporting of animal disease status and incidents.

19 participants from eight countries: Cook Islands, Fiji, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu, including six females and 13 males, participated in a regional training for Melanesian and Polynesian countries on the enhanced Pest List Database (PLD). The revamped PLD enabled the users to extract updated information to support market access requests for plant products. The PLD contains updated national pest information, which is a National Reporting Obligation (NRO) under the International Plant Protection Convention (IPPC).

Additionally, 29 officers, comprising 12 females and 17 males, from Samoa's Quarantine and Crops Division underwent customised training focused on surveillance techniques to address the threat posed by pests and diseases. During the training, the officers compiled Samoa's emergency plant pest list and identified the top 20 most wanted or priority pests. These efforts align with Samoa's national obligations to the International Plant Protection Convention (IPPC) and are integral in identifying pests subject to phytosanitary measures.

186 participants, consisting of 72 women and 114 men from 12 countries including Cook Islands, Fiji, Kiribati, New Caledonia, Papua New Guinea, Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, and Wallis and Futuna, received support to enhance their capacities in environmental food safety.

The support included:

- A training on Import Risk Assessment (IRA) of plant products and Sea Container Hygiene System (SCHS) for government officials (Biosecurity, Customs, and relevant ministries), importers, exporters, shipping agents, and other stakeholders from Samoa, Solomon Islands, and Tonga.
- In-country trainings for NPPOs (National Plant Protection Organisations) of five countries (Samoa, Solomon Islands, Tuvalu, Timor Leste, and Tonga) focusing on mitigating pre-border and border biosecurity risks, sample collection, and drafting of a Notifiable Plant Pests and Diseases List.
- GFTADs (Global Framework for the Progressive Control of Transboundary Animal Diseases) training for 12 participants (5 female, 7 male) covering priority transboundary animal diseases (TADs).
- Pacific Heads of Veterinary and Animal Production Services (PHOVAPS) members were introduced to import risk analysis through training. The event was also used to devise the next steps for integrating GFTADs activities into regional programmes.

A workshop titled 'Non-Tariff Measures (NTMs), including Sanitary and Phytosanitary Standards (SPS) compliance and International Trade Promotion organised to enhance officials' understanding of the significance of NTMs, particularly from a biosecurity perspective, in safeguarding countries. A total of 234 officials, comprising 116 females and 98 males, representing six countries: Fiji, Papua New Guinea, Solomon Islands, Timor Leste, Tonga, and Vanuatu, participated. The participants included government officials from biosecurity, customs, agriculture, trade, and commerce, as well as representatives of cooperatives and the private sector, including exporters and farmers.

Furthermore, LRD provided Samoa with fruit fly and fall armyworm traps, sticky and wing traps, lures, and field test kits for rapid disease diagnostics, as well as training on animal disease surveillance.

Swift Response: Biosecurity training fosters collaborative action

Tuvalu is one of the Pacific's smallest nations, with a significant portion of its population involved in subsistence fishing and agriculture. The 2016-2023 Tuvalu National Agriculture Sector Plan identified entry of new pests and diseases of crops as a key threat to its sustainable development ambitions. Among the most pressing concerns is the fruit fly, a perilous threat to agriculture and trade.

Despite its small size, Tuvalu's cultural richness, stunning coral reefs, and traditional lifestyle have long captivated communities far and wide. Besides tourism, the nation's economy primarily relies on fishing and agriculture, with crops such as coconut, pandanus, breadfruit, and taro being cultivated.

Tuvalu has been fighting at the forefront of extreme climate change, from rising sea levels to changing coastlines. Most recent developments got their delicate ecosystem teetering, putting the nation into the global spotlight for an unwanted reason: A fruit fly invasion.

Fruit flies can significantly impact agriculture and public health. They can damage crops and affect food security. They can also have a negative economic impact, restrict trade and are a public health concern.

The emergence of a specific fruit fly species on Niulakita Island prompted the Department of Agriculture (DOA) to implement stringent restrictions on the transportation of fruits and vegetables. While these measures were necessary to curb the spread of the pest, they significantly disrupted trading activities, causing economic losses and sparking concerns about Tuvalu's food security.



Mr. Sama Sapakuka, Quarantine Officer, Tuvalu Department of Agriculture said "We have some cases of fruit fly in Niulakita, and this is affecting breadfruit trees, and payaya. They lay eggs, hatch and multiply. That is a concern, especially for the quarantine team. We rely especially on importing vegetable and fruits. That is why it is important that we stop new species of fruit flies from entering the country".

This environmental threat poses risks to Tuvalu's agriculture. It underscores the vulnerability of small island states to external forces, highlighting the urgent need for innovative solutions and international cooperation to address such challenges.

In response to that and based on the request from the Tuvalu government, SPC in collaboration with the DOA, set out to design and implement a fruit fly management and population suppression strategy.

Despite all the preparation and planning, things didn't come to fruition, as severe weather halted the expedition to Niulakita.

Mr. Riten Gosai, SPC Biosecurity, Sanitary and Phytosanitary Officer said "We tried to wait out the storm, but coupled with difficulties of finding adequate transportation to the island, we had to return. SPC, together with the DOA team devised another plan. SPC trained the DOA team to locate the fruit fly hotspots and lay the traps in their absence".

The training covered the creation of trapping grids using GPS devices; assembly and installation of fruit fly traps as well as fall armyworm (FAW) traps; servicing traps; best practices in samples collection, differentiating species of fruit flies and correctly packaging trapped specimens for lab identification.

Mr. Sapakuka said, "I have learnt a lot, not only about fruit flies, but about soil sampling, soil testing, how to plan, eradicate and eliminate the flies using the new pesticide, as well as how to use GPS to locate all the sites. Its our first time to use this and we hope to find all the hot spots and put those traps in the hotspots to control the fruit fly infestation in those hotspots".

Carrying newly gained knowledge, skills, the DOA deployed five officers to suppress the fruit fly population on Niulakita as part of a large-scale biosecurity intervention strategy.

The DOA team innovatively utilised local resources, such as a trailer pulled by a quadbike to carry traps, lures and other supplies.

The DOA officers successfully installed fruit



fly traps at 51 sites (four additional sites than was initially planned), recorded data using KoboCollect, and analysed it to inform the next pest management steps. DOA has dedicated officers full-time and involved the community to continue implementing the plan, including employment of cultural controls.

This initiative clearly highlights Pacific's ingenuity, spirit and solidarity. Through partnerships, community engagement, adaptation and utilisation of domestic resources, Pacific peoples keep demonstrating how traditional knowledge combined with science can lead to change. The DOA also demonstrated high capabilities and independence in fulfilling the objectives of this mission on Nuilakita.



OBJECTIVE 3: Member countries have access to diverse and nutritious agricultural and forestry resources resilient to the impacts of disasters and climate change.

Increased Distribution and Utilisation of CePaCT Crop and Tree Varieties by Countries

CePaCT distributes high-quality planting stock to national research and extension systems rather than directly to farmers. To ensure that farmers benefit from CePaCT's efforts, the Centre is collaborating with member countries and other organisations to increase the availability and utilisation of CePaCT's stock. This includes seed distribution, duplication as well as long-term storage.

Significant milestones were achieved in the distribution and duplication of conserved seeds. Notably, 16% (n=2,181) of accessions stored at CePaCT were securely duplicated outside of Fiji.

In collaboration with the Royal Botanical Kew Gardens in London, 46 out of the 101 forest tree accessions (representing 33 species) available at CePaCT were transported for long-term storage. Currently, 41 forest tree species, comprising 63 accessions, are being conserved long-term at Kew Gardens (MSB), marking a 32% increase from 2022, when 31 tree species were preserved. Additionally, six standard material transfer agreements (SMTA) were signed with Cook Islands, Hawaii, Nauru, Solomon Islands, Tonga, and Vanuatu, to facilitate country access to crop and tree varieties conserved at CePaCT.

Import permits were lodged with Fiji Biosecurity to facilitate the safety duplication of sweet potatoes from Solomon Islands, Samoa, and Tonga, with decisions currently under review.

73 accessions, comprising 807 tissue-cultured plants and 609 embryos across nine crops, were distributed to Cook Islands, Fiji, Tonga, and Vanuatu as follows:

- Tonga: 7 crops (Sweet potato - 9, Banana - 5 (50), Cassava - 4, Cyrtosperma - 4, Ginger - 1 (12), Yam - 1, Pineapple - 1)
- Australia: 1 crop (Coconut - 3)
- Fiji: 2 crops (sweet potato - 4, Taro - 17)
- Hawaii: 1 crop (Breadfruit - 2)
- Cook Islands: 4 crops (Sweet potato - 11, Taro - 2, Yam - 1, Banana - 3)
- Vanuatu: 1 crop (sweet potato - 5)

CePaCT continued to distribute nutritious and resilient crop varieties to support food security in 6 PICTs (Fiji, Kiribati, Samoa, Tonga, Tuvalu and Vanuatu) under the Pacific Seeds for Life project in collaboration with the World Vegetable Centre (WorldVeg).

