



Land Resources Division (LRD)

# **BUSINESS PLAN**

2019 – 2023



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# LIST OF ACRONYMS

ACIAR	Australian Centre for International Research
APPARI	Asia-Pacific Association of Agricultural Research Institutions
APCC	Asia Pacific Coconut Community
BIFS	Biosecurity Information System
BQA	Bilateral Quarantine Agreement
CBD	Convention on Biological Diversity
CePaCT	Centre for Pacific Crops and Trees
CGIAR	Consultative Group for International Agricultural Research
CROP	Council of Regional Organizations of the Pacific
CSA	Climate Smart Agriculture
DFAT	Australia Department of Foreign Affairs and Trade
DRR	Disaster Risk Reduction
EQAP	Educational Quality & Assessment Programme
EWS	Early Warning System
FRDP	Framework for Resilient Development in the Pacific
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GIZ	German Society of International Cooperation
HoAFS	Heads of Agriculture and Forestry Services
ICKM	Information, communication knowledge management
INBAR	International Network for Bamboo and Rattan
IPPC	International Plant Protection Convention
LDN TS	Land Degradation Neutrality Target Setting
LRD	Land Resources Division
MFAT	New Zealand Ministry of Foreign Affairs and Trade
MRL	Maximum Residual Level
NCDs	Non-Communicable Diseases
NPC&T	Northern Pacific Countries and Territories
OIE	Organization International Epizooties
PGS	Participatory Guarantee Systems
PHC	Plant Health Clinic







PICTs	Pacific Island Countries and Territories
PIFON	Pacific Island Farmers Organisation Network
PITSC	Pacific Islands Tree Seed Centre
PLD	Pest List Database
PMEL	Planning, Monitoring, Evaluation and Learning
POETCOM	Pacific Organic & Ethical Trade Community
PPPO	Pacific Plant Protection Organisation
PRPRS	Pacific Regional Pesticide Registration System
PWA	Pacific Week of Agriculture
RBM	Results Based Management
REDD+	Reducing Emissions from Deforestation and forest Degradation
RPPO	Regional Plant Protection Organisation
SDGs	Sustainable Development Goals
SFM	Sustainable Forest Management
SIDS	Small Island Developing States
SLM	Sustainable Land Management
SPC	Pacific Community
SPREP	Secretariat of the Pacific Regional Environment Programme
SPS	Sanitary and Phytosanitary
TBT	Technical Barriers to Trade
UNCCD	UN Convention to Combat Desertification
UNDP	UN Development Programme
UNPS	United Nations Pacific Strategy

# 1. INTRODUCTION

In late 2015, the Pacific Community (SPC) Land Resources Division (LRD) underwent an external review of its projects, programmes and operational effectiveness. The outcome of this review prompted the Division to reflect on its own relative position within the region in order to be a more effective service provider for the Pacific People.

Between 2016 and 2018, LRD held a series of consultations with member country representatives and relevant professionals from the region to validate priority collaboration areas and help build ownership of the Division. The in-country consultations benefited from past and ongoing projects such as the European Union (EU) funded Pacific Agriculture Policy Project (PAPP), as well as from individuals and non-governmental and civil society institutions, particularly those representing communities of practice, for example the Pacific Island Farmers Organisation Network (PIFON). Additional consultations with the UN, the EU and bilateral Pacific donors helped ensure consultation synergy between LRD planning and the Framework for Pacific Regionalism and the UN Pacific Strategy 2018-2022.

In October 2017 during the first-ever Pacific Week of Agriculture (PWA), the LRD presented its vision for enhanced effectiveness and greater success in the Pacific Region at the Heads of Agriculture and Forestry Services (HOAFs) meeting. This vision grew from the LRD external review findings, taking into consideration the new regional realities and their potential impact on food security and livelihood. The Ministers agreed to establish a working group to support the LRD business plan development.

In February 2018, LRD held its first divisional retreat to discuss a draft business plan based on lessons from past and ongoing projects. An institutional mechanism that would spur LRD to provide more effective research and development services aligned to member country needs was also proposed. The retreat also served to rework the business plan and strengthen LRD as an institution through discussion of stronger inter-divisional linkages that contribute to integrated programmes. LRD Director visits to the Federated States of Micronesia (FSM), the Republic of Marshall Islands (RMI) and Samoa also informed the retreat and were the basis of integrating proposed activities information, as well as efforts to seek feedback on the general direction of the business plan.

In 2018, SPC conducted a series of Country Gender Assessments in agricultural and rural sectors in Fiji, Samoa, Tonga, Solomon Islands and Vanuatu. Assessment results have informed LRD's work in these countries and in generating gender sensitive programmes in the region.

A follow-up HoAFS meeting was held in April 2018 as part of an SPC organized event during the Food and Agriculture Organization (FAO) portion of the UN Asia Pacific Regional Conference (APRC). The discussion further contributed to Division direction through critical input consensus agreement on the way forward. The meeting resulted in a number of recommendations to update the draft business plan – specifically around areas of implementation, finance and risk mitigation, among others.

The results of these multi-stakeholder consultations with member countries and national, regional and strategic development partners and stakeholders serve as the foundation of this business plan. The current draft has duly considered stakeholder comments and aims to work with member countries on both country and integrated programming in the Pacific. This version builds on past drafts by providing further details on LRD's new structure and staffing, core strategies and competencies, and implementation modalities and partnerships, as well as a detailed description of LRD's theory of change, specific integrated programmes and activities, budget overview, risk strategy and an indicator framework to be used to track progress towards results.



## 2. DEVELOPMENT CONTEXT

Pacific people have a history of resilience based on their understanding of their environment, sustainable resource use, and their rich cultural heritage. The Pacific region faces a number of regional challenges, including the effects of climate change and ecosystem degradation due to unsustainable land resource use and pollution. In this context, there is a need for developing and adapting practices to produce healthier food and generate economic opportunities for growing island populations, as well as an urgency to adapt to changing demographics, economies, and environment.

The Pacific region has a substantial base of natural resources that provide immense potential for productive development. These resources include fish, timber, agricultural products, minerals and limited reserves of oil and gas. Pacific Island Countries and Territories (PICTS) and their people survive within a reciprocal relationship with these resources and the land. Pacific peoples traditionally see humankind and nature as inseparably linked, and themselves as guardians of the ecosystem. They believe that people belong to the land and not the land to the people, and this has given them a strong sense of identity. They also see the land as a source of life: it nourishes, supports, and teaches; it is the core of culture; it connects people with the past (home of the ancestors), the present (provides resources), and the future (a legacy they hold for their grandchildren). A vast amount of knowledge is held in nature and those who work the closest with it, including farmers.<sup>1</sup>

Agriculture and forestry sector economic importance varies greatly among Pacific Island Countries and Territories, although in general they remain the mainstay of the regional economy and provide significant employment, in addition to contributing to household income and export earnings. Crop production is the most important sector in Melanesia, where it is the main source of employment, and is also important in Polynesian countries such as Samoa and Tonga, as well as Micronesian countries such as Kiribati and the Federated States of Micronesia (FSM). Subsistence food production makes up a significant part of household income – more than 50 percent in some countries – though it varies widely among and within countries. In some of the smaller PICTs, agriculture consists primarily of subsistence farming and activities in the forest and trees sector, including watershed and coastal forest management and agroforestry development mainly for food and nutrition security. Agriculture is therefore particularly important for Pacific people with hardship living in remote areas that depend largely on it and natural resources use to sustain their livelihoods<sup>2</sup>.

The Pacific region is particularly prone to disasters, including cyclones, severe storms, flooding, earthquakes and prolonged drought. Climate change will have a negative impact on overall agriculture and forestry productivity across the Pacific in coming decades, placing a critical burden on food supply systems, economies and livelihoods. Changes in rainfall patterns, temperature and wind direction are believed to be the cause of pests, and disease incursions are threatening production systems and livelihoods, specifically smallholder production systems that lose access to markets locally and regionally as a result of these changes.

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<sup>1</sup> Dickie, Rachelle, UW-L Journal of Undergraduate Research VIII (2005), Indigenous Traditions and Sacred Ecology in the Pacific Islands

<sup>2</sup> Detailed information is available in Vulnerability of Pacific Island Agriculture and Forestry to Climate Change edited by Mary Taylor, Andrew McGregor and Brian Dawson and published by the Pacific Community

## 2.1 Ecosystem degradation and agricultural food production decline

*Local food production is compromised through rapid soil and ecosystem degradation and deforestation, which in turn results in rapid genetic resource diversity loss in both crops and animals.*

Agriculture production has been steadily increasing in the Pacific Region since the 1960s. Annual production growth rates in the overall agriculture sector, however, have decreased since the 1990s in the majority of countries for which there is data, except for modest gains in Kiribati, Solomon Islands and Tonga (Roger and Martyn, 2009). Fiji and Samoa agricultural production declined in the same period. Since the 1990s, sector contribution to GDP has also generally declined – except in Papua New Guinea, where it has increased.

Food production per capita has also declined in all countries since the 1990's, except for Kiribati and Samoa, and has been associated with increased import dependency.

The increasing commercialization of agricultural production, as well as import markets demanding more specific crop varieties, has turned farmers to growing only the varieties demanded by the markets, and has also often resulted in mono-cropping systems. This dynamic narrows the genetic base and results in the loss of traditional crop varieties.

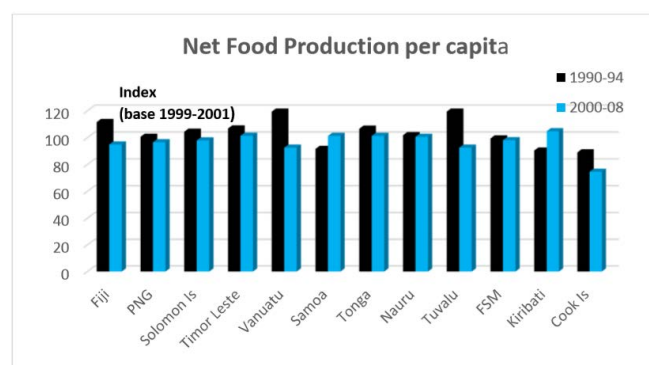
## 2.2 Poverty, food insecurity and increased food import reliance

*Poverty and food insecurity have become critical challenges in the Pacific region due to increasing food prices and greater reliance on food imports.*

Urbanization and high population growth rates (in excess of 2 percent in Melanesian countries), accompanied by stagnant agricultural productivity, are severely challenging existing farming systems to produce enough food to meet needs. The region's population is predicted to increase by approximately 50 percent by 2030 from 2019 figures. The majority of the increase will be in urban areas, in particular in Melanesia. Producing enough food locally for these urban areas will be a major challenge.

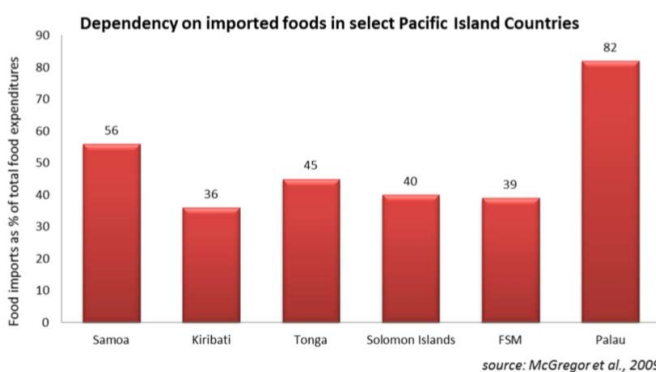
The growing youth population across the region, along with a rise in labour costs and diminishing interest in traditional production systems in turn contributes to growing youth unemployment and under employment. Heightened imported and refined food consumption, and the associated decline in local food production and consumption, additionally damage the health of many in the region. For Polynesia and Micronesia region countries that have limited agricultural production and export earnings, the increasing reliance on food imports is of particular concern.

Imports of affordable (such as rice and wheat), low quality (such as lamb flaps and turkey tails) and convenient (such as ready-to-eat) foods now compete with domestic foods (such as root crops) that often have higher production costs and are less convenient to store and prepare. This impacts traditional diets and maintenance of cultural food and farming heritage.



Source: faostat.fao.org and Sombilla, 2010

Figure 1: Comparison of country net food production per capita for the periods 1990–1994 and 2000–2008



source: McGregor et al., 2009

Figure 2: Imported food dependency

The Pacific's susceptibility to food and fuel price level fluctuations has been heightened by an increasing reliance on imports to meet food demand. Food prices have risen steeply in recent years.

Increased consumption of cheap and low-quality imported foods has resulted in Pacific Islanders bearing some of the world's highest rates of non-communicable diseases (NCDs), coupled with emerging vitamin and mineral deficiencies such as iron. This issue has been translated into the regional context in the *Pacific Non-Communicable Diseases (NCD) Roadmap*, and the *Pacific Monitoring Alliance for Non-Communicable Disease Action (MANA)*. It was also recently re-iterated by Pacific leaders and health professionals at the Pacific NCD Summit<sup>3</sup>, as well as captured in the *SIDS Accelerated Modalities of Action (SAMOA Pathway)* through the Global Action Program on Food Security and Nutrition in Small Island Developing States (GAP)<sup>4</sup>. The GAP aims to accelerate action on food security and nutrition to support Small Island Developing States (SIDS) sustainable development. At the most recent GAP meeting<sup>5</sup>, Ministers recognized the robust commitment from development partners and PICTs to the prevention and control of non-communicable diseases in PICTs over the past ten years, while also concluding that greater emphasis on multi-sectoral, integrated approaches is needed. The *Framework for Action on Food Security in the Pacific*<sup>6</sup> highlights these and other challenges in the Pacific Region.