- Seeds of 133 accessions or varieties of 16 vegetable species (tomato, tomatillo, pepper, mung bean, cucumber, onion, cabbage, amaranth, pigeon pea, bottle gourd, sponge gourd, long bean, bitter melon, leafy brassica-kale, pumpkin, eggplant) from WorldVeg were delivered to CePaCT for conservation, and to all the six Pacific Seeds for Life partner countries (Fiji, Tonga, Samoa, Tuvalu, Kiribati and Vanuatu), for evaluation. Seed evaluations are in progress in the 6 countries.
- 80 plantlets of eight cassava varieties from International Institute of Tropical Agriculture (IITA) were delivered to CePaCT for conservation, multiplication and distribution for evaluation in the partner countries.
- 50 plantlets of five cassava accessions (10 plantlets/accession) were delivered to the Koronivia Research Station of the Fiji Ministry of Agriculture (MoA) for further multiplication and evaluation.
- To aid research, characterisation, and evaluation, 6 distributions were conducted for Tonga, Australia, and Fiji (i.e. 52 accessions and 1,050 plantlets).
- New varieties of banana (10 plantlets) and cassava (10 plantlets) and 33 varieties of vegetables were introduced to Kiribati and Tonga.

Capacity Building in Natural Resources Management

In 2023, LRD bolstered community capacities in seed quality screening and evaluation to advance participatory plant breeding (PPB) efforts. Community involvement in PPB expedites the release of improved seed varieties, reducing the time between testing, duplication, and utilisation/planting. This acceleration facilitates quicker access to enhanced seed through the identification of locally adapted plant populations and promotes in situ conservation, thereby enhancing agricultural system resilience.

Twenty farmers in Malekula, Vanuatu, enhanced their skills in cocoa propagation and nursery management, focusing on grafting seedlings to enhance yield and quality. The training initiative empowered the local farmers to adopt innovative techniques of nursery management techniques that can yield quality seedlings.

Meanwhile, 25 seed champions (10 female, 15 male) from Tonga's Ministry of Agriculture, Food & Forestry (MAFF), Hango Agriculture College, Mainstreaming of Rural Development Innovation (MORDI) Tonga Trust, Seeds Importers/Distributors, Tonga Grower Federation, Live & Learn and Kolomotu'a Women Grower Council, participated in a training on crop variety screening and evaluation.

Fostering Forestry Leadership: Insights from ANZIF Conference

Nine government officials representing six countries – Fiji, Samoa, Tonga, Vanuatu, Solomon Islands, and Papua New Guinea – attended a training session at the Australia and New Zealand Institute of Foresters (ANZIF) conference held in Gold Coast, Australia. This platform facilitated an in-depth exploration of the role of forestry professional associations, as a strong foundation for establishing national forestry associations as drivers of personnel growth in the region. Notably, it emerged that there is dedicated support in the region for the development of a Pacific Network of Forestry Professionals to connect and support the professional development of active as well as retired forestry professionals. The engagement with the Australian and New Zealand forestry associations had a profound effect on the participants, as they expressed that the conference provided clarity regarding the functions of a professional association. This newfound understanding catalysed their commitment to advancing national associations and establishing a Pacific network.



73 accessions

807 tissue-cultured plants and 609 embryos across 9 crops were distributed to Cook Islands, Fiji, Tonga, and Vanuatu.



133 seed

accessions/varieties of 16 vegetable species were delivered to CePaCT and 6 countries for conservation, and evaluation respectively from WorldVeg



20 farmers

from Vanuatu trained to improve cocoa propagation and nursery management skills, focusing on grafting seedlings for higher yield and quality.



25 seed champions

identified (10 female, 15 male) from various organisations in Tonga



6 SMTAs

standard material transfer agreements (SMTAs) signed with 6 countries: Cook Islands, Hawaii, Nauru, Solomon Islands, Tonga, and Vanuatu, to facilitate country access to crop and tree varieties conserved at CePaCT.

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.

Promoting Equitable Agriculture and Forestry through Responsive Regulations and Policies

In 2023, LRD spearheaded initiatives that demonstrated the shared dedication of countries towards fostering sustainable and fair practices in agriculture and forestry throughout the region. Through responsive regulations and policies, stakeholders are working together to ensure that the benefits of these sectors are shared equitably among communities while promoting environmental sustainability and economic resilience.

The Building Prosperity for Women Producers, Processors and Women-Owned Businesses (BPWP) project has played a pivotal role in advancing the development of the FSM National Agriculture Plan, with a specific focus on the integration of organic agriculture practices. Currently, the plan awaits endorsement from national stakeholders.

Furthermore, the BPWP project has initiated the groundwork for the formulation of the National Organic Policy in Kiribati, with a situational analysis completed in November.

POETCom programme provided invaluable technical expertise in the formulation of Fiji's Organic Policy, facilitating extensive consultations across various regions.

POETCom, in collaboration with the Human Rights and Social Development (HRSD) Division, organised a strategic planning workshop for the POETCom Women's Chapter from June 9th to 10th. This workshop, attended by 21 women from the Chapter, aimed to further enhance the organisation's strategic direction and impact.

The regional kava strategy, initially endorsed in principle by the Pacific Islands Trade ministers, was validated at the Regional Kava Strategy meeting held in Vanuatu from 28th November to the 1st of December. The strategy will ensure consistent quality, market access, environmental sustainability and improved livelihoods for kava-growing countries in the region.

Promoting Women's Leadership and Participation in Agriculture Value Chains

25 women producers, including women groups in Palau and members of the POETCom Women's Chapter, were empowered through comprehensive training initiatives aimed at enhancing their participation in value chain development and leadership roles in organic agriculture.

Participants gained knowledge on trade compliance standards, particularly Hazard Analysis and Critical Control Points (HACCP) and received training on using the gender and organic value chain analysis toolkit. Additionally, a regional workshop targeting women leaders from the women's economic empowerment (WEE) initiatives, provided valuable insights and strategies for enhancing their involvement in organic farming. The workshop focused on Gender and Organic Value Chain Analysis, fostering gender-inclusive value chain development. Moreover, a field visit showcased the practical application of the toolkit, further empowering women in value chain development and decision-making processes. These initiatives collectively aimed to enhance women's competencies and skills in accessing both regional and international markets, thereby fostering their active participation in value chain development and leadership roles in organic agriculture.

83 farmers from the Federated States of Micronesia, Fiji, Kiribati, and Palau were trained on organic certification, Gender Equality and Social Inclusion (GESI) as well as the organic value chain analysis toolkit. In addition, the farmers were provided with equipment, including water tanks, to facilitate the production of organic products.

Sourcing Evidence: Examining Gender Dynamics in Senile Coconut Sourcing and Mapping Wood Processing.

A research project focused on gender-equitable sourcing of senile coconut in rural agricultural communities was conducted in Fiji. The study explored gender and age disparities in roles, opportunities, and priorities within Fijian agricultural communities, to assess the gender implications of sourcing senile coconut stands.

LRD also continued with the research on investigating the volume of senile coconut resources and other timber species, to map out the existing resources and gaps in different communities of Fiji. Further work will be undertaken to establish the costs for wood processing facilities to construct a financial model that can inform the viability of future wood processing ventures as well as interventions on the management of wood processing, including the associated risks.



25 women

producers in Palau and members of the POETCOM Women's Chapter were trained on leadership roles in organic agriculture to enhance women's participation in agriculture value chains.



83 farmers

from 4 countries, FSM, Fiji, Kiribati and Palau trained in organic certification, Gender Equality and Social Inclusion (GESI), and organic value chain analysis.



2 policies

developed for FSM & Kiribati on Organic Agricultural Policy.



2 studies

conducted in Fiji to ensure gender-equitable sourcing of senile coconut and mapping out the existing resources and gaps in different communities.



OBJECTIVE 5: Integrated farming systems and services strengthened.

LRD continued to implement initiatives supporting soil fertility enhancement through soil surveys and testing, enhanced livestock productivity under sustainable production systems by promoting agroecologically compatible crop pesticides and further promoting integrated cropping systems to reduce pest and disease incidences.

Enhancing Technologies in Crop Production, Soil Health, Pest, and Disease Management

SPC continued its steadfast support for countries in the development and adoption of integrated crop management (ICM) technologies, marking significant progress in enhancing agricultural practices across the region.

The promotion of Near-Infrared Spectroscopy (NIR) crop production technology, alongside the wicking system and food cubes technologies rolled out in Tonga, Samoa, Fiji, and Vanuatu was significant in deploying workable solutions for enhanced crop productivity and sustainability in those countries.

Additionally, a comprehensive soil survey spanning 33 sites across Tongatapu, 'Eua, Vavau, and Ha'apai Island Groups in Tonga was conducted to assess the impacts of the 2022 volcanic ash deposition on crops and soil health. The collaboration with CSIRO ensured a thorough analysis of soil samples, and findings were shared with stakeholders to inform ongoing recovery efforts by the Tonga Ministry of Agriculture, Food, Forests and Fisheries.