### 2.3 Climate change and disaster vulnerability and incursions of pests and disease

*The nature of the Pacific islands – small populations in remote locations – makes the region vulnerable to climate change and disasters, and the resulting social and economic challenges. Climate change in the Pacific signifies increasing natural hazard frequency, including cyclones, flash floods, drought, and coastal inundation, eroding the ability to engage in productive agriculture.*

Climate change is adversely affecting local agriculture production and causing rapid land and water ecosystem degradation, as well as loss of diversity in genetic resources, increased incidences of pests and diseases and forest and overall land degradation. Population growth in several of the larger Pacific countries, along with low growth in others that reflects high outward migration, deepens these deteriorating conditions. Climate change will likely result in increased risks to rural livelihoods and declining land productivity that, together with ailing markets, will lead to lower agriculture contributions to GDP.

Increased pest incursion and agriculture-related diseases, notably the rapid spread of the Coconut Rhinoceros Beetle (Guam Strain) and the Bogia Coconut Syndrome (BCS) has been a major threat in recent years. BCS has rapidly spread in Melanesia and has greatly impacted coconut based (as well as banana, betel-nut palm and sago) livelihoods. BCS threatens the International Coconut Genebank for the South Pacific, located near Madang in Papua New Guinea.

A pest or disease increase can destroy a crop or several of its varieties. In 1987, the sweet potato scab disease almost wiped out sweet potato cultivation in Tonga. Taro leaf blight temporarily wiped out taro cultivation in Samoa in the late 1990s.

The PICT community's coconut sector faces serious challenges in improving livelihoods and reaching its full potential. The Coconut Rhinoceros Beetle (CRB), is now showing resistance to biocontrol agents that to date have successfully controlled its spread. The G-biotype of the beetle can cause the death of all coconut trees in infested areas, and additionally poses a threat to the oil palm industry. In the last eight years this biotype has spread to five PICT countries: Guam (2007), Papua New Guinea (2009), Hawaii (2013), Palau (2014), and the Solomon Islands (2015).

<sup>3</sup> Pacific NCD Summit Report 2016. Pacific Community, Noumea, New Caledonia.

<sup>4</sup> Report on the 3rd International Conference on Small Island development States. SIDS Accelerated Modalities of Action (S.A.M.O.A) Pathway. 2014 A/CONF.223/10A/CONF. <http://www.un.org/>

<sup>5</sup> Pacific Health Ministers Meeting, Rarotonga, Cook Islands, August, 2017

<sup>6</sup> Towards a Food Secure Pacific: Framework for Action on Food Security in the Pacific

## 2.4 Gender, youth and social exclusion issues in agriculture

*Women's roles in agriculture and rural development are not fully appreciated, and policies, programmes and services related to agriculture, forestry and other land resources development are not gender responsive. The potential of youth has not been fully embraced, hampering agriculture sector development.*

SPC, in partnership with FAO, completed agriculture and rural sector gender assessments in five countries – Fiji, Samoa, Solomon Islands, Tonga and Vanuatu in 2018. The assessments show that Pacific women play a substantial role in agriculture and rural development, but their contributions are seldom recognized and their knowledge and skills under-used. Their involvement spreads across the sector, and includes subsistence and cash crops agriculture, food transformation, small scale marketing of excess produce, handicrafts made from trees and plants, small animal raising, and other natural resource-based activities.

The assessments also revealed that roles are changing, and more women are currently involved in cash crops and other agriculture-based income generating activities. In 2014, for example, more than half the students enrolled in agriculture, forestry and fisheries studies at Fiji National University were women, while women made up 45 percent of students in agriculture and land management programmes at the University of South Pacific in the same year.

In order to better support women's roles in agriculture and ensure agriculture and land resources management benefits are equitable, SPC, LRD and all agriculture stakeholders must:

- 1) Improve information and make sector contributions from women visible.
- 2) Build national capacity to develop and implement gender-responsive policies in agriculture and forestry, in addition to water management, infrastructure and overall public services.
- 3) Support women's access to, and control over, productive assets, including information, training, financial investments, transport and markets.
- 4) Support women's participation in governance of land and other natural resources.
- 5) Support women's participation in niche product value chain development to equitably increase their financial benefits.
- 6) Support women's resilience in the face of climate change impacts by promoting their participation and benefit from alternative or diversified livelihood activities.

People that are socially excluded, both in the Pacific region and worldwide, are disproportionately represented in poverty environments. Lack of available well-paid jobs for youth exacerbates their economic exclusion. Only one quarter of young people finishing high school are likely to find a full-time job in the formal sector of their home economies<sup>7</sup>. Retaining traditional livelihoods is therefore an important resilience element.

The youth unemployment rate in the Pacific stands at an alarming 23 percent, and young people are over five times less likely to secure jobs than older workers. This situation is compounded by a significant youth population swell that cannot be absorbed by existing Pacific labour markets and job creation mechanisms. The link between development policies and employment creation is a critical element in addressing youth unemployment. This includes the recognition and formalisation of agriculture as an entrepreneurial option for unemployed young people. For example, the SPC Youth@Work Programme assisted the Solomon Islands government with youth unemployment through entrepreneurship and preparing work-ready youth through internship. The proportion of youth in the provinces that engaged in agriculture through ventures that were part of the entrepreneurship component was 90 percent. Participants engaged in agriculture businesses such as poultry, piggeries and indigenous vegetable gardens. SPC anticipates pursuing agriculture as a social entrepreneurship opportunity to assist youth unemployment in the region through scaling up of the Youth@Work model.

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<sup>7</sup> UNDP (2014).



Responses to these and other related challenges require national capacity building, regional cooperation, and effective development partner alignment and collaboration. Effective solutions should be based on **multi-sectoral, integrated responses aligned to national priorities and integrated needs, in addition to the application of high-quality scientific and technical knowledge and innovation.** The Sustainable Development Goal (SDGs) commitments reflect many SPC member national development priorities, in addition to a wide range of global and regional frameworks and multilateral agreements.

This Land Resources Division business plan aims to provide a foundation for enhanced capacity so that members can reach their food and nutrition security and human health and resilience development agendas.



# 3. LAND RESOURCES DIVISION

## 3.1 About the Land Resources Division

The Pacific Community Land Resources Division (LRD) evolved from a set of regional projects into a fully-fledged division using expertise in specialized areas of natural resources development. As a repository for scientific and technical knowledge on agriculture, forestry and land use, LRD has assisted in specialist network development both within the region and internationally.

LRD aims to contribute to the Pacific Community goal for *resilient and food and nutritionally secure Pacific peoples and communities, with well-managed natural resources, ecosystems and markets*. LRD has expertise in genetic resource conservation, climate smart agriculture, biosecurity, pest and disease management, agricultural extension, plant pathology, entomology and animal health. It collaborates with governments, regional organisations, civil society and other SPC divisions to identify development gaps in PICT members and provide technical expertise to address these gaps and related issues.

**LRD's mission** is to *provide effective expert scientific advice, capacity building and services on conservation, development and utilization of Plant Genetic Resources (PGR), forest and landscape management, resilient agricultural systems, diversification of livelihood strategies and access to markets to maintain ecosystem services and improve land productivity and food, nutrition security and resilience of Pacific communities*.

LRD is taking a progressively **integrated approach to programming** to accelerate progress towards achieving SPC's development goals. This will entail focusing on LRD's thematic pillars to develop programs collaboratively with SPC member countries and other SPC divisions.

LRD is widely recognised as a leader in regional research for development (R4D), and in promoting food and nutrition security and resilience through strengthening technical and scientific knowledge. It focuses on genetic resource management, sustainable forest and land management, pest and disease management, integrated crop and livestock production systems and biosecurity regulation and policy enhancement. LRD collaborates with Ministries of Agriculture and Forestry and development partners including the EU, DFAT, MFAT, IFAD and others as well as farmer organisations and communities.

SPC envisions a region of peace, harmony, security, social inclusion and prosperity so that all people can lead healthy and productive lives. LRD subscribes to this vision by focusing on both the rural communities that rely on their natural resources for their livelihoods and on urban populations that need to be supplied with quality food. It centres programmes on the most vulnerable people, including women and youth, that make up more than half of the region's population. The Melanesian countries in the region have the largest populations, while the Small Island Developing State (SIDS) and Atoll Nation communities are most vulnerable. LRD pays particular attention to safeguarding the wellbeing of these vulnerable communities. LRD's core competencies lie in its ability to manage plant and animal diseases (such as leptospirosis) and link these to issues of public and environmental concern using the One-Health approach. It builds capacity and coordinates early warning processes, and preparedness and response to the incursion of transboundary pests and diseases (such as the Coconut Rhinoceros Beetle). It also develops capacities for biosecurity, sanitary and phyto-sanitary (SPS) standards and enhancing market access through value addition. Through the Pacific Regional Pesticide Registration System, LRD is developing a

### LRD contributes to the following SPC development goals and objectives:

#### 1. Pacific people benefit from sustainable economic development

- Strengthen sustainable management of natural resources (fisheries, forestry, land use, agriculture, minerals, water).
- Improve pathways to international markets (mobility, private enterprises, phytosanitary and biosecurity standards supporting trade.)

#### 2. Pacific communities are empowered and resilient

- Improve multi-sectoral responses to climate change and disasters.
- Advance social development (human rights, gender equity, culture, and youth).

#### 3. Improve multi-sectoral responses to NCDs and food security

harmonized platform and mechanisms for the safe use of pesticides and the phasing out of obsolete pesticides, thus contributing to improved environmental and human health.

Under the Framework for Resilient Development in the Pacific - 2017-2030, LRD is providing technical support to countries impacted by climate change, specifically in the areas of drought, cyclones, and flash floods. With UN Agency collaboration, it aims to develop, test and roll-out real-time early warning systems to improve preparedness and early crisis response.

These areas of expertise position LRD well to gauge both the state of agricultural and forestry development needed to address food and nutrition security concerns and leverage its resources for increased positive impact on peoples' livelihoods and resilience.

### 3.2 Partners

LRD's primary stakeholders and partners are the Ministries of Agriculture and Forestry in Pacific countries. LRD works through these ministries to strengthen their implementation capacities and policy environment. In addition, LRD works directly with implementing partners such as Pacific farmers organizations and development researchers and institutions to enhance the livelihoods of the most vulnerable.

LRD works in strong partnership mainly with the UN Food and Agriculture Organization (FAO) and the International Fund for Agricultural Development (IFAD), as well as with the World Food Programme (WFP), to ensure a coordinated approach to food and nutrition security and resilience in the Pacific Region, and is additionally a member of the regional Pacific Food Security Cluster.

LRD plans to further strengthen its partnerships with R4D partners, most notably ACIAR and FAO, to pursue One-Health approaches to address the nexus of animal, public and environmental welfare. Specialized partnerships that foster innovation, learning and impact will be nurtured while partnerships that deepen LRD research will be enhanced in the areas of land management and agricultural research. Through SPC's accreditation, LRD will pursue funding from the Green Climate Fund and seek strategic alliances with accredited partners such as SPREP (Secretariat of the Pacific Regional Environment Programme) and GIZ (German Society for International Cooperation – the German Government's overseas development arm) to access funding from the Global Environment Facility. Partnerships with the French Overseas Territories (New Caledonia, French Polynesia, Wallis and Futuna) will be strengthened.

Below is a non-exhaustive list of LRD's strategic, implementing and internal SPC partnerships.

#### **LRD's strategic partners, will include, among others:**

**Australian Centre for International Agricultural Research** – LRD will work with the Australian Centre for International Agricultural Research (ACIAR) on developing bilateral and multilateral research partnerships in the public, private and NGO sectors for more productive and sustainable agriculture and improved livelihoods. This partnership will design projects that are more integrated and that take a systems approach. In addition, SPC and ACIAR have signed a partnership agreement that will enhance LRD capacity in common strategic matters, including climate change adaptation and nutrient sensitive agriculture, among others.

**European Union** – LRD will continue to work with the EU via the European Development Fund mechanisms (ACP and OCT) and Intra ACP programmes with a focus on sustainable (and organically produced) agriculture, regulating better phytosanitary protocols, and markets for smallholder niche crops. Partnerships with the French Overseas Territories (New Caledonia, French Polynesia, Wallis and Futuna) will be strengthened with EU support.