Soil organic matter is a key indicator for soil health and acts as a carbon sink; however, soil organic data is quite limited in the region. Five NIR soil spectroscopy technologies were acquired by CSIRO under the ACIAR Soil Management in the Pacific Islands project and were provided to Tonga, Samoa, Fiji and Vanuatu to support the assessment of soil health through soil organic content analysis.

LRD sensitised over 10 countries through a demonstration plant health clinic (PHC) held during the Pacific Week of Agriculture & Forestry (PWAFF), facilitating knowledge exchange and capacity-building in plant health management.

In alignment with efforts to combat the coconut rhinoceros beetle (CRB) pest, laboratory equipment and reagents were procured for PNG Kokonas Industri Koporesen (KIK), enabling effective *Metarhizium* bulking and field application. Additionally, PNG and Vanuatu received support for the targeted application of the fungal biocontrol agent *Metarhizium*, accompanied by the development of efficacy trial protocols and the establishment of a CRB information system/database.

Five agroecologically compatible crop pesticides (*Bacillus thuringiensis* (bt), *Bacillus thuringiensis* karstaki (Btk), White oil, Neem oil, Hortiguard), were identified as alternatives to Highly

Hazardous Pesticides (HHP) and introduced in Solomon Islands, Kiribati, Fiji, Vanuatu, Tonga, and Samoa. Efficacy trial protocols were devised to guide countries in conducting field evaluation experiments, contributing to sustainable pest management practices.

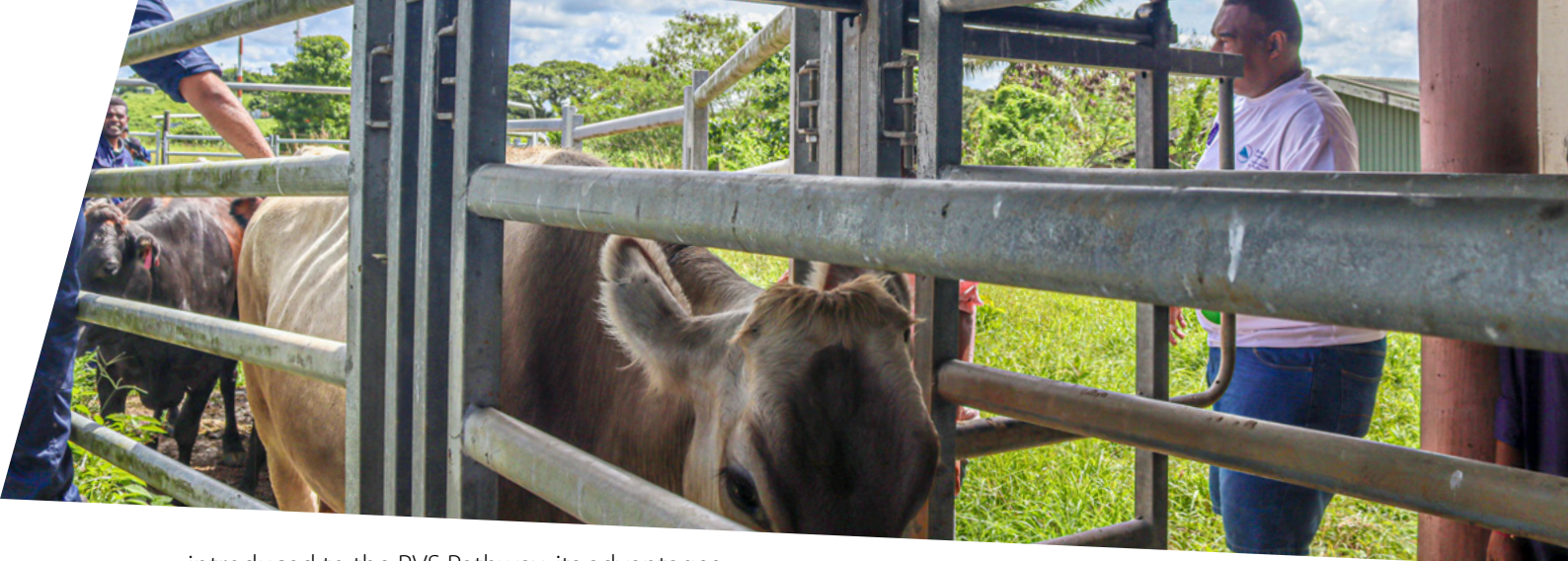
Efficacy trial protocols were developed to guide countries to carry out field evaluation experiments. A CRB information system/database was developed and is maintained by LRD with continuous data entry from three countries: Papua New Guinea, Solomons Islands and Vanuatu.

Strengthening Capacities in Animal Health, Pest, and Disease Surveillance

In 2023, a total of 116 animal health and livestock officers, comprising 49 women and 67 men, participated in paravet training. Among them, 79 participants from the Cook Islands, Fiji, Nauru, and Niue took part in a virtual para-veterinary orientation. This orientation, held partly in Niue, facilitated the drafting of Niue's early response plan (ERP) for diseases such as Highly Pathogenic Avian Influenza (HPAI) and African Swine Fever (ASF). Additionally, attendees received training on baseline surveillance fundamentals and the identification of critical diseases for inclusion in Niue's ERP. Furthermore, 37 livestock officers from the Cook Islands, Fiji, and Nauru underwent training during the para-veterinarian summer school.

After completing the 16-week PARAVET training programme, 37 individuals, including women and 16 men, from the Cook Islands, Fiji, and Nauru, attained certification as paravets. This programme was structured to alleviate the scarcity of qualified veterinarians and to facilitate member countries in accessing essential veterinary services for proficient animal disease surveillance, diagnosis, and control.

A total of 36 participants including 14 females, 22 males, from 17 countries: American Samoa, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Nauru, New Caledonia, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tokelau, Tuvalu, Vanuatu, took part in the inaugural stage of the Performance of Veterinary Services (PVS) orientation workshop in Nadi, Fiji. The primary objective was to enhance national capacities in generating high-quality reports and utilising them more effectively to secure funding and drive improvements in Veterinary Services. During the workshop, participants were



introduced to the PVS Pathway, its advantages, and the PVS Tool (2019). They were also encouraged to consider engaging in PVS Pathway missions to bolster their national veterinary services. The PVS Pathway offers a structured and progressive approach, consisting of a series of coordinated capacity-building activities aimed at systematically strengthening veterinary services and aquatic animal health services.

LRD focused training on managing arrangements for an emergency, articulation of field operators' roles, and the possibility of utilising existing national natural disaster management frameworks to support the implementation of the AHEPRP. 20 participants (10 female, 10 male) from nine countries: Federated States of Micronesia, Fiji, Kiribati, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu, participated in the training which enhanced their capability of emergency preparedness and response for African Swine Fever (ASF), Foot and Mouth Disease (FMD) and other Transboundary Animal Diseases (TADs).

LRD further provided technical support to Solomons Ministry of Agriculture and livestock team to investigate a viral outbreak on poultry farms and identification of the virus. The support resulted in the confirmation of the virulent infectious bursal disease virus which causes high

mortality of birds. With the confirmation of the viral strain, technical support was provided to contain the virus including community awareness and engagement about farm sanitation, sample extraction and testing which eventually confirmed the Avian Flu; hence a disease alert was issued to other member countries.

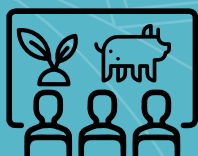
Additional support was provided to countries to control pests and diseases as follows:

- Provision of laboratory equipment and consumables for mass production of entomopathogenic fungus *Metarhizium anisopliae* to Samoa and Solomon Islands.
- Sharing of findings from gap analyses on 'Early Warning Systems Priorities' and 'Emergency Response Planning' conducted in 15 member countries during the Pacific Plant Protection Organisation (PPPO) Regional Technical meeting in Cook Islands, attended by 31 regional participants (16 women, 15 men).
- Surveillance activities were conducted in three countries: Papua New Guinea, Solomon Islands, and Vanuatu, to monitor the presence of the coconut rhinoceros beetle (CRB), including coverage in specific provinces and islands within each country.



3 countries

Papua New Guinea, Solomon Islands, and Vanuatu - contribute data to a CRB information system/database managed by SPC.



226

participants from 10 countries trained in integrated crop management technologies and soil and animal health.



5

agroecologically compatible crop pesticides were identified and rolled out as alternatives to Highly Hazardous Pesticides (HHP) in 6 countries.



20

participants from 9 countries enhanced their emergency preparedness and response for African Swine Fever, Foot and Mouth Disease, and other transboundary animal diseases.



The PARAVET programme continued the introduction, promotion, and adoption of extension modules. Following the review of the PARAVET programme, a new chapter on soil health was drafted and will be incorporated into the plant health clinic manual for adoption at future clinics.