*LRD support areas are embedded in the Pacific Community Strategic Plan (2016-2020) and aligned to ongoing and planned interventions with development partners, including:*

#### **1. United Nations agencies**

- Food and Agriculture Organization (FAO)
- International Fund for Agricultural Development (IFAD)

#### **2. Regional Bilateral Donors**

- Australian Ministry of Foreign Affairs
- Australia Department of Foreign Affairs and Trade (DFAT)
- Australian Centre for International Agricultural Research (ACIAR)
- New Zealand Ministry of Foreign Affairs and Trade (MFAT)
- Centre for International Forestry Research (CIFOR)
- World Agroforestry Centre (ICRAF)
- European Union (EU)

#### **3. Global Funding Mechanisms to address climate change**

- Global Environmental Facility (GEF)
- Green Climate Fund (GCF)

#### **4. National, Regional and International Research Communities**

- Consultative Group for International Agricultural Research (CGIAR)



**GIZ** – The German Government’s overseas development arm has been a loyal Pacific forestry supporter for a long time. It is now focusing its efforts on climate change, supporting Melanesian countries’ efforts to build their capacity to implement REDD+ and in the process to realize sustainable forest and landscape management.

**International Research Centers** – A long term partnership is envisaged with **CROP TRUST** assisting the Pacific Community through its endowment fund for the conservation and utilization of crop genetic resources for food and nutrition security. LRD seeks to introduce innovative methodologies and expedite processes to improve adaptation to climate change through innovative genetic resource approaches. Specifically, it will work with the International Atomic Energy Agency (IAEA) to foster the use of nuclear technologies for food and nutrition security, CGIAR research centers for germplasm exchange and capacity building, and regional research centers such as the Asia-Pacific Association of Agricultural Research Institutions (APAARI) to advance agricultural bio-technologies in the region.

**DFAT** – The Australian Department of Foreign Affairs and Trade has provided the anchor as a donor for CePaCT’s evolution into a centre of excellence. LRD will work with DFAT and additional partners to strengthen CePaCT and to establish a common sanitary and phytosanitary (SPS) platform that will facilitate and enhance trade relations in the Pacific. In the North Pacific, LRD will be working with Australian Aid’s **Pacific Women Shaping Pacific Development** programme to further the engagement of youth and women in organic agriculture production and markets.

**MFAT** – LRD will collaborate with the New Zealand Ministry of Foreign Affairs and Trade through their Pacific Reset programme, which seeks stronger New Zealand engagement in the region. Focus will be on strengthening genetic resources for food and nutrition security – specifically in regard to quality management and seed health systems, as well as looking into possible regional approaches that respond to and curtail the spread of CRB(G) and strengthen biosecurity capacity.

**FAO** – LRD has been collaborating with FAO to develop a concept note on enhancing climate resilience and food security in Pacific Island Countries and Territories through managing climate induced transboundary plant and animal pests and threats from invasive exotic aquatic species. LRD will tap into FAO’s Technical Cooperation facilities to design a long-term program for GCF financing of this work.

**International Fund for Agricultural Development (IFAD)** – LRD collaborates with IFAD on support for organic agriculture development, certification, and value chain development, with a focus on women and youth engagement and extension and advisory services.

**Other UN agencies, including UN Women, CBD Secretariat, UNCCD and UNDP** – Strategic partnerships with a number of other UN agencies are being explored in regard to youth and women in agriculture production and market engagement, participation in the Land Degradation Neutrality Target Setting Programme (LDN TSP), formulation of a regional forest landscape restoration strategy and development of an informal economy to support green and inclusive growth.

#### **LRD’s implementing partners, will include, among others:**

**APFNet, INBAR and others** – LRD’s partnership with the Asia Pacific Network on Sustainable Forest Management and Rehabilitation focuses on supporting project countries to enhance their implementation capacity for national frameworks toward sustainable forest management. LRD is looking into a possible partnership with the International Network for Bamboo and Rattan (INBAR) to advance the production and marketing of bamboo and rattan in Tonga and Fiji.

**Global Forum for Rural Advisory Services (GFRAS)** – LRD partners with GFRAS on strengthening extension systems through capacity building, networking, information sharing and scaling of evidence-based practices.

To encourage integrated programming, LRD will seek to improve linkages with other SPC Divisions.

#### **LRD’s internal SPC partners, will include, among others:**

**The Fisheries, Aquaculture and Marine Ecosystems (FAME) Division** – LRD will collaborate with FAME to support the protection of coastal fisheries and nearshore fisheries from the impacts of agricultural activities, in addition to supporting the inclusion of aquaculture in integrated farming systems.



**Geoscience, Energy and Maritime (GEM) Division** – LRD will engage in Ridge to Reef approaches addressing agriculture and forestry components and collaborating on issues such as renewable energy for processing of agricultural products.

**Public Health Division** – LRD will integrate work on One-Health.

**Regional Rights Resource Team Division** – LRD will help lead mainstreaming of gender and human rights in natural resources management.

**Social Development Programme (SDP)** – LRD will continue mainstreaming gender and social inclusion, fostering engagement of youth and women in sectors focusing mainly on food, climate change and environmental sustainability and nutrition security, and identifying and protecting traditional knowledge and other cultural heritage elements.

**Statistical Development Division** – LRD will focus on informed decision making.

**Climate Change and Environmental Sustainability** – LRD will help lead in facilitating members' transition to low-carbon economies and climate change adaptation in the agriculture and forestry sectors.

### 3.3 LRD's 2019-2023 approach

Following the November 2015 external review, LRD instituted a strategic business approach that reorganized the division into four thematic areas, or pillars, to be managed by Pillar Leaders with the support of Senior Technical Advisors.

## Thematic pillars

The division's work is structured under four thematic pillars with the following objectives.

### Pillar 1: Genetic Resources

*To advance regional, national and community capacity on the conservation, development and utilization of plant genetic resources, including the development and strengthening of seed and planting material supply networks to enable improved availability, access, utilisation and quality of food crops and trees.*

CePaCT provides support to the PICTs in climate readiness, as well as in combatting non-communicable diseases (NCDs). Through its partnerships with the CGIAR Centres, CePaCT has access to, and shares genetic resources with, international gene banks around the world. It also provides the science for purpose incubator for diversified partnerships, such as ACIAR, APAARI, CGIAR, FAO and IAEA, for example, and is the provider of integrated solutions for integrated deliverables.

In regard to conservation, this pillar aims to build the requisite quality management systems (QMSs) and standard operations procedures (SOPs) for an effective crop and tree seed "Centre of Excellence". Plant genetic resources (PGR) development will involve evaluation and selection of improved climate smart crop varieties. This pillar will collaborate across other pillars to develop and strengthen seed systems, including seed and planting material supply networks, to enable improved availability, access and utilisation of high-quality nutritional crops and high value trees.

Genetic resources for food and agriculture, including crops, livestock and forestry, are vital for promoting climate change affected food and nutrition systems. Country interdependency on these resources summons the need for collective, coordinated action. The Genetic Resources Pillar will respond to the increasing need for food and tree crop planting stock. Its scope will expand from a conservatory to a strategic and operational programme and seed supplier. It will build regional, national and community capacity in all relevant areas of genetic resources management (conservation, development and utilization) and seed/planting material supply networks, and will ensure access to food crops as part of its disaster risk reduction (DRR) mainstreaming strategy, in partnership with global networks and treaties. It will also initiate an effective risk mitigation strategy through the planned launch of decentralized conservation/utilisation hubs.

## **Pillar 2: Sustainable Forests and Landscapes**

***To support and develop sustainable forest and landscape management capacities and maintain ecosystem services, improve land productivity, and enhance community resilience.***

Given increasing population pressures, the complex nature of tenure relationships in many of the Pacific Countries, and the effects of climate change on land use and land husbandry, LRD recognises that good forest and land resource governance is intrinsically interwoven and critical to maintain ecosystem services and safeguard food and nutrition security for current and future land users. The Sustainable Forests and Landscapes Pillar will therefore assist in developing sustainable forest and land management and land use planning protocols – including readiness principles for Reducing Emissions from Deforestation and Forest Degradation (REDD+) and land degradation neutrality. Participatory land use planning principles and practices at the landscape level will be promoted, in addition to land use good governance to support forest and land resources conservation, restoration, sustainable management and climate change adaptation.

SPC Member countries will be empowered to reach for and enact solutions for endangered forests and landscapes, as well as their associated vulnerable communities. This includes development and improvement of regulatory frameworks (such as policies, plans, laws and strategies) and strengthening capacity for the widespread application of sustainable forest and landscape management.

Knowledge and innovation in areas such as forest genetic resources conservation, climate-change adaptation and mitigation (REDD+), forest landscape restoration, forest resources sustainable management, and forest and land resources good governance and ecosystems restoration, will be promoted. The Sustainable Development Goals' strategic direction will be followed through an emphasis on raising public awareness on the importance of forests and trees to environmental and socio-economic development.

The UN Decade on Ecosystem Restoration 2021 – 2030 will be supported to ensure that foresters, policymakers and local communities work collaboratively to halt deforestation and conserve healthy forest ecosystems for future generations.

## **Pillar 3: Sustainable Agriculture**

***To promote integrated farming systems and resilient agricultural systems for food, nutrition security and resilient communities.***

The Sustainable Agriculture Pillar aims to enhance food and nutrition security in PICTs through integrated crop and livestock production systems promotion, agricultural system climate change resilience building, and community and national stakeholder capacity building. This Pillar will focus on developing climate smart agricultural technologies for resilient farming systems. This includes development and promotion of nutritional and climate smart crop varieties, soil health and water management, pest and disease management, and animal husbandry practices, as well as strengthening agricultural extension systems through effective partnerships and agricultural information systems and networks.

Management of pests (such as beetles, mealybugs, scales, caterpillars, borers, miners, snails, slugs) and disease (e.g. blight, rots, knots, rust, scab, canker, yellowing) is a focus of this Pillar. Outbreaks require the necessary resources to meet unpredictable management circumstances tied to climate change. Within the context of climate smart agriculture (CSA), LRD seeks to expand integrated pest management (IPM) systems and processes with the inclusion of pathogen tested planting materials, organics, and plant derived pesticides applied to specific CSA practices, including cultural, physical, mechanical and biological interventions. An approach that advocates using natural enemies as part of the solution is the most sustainable pest and disease management strategy. The LRD plant health team has adopted this approach. All other concepts, processes and strategies that contribute to plant health systems must be aligned to IPM.

In Melanesia, Pillar 3 will focus on the interface between land and agro-ecology, while in Micronesia, Polynesia and the smaller Melanesian islands, the focus will be on sustainable production intensification, including pest and disease management, to highlight the importance of complex integrated crop and livestock systems.

## Pillar 4: Markets for Livelihood

*To build resilient farm families and ensure food and nutritional security by improving resilience of household livelihoods, diversification of livelihood strategies and improving access to markets.*

The Markets for Livelihood Pillar aims to build resilient farm families and ensure food and nutritional security through improving availability, access, utilization and quality of food supplies in both rural areas and the Pacific Region's growing urban populations.

This Pillar will focus on supporting high value crop production and transformation, certified organic agriculture and agri-tourism and agri-preneurship, including a focus on youth and women in the organic sector. The Pillar will promote management and systems that organise small holders in value chains such as participatory guarantee systems and clusters. Markets will be supported through Pillar activities that include promoting local market value chains and import replacement, and where appropriate, export value chains.

The ability of farm families to sell produce offsets food commodity imports and also enables them to earn income for their daily needs from both food and cash crops, livestock products and other agriculture-related enterprises. Boosting access to local and export markets, including improvement in the requisite biosecurity norms, is a driving force for substituting imports, improving production quality, enhancing food security and stimulating farming for market development at the village level. Strong markets will ensure a stable food supply and provide entrepreneurial opportunities for youth following agricultural shocks.

Due to a significant increase in the movement of people, animals, plants and goods in the Pacific region, the threats and impacts of invasive and exotic pests and diseases on endemic flora and fauna cannot be overlooked. The Pacific Plant Protection Organisation (PPPO)/Regional Technical Meetings on Plant Protection highlighted the need to strengthen biosecurity legislation in the PICT's to address and comply with SPS standards and requirements in line with the International Plant Protection Convention (IPPC), OIE and Codex Alimentarius standards. The PPPO has been marked as the platform to build early warning systems (EWS) and collective technical responses against emerging threats and the spread of transboundary pests and diseases. The establishment and spread of these exotic pests and diseases will result in huge financial losses and require large eradication programmes and control measures. Capacity building of NPPO's on SPS standards at pre-border, border and post-border locations will continue to be a vital biosecurity tool that guarantees pest and disease-free trade of agricultural plants and animals and associated products and renders them safe for human consumption.

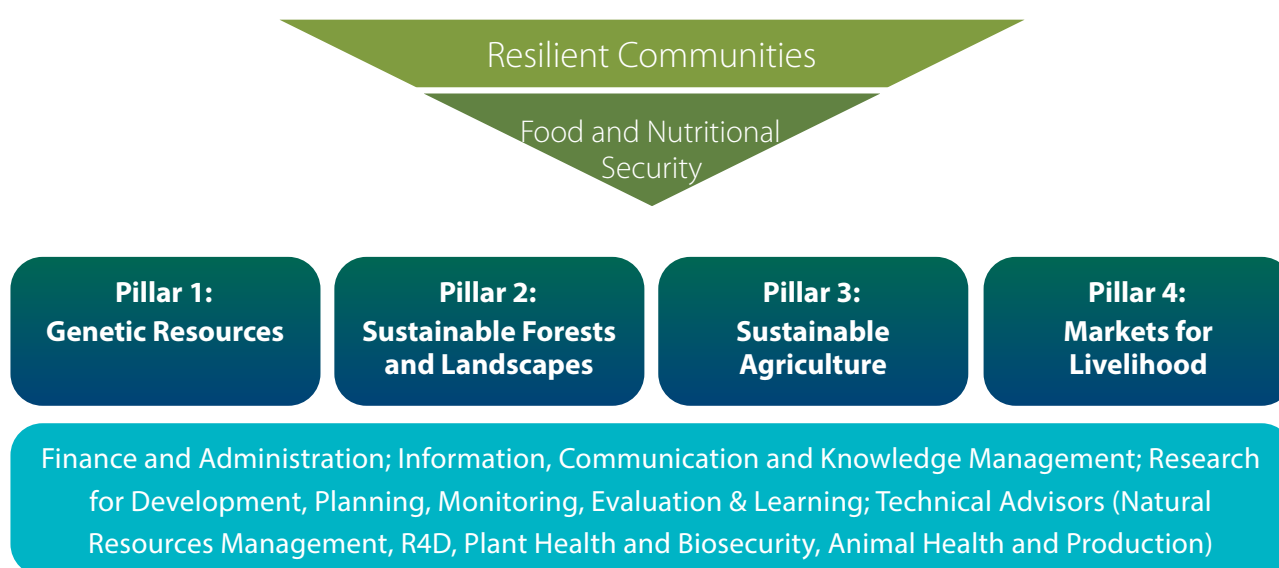


Figure 3: LRD Hubs, Pillars and Advisory Services

### Technical Advisory Services

Senior LRD technical advisors will support the technical work of LRD programmes in natural resources management, research for development (R4D), plant health and biosecurity, and animal health and production. The advisory services will be responsive to country technical needs and assist in instructing the work within and across pillars, and where applicable, across divisions.

## 4. WORK METHODS

The work methods detailed in the following subsections provide the LRD blueprint for progress toward the following results.

- An improved focus to better address member priorities
- Implementation of integrated cross-cutting programs
- Institutional and knowledge platform building
- Progress towards SPC organizational objectives

### 4.1 An improved focus to better address member priorities

To respond more effectively to the needs of the Pacific, LRD is advancing discussion aimed at improving both programmatic effectiveness and internal operational efficiencies in meeting its member and partner priorities.

**From a *programmatic* perspective**, the Division aims to improve its effectiveness through better response to member country needs. LRD will do this by shifting from a sector-specific approach to an integrated systems approach. Rather than pursuing a portfolio of important but disconnected activities, the Division will advocate for the development of, and support to, integrated programmes that will produce integrated outcomes for beneficiaries. An important aspect of integrated programming will be improved coordination among LRD and its stakeholders. LRD will also aim its assistance at a wider development perspective, taking stock of the most pressing development and emergency challenges: adaptation to climate change and enhancing community health through improved food production systems.

**From an *operational* perspective**, LRD will ensure its operations are cost effective, securing the financial viability and sustainability of its programmatic operations and core assets. The Division will pursue economies of scale through integrated programming both within and across other SPC divisions (health, social sciences, geosciences, marine sciences, environment and climate change, use of statistical data). Full cost recovery principles will inform the Division's operational effectiveness as it establishes robust pathways for sustainable impact on food and nutrition security and resilience. The support of strong planning, monitoring, evaluation and learning (PMEL), information communication and knowledge management (ICKM), and research and development expertise will all be critical in attaining operational efficiencies.

**From a *partnership* perspective**, LRD will incorporate member and partner opportunities into its engagement to add value to future programme and project design, with a focus on learning, results, and adaptation for stakeholder improvement. Existing partnerships will be deepened to support the quest for essential research and development services in the Pacific, and new partnerships with national, regional and global organizations will be forged to address innovation, scale and scope in the Pacific. An important factor in these partnership arrangements is LRD's respective contribution to both operational and programmatic efficiency and effectiveness. LRD will foster partnerships that aim at complementarity and contributing to the development puzzle to avoid duplication (both external and SPC-internal) and provide the glue for effective coordination.

### Design and implementation of cross-cutting integrated programmes

LRD is developing a set of integrated programmes to holistically address interdisciplinary challenges such as climate change, sustainable livelihoods and food and nutrition security by drawing on capacities and technical expertise from across its thematic pillars and SPC as a whole. These integrated programmes will serve as LRD's drivers for Pacific Region resilience and are fully aligned with SPC's organizational and development objectives.



Integrated programs aim to ensure LRD's scientific capacity in genetic resources, sustainable forest and land management, climate smart agriculture and markets for livelihood, and technical expertise in climate smart agriculture, etc. The capacity of other SPC divisions is leveraged to support member countries' key development needs and objectives.

LRD is currently leading the following integrated programs.

### **a. Pacific Seeds for Life**

Pacific Seeds for Life (PS4L) aims to develop viable and sustainable seed systems to increase farmer access to, and utilisation of, quality seeds for both horticulture and clonal climate smart crops for improved food and nutrition security. Three building blocks provide the foundation for the PS4L Programme: seed system capacity building, establishing mechanisms to support sustainable seed systems, and improving access to, and utilisation of, quality seeds. These building blocks will be supported through an integrated approach within the LRD Pillars and across relevant SPC Divisions and through other partnerships. PS4L will mobilise technical expertise on quality management systems to support distribution and evaluation of climate smart crop varieties from CePaCT. It will also involve selection and promotion of varieties that are adaptable to agroforestry and tree-based systems, as well as high value crops to support food security and market needs. Implementation processes will leverage technical expertise across SPC Divisions such as the Educational Quality and Assessment Programme (EQAP) to support training programmes; the Social Development Programme (SDP) in regards to traditional knowledge, protection of cultural heritage and the involvement of youth for intergenerational seed management sustainability; the Statistics for Development Division (SDD) for inclusive and transparent seed policy formulation; and the Public Health Division (PHD) in regards to food security awareness and trainings. Pacific Seeds for Life will also leverage partnerships from global platforms and networks including CROPTRUST and other gene banks such as the International Potato Centre and Bioversity International. The Initiative will create awareness and understanding on the importance of seed diversity and quality to support resilient and healthy food production systems. Country capacity will be strengthened, enabling mechanisms and a policy environment for effective seed marketing systems. Improving access to quality seeds will require establishment of a community-based seed production programme that is linked to strengthened national seed programmes.

As part of PS4L, LRD will implement the Coconuts for Livelihoods Project. Coconut is the tree of life for the Pacific and is immensely valuable for Pacific island coastal community livelihoods. These communities are comprised of approximately five million vulnerable people. This livelihood system, however, is facing significant problems due to ageing trees and biotic stresses such as the Coconut Rhinoceros Beetle (CRB), in particular the highly destructive 'Guam strain' (CRB-G) that is immune to the biological control agents that have kept the 'normal' CRB in check over many decades. Furthermore, the Bogia Coconut Syndrome (BCS: a variant of a lethal yellowing phytoplasma disease that also affects banana, betel-nut palm and sago) is threatening the International Coconut Genebank for the South Pacific (ICG-SP) near Madang in Papua New Guinea. SPC, along with the University of Queensland (UQ), is already working with partners to develop a response to CRB-G, based on integrated crop management. The first phase of the Coconuts for Pacific Livelihoods programme, expected to run from January 2019 to December 2023, will: (1) develop and deploy strategies for coconut use and conservation, (2) develop and deploy strategies for addressing biotic threats to coconut (especially CRB-G), and (3) establish a sustainable stakeholder platform for coordinating current and future coconut research-for-development initiatives. In partnership with Bioversity, ACIAR, the CROP Trust and the Asian Pacific Coconut Community (APCC), LRD will serve as the nexus in the Pacific for providing support services to the Coconut Genetic Resources Network (COGENT), that among other goals, aims to contribute to coconut conservation and use, as well as generate, and improve access to, market information systems for coconut based livelihoods. The Coconuts for Livelihoods project will be integrating its operations with Pillar 2 (landscapes), Pillar 3 (sustainable agriculture), and with other SPC Divisions such as GEM (Geoscience, Energy and Maritime).

## **b. Healthy Ecosystems**

The goal of the Healthy Ecosystems programme is to promote healthy Pacific ecosystems as a foundation for securing human rights, gender equality and social inclusion in communities through the following outcomes.

- Governments and institutions are applying human rights, gender equality and social inclusion standards in the development of policies and frameworks for ecosystems governance.
- CSOs, trade unions, the private sector and research communities are engaged in capacity development and use their enhanced knowledge to advocate regional collaboration for human rights, gender mainstreaming and social inclusion in natural resources management.
- Universities, schools and communities promote biodiversity and sustainable ecosystems management.
- Men and women of all diversities in local communities have knowledge and are empowered equally to implement and benefit from integrated landscape management approaches.

This programme will be aligned with the SPC One-Health integrated program and linked to the UN Decade on Ecosystems Restoration 2021–2030.

## **c. Food Systems for Nutrition and Health**

The proposed SPC Food Systems for Nutrition and Health programme aims for improved health outcomes for Pacific peoples. The LRD components will aim to increase the variety of nutrient-rich foods produced and consumed by smallholder farm families and families living in rural and urban areas. This food systems approach engages at the following levels.

- Food production: including managing natural resources, supply and utilisation of inputs, and markets.
- Processing and packaging food: including supply of raw materials, standards, and storage.
- Distributing and retailing food: including transport, marketing, access and affordability.
- Consuming food: including the acquisition and preparation of food, cultural appropriateness of food and its convenience.

Impact in this integrated programme will be achieved through various investments that include the following.

- Safeguarding and strengthening the capacity of women and youth to provide for family food security, health, and nutrition.
- Value chain development in order to increase access to food and year-round availability and diversity of high-nutrient content food.
- Increasing the availability and consumption of local, traditional and underutilised foods
- Improving nutrition knowledge among rural and urban households to enhance dietary diversity. LRD will ensure that explicit nutrition objectives and indicators are incorporated into its division programmes.

Specifically, the Pacific Food Systems for Nutrition and Health programme will engage Pillar 1 in identification, nutritional analysis, conservation and distribution of traditional or underutilized crops of high nutritional value; Pillar 2 in the identification of forest and tree products of high nutritional value such as nuts and pandanus, and in the promotion of these in agroforestry systems; Pillar 3 for the responsibility of supporting high nutritional value crop production and breeds and livestock products through addressing pests and diseases and other production issues, as well as promoting these crops' inclusion in integrated farming systems. Pillar 3 will also interface with FAME (Fisheries, Aquaculture and Marine Ecosystems Division) for inclusion of aquaculture and aquaponics into farming systems where appropriate. Pillar 4 will support development of value chains for these products to ensure availability to both rural and urban consumers. Pillar 4 will additionally engage with the Public Health Division and change agents such as the tourism industry, chefs, etc. to promote these products' consumption and use.

#### d. Sanitary/Phytosanitary Standards and Biosecurity for Food Security and Trade

The Sanitary/Phytosanitary (SPS) standards and Biosecurity flagship programme aims to contribute to the establishment of a regional biosecurity platform to ensure that all member PICT's have adopted and are practising their new biosecurity model laws, in line with the IPPC, OIE and Codex Alimentarius Standards. Biosecurity platform capacity building seeks to ensure that NPPOs and biosecurity authority Heads are aware of the transboundary pests and diseases that threaten our flora, fauna and livelihoods, and that pre-border, border and post-border measures are implemented to combat these exotic pests and diseases. The programme will also focus on biosecurity non-compliance issues in export and import trade and biosecurity related pathways, as well as treatment regimens and relevant SOP's that will help rectify these issues.

Sanitary/phytosanitary standards and biosecurity work will draw on technical expertise in pest and disease management and plant and animal health across all LRD pillars, as well as link to other SPC divisions.

In order to contribute to pest and disease management and food safety, LRD has aligned its core competencies in plant health to those of biosecurity. Specifically, the biosecurity team supports plant health through border surveillance at three levels – pre-border, border and post-border – that are equally important in order to restrict incursions. Incursions can be easily detected through early warning systems such as routine pest and disease surveillance and plant health clinics. Early detection will allow for a fast diagnosis and management response, thus avoiding the need for a drawn-out and expensive emergency response programme.

To create economies of scale and economies of scope, LRD has launched various institutional and knowledge management platforms/communities of practice (PAFPNET, PIRAS, PAPGREN, POETCom, etc.) that serve as the conduit for knowledge sharing and scaling successes with farmer communities and policy makers. LRD is also focusing on private sector knowledge potential for developing inbound and outbound market activities (farm input supply and value additions to supply chain operations).

An ICKM (Information, Communications and Knowledge Management) platform instituted at the Directorate level will result in high-level visibility through effective and timely stakeholder communication and knowledge management, support for sector-specific partnerships and promotion of advocacy and resource mobilisation. The platform will serve three purposes: knowledge brokerage, information retention and access, and capacity building and learning.

Senior Technical Advisors take the lead in knowledge brokerage and share it with the ICKM advisor. A functional intranet will consolidate existing platforms, tools and products, while targeted audience communications will ensure timely information sharing.