10 countries were trained on the newly introduced pesticide registration training modules, whereas a systems approach training manual, comprising of 10 modules, was developed, and rolled out in Samoa, Solomon Islands and Vanuatu.

A total of 226 participants from 10 countries (44 females and 172 males) benefitted from various plant and animal health trainings, as well as integrated crop management technology trainings including:

- Kobo data forms and Metarhizium for Vanuatu and Papua New Guinea,
- Training guidelines on quality seed production, crop variety evaluation, pest and disease management, and agronomic practices for Vanuatu, Tonga, and Kiribati,
- Plant Health Clinic (PHC) on performing pests and disease diagnostics for Fiji.
- Use of the pesticide registration tool kit for Samoa, Tonga, Fiji, Solomons, Papua New Guinea, Federated States of Micronesia, Vanuatu, Kiribati, Cook Islands and Tuvalu.
- Refresher training on kobo toolbox for Vanuatu, Papua New Guinea, and Solomon Islands to support ongoing surveillance and containment of the CRB.

Outcomes of Plant Health Clinic Initiatives

A significant achievement of the Plant Health Clinic (PHC) project was the integration of PHC modules into the curricula of national universities, including the Solomon Islands National University (SINU), Fiji National University (FNU), and the University of Goroka (UOG). Discussions among these universities emphasised collaboration for research and curriculum development, particularly focusing on short-term training for PHC, which was agreed upon as a forward-looking initiative. The involvement of the universities in research and curriculum development received enthusiastic support from the universities, with assurances of active participation. SPC expressed interest in contributing to future research endeavours.

Another notable outcome was the incorporation of a dedicated chapter on soil health into the revised manual, enhancing the resource's comprehensiveness and relevance.

Side discussions with FNU, SINU, and the University of Goroka explored avenues for leveraging university resources to support ongoing research efforts in the region. The universities expressed readiness to engage final-year students in research activities, demonstrating their commitment to assisting with priority research initiatives from their respective countries. Particularly, FNU and SINU pledged support for research work under the POETCom programme, responding to requests from farmers and aligning university efforts with community needs.



Paravet graduates transformed from students to mentors

The Pacific region faces many challenges in ensuring the health and reproduction of its animals. A severe shortage of qualified veterinarians and para veterinarians (paravets), plus limited access to veterinary services, meant animal health and production were negatively impacted.

Since 1999, the SPC has been developing and implementing para-vet training programmes to counteract the challenges. So far, 436 graduates from 15 member countries gained access to the training, provided with technical support from the Australian Department of Agriculture, Fisheries and Forestry and the New Zealand Ministry of Primary Industry.

After being nominated through the country's respective authority, students enrol in a 16-week long-distance training incorporating theoretical and practical sessions before undertaking paravet certification exams. Participants cover various topics, such as providing treatment for sick animals and offering guidance to farmers and communities. Conducting disease surveillance and referring animals to veterinarians when necessary.

Sekicolo is a paravet training tutor working as an Agricultural Technical Officer at the East Raiwaqa Ministry of Agriculture, Fiji. Now a tutor, she recalls her first steps in 2014 as a student in this field, the training she took and how she felt: "At that time, attending the paravet training was a privilege, and we looked up to people who came out of paravet as they carried a level of experience and knowledge that we always wanted to have".

Rusila continues: "I used to shy away and was not sure of my skills when working in the field with farmers. The training boosted my confidence in addressing clinical cases, whether production or companion animals, I wasn't scared anymore".

Having mastered their curriculum, graduates will mentor and share their knowledge and expertise, creating a ripple effect that bolsters and potentially ensures the sustainability of the programme.

Shift from trainee to tutor not only speaks to the efficacy of the training but also underscores the depth of knowledge and skills gained by the alumni.

Paravet graduates have confidently taken on the role of tutors in the recent training held in Fiji 2023. Mr Penaia Donuca, paravet in Training Tutor, Agricultural Officer, Navua, Fiji Ministry of Agriculture, said, "I consider myself to be lucky because the demand for paravets is so high. I consider myself fortunate to have this practical training which supplemented my training from college. I am confident in providing paravet services as the training was designed in a fun way to simplify learning".

The programme, tailored to meet the Pacific's needs, has highlighted its practical relevance and real-world applicability for the veterinary sector, as well as being an effective, sustainable model for building capacity.

SPC will continue sourcing paravets through country-led nominations, as the programme scales up to more countries.





ENHANCING REGIONAL COLLABORATION AND COORDINATION AMONGST MEMBER COUNTRIES

The Pacific Week of Agriculture and Forestry (PWAf)

The Pacific Week of Agriculture and Forestry (PWAf) convened in Nadi, Fiji from 6 to 10 March 2023, attracting over 300 delegates comprising ministers, government officials, researchers, industry experts, NGO representatives, and private sector stakeholders. The highlight of the week was the 8th Regional Meeting of the Pacific Heads of Agriculture and Forestry Services (HOAFS) & 3rd Ministers of Agriculture and Forestry Services (MOAFS) meetings held from March 9 to 10, 2023. Hosted by the Fiji Government and organised jointly by the SPC Land Resources Division and FAO, the event served as a platform for robust discussions and collaborations on key issues shaping the agriculture and forestry sectors in the Pacific region.

Under the overarching theme “Growing Together: Transforming Pacific Agriculture and Forestry,” the meeting addressed three pivotal sub-themes: Pandemics, climate change, and natural resource security; Transforming agriculture and forestry through science and technology; and creating a circular green economy for agriculture and forestry.

The meeting resulted in the adoption of several key resolutions aimed at advancing the sustainable development and resilience of agriculture and forestry in the Pacific region. These included:

- Commencement of the design of the Regional Agriculture and Forestry Strategy to guide sectoral priorities and initiatives.
- Endorsement of the revised regional architecture to streamline decision-making processes and enhance collaboration among regional governing bodies and partners.
- Implementation of the Regional Research Agenda to drive scientific innovation and evidence-based policymaking.

- Establishment of a regional technical coordination committee or hub to catalyse food systems transformation agendas in Member countries.
- Endorsement of a concept note for developing a climate adaptation tool to support Pacific food systems planning, enhancing resilience to climate change impacts.
- Endorsement of the Pacific Animal Health Capacity Development Plan (PCDP) to strengthen veterinary services and safeguard animal health in the region.
- Development of a business case for sustainable programme funding to support regional biosecurity services, ensuring the protection of agricultural ecosystems from invasive pests and diseases.

Overall, the outcomes of the PWAf meeting underscored the commitment of Pacific nations to collaborative action and innovation in transforming agriculture and forestry sectors towards a sustainable and resilient Pacific.



Regional Meetings Held

EVENT	DATE	OUTCOMES
<p>Pacific Week of Agriculture and Forestry:</p> <p>8th Regional Meeting of the Pacific Heads of Agriculture and Forestry (PHOAFS), and the Pacific Ministers of Agriculture and Forestry (PMAF).</p>	9 – 10 March 2023, Nadi-Fiji.	<ul style="list-style-type: none"> ● Commencement of the design of the Regional Agriculture and Forestry Strategy. ● Endorsed the revised regional architecture as a pathway for identifying and informing agriculture and forestry priorities through the regional governing bodies and partners. ● Implementation of the Regional Research Agenda. ● Creation of a regional technical coordination committee or hub to inform and catalyse the food systems transformation agendas in member countries. ● Endorsed the concept note for developing a climate adaptation tool to support Pacific food systems planning. ● Endorsed the Pacific Animal Health Capacity Development Plan (PCDP). ● Agreed for PPPO to develop a business case for sustainable programme funding for regional biosecurity support services.
Pacific Heads of Veterinary and Animal Production Services (PHOVAPS)	30 October – 3 November 2023	<ul style="list-style-type: none"> ● Commence development of the PHOVAP business plan, and the formation of the One Health Scientific and technical working group.
Coconut Governance Board workshop, held virtually, and the Coconut consultative workshop.	November 2023 and 3 - 4 April 2023	<ul style="list-style-type: none"> ● Establishment of a regional platform for coconut coordination. ● Build the identified opportunities into the Coconut Strategic Framework and a possible Coconut Strategic Plan (in future) to support regional collaboration and further development.
PAPGREN Meeting	18 September 2023	<ul style="list-style-type: none"> ● Implement the PAPGREN Charter and Pacific Seed Systems Roadmap (PSSR).
10th Regional Technical Board Meeting (PPPO) and the Regional Workshop to review Draft International Standards for Phytosanitary Measures (ISPMs).	21 - 23 August 2023, Rarotonga, Cook Islands	<ul style="list-style-type: none"> ● Establishment of a 'PPPO Regional ePhyto Talanoa Session. ● Adopted the PPPO Regional Standards Setting Procedural Guidelines ● PPPO Secretariat to distribute to Members the model of payment for ePhyto solutions proposed by the European & Mediterranean Plant Protection Organization (EPPO) once the paper has been made available.
Pacific Plant Protection Organization (PPPO) Draft International Standards for Phytosanitary Measures (ISPMs) and Regional Workshop and PPPO Regional Technical (Full) Board Meeting	August 21 – 25, 2023, Rarotonga, Cook Islands	<ul style="list-style-type: none"> ● Endorsed the paper on progress of ePhyto implementation in the region and proposal on the creation of an ePhyto Talanoa Session. ● Endorsed development of regional standards or guidance material on safe provision of humanitarian aid during emergency situations, movement of sand and gravel, movement of handicrafts and disposal of international waste. Implement the review of the PPPO.