Previous knowledge creation and sharing audits have identified a number of web-based systems for information retention and access. Development of an effective intranet system will support LRD's four pillars, along with internal communications, through more effectively managed administrative and financial documentation of internal processes and workflows, the establishment and use of a shared calendar, cloud storage and a search function. A revamped website will include a knowledge hub to capture and share knowledge under each of the four pillars. The knowledge hub will also include an electronic library with access to existing publications and documented research through the Pacific Agriculture Information System (PAIS), with a link to the Pacific Data Hub.

LRD will deploy consistent and clear communications and strategic approaches to engage and coordinate with its members and technical and development partners. These approaches will advance integrated collaboration and learning in new and existing programme and project design for improved outcomes. The agriculture and forestry sectors are complex landscapes made up of specialized thematic areas with a high number of knowledge products, and a wide variety of priorities and interests. LRD seeks to meet this challenging environment and take the lead in ICKM through close consultation with its member countries and partners.

### 4.3 Supporting a people-centred approach

A people-centred approach to development means placing people at the centre of planning, implementation, decisions, discussions, monitoring, and reporting. SPC's people-centred approach consists of three pillars: human rights, gender equality and social inclusion, and the relationship of people to their environment. Alongside these three pillars, SPC's people-centred approach is also informed by the cultural context in which services are delivered.

By adopting and fully integrating a people-centred approach across all of its programmes and services, LRD ensures that technical and scientific interventions benefit people equitably, and that Pacific people of all diversities have equal share in development outcomes by<sup>8</sup>:

- *Responding effectively to their respective needs, aspirations, priorities and perspectives.*
- *Building their assets and resilience, reducing inequality and social exclusion and hardship, and answering environmental and economic stressors with vulnerability mitigation.*
- *Respecting, protecting, promoting and fulfilling fundamental human rights.*
- *Protecting, preserving and promoting culture as an enabler and driver for sustainable development.*
- *Improving outreach and fostering ownership of LRD initiative results and outcomes.*
- *Assisting young people of all diversities to realise their full potential.*
- *Empowering women and girls and achieving gender equality.*
- *Leaving no one behind.*

LRD promotes gender equality, social inclusion and human rights and promotes and protects Pacific cultures for building Pacific people's assets and improving institutional responsiveness to the needs of women and men of all diversities in the agriculture and land development sector. This people-centred approach will allow LRD to actively and strategically use its programmes and resources to foster economic empowerment in women, youth and other economically marginalised people, and support the development of inclusive decision-making and governance processes.

The approach will be used in all pillars and across LRD's programmes, through:

- *Identifying gender, social inclusion, human rights, cultural and environmental issues in LRD-focused sectors and in the countries in which it is working.*
- *Delivering gender responsive, socially inclusive, culturally sensitive and rights-based programmes and services that have concrete benefits for Pacific people of all diversities, especially those that are marginalised.*
- *Strengthening partnerships with government institutions and civil society organisations representing women, youth, and marginalised segments of communities.*
- *Ensuring a people-centred approach is integrated into regional strategies and platforms related to agriculture, forestry and other land management areas.*
- *Adopting strategies and means of implementation that empower communities and stakeholders.*
- *Striving to reflect Pacific people of all diversities in the Division's workforce.*
- *Supporting gender responsive and inclusive communication in the production and dissemination of knowledge products.*

LRD programmes will also incorporate social and environmental actions that will respect the environment. It will explore opportunities to incorporate micro-accreditation qualifications for key training areas and enhanced capacity development. This will result in a holistic approach to building resilience and the social, cultural and economic assets of vulnerable groups.

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<sup>8</sup> Adapted from SPC People Centred Approach Strategy





#### 4.4 Progressing toward SPC organisational objectives

LRD's key efforts to realize its organisational objectives are as follows.

- 1. Strengthen engagement and collaboration with members and partners** – Enhance member engagement through strengthening consultative relationships with HOAFs, MOAFS and existing national/institutional mechanisms (PAFNET, PAPGREN, POETCom, PIRAS, etc.) as part of the development and validation of integrated programmes.
- 2. Address member development priorities through multi-disciplinary approaches** – Approaches for addressing member priorities include round table meetings, partnerships with regional and global development organizations, taking stock of existing national development strategies and country programme frameworks, and enhancing capacity building in civil society, the central government and SPC divisions.
- 3. Strengthen technical and scientific knowledge and expertise** – Support scientific and technical expertise in both SPC and Pacific countries through the application of innovative approaches to food and nutrition security. This support could entail the establishment of strategic partnerships with innovation hubs such as the IAEA, CROP Trust, etc, building stakeholder capacity in the participatory planning process, introducing knowledge products, and using existing platforms such as PIES, PIRAS and POETCom to contribute to adoption and scale processes.
- 4. Enhance the capabilities of people, systems and processes** – Take leadership in building SPC systems to ensure that an integrated programme approach is progressively applied by people, systems and processes.
- 5. Improve planning, prioritisation, evaluation, learning and innovation** – Address learning and innovation issues through internal and external capacity building processes and planning and building strategic alliances to deepen partnerships. An example of this is LRD's partnerships with research for development partners that can assist in processes and systems for impact, knowledge management and informed policies through statistics and analysis.

## 5. LRD RESULTS FRAMEWORK

Working in close collaboration with national, regional and international partners and aligning its work with country priorities, LRD will contribute to:

### **Sustainably managed natural resources and ecosystems and equitable markets for resilient, food and nutritionally secure Pacific communities**

Towards achieving this long-term impact, LRD's work will focus on five divisional objectives.

1. Land, agricultural, forestry and genetic resources are sustainably managed and conserved.
2. Enhanced ability to meet local and international market requirements for agriculture and forestry products.
3. PICTs have access to diverse and nutritious agricultural and forestry resources that are resilient to the impacts of disasters and climate change.
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.
5. Integrated farming systems and services are strengthened.

LRD's programmatic intent is to leverage national, regional and international support to develop and coordinate better integrated programmes to meet the complex and diverse challenges of agriculture and forestry in the region.

### 5.1 Theory of change

LRD's theory of change, detailed in Figure 5, identifies how it will progress towards achieving the SDGs and SPC's development goals using five LRD divisional objectives and supporting key result areas. LRD's integrated programmes and activities will produce one or more outputs that will accrue in the subsequent key result areas, manifested as changes in knowledge, attitude or practice at the PICT level. LRD expects its activities to contribute to a set of long-term outcomes that help reach the overall LRD goal of *resilient and food and nutritionally secure Pacific peoples and communities, with well-managed natural resources, ecosystems and markets*.

Figure 5 shows thematic pillar, advisory and directorate service contributions to LRD's overall goal, SPC's development objectives and the SDGs.

## Sustainable Development Goals



### SPC DEVELOPMENT GOALS

Pacific people benefit from sustainable economic development

Pacific communities are empowered and resilient

Pacific people reach their potential and live long and happy lives

### SPC OBJECTIVES

Strengthen sustainable management of natural resources

Improve pathways to international markets

Improve multi-sectoral responses to climate change and disasters

Advance social development through the promotion of gender equality and opportunities for young people

Improve multi-sectoral responses to NCDs and food security

### LRD GOAL

SUSTAINABLY MANAGED NATURAL RESOURCES AND ECOSYSTEMS AND EQUITABLE MARKETS FOR RESILIENT, FOOD AND NUTRITIONALLY SECURE PACIFIC COMMUNITIES

### LRD MISSION

Provide effective scientific advice, capacity building and services on conservation, development and utilisation of Plant Genetic Resources (PGR), forest and landscape management, resilient agricultural systems, diversification of livelihood strategies and access to markets to maintain ecosystem services, improve land productivity, and food and nutrition security for resilience of Pacific communities.

### LRD OBJECTIVES

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

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

OB 3: PICTs have access to diverse and nutritious agricultural and forestry resources resilient to the impacts of disasters and climate change

OB 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

OB 5: Integrated farming systems and services strengthened

### KEY RESULT AREAS

KRA 1: Increased availability of crop and tree varieties at CePaCT and local seed centres

KRA 2: Increased adoption of sustainable forest, land and agricultural management policies, legislations, plans, approaches, technologies and systems

KRA 3: Diversification of livelihoods strategies and new value chains adopted

KRA 4: Environmental food safety, SPS and other voluntary standards and certification strengthened

KRA 5: Resilient agricultural and forestry production systems, including REDD+, tested and adopted

KRA 6: Increased utilization of climate-resilient crop varieties by PICTs

KRA 7: Equitable benefits from agriculture and forestry

KRA 8: Enhancing technologies adopted and implemented in Crop production, soil health, water, pest and disease management and animal husbandry

Figure 5: LRD Theory of Change

## Objective 1: **Land, agriculture, forestry and genetic resources are sustainably managed and conserved.**

### **KRA 1: Increase in availability of Genetic Resources at CePaCT & in countries**

Given the increasing need for locally adapted, climate-resilient, and nutrient-dense quality food and tree crop seed and planting stock, the Genetic Resources pillar, in collaboration with the Sustainable Agriculture pillar, will build regional, national and community-based capacity in all genetic resources relevant areas (germplasm conservation, enhancement and utilization) and seed/planting material supply networks so that farmers have timely access to and can grow healthy and climate-resilient food crops. CePaCT conserves the region's major food crops with over 2,100 accessions. It has the largest collection of taro diversity globally and maintains a unique global taro collection of over 1,100 accessions. Conservation is the centre's core activity, with priority given to the region's staple crops: taro, yam, sweet potato, banana, cassava and breadfruit.

In close collaboration with the CGIAR Genebank Platform, CePaCT is currently improving its processes and systems to meet the highest international standards by implementing a quality management system (QMS). Vegetatively propagated material is prone to a high incidence of plant pathogens. To ensure safe exchange of healthy germplasm, CePaCT is building staff capacity and seeking ISO certification for its Germplasm Health Unit.

#### **1.1 Processes and systems for the conservation of seeds and germplasm health testing are improved**

As part of a QMS, key gene bank procedures have been mapped and 10 standard operational procedures (SOPs) are currently under development. The SOPs will be compiled into a gene bank operation manual. In addition, an occupational health and safety manual is being developed for gene bank staff. The QMS will require a barcoding system to improve tracking of standard operations applied to the accessions for their routine maintenance and conservation in the gene bank, and to link this information with the documentation system. CePaCT is building staff capacity and seeking ISO certification for its Germplasm Health Unit (GHU) to ensure safe exchange of healthy germplasm. Major GHU staff focus will be directed towards developing new protocols and refining existing protocols for the detection, identification, and elimination of crop virus diseases. CePaCT will also establish a DNA fingerprinting facility that will be used to rationalise germplasm collections (edible aroids) and establish core collections using the latest molecular techniques. The technology may also be used to assist taro breeders in their efforts to develop leaf blight tolerance through marker-assisted selection. CePaCT will negotiate with potential partners in the Pacific and beyond for the establishment of an off-site in vitro safety duplicate of major crop collections (taro, yam, sweet potato, banana, potato, cassava, Xanthosoma, breadfruit, bele). Potential candidates are the SPC headquarters in Noumea, and international agricultural research centres.

### **KRA 2: Increased adoption of sustainable land management plans, policies, approaches and technologies**

To maintain ecosystem services, enhance land productivity and strengthen community resilience, LRD's Sustainable Forests and Landscapes pillar is leading efforts in PICTs to support and build capacities for increased adoption of sustainable land management (SLM) practices and technologies. LRD will work with relevant partners, targeting potential funding from the GEF and GCF to develop and implement a programme on land degradation neutrality (LDN) that will assist country LDN programme implementation to achieve national targets. This programme is targeted to start in two to three countries but gained experience and knowledge will lead to its expansion to other countries, with additional programme components.



LRD's Sustainable Forests and Landscapes pillar is leading efforts in strengthening capacities of PICTs to manage their forest and tree resources in a sustainable manner, in addition to improving Melanesian and Polynesian community capacity to better utilise forest and tree products, including non-timber products. LRD will work with GIZ, targeting funding from the International Climate Initiative and GCF to develop and implement an integrated programme on forestry comprising both mitigation (REDD+) and adaptation of forest landscape restoration components. Focus on these two targets will help enhance the readiness of Melanesian Countries for their national REDD+ programme implementation phases and forest landscape restoration. As this programme will also contribute to national LDN target achievement, its design will ensure it complements the LDN programme. Implementation will follow the same LDN programme approach of starting small and expanding to other countries as new experiences and knowledge are gained from its initial phase.

## **2.1 Land use policies and land use planning and practices developed and supported**

LRD will build and strengthen the capacities of Melanesian countries to apply the concepts of the ***Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security*** to provide a platform for open, transparent and objective discussions on land use and management. It will assist in the preparation of **gender-equitable land use policies and participatory land use planning and practices** in response to country requests. LRD has experience in community participatory land use assessments and land use planning at the 'whole village' and 'whole island' levels in Fiji and Vanuatu. This experience and knowledge will be used in collaboration with other SPC divisions and external agencies to safeguard ecological integrity and provide ecosystem services essential to sustainable agriculture. In partnership with UNCCD, FAO and other partners, LRD will support country LDN studies to determine baselines and trends and prioritise national LDN targets. It will work with FAO and NZ Landcare Research to establish and maintain a **knowledge repository on good land management practices, including traditional management techniques and strengthening partnerships** with the Pacific Regional Soils Portal and the World Overview of Conservation Approaches and Technologies (WOCAT) to deliver information about soils and promote adaptation, innovation and decision-making in sustainable land management. In addition, suitable **agroforestry models** targeting Micronesia and the smaller Polynesia and Melanesia atoll islands will be developed and promoted.