Charting a Path to Resilience: Regional Partnerships for Pacific Food Security



The challenges of climate change, land degradation, and limited infrastructure are woven into the fabric of Pacific food systems.

The Centre for Pacific Crops and Trees (CePaCT) emerges as a beacon of hope, safeguarding the region's genetic diversity and promoting sustainable agriculture. Since its inception in 1998, CePaCT has distributed over 97,000 plant tissue cultures and 1,500 kilograms of seeds across 22 Pacific Island countries and territories, playing a pivotal role in bolstering agricultural resilience and biodiversity conservation.

In September 2023, representatives from 15 Pacific countries convened in Fiji under the auspices of the Pacific Agricultural Plant Genetic Resources Network (PAPGREN) to finalise the PAPGREN Charter and the Pacific Seed System Roadmap. This landmark meeting saw international and regional partners, including the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and the Food and Agriculture Organization (FAO), unite in charting a course towards agricultural sustainability.

The adoption of the PAPGREN Charter and validation of the Pacific Seed System Roadmap marked a significant milestone, laying the groundwork for collaborative actions and regional strategies. These strategic documents not only serve as guiding frameworks for CePaCT's work from 2024-2029 but also underscore the commitment to addressing the unique challenges facing the Pacific's agricultural landscape.

The Honourable Vatimi Rayalu, Fiji's Minister for Agriculture and Waterways, emphasised the importance of investing in research for development during the PAPGREN meeting, highlighting the need for resilient, high-yielding crop varieties and innovative techniques. This sentiment resonated with Sera Dau, a Laboratory Technician at CePaCT, whose dedication to supporting the genebank team was invigorated by the meeting's positive outcomes.

Sera Dau is a Laboratory Technician for Germplasm Health at SPC's CePaCT since 2021. She and her colleagues noticed a positive shift following the PAPGREN meeting, "The positive feedback received from the meeting has greatly inspired

me to persist in my work at CePaCT. It's pushing me to broaden further my expertise in research areas aimed at supporting the genebank team. Our team's level of cooperation and collaborative efforts has intensified, underscoring our shared commitment to 'unlocking the full potential of plant genetic resources for sustainable food and agriculture in our Pacific region.'"

Members of PAPGREN underscored the importance of the PAPGREN as a platform for strengthening regional partnerships in the conservation and duplication of traditional varieties and genetic resources of trees and crops. Mrs Temarama Anguna-Kamana, Secretary for the Ministry of Agriculture in Cook Islands, during an interview, highlighted the importance of PAPGREN and CePaCT.

She said, "This meeting continues to highlight that each Pacific country is responsible for conserving or preserving their resources. Some are traditional varieties of trees and crops that no other country has. The importance of CePaCT is that it provides us with the opportunity to preserve and conserve the resources on behalf of the countries and then access those resources to build our stocks at home".

"There is a need to focus on building the capacity of countries in training necessary staff for breeding programmes, pawpaw varieties, banana varieties and even coconut trees," she added.

Building on the momentum of the PAPGREN meeting, CePaCT embarked on a restructuring journey, enhancing its operational capacity and expanding its technical expertise. With the recruitment of additional support staff and the commissioning of a new cryo-lab in 2024, CePaCT is poised to elevate its status as an internationally recognised centre of excellence in the Pacific.

These collective efforts not only shape the future of agriculture in the Pacific but also hold profound implications for global food security and biodiversity conservation. As CePaCT continues to navigate the complexities of the agricultural landscape, its commitment to unlocking the full potential of plant genetic resources remains unwavering, ensuring a sustainable and resilient future for generations to come.

RESEARCH

Back in 2021, the Heads of Agriculture and Forestry Services (HOAFS) tasked LRD with developing a Regional Research Agenda (RRA) framework to enhance coordination and resource sharing for agricultural and forestry research across the Pacific region. This vision aims to address common challenges in agriculture and forestry, establish partnerships, and define research strategies that address the priorities of the region. With funding from the Australian Centre for International Agricultural Research (ACIAR), LRD initiated the testing process for the RRA framework with member countries. 17 regional research leaders were nominated to serve as peer reviewers, collaborating with SPC to refine the framework. The testing process involved three components:

- 1. Hearing Pacific Voices:** Gathering research priorities from national plans, strategies, and SPC networks. This process resulted in 12 themes and 50 researchable priorities identified.
- 2. Peer Review:** A sieving and a clustering process was used by peer reviewers to identify and group the researchable priorities. The theme "Climate Resilient Crops" with the researchable priority of "Promote Crops that are Climate Resilient" was identified as the most suitable priority to be used to test the partners in the research component.
- 3. Partners in Research:** The Secretariat will be working closely with the peer reviewers to identify the gaps in the literature for the selected priority area in 2024. The peer reviewers and the Secretariat at LRD are aiming to finalise the results of the testing process, and the outcomes will be shared during the HOAFS in May 2025.

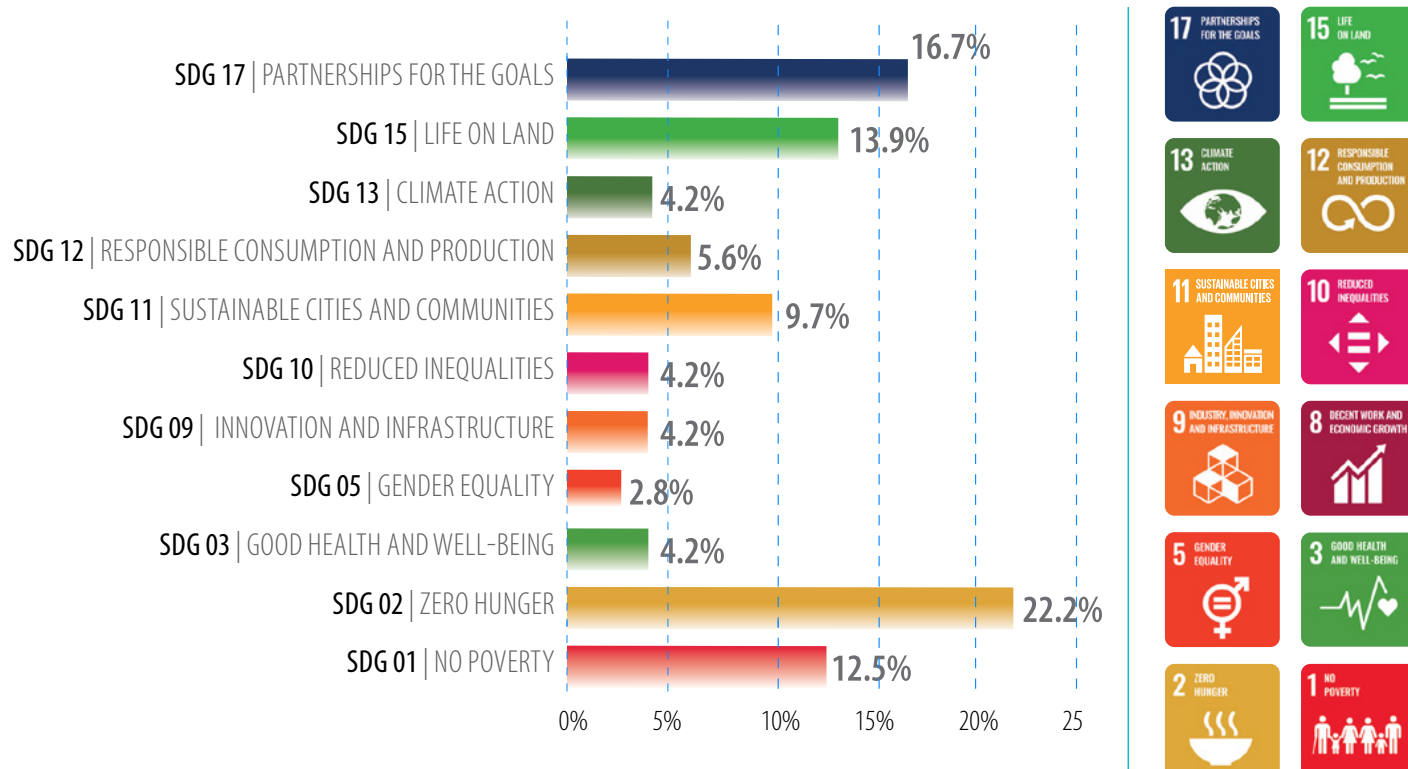
Published Research

- 01** [Conventional Breeding of Pacific Island Staple Crops: A paradox](#)
- 02** [The Forgotten Giant of the Pacific: A Review on Giant Taro \(*Alocasia macrorrhizos* \(L.\) G.Don\)](#)
- 03** [Pacific Regional Research Agenda \(RRA\): Framework for a Pacific Regional Agriculture and Forestry Research Collaboration.](#)
- 04** [The Coconut Rhinoceros Beetle \(*Oryctes rhinoceros*\) Outbreak is Well Established on Efate, Vanuatu.](#)
- 05** [Viral Diseases of Field and Horticultural Crops, Book Chapter 66: Aroids \(*Colocasia* and *Xanthosoma*\)](#)
- 06** [Development of Virus Diagnostic System for Taro \(*Colocasia esculenta*\). Conference Paper for the Australian Plant Pathology Conference.](#)
- 07** [Practical Considerations for Heating Logs Prior to Peeling: Coconut and other non-traditional Forest Resources for the Manufacture of Engineered Wood Products \(EWP\)](#)
- 08** [Use of pheromones for monitoring and control strategies of coconut rhinoceros beetle \(*Oryctes rhinoceros*\): A Review.](#)