## Objective 2: *Enhanced ability to meet local and international market requirements for agriculture and forestry products*

### KRA 3: Diversification of livelihood strategies and new value chains adopted

Diversification of livelihood strategies will be achieved through supporting **efficient agri-food value chain development** and **the participation of women and youth**. **Value chain analyses** for specific commodities or niche products will be completed through a **market systems approach** that includes high value chains such as **organic, agri-tourism** and **high value horticulture**. LRD or relevant partners will then provide capacity building and training and support to address value chain blockages or other issues. Specific support areas may include **organic or other environmental certification, food safety** training and certification, and support mechanisms that will ensure SPS compliance in **post-harvest** handling, **value added** training and **small-scale processing and marketing**. Opportunities to develop value chains that provide **economic opportunities for women and youth** will also be identified. Capacity building for women and youth will take place at the same time, providing openings for greater participation in agricultural value chains. Building on recent projects supported by IFAD, the DFAT Building Prosperity of Women Organic Producers project being implemented by POETCom will support organic value chain development in the North Pacific that benefits women producers and suppliers. Development of **policies to enhance the diversification of livelihood** options such as organic agriculture and participation of women and youth in agribusiness will also be supported. The **Organic Policy Toolkit** developed by POETCom will be utilised to support country policies that promote organic sector development.

#### 3.1 Supply groups organized

Supporting supply group organisation will result in Pacific producers meeting local and export market requirements with regard to quantity, quality and consistency. Activities will include capacity building for PGS formation and other quality requirements, establishment of internal control systems for organic certification, supplier and processor cluster facilitation, and support for cooperatives, farmer associations and other collective production mechanisms. These collectives will then be utilised as vehicles for delivering extension and advisory services and guaranteeing quality management systems and controls.

#### 3.2 Efficient agri-food value chains developed with women and youth participation

Value chain analyses for specific commodities or niche products will use a market systems approach. These analyses will ensure interventions are addressing issues that will contribute to more efficient and effective value chains, keeping transaction costs to a minimum. Lower transaction costs boost smallholder livelihoods. A value chain analysis evaluates every step and actor to identify both weaknesses to be addressed and opportunities for increasing benefits for all involved in the chain. The analysis identifies areas of intervention that may include 1) improving technical or agricultural production skills/knowledge, 2) improving production practices, including use of new and appropriate technology, 3) improving packaging and marketing, and 4) improving business skills, as well as identifying opportunities for increased involvement of women and youth in the private sector. Increasing women and youth involvement may include providing more leadership and decision-making opportunities and identifying where work burdens can be eased through appropriate technology. Support for each value chain will be targeted to its specific needs.

## **KRA 4: Environmental food safety, sanitary and phytosanitary and other voluntary standards and certification strengthened**

The Markets for Livelihood Pillar will address supply chain issues, including quality, quantity and consistency of supply, post-harvest losses, value addition, and improving access to markets through compliance with SPS requirements and regulatory and voluntary standards, such as organic, environmental, sustainable, ethical, etc. Work will commence through the EU/ACP Coconut Industry Development Project for the Pacific (CIDP) and POETCom initiatives such as the DFAT funded Building Prosperity of Women Organic Producers project. The quality and quantity of production will be addressed through concerted research for development efforts to enhance productivity, including an ACIAR funded IPM project Responding to Emerging Pest and Disease Threats to Horticulture in the Pacific Islands. Quality management systems to organise small holders into supply and value chains such as the Participatory Guarantee System (PGS) and supply clusters will be utilised to establish reliable supply bases. This will build on the work of POETCom to develop PGS for organic certification. Support and capacity building will also be provided for producers in their efforts to comply with food safety and GAP standards that may be required by the market. With proposed European Development Fund Round 11 support, the Pacific Organic Guarantee Scheme implemented by POETCom will be strengthened to facilitate access to cost effective, reliable and market accepted organic certification. LRD will help build the capacity of countries and exporters so that they comply with SPS requirements under bilateral quarantine agreements. Approved export pathways and new pathway development will also be supported. Training and capacity building to help reduce post-harvest loss or damage, as well as support for developing small scale value added and processed products, will lead to improved agricultural product utilisation and marketability. LRD will contribute to improved agricultural produce food safety per the World Trade Agreements on sanitary and phytosanitary standards (SPS) and technical barriers to trade, and continue to strengthen the Pacific Regional Pesticide Registration (PRPRS) under the FAO Code of Conduct to ensure pesticide residues are within the recommended maximum residue levels. Specifically, LRD will support the establishment of an SPS platform for effective service delivery to member countries. It will facilitate processes to reach; consistency of quality and supply of high value products for export and domestic markets, enhanced exporter compliance with market access requirements, strengthened biosecurity related legislation, policies and standards, and improved knowledge management and readiness for facing biosecurity threats.

### **4.1 Voluntary standards and certification strengthened**

Strengthening standards and certification can lead to greater product marketability and improved market access. Organic certification will be strengthened through building POETCom institutional capacity to implement the Pacific Organic Guarantee Scheme (POGS). The POGS provides appropriate and cost-effective organic certification for local, regional and export markets. A key component of this will be strengthening the capacity of organic auditors based in the Pacific. Another important component includes building capacity at the national level to prepare for certification through implementing internal control systems or PGS groups. Other standards and certification mechanisms, such as those pertaining to sustainability and those focusing on environmental and food safety standards, will be supported through training and capacity building, as well as for audit preparedness in the case of Hazard Analysis of Critical Control Points (HACCP). The Division aims to have stronger SPS country compliance through ISPM standards, treatment and compliance in the area of biosecurity trade-related commodities and products, and subsequent training and capacity building. Specific crop and vegetable pest and disease surveys that will be traded under the BQA or other specific commodity pathways will be completed. Stakeholder capacity will be built for systems approaches and treatment regimens for crops and vegetables identified for export. Biosecurity officer capacity building on pest risk analyses for identified commodities to be traded under the BQA or other specific commodity pathways will also be implemented.

### Objective 3: *PICTs have access to diverse and nutritious agricultural and forestry resources resilient to the impacts of disasters and climate change*

#### KRA 5: Resilient agricultural, land and forestry production systems

In the Pacific, LRD is instrumental in promoting the selection and evaluation of improved crop varieties with tolerant traits from other CGIAR centres. LRD is at the forefront of climate smart agriculture (CSA) crop variety evaluation, participatory breeding initiatives and seed promotion to support climate change adaptation and promote healthier food systems. These crops and other varieties are incorporated in multi-location trials at the farmer level to assess their climate readiness in integrated crop-livestock home garden models. LRD is also modelling a number of soil fertility protocols for both atoll and high island countries. LRD is furthermore mobilising pest and disease management technical support services to ensure agricultural production systems are more resilient.

LRD will contribute to **sustainable seed systems**, climate smart crop and livestock production technologies and strengthened extension systems. In collaboration with the Genetic Resources and Sustainable Forestry and Land Management pillars, technical support services will be provided to enhance climate readiness, including the evaluation of climate smart crop varieties and the screening and integration of selected varieties in existing farming and landscape systems (both on atolls and in highland areas). These services will be supported by the evaluation and promotion of other **climate smart technologies** related to soil health and water management, pest and disease management, and livestock husbandry to ensure agricultural farming system productivity and sustainable production. To ensure scaling of lessons, enabling policies and support mechanisms such as **agricultural information systems and institutional partnerships** will be built and strengthened for further sharing of best practices and improving access to new technologies.

One of the first steps in an ecosystem-based adaption approach<sup>9</sup> will be to carry out **vulnerability assessments at the community level** in order to create a sound understanding of the principles and practices of climate smart agriculture. Vulnerability assessments will determine areas of integration between LRD pillars and other divisions. This will include building a Pacific Network for Climate Smart Agriculture that will ultimately graduate into an alliance (PACSA) through in-house capacity and in partnership with PICTs. The building community resilience through CSA approach will promote sustainable livelihoods that will in turn provide entry points for integration with other divisions. Under the umbrella of CePaCT, the programme will evaluate and promote climate smart food crops, use nuclear technology to expedite breeding of climate smart food crops, and link seed systems to CSA adaptation. On small Island atolls, LRD will promote approaches that include soil fertility management and integrated, climate smart crop and livestock production systems. In the atolls livestock sector, animal welfare and one-health approaches to production systems for enhanced climate change adaptation will be promoted. As a response to increased pests and diseases, LRD will also collaborate with its partners to establish a sanitary/phytosanitary platform. Collaborative efforts will promote climate smart and ecologically sound value chains (coconuts and organics: ongoing; kava in the pipeline) in a Pacific-wide multi-sectoral approach. In addition, LRD will facilitate the establishment of a community of practice on CSA and link it to the CSA Global Alliance to ensure a coordinated approach.

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<sup>9</sup> Ecosystem-based adaptation is the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people to adapt to the adverse effects of climate change.



## 5.1 REDD+ implementation strengthened and forest policy and legal frameworks, plans, strategies and practices enhanced

One of the first activities under the REDD+ and forest policy, strategies and practices enhancement output will be integrating **the Pacific Islands Tree Seed Centre (PITSC) into CePaCT** and improving PITSC's capacity to support the efficient and safe collection, processing, storage, distribution and/or exchange of tree seeds. LRD will seek to extend the current partnership with the Kew Royal Botanical Gardens to maintain priority indigenous tree species collections and establish a facility for their long-term storage.

LRD will promote and support the **enhancement of country readiness for REDD+, acknowledging the important role of women in managing natural resources and ensuring they get compensation for this work**. LRD's REDD+ efforts additionally will seek to **enhance national forest policy and legal frameworks, plans and strategies** in Fiji, Tonga and Niue, including regulations for Sandalwood, guidelines for forest plantation and fuelwood harvesting and forest planning, and guidelines for community-based mangrove management. In partnership with FAO and GIZ, LRD will work with national forestry departments to promote **community-based forest management initiatives** that support a sustainable supply of timber and non-timber products and services. LRD will work to strengthen implementation of **national REDD+ programmes in the Melanesian countries** through efforts at the regional, national and local levels. At the regional level, LRD will collaborate with GIZ to support forest degradation detection, quantification and methodology development. At the national level, LRD will support the **development of national REDD+ strategies**, guidelines for standardized REDD+ processes, and strategies for sustainable forest management and restoration of degraded forest ecosystems. At the community level, LRD will implement activities to address the drivers of deforestation, increase restoration of degraded forest ecosystems in demonstration areas, and promote forest carbon projects for the voluntary market. **Forest landscape restoration** concepts will be promoted by conducting awareness trainings for Fiji, Vanuatu and the Solomon Islands.

### KRA 6: Increased utilization of nutritious & resilient crop varieties by PICTs

CePaCT supports farmers in their efforts to implement resilient production systems for healthy crop varieties by **enhancing the diversity and resilience of its crop collections** and making locally adapted, climate-smart and nutrient-dense food and tree crop planting stock available for distribution. CePaCT distributes its high-quality planting stock to national research and extension systems, rather than directly to farmers. To ensure that farmers can benefit from CePaCT's work on climate-resilient and nutrient-dense crop germplasm, the Centre is **building capacity at the national and community levels in the safe handling and management of tissue-cultured planting stock, its field establishment, multi-locational testing, including participatory plant breeding and selection, and multiplication and distribution to farmers**. The Genetic Resources pillar strengthens resilient food production systems, food and nutrition security and livelihoods in the Pacific through these measures.

## **6.1 Diversity and resilience of crop collection at CePaCT enhanced**

There is a clear role for CePaCT and the Pacific Agriculture Plant Genetic Resources Network (PAPGREN) to focus on agricultural crop and tree biodiversity collection, conservation and sustainable use, especially for traditional and underutilized crops that are currently under threat of genetic erosion due to sea level rise and climate and land-use change. These efforts will broaden CePaCT's conserved genetic diversity and will contribute to the development and dissemination of locally adapted, resilient, and highly nutritious crop varieties. As crop and tree germplasms conserved at the national and regional (CePaCT) level have been insufficiently screened under different environmental conditions for biotic (diseases and insect pests) and abiotic (salinity, drought, flooding) stresses, robust screening will become a priority activity. LRD will also undertake nutritional analyses of certain crops and crop varieties to determine their nutritional value for a diversity of diets. CePaCT will support PICTs to compile, develop and disseminate screening protocols and to develop minimum crop descriptor lists to enable the use of common standards across the region and the sharing of screening results. National and regional level screening trial results will be shared through the PAPGREN and PacGRIS websites.