CONTRIBUTION TO SPC KEY FOCUS AREAS AND UNITED NATIONS SDGs

LRD's Contribution to Sustainable Development Goals



Throughout the year, LRD maintained its commitment to advancing the UN Sustainable Development Goals. Notable efforts were achieved under goals: No Poverty (SDG 01), Zero Hunger (SDG 02), Good Health and Wellbeing (SDG 03), and Life on Land (SDG 15). Additionally, contributions were made towards other goals, including Gender Equality (SDG 05), Industry Innovation and Infrastructure (SDG 09), Reduced Inequalities (SDG 10), Sustainable Cities and Communities (SDG 11), Responsible Consumption and Production (SDG 12), Climate Action (SDG 13), and Partnerships for the Goals (SDG 17).

In 2023, LRD sought to further SPC's overall Key Focus Areas (KFAs). The SPC Strategic Plan 2022-2031 outlines seven Key Focus Areas that fall under SPC's four main goals. LRD's mandate within SPC empowered it to contribute to all the seven KFAs, aligned to the four SPC Goals listed below.

SPC's Key Focus Areas are:

1. Resilience and Climate Action
2. Natural resources and Biodiversity
3. Food Systems
4. Equity, Education and Social Development
5. Sustainable Economies and Livelihoods
6. Planetary Health
7. Transforming Institutional Effectiveness

LRD's Contribution to Key Focus Areas by SPC Goal

Goal 1: All Pacific people benefit from sustainable development.

Key Focus Area 2: Natural Resources and Biodiversity

Key Focus Area 4: Equity, Education, and Social Development

Key Focus Area 5: Sustainable Economies and Livelihoods

Goal 2: All Pacific communities are empowered and resilient.

Key Focus Area 1: Resilience and Climate Action

Goal 3: All Pacific people reach their potential and live long and healthy lives.

Key Focus Area 3: Food Systems

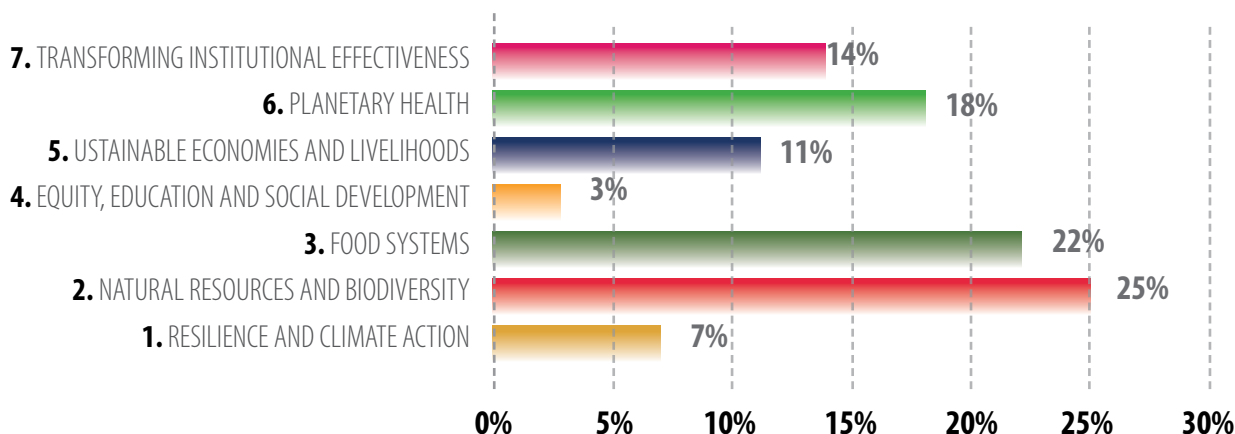
Key Focus Area 6: Planetary Health

Goal 4: One SPC delivers integrated programmes through streamlined services.

Key Focus Area 7: Transforming Institutional Effectiveness

Contribution to Key Focus Areas

The LRD Business Plan 2019-2023 is aligned to the organisation-wide - SPC Strategic Plan 2022-2031. LRD achieved 72 major results in 2023. Of the 7 SPC Key Focus Areas to which LRD contributes, 5 results were reflected under Key Focus Area 1 (Resilience and Climate Action); 18 results under Key Focus Area 2 (Natural Resources and Biodiversity); 16 results under Key Focus Area 3 (Food Systems); 2 results under Key Focus Area 4 (Equity, Education and Social Development); 8 results under Key Focus Area 5 (Sustainable Economies and Livelihoods); 13 results under Key Focus Area 6 (Planetary Health) and 10 results under Key Focus Area 7 (Transforming Institutional effectiveness). Contribution percentages are depicted in the graph below:



Integrated Programming

Through integrated programming, LRD effectively achieves optimal impact across the four organisation goals and seven Key Focus Areas. This integrated approach is facilitated through LRD's host flagship programme - the Food Systems Programme, the Coconut Integrated Programme, and the One Health Programme. These initiatives enable LRD to seamlessly implement projects and deliver results that address various challenges and priorities within the organisation's strategic framework. By strategically aligning efforts and resources across multiple programmes, LRD enhances its capacity to drive positive change and sustainable development outcomes in the Pacific region.

Food Systems Flagship

Strengthening Pacific Food Systems: Insights from the Sunshine Coast Agrifoods Cluster Tour

Representatives from the government and the private sector, academia, media from Fiji, New Caledonia, Papua New Guinea, Samoa, Tonga, and Vanuatu toured agrifoods clusters on Australia's Sunshine Coast, organised by the Pacific Community (SPC) in partnership with the New Zealand Ministry of Foreign Affairs and Trade (MFAT) through the Funding with Intent (FIT) mechanism and further supported by the Australian Government through the Pacific Women Lead at SPC. The tour provided a platform to showcase the role of business clustering in supporting small enterprises. Delegates visited various businesses including COYO Australia, Sunshine & Sons distillery, and Groundskeeper Willie coffee roaster. They also attended the launch of the Sunshine Coast Pantry, highlighting the region's Agri-tourism offerings. The tour emphasised collaboration between the triple helix (government, private sector, and academia) and key considerations for setting up agrifoods as well as seafoods through national and regional clusters to address food system challenges, with insights shared during a roundtable discussion. Delegates recognised the potential of business clusters in enhancing Pacific food systems, promoting collaboration, and addressing health, nutrition, and economic aspects.

Clustering represents a strategic approach, empowering businesses to take the lead while governments provide a supportive policy environment and academia contributes to the knowledge base.





The food systems flagship continued largely with external outreach as well as internally via the Food Systems Working Group (FSWG). The latter brings together representatives from across SPC divisions to help inform, and shape, food systems-related interventions and investments, as it implements the SPC Strategic Plan 2022-2031. The FSWG is very clear in drawing on and building on the SPC capabilities and interdisciplinary approaches.

A big part of the outreach was various events:

- Discussion panel on “The building blocks to a resilient Pacific Food System” held during the Pacific Resilience Week co-convened with Commonwealth Scientific and Industrial Research Organisation (CSIRO), Pacific Islands Private Sector Organisation (PIPSO) and Pacific Island Farmers Organisation Network (PIFON).
- Workshop with Team Australia (representatives from the Australian Centre for International Agricultural Research (ACIAR), CSIRO, DFAT et al) in Canberra. The intent was to identify and develop partnership and collaboration opportunities on food systems post the Pacific Week of Agriculture & Forestry, guided by the SPC Strategic Plan and Food Systems flagship dimensions.
- COP28 side event on Pacific Coastal Food System – bridging the climate-food nexus, co-organised with the Aquatic Blue Food Coalition; and
- A side event on Food Systems during the Committee of Representatives of Governments and Administrations (CRGA) in Noumea, which was organised with the Public Health Division and the Protégé Team.

Moving forward, priority will be given to updating the Food Systems Theory of Change and re-validating its dimensions to formulate the new Implementation Plan.

Coconut Integrated Programme

The Coconut Integrated Programme at LRD has been effectively implemented through a range of projects, including the Funding With Intent (FIT) programme, SAFE Pacific, Pacific Awareness and Response to CRB (PARC), Safeguarding and Deploying Coconut Diversity, and Coconut and other non-traditional Forest Resources. Emphasising a people-centred approach, LRD has continued to implement several initiatives (described in previous sections) aimed at enhancing coconut cultivation and management. These initiatives encompass a spectrum of activities, such as developing in vitro culture protocols for coconuts, conducting in-country training sessions on coconut embryo culture and acclimatisation, researching gender-equitable sourcing of senile coconuts in communities, and publishing comprehensive Coconut Harvesting Guidelines.

Notably, significant strides have been made towards establishing a regional framework and platform for coconut research and development (R&D) in the Pacific region. Two pivotal regional consultations were convened with member countries to advance this initiative. The first workshop in April 2023 laid the foundation for the regional framework and outlined a preliminary governance board structure. Later in the year, nominations were solicited for members of the governance board, leading to a workshop in November 2023 to draft terms of reference for the board and associated technical working groups.

Going forward, the integrated programme will focus on the establishment of a governance board structure and the development of the strategic framework to operationalise this platform.

Advancing One Health: A Collaborative Approach to Health and Ecosystem Management in the Pacific.

In recognising the necessity of a unified approach to sustainably manage the health of people, animals, and ecosystems, LRD embarked on introducing the principles and concept of One Health to member countries. This initiative led to the introduction of One Health principles and concepts in Samoa, Tonga, and Vanuatu. Furthermore, regional meetings involving organisations: the Pacific Infection Control Network (PICnet), Pacific Heads of Veterinary and Animal Production Services (PHOVAPS), and the Pacific One Health Symposium (POHAS), resulted in the commitment of these three countries to adopt the One Health approach in their programme implementation. Furthermore, African Swine Fever (ASF) awareness materials were provided to the Federated States of Micronesia (FSM) and Palau during the Pacific One Health Symposium (POHAS) and PHOVAPS.

To facilitate the coordination and implementation of One Health initiatives, SPC established the One Health Working Group (SPCOHWG) to oversee projects under the Pacific Animal Health and Production Framework (PAHPF).

LRD made significant progress in developing a concept note on One Health for consideration under the DFAT and USAID Indo-Pacific Security Initiatives. Additional funding from the Australian Department of Agriculture, Forestry and Fisheries (DAFF) was secured to support One Health efforts in the Pacific.

A consortium of partners supporting One Health implementation was recognised, including:

- DFAT: Department of Foreign Affairs and Trade
- NZ MPI: New Zealand Ministry for Primary Industries
- ACDP: African Capacity for Immediate Responses to Disease Outbreaks
- EU: European Union
- FAO: Food and Agriculture Organisation
- WOA: World Organisation for Animal Health



MANAGEMENT AND OPERATIONS: DELIVERING INTEGRATED PROGRAMMES THROUGH STREAMLINED SERVICES

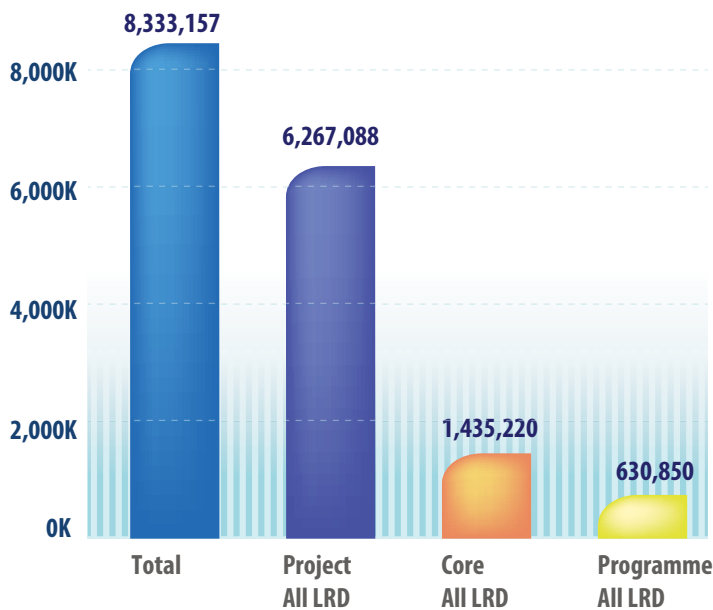
Resource Allocation and Use

In 2023, LRD embarked on an initiative to expand its programme and project portfolio while simultaneously enhancing the targeted and efficient use of resources. Central to this endeavour were LRD's four Pillars, which are interrelated and integrated:

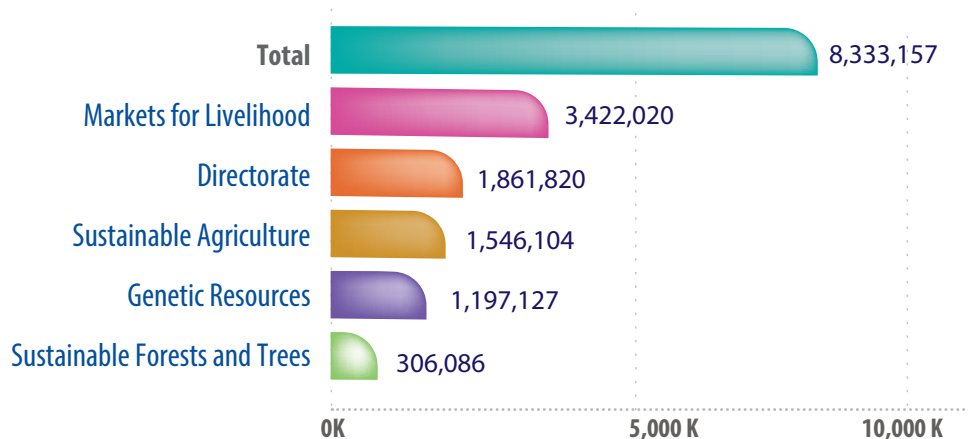
- Genetic Resources,
- Sustainable Forests and Landscapes,
- Sustainable Agriculture, and
- Markets for Livelihoods.

The pillars were supported by a diverse funding mix, classified into three primary components: project, programme, and core funding. Total expenditure for the year amounted to 8,333,157 Euros, with project expenditure comprising 6,267,088 Euros, programme expenditure totalling 630,850 Euros, and core expenditure amounting to 1,435,220 Euros.

BUDGET EXECUTION BY CATEGORY



BUDGET EXECUTION BY PILLAR



This strategic approach aimed to ensure that resources were optimally directed towards initiatives aligned with LRD's overarching objectives, maximising impact and effectiveness across all. See the graph on the left.

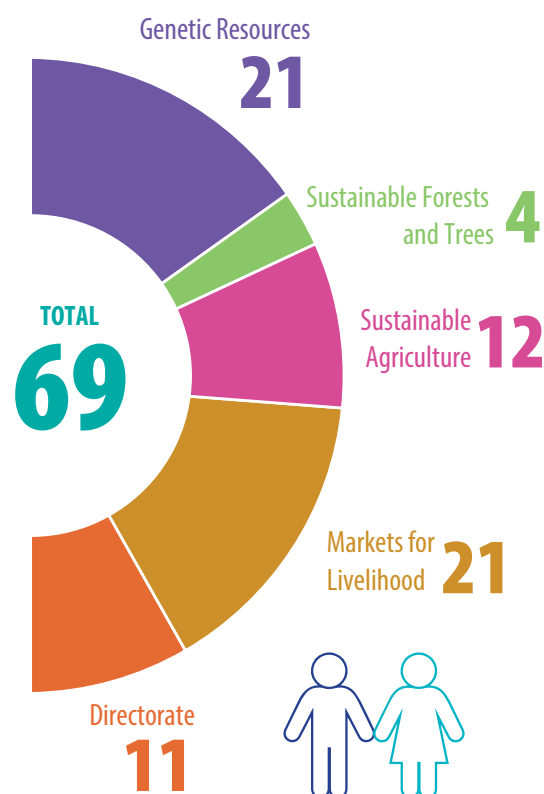
Segmented by LRD theme, or Pillar, and including core funding, Markets for Livelihoods expenditure was Euros 3,422,020 followed by Sustainable Agriculture with Euros 1,546,104, the Sustainable Forestry and Landscapes with Euros 306,086, Genetic Resources with Euros 1,197,127, and the Directorate Team with Euros 1,861,820. See the chart below

In 2023, LRD maintained a compliment of 69 staff, with 38 of them being female.

As part of our ongoing efforts to enhance our human resources, LRD committed to achieving a balanced staff composition, ensuring a diverse mix of male and female employees across technical and operational support roles. This marks a significant shift from the previous five years, during which LRD staff were predominantly male.