## **6.2 Local capacity to test, manage, and distribute planting material to farmers strengthened**

CePaCT staff will work to build national partner capacity in all areas relevant to genetic resources management (germplasm conservation, enhancement and utilization) for both *ex situ* and *in situ* conservation of locally adapted germplasm. Technical and policy guidelines on *ex situ* and *in situ* conservation, along with the establishment of community-based seed banks, will be developed and shared with Pacific countries. Participatory plant breeding (PPB) will engage farmers in a programme with opportunities to make decisions at different stages during the process. Farmer involvement in PPB can include defining breeding goals and priorities, selecting or providing germplasm, hosting trials in their fields, selecting superior plants for further breeding, or engagement in the research design. PPB may result in higher farmer adoption rates due to greater ownership over the breeding process and pre-assurance that the varieties are suitable to the farmer's needs and those of their communities. Participatory plant breeding can also reduce the lag-time between variety testing and release, allowing quicker access to improved varieties and encouraging the development of diverse, locally adapted plant populations or *in situ* conservation that contributes to improved resilience. CePaCT staff also seek to learn more about user satisfaction in terms of received planting stock quality, field establishment success rate, germplasm performance under diverse agro-ecological conditions, and how many farmers were reached by germplasm shipments, in addition to how many adopted the CePaCT germplasm. This valuable user feedback will guide gene bank staff to make further improvements to Standard Operating Procedures. In addition, PacGR will capture germplasm performance under different agro-ecological conditions and guide other germplasm users in their crop variety selection.

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**

**KRA 7: Equitable benefits from agriculture and forestry**

LRD will promote and encourage the participation of women and youth in agriculture by assisting the development and revision of agricultural and forestry policies, involving women and youth in land use planning and value chain development, and supporting marginalised segments of communities to take on decision-making and leadership roles in the private sector. Through value chain analyses, LRD will identify where the burden of work for women can be eased with the use of appropriate technology.

One of the first steps in promoting climate resilient agriculture involves community-based assessment of food security vulnerability and assessment of existing community climate change adaptation strategies, with the aim to establish vulnerability indices and prioritize intervention needs. These assessments will determine the scope and scale of the most urgent interventions in order to reduce vulnerability shocks and lessen their extent. This will require a social action planning process in which communities will help in selecting the most feasible technologies and activities. All immediate livelihood focused options, such as sustainable crop production systems, will be gender sensitive.

Objective 5 : **Integrated farming systems and services strengthened**

**KRA 8: Enhancing technologies adopted and implemented in Crop production, soil health, water, pest and disease management and animal husbandry**

LRD will develop and test production intensification models that are sustainable and that can be adjusted to scale both in the highlands and on the atolls. In the highlands, models will account for population pressure, land productivity and overall land degradation. On the atolls, the focus will be on fragile land productivity and the adverse impacts of climate change. **Soil fertility enhancement** will be a common theme, as will the introduction of mixed home gardens and application of agro-forestry systems, along with the introduction of livestock as part of the production system. The division will contribute to **enhanced livestock productivity** under sustainable production systems by promoting selection criteria for climate resilience livestock breeds, availability and accessibility of feed, and the adoption of sound husbandry practices. LRD will also ensure alignment to integrated pest management principles in its plant protection strategy.

Of particular concern will be the issue of **pests and diseases**. LRD will promote integrated cropping systems to reduce pest and disease incidences through increasing organism diversity, including natural enemies. Natural enemies will reduce the need for insecticide use and will be complemented by compatible products that are environmentally friendly and conducive to biological control agents such as predators and parasitoids. Maintaining a complementary association through good agricultural practices can lead to sustainable pest and disease suppression. As part of its Pests and Disease Management programme, LRD will work towards reducing highly hazardous pesticides and regulated and systemised compatible insecticides in agriculture production to safeguard human health and the environment. This multi-faceted approach to addressing this issue looks at legislation, registration, integrated pest management, integrated crop management, integrated vector management, and crop residue analysis. Good agricultural practices to achieve food safety are being considered, thus strengthening export crop compliance with maximum allowed pesticide residue levels.



LRD will also contribute to **improved livestock husbandry practices** by promoting pasture, species management, disease surveys and diagnostics, animal waste use, housing and feed, breeds and breeding and animal genetic conservation and promotion. LRD will provide technical support for the development of livestock disease investigation and application of emergency standard operating procedures for countries, in addition to extension officer PARAVET training to support successful animal husbandry practice scaling. Capacity building through regional PARAVET training programmes and promotion of the One-Health, One-Welfare concept in husbandry practices through a regional animal welfare code of practice strategy will promote and strengthen good animal husbandry practices. The desired outcome is production of quality livestock products for human consumption that guarantees health and safety.

To **strengthen crop production systems**, LRD will focus on supporting country farm system evaluation, soil health development (including soil portals) and **water use efficiency technologies**. LRD will also continue to build extension services capacity to promote adoption and scaling of proven technologies across the region. This will involve development and piloting of training modules in partnership with key tertiary institutions.

The **Pacific Pesticide Registration Scheme (PPRS)** will contribute to a healthy community and safe environment by focusing on the regulation and phase-out of HHPs. It will additionally introduce organic and conventional pesticides for agricultural production that are IPM compatible, resulting in both immediate and long-term positive implications for human health and the environment.

To strengthen crop production systems, LRD will continue to **build extension services capacity** in order to promote adoption and scaling of proven technologies across the region. LRD will work with research and extension systems and continue to collaborate with farmer networks and communities of practice, including the private sector. These collaborative efforts will include development of training modules for extension providers and piloting these training modules in partnership with key tertiary institutions.



## 5.2 Work plan

Figure 7 below documents specific actions LRD will undertake to achieve anticipated results for realising its objectives. When realized, the objectives will contribute to wider benefits that address the problems identified in the Theory of Change.

**Figure 7: LRD activities planned for 2019-2023**

<b>KRA 1: Increase in availability of genetic resources at CePaCT and in countries</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>Activity 1.1</b> Number of genetic resources for food, agriculture and forestry acquired, conserved and developed	X	X	X	X	X
<b>Activity 1.2</b> Number of genetic resources for food, agriculture and forestry available for use	X	X	X	X	X
<b>Activity 1.3</b> CePaCT meets international gene bank standards	X	X	X	X	X
<b>Activity 1.4</b> Increase in the number of PICTs people trained in the conservation, management and use of genetic resources	X	X	X	X	X
<b>Activity 1.5</b> Increase in the number of youth and/or women involved in management and conservation of genetic resources	X	X	X	X	X
<b>KRA 2: Increased adoption of sustainable forest, land and agricultural management policies, legislation, plans, approaches, technologies and systems</b>					
<b>Activity 2.1</b> Number of farms adopting SLM (Sustainable Land Management) practices through scaling up	X	X	X	X	X
<b>Activity 2.2</b> Increase in number of hectares covered by integrated natural resources management practices (land and forest) by country	X	X	X	X	X
<b>Activity 2.3</b> Increase in number of organic certifications attained, by country	X	X	X	X	X
<b>Activity 2.4</b> Increase in the number and percentage of women and youth that are directly participating in and benefitting from SLM practices	X	X	X	X	X
<b>Activity 2.5: Number of natural resources management plans, policies, regulations and guidelines developed/reviewed</b>	X	X	X	X	X
<b>KRA 3: Diversification of livelihoods strategies and new value chains adopted</b>					
<b>Activity 3.1</b> Increase in number of value-added products/organic products/crops reaching local and international markets	X	X	X	X	X
<b>Activity 3.2</b> Increase in number of people trained on value chain, post-harvest handling, organic certification and agriculture production pricing, small scale processing and marketing	X	X	X	X	X
<b>Activity 3.3</b> Increase in number of agribusinesses that contribute to decent work and comply to labour regulations and benefit local communities, women and youth	X	X	X	X	X
<b>KRA 4: Environmental food safety, SPS and other voluntary standards and certification strengthened</b>					
<b>Activity 4.1</b> Increase in number of countries adopting new biosecurity legislation and SOPs encompassing OIE, IPPC and Codex standards	X	X	X	X	X
<b>Activity 4.2</b> Increase in number of biosecurity non – compliance issues rectified	X	X	X	X	X
<b>Activity 4.3</b> Increase in number of biosecurity NPPOs trained, by country (with sex and age disaggregated data)	X	X	X	X	X
<b>Activity 4.4</b> Effective pest emergency planning and response to pest incursions and zoonotic diseases	X	X	X	X	X
<b>KRA 5: Resilient agricultural, land and forestry production systems</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>Activity 5.1</b> Number of countries that adopted new methodologies/technologies for natural resources management through an increase in LRD support	X	X	X	X	X
<b>Activity 5.2</b> Increase in number of government officials trained in natural resources management	X	X	X	X	X
<b>Activity 5.3</b> Increase in number of communities trained that benefitted from natural resources management	X	X	X	X	X
<b>Activity 5.4</b> Number of traditional knowledge and practices documented related to plant and animal production for conservation	X	X	X	X	X

<b>KRA 6: Increased utilization of nutritious and resilient crop varieties by PICTs</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>Activity 6.1</b> Number of CePaCT–derived varieties and other LRD germplasms distributed and/or included in local production, by country	X	X	X	X	X
<b>Activity 6.2</b> Established new and/or strengthened existing partnerships to strengthen seed systems	X	X	X	X	X
<b>KRA 7: Equitable benefits from agriculture and forestry</b>					
<b>Activity 7.1</b> Increase in number and percentage of women and youth supported in value chain development	X	X	X	X	X
<b>Activity 7.2</b> Increase in number of policies developed/reviewed that are gender responsive and inclusive and that support the participation of women and youth in agriculture, land management and forestry	X	X	X	X	X
<b>KRA 8: Enhancing technologies adopted and implemented in Crop production, soil health, water, pest and disease management and animal husbandry</b>					
<b>Activity 8.1</b> Increase in number of PICTs for which adaptation strategies are developed and implemented	X	X	X	X	X
<b>Activity 8.2</b> Increase in number of livestock husbandry practices developed and implemented	X	X	X	X	X
<b>Activity 8.3</b> Increase in number of soil health and water use efficiency technologies developed and promoted	X	X	X	X	X
<b>Activity 8.4</b> Increase in number of PICTs developing and adopting ICM (Integrated Crop Management) technologies	X	X	X	X	X
<b>Activity 8.5</b> Increase in number of extension modules developed, adopted, piloted	X	X	X	X	X
<b>Activity 8.6</b> Number of women and youth that benefit from an increase in developed technologies	X	X	X	X	X
<b>KRA 9: Engagement and collaboration with members and partners strengthened</b>					
<b>Activity 9.1</b> Number of new partnerships and funding agreements signed	X	X	X	X	X
<b>Activity 9.2</b> Increase in LRD participation in strategic events and working groups	X	X	X	X	X
<b>KRA 10: Capabilities of people, systems and processes enhanced</b>					
<b>Activity 10.1</b> Compliance with corporate requirements.	X	X	X	X	X
<b>Activity 10.2</b> Efficient budget execution rate	X	X	X	X	X
<b>Activity 10.3:</b> Compliance with SPC planning, monitoring, reporting, evaluation and learning requirements	X	X	X	X	X
<b>Activity 10.4:</b> Compliance with the LRD Research and Development System	X	X	X	X	X
<b>KRA 11: Technical and scientific knowledge and expertise strengthened</b>					
<b>Activity 11.1</b> Increase in number of key technical positions	X	X	X	X	X
<b>Activity 11.2</b> Increase in number of LRD staff benefiting from capacity building.	X	X	X	X	X
<b>Activity 11.3</b> Increase in number of research papers published	X	X	X	X	X
<b>Activity 11.4</b> Increased in number of projects implemented with a people-centred approach	X	X	X	X	X
<b>KRA 12: Improved visibility, information and knowledge sharing with members and partners</b>					
<b>Activity 12.1</b> Increase in number of subscribers on platforms, etc.	X	X	X	X	X
<b>Activity 12.2</b> Increase in number of hits on the LRD website and other knowledge management platforms.	X	X	X	X	X
<b>Activity 12.3</b> Increase in number of knowledge tools and products developed and disseminated	X	X	X	X	X
<b>Activity 12.4</b> Increase in the number of publications inclusive of gender and/or youth perspectives.	X	X	X	X	X



### 5.3 LRD Indicative Budget

As several large LRD projects wrap up in 2018 and 2019, LRD faces a funding gap that will require vigorous resource mobilisation efforts to sustain member service delivery. However, it is confident that funding challenges will be met as it gradually transitions from the old structure that was quite siloed to a more integrated model, deepening strategic relationships with existing partners and exploring new, innovative research for development avenues with new development partners both in the region and on a more global scale.

Annex 1 provides a detailed indicative budget. The indicative budget is divided into two parts. The blue columns indicate needed funding resources for LRD to successfully implement this business plan. The budget takes into account the cost of experts and support staff (human resources) and non-human resource costs (operational and programme activities) by pillar. The yellow columns represent current funding gaps, inclusive of confirmed funding to date. This indicative budget will allow LRD to better inform its discussions with its development partners and mobilise resources accordingly for maximum leverage according to need in the coming years.