Furthermore, the Division welcomed three interns for short-term work experience in the Coconut Integrated Programme, Communications and Knowledge Management, and Research for Development. LRD will continue to leverage this pathway to provide opportunities for new graduates to gain valuable experience and learning opportunities by being attached to the Division.

2023 STAFF COMPLIMENT



Enhancing Staff Expertise: Capacity Building Initiatives at LRD

LRD is committed to fostering continuous learning and professional development among its staff, thereby ensuring enhanced expertise and efficacy in fulfilling the division's mandate.

LRD facilitated a series of capacity-building initiatives involving 31 staff members, 21 female and 10 male, participated in a range of technical training sessions including training in cryopreservation, tissue culture preservation, sweet potato virus diagnosis, Master of Science Studies on molecular characterisation and prevalence of potyvirus in Pacific Yam, Masters in Research Studies on native agroforestry tree species for forest and landscape restoration, Grin-Global Community Edition (GCCE) on the management of genetic resource collections, DNA fingerprinting procedures, bio-assay training on improvement of plant health laboratory standard operating procedures and laboratory research on bio controls, Pest Risk Mitigation of Sea Containers, leadership and strategic foresight.

Strengthening LRD Capabilities: Staffing Developments in 2023

LRD secured funding for 15 new positions, with 3 positions successfully filled by year-end. These new roles span various departments, including:

- Directorate team – 2 new positions (Deputy Director, Climate Change Project Development Specialist)
- Genetic Resources – 10 (3 new Senior Technicians, 5 new Technicians and 2 Lab Assistants)
- Sustainable Forestry and Landscapes - 1 new position (Forest management technician)
- Sustainable Agriculture – 2 new positions (PHOVAPs coordinator, Pacific Soils Partnership Coordinator)

Additionally, the division undertook a comprehensive review of its structure to optimise staffing resources, resulting in significant changes, such as the operationalisation of the Deputy Director position and the approval of regional Network Coordinators for; Pacific Soils Partnership (PSP), Pacific Plant Protection Organisation (PPPO), and Pacific Heads of Veterinary and Animal Production Services (PHOVAPS). The One Health Coordinator was recruited with support of the Australia Department of Agriculture, Fisheries and Forestry. Despite these advancements, LRD faced challenges due to staff turnover in critical positions, including team leaders for Pillars 3 and 4, CePaCT curator, SAFE project team leader, Information Communication and Knowledge Management Adviser, Pest and Disease Management Adviser, and Seed Systems Specialist. This turnover has disrupted the smooth operation of the division, underscoring the need for effective succession planning and retention strategies.



Upholding Social and Environmental Responsibility (SER): Implementation of SPC's SER Policy

SPC remains steadfast in its commitment to implementing the Social Environment Responsibility (SER) policy across all technical divisions, signalling a proactive stance towards ethical and sustainable practices. In line with this policy, four projects have been meticulously screened and deemed compliant with both SER and People Centred Approach (PCA) criteria for execution in 2023. The selected projects encompass a diverse range of initiatives aimed at fostering social and environmental stewardship while delivering tangible benefits to member countries. Among them were the USAID One Health Project, FAO Coconut Project, Building Prosperity for Women Producers, Processors and Women-Owned Businesses (BPWP), and the Pacific Organic Learning Farm Network Project (POLFN).

The integration of SER and PCA standards into project implementation processes is paramount, ensuring that programmes are not only equitable, inclusive, and ethically grounded but also strive to manage social and environmental risks effectively. By adhering to these standards, SPC endeavours to maximize positive impacts while minimizing adverse effects, ultimately advancing the collective well-being and sustainability of the Pacific region.

Communication, Visibility and Knowledge Sharing with Members and Partners

LRD actively disseminated information and engaged diverse audiences through its websites and social media platforms. LRD's website attracted a total of 11,170 views, with a user engagement of 9,500 Hits. Moreover, POETCom's YouTube channel saw a surge in subscribers, with 67 new subscribers.

Additionally, LRD produced a total of 77 media products on its website, comprising 42 press releases and 35 feature stories. These materials served to inform and educate our member countries and partners on various initiatives and developments.

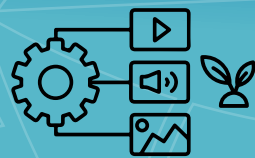
Furthermore, LRD developed and published 46 knowledge tools and products in 2023, disseminated through multiple media channels. These included directorate papers from the Heads of Agriculture and Forestry meetings, brochures, media releases, publications, directorate publications, journal articles, reports, and guidelines.

Through these concerted efforts, LRD effectively communicated its research findings, insights, and initiatives, contributing to enhanced awareness and knowledge dissemination across its target audience.

COMMUNICATION PRODUCTS

77

Total media product for 2023



46

Knowledge Products (articles, journals, publications)



9500

User Engagement on LRD website



11,170

LRD website views



67

New Subscribers





LOOKING AHEAD: 2024 PROSPECTS AND PRIORITIES

In 2024, LRD eagerly anticipates expanding further its in-person interactions with Pacific communities. Building on the groundwork laid in preceding years after COVID-19, we envision advancing Pacific agriculture and forestry through the continued governance and partnership with the Pacific Heads and Ministers of Agriculture and Forestry meetings and corresponding regional platforms. The planned events for Heads of Agriculture and Forestry will provide a platform for collaborative discussions to shape the future of our work as well as these sectors in the Pacific region.

In line with our dedication to bolstering resilience in land resources planning and programming, LRD will advance its food systems flagship initiative. Initial efforts will concentrate on securing seed funding and forging partnerships with private sector entities and non-governmental organisations. Organic agriculture will remain pivotal in these endeavours, with a focus on expanding the Pacific Organic Learning Farms Network (POLFN). This expansion will involve identifying markets for various crops and non-timber forest products (NTFPs), alongside conducting gender assessments of value chains and addressing the priorities of vulnerable farmers.

To strengthen regional collaboration and partnerships, LRD will bolster its efforts through the recruitment and onboarding of regional network coordinators for PHOVAPS and Pacific Soils Partnership. This strategic initiative aims to enhance coordination among stakeholders and streamline communication channels within the Pacific region. By appointing dedicated coordinators, LRD seeks to foster synergy and facilitate effective collaboration across various programmes and initiatives, ultimately driving greater impact and sustainable development outcomes in the region.

Additionally, major programmes and projects vital to LRD's mission will continue to progress in 2024, including the Coconut Integrated

Programme and SAFE Pacific. These initiatives will contribute to enhancing the resilience of crops to climate change, pests and diseases, access to trade markets, and stronger agribusiness capabilities in meeting consumer demand. The focus will be on prioritising research identified through the Regional Research Agenda (RRA), tackling zoonotic and Non-Communicable Diseases (NCDs) using the One Health approach in collaboration with the Public Health Division, establishing a governance board structure and strategic framework for the Coconut Integrated Programme, guiding our strategic initiatives in agriculture and forestry to address pressing challenges and capitalise on emerging opportunities in the Pacific region.

In parallel with our research efforts, we are gearing up to launch the Regional Agriculture and Forestry Strategy, a comprehensive framework designed to steer the development of these vital sectors in alignment with regional priorities and objectives.

Reflecting on the impact of LRD over the past five years, we recognise our achievements and lessons learned, culminating in the conclusion of our current business plan. This reflection will inform our strategic planning process as we usher in a new era with the introduction of the new Business Plan: 2025-2029. With a forward-looking and strategic foresight approach, we will leverage insights from our past experiences to chart a course that aligns with evolving regional needs and priorities.

In the years ahead, LRD remains committed to advancing the sustainable development of the Pacific region through innovative research, strategic planning, and collaborative partnerships. With the launch of our new business plan, we are poised to seize opportunities, address challenges, and maximise our impact for the benefit of Pacific communities and future generations.

2024 PLANNED REGIONAL EVENTS

EVENT	PERIOD
Coconut Integrated Programme - Coconut Governance Meeting	21-25 February 2024
POETCom General Assembly: Governance Revision approval and Board Elections	4-9 March 2024
Regional Strategy for Agriculture and Forestry – Design workshop	11-14 March 2024
Regional Meeting on Pacific Network of Forestry Professionals & Pacific Heads of Forestry Meeting	8-12 April 2024
Pacific Plant Protection Organisation Executive Committee Meeting (PPPO ExCo)	6-10 May 2024
Heads of Agriculture and Forestry Meeting (HOAFS)	15-17 May 2024
Pacific Regional Forestry Network establishment	August 2024
Pacific Heads of Veterinary and Animal Production Service (PHOVAPS) Network Meeting	14-15 October 2024

LINKS TO OUR WEBSITES

- The Pacific Community (www.spc.int)
- LRD (<https://lrd.spc.int>)
- Pacific Data Hub (PDH) (www.spc.int)
- POETCom (www.organicpasifika.net)
- CePaCT Database (www.genesys-pgr.org)
- Pests Lists Database (<https://pld.lrd.spc.int/>)
- Coconut Rhinoceros Beetle (CRB) (<https://crb.lrd.spc.int/>)