### 5.4 LRD Staffing

LRD is an essential service provider for improving food and nutrition security and building Pacific community resilience. It therefore relies on both financial support through core and programmatic funding and project specific funding. While in principle core and programmatic funding is long-term in nature, project funding is closely linked to project deliverables, and is thus time constrained. Positions that currently rely on both core and programmatic support include Director, Operations Manager, Finance and Administration Adviser, the four Pillar Leaders, the Planning, Monitoring and Evaluation Adviser, the Information, Communications and Knowledge Management Adviser, the Research for Development Adviser and the Resources Economist. Other technical advisory positions and operational support staff are project based. The Division currently has 57 staff, out of which 44 are project funded. The LRD organizational chart is detailed in Annex 2.

## 6. RISK ANALYSIS AND MITIGATION

	Risk	Likelihood	Impact	Risk Mitigation Strategy
1	Inadequate core capacity that is requisite for the efficient and effective functioning of the strategic pillar.	L	M	Strategic pillars, along with the Senior Advisors, develop a pillar specific business plan with explicit mention of required core competencies.
2	Pillars evolve into silos, offering limited scope for integrated planning and programming.	M	M	Develop organizational and divisional support towards integrated programming. Join a Pacific-wide platform that has integrated deliverables. Institute strong support mechanisms from the Division's directorate in terms of planning and monitoring, learning, research and development, and information and communications knowledge management.
3	Donors continue to support individual projects rather than integrated programmes.	L	M	Inform donors about SPC-LRD's aim for integrated programming and results; establish stronger multi-disciplinary partnerships that call for donor programme support.
4	Partnerships are based on traditional donor relationships that inhibit the quest for innovation.	L	H	Launch a continuous search for mechanisms that 1) deepen existing partnerships, and 2) expand partnerships to ensure innovation and R4D enhancement.
5	Insufficient donor funding or fragmented programme funding that stalls the quest for integrated deliverables.	L	H	Amplify integrated programme development within the division and across division and joint donor resource mobilization strategies.

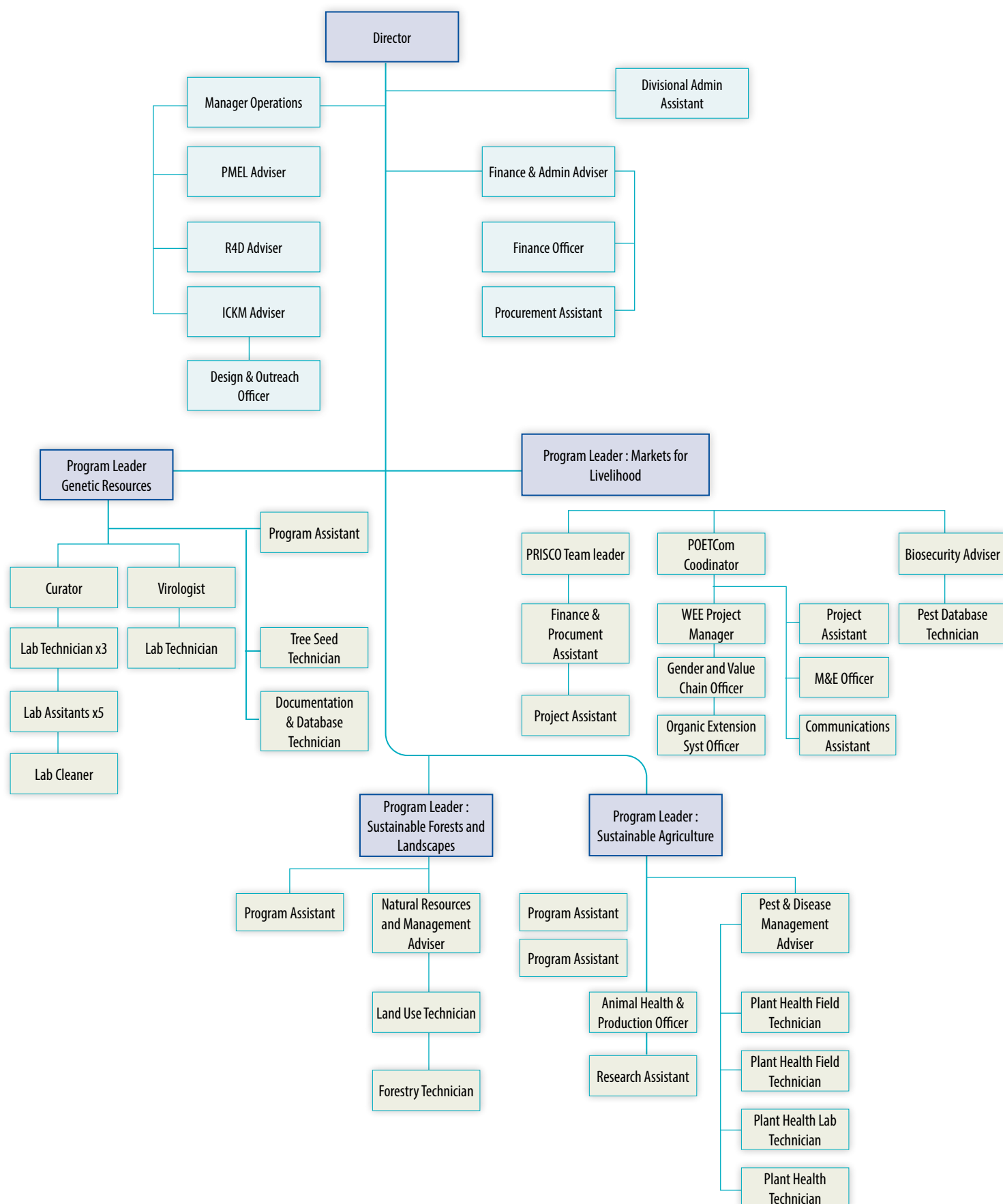


## Annex 1: Indicative Budget 2019-2023

Cost Category	TOTAL BUDGET (EUR) - needed to implement LRD's Business Plan						FUNDING GAP (EUR) - after inclusion of total confirmed funding to date					
	2019 (Y1)	2020 (Y2)	2021 (Y3)	2022 (Y4)	2023 (Y5)	TOTAL (5 years)	2019 (Y1)	2020 (Y2)	2021 (Y3)	2022 (Y4)	2023 (Y5)	TOTAL (5 years)
Directorate	896,978	941,827	988,919	1,038,364	1,090,283	4,956,371	151,368	338,864	988,919	1,038,364	1,090,283	3,607,798
Pillar 1: Genetic Resources	571,436	600,008	630,008	661,509	694,584	3,157,546	356,732	374,569	630,008	661,509	694,584	2,717,402
Pillar 2: Sustainable Forestry and Land-scapes	380,552	399,579	419,558	440,536	462,563	2,102,787	164,029	172,230	230,203	440,536	462,563	1,469,562
Pillar 3: Sustainable Agriculture	597,219	627,080	658,434	691,356	725,923	3,300,012	471,751	495,338	657,539	691,356	725,923	3,041,907
Pillar 4: Markets for Livelihood	390,716	410,251	430,764	452,302	474,917	2,158,950	266,060	279,362	430,764	452,302	474,917	1,903,405
Cross Cutting Advisory Services	540,120	567,126	595,482	625,256	656,519	2,984,504	410,491	431,016	464,476	625,256	656,519	2,587,758
<b>HUMAN RESOURCES</b>	<b>3,377,021</b>	<b>3,545,871</b>	<b>3,723,165</b>	<b>3,909,323</b>	<b>4,104,789</b>	<b>18,660,169</b>	<b>1,820,431</b>	<b>2,091,380</b>	<b>3,401,908</b>	<b>3,909,323</b>	<b>4,104,789</b>	<b>15,327,831</b>
<b>OPERATIONAL COSTS</b>	<b>794,714</b>	<b>796,714</b>	<b>807,214</b>	<b>815,314</b>	<b>826,214</b>	<b>4,040,171</b>	<b>467,448</b>	<b>543,384</b>	<b>784,379</b>	<b>815,314</b>	<b>826,214</b>	<b>3,436,739</b>
Pillar 1: Genetic Resources	630,000	650,000	650,000	720,000	720,000	3,370,000	164,400	396,200	650,000	720,000	720,000	2,650,600
Pillar 2: Sustainable Forestry and Land-scapes	450,000	450,000	490,000	520,000	520,000	2,430,000	323,800	370,600	490,000	520,000	520,000	2,224,400
Pillar 3: Sustainable Agriculture	680,000	680,000	700,000	750,000	750,000	3,560,000	425,934	572,140	675,000	750,000	750,000	3,173,074
Pillar 4: Markets for Livelihood	520,000	580,000	620,000	620,000	680,000	3,020,000	287,100	580,000	620,000	620,000	680,000	2,787,100
<b>PROGRAMME ACTIVITIES COSTS</b>	<b>2,280,000</b>	<b>2,360,000</b>	<b>2,460,000</b>	<b>2,610,000</b>	<b>2,670,000</b>	<b>12,380,000</b>	<b>1,201,234</b>	<b>1,918,940</b>	<b>2,435,000</b>	<b>2,610,000</b>	<b>2,670,000</b>	<b>10,835,174</b>
<b>TOTAL DIRECT COSTS</b>	<b>6,451,735</b>	<b>6,702,585</b>	<b>6,990,379</b>	<b>7,334,637</b>	<b>7,601,003</b>	<b>35,080,339</b>	<b>3,489,114</b>	<b>4,553,704</b>	<b>6,621,287</b>	<b>7,334,637</b>	<b>7,601,003</b>	<b>29,599,744</b>
Monitoring, Evaluation and Learning (MEL)	258,069	268,103	279,615	293,385	304,040	1,403,214	139,565	182,148	264,851	293,385	304,040	1,183,990
Programme Management Fee (PMF)	967,760	1,005,388	1,048,557	1,100,196	1,140,150	5,262,051	523,367	683,056	993,193	1,100,196	1,140,150	4,439,962
<b>TOTAL INDIRECT COSTS</b>	<b>1,225,830</b>	<b>1,273,491</b>	<b>1,328,172</b>	<b>1,393,581</b>	<b>1,444,191</b>	<b>6,665,264</b>	<b>662,932</b>	<b>865,204</b>	<b>1,258,045</b>	<b>1,393,581</b>	<b>1,444,191</b>	<b>5,623,951</b>
<b>GRAND TOTAL</b>	<b>7,677,565</b>	<b>7,976,076</b>	<b>8,318,551</b>	<b>8,728,218</b>	<b>9,045,194</b>	<b>41,745,603</b>	<b>4,152,045</b>	<b>5,418,907</b>	<b>7,879,332</b>	<b>8,728,218</b>	<b>9,045,194</b>	<b>35,573,198</b>
							54%	68%	95%	100%	100%	85%



## Annex 2: Staffing Structure



## Annex 3: Indicator Framework

Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Objective 6
Land, agriculture, forestry and genetic resources are sustainably managed and conserved	Enhanced ability to meet local and international market requirements for agriculture and forestry products	PICTs have access to diverse and nutritious agricultural and forestry resources resilient to the impacts of disasters and climate change	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	Integrated farming systems and services strengthened	Organizational Objectives
<p><b>KRA 1:</b> Increase in availability of genetic resources at CePaCT and in countries</p> <p>1.1 Number of genetic resources for food, agriculture and forestry acquired, conserved and developed</p> <p>1.2 Number of genetic resources for food, agriculture and forestry available for use</p> <p>1.3 CePaCT meets international gene bank standards</p> <p>1.4 Increase in the number of PICTs people trained in the conservation, management and use of genetic resources</p> <p>1.5 Increase in the number of youth and/or women involved in management and conservation of genetic resources</p>	<p><b>KRA 3:</b> Diversification of livelihood strategies and new value chains adopted</p> <p>3.1 Increase in number of value-added products/crops reaching local and international markets</p> <p>3.2 Increase in the number of people trained on value chains, post-harvest handling, organic certification and agriculture production pricing, small scale processing and marketing</p> <p>3.3 Increase in the number of agribusinesses supported that contribute to decent work and comply to labour regulations and benefit local communities, women and youth</p>	<p><b>KRA 5:</b> Resilient agricultural, land and forestry production systems</p> <p>5.1 Number of countries that adopted new methodologies/ technologies for natural resources management through an increase in LRD support</p> <p>5.2 Increase in number of government officials trained in natural resources management</p> <p>5.3 Increase in number of communities trained that benefitted from natural resources management</p> <p>5.4 Number of traditional knowledge and practices documented related to plant and animal production for conservation</p>	<p><b>KRA 7:</b> Equitable benefits from agriculture and forestry</p> <p>7.1 Increase in number and percentage of women and youth supported in value chain development</p> <p>7.2 Increase in number of policies developed /reviewed that are gender responsive and inclusive and that support the participation of women and youth in agriculture, land management and forestry</p>	<p><b>KRA 8:</b> Enhancing technologies adopted and implemented in Crop production, soil health, water, pest and disease management and animal husbandry</p> <p>8.1 Increase in number of PICTs for which adaptation strategies are developed and implemented</p> <p>8.2 Increase in number of livestock husbandry practices developed and implemented</p> <p>8.3 Increase in number of soil health and water use efficiency technologies developed and promoted</p> <p>8.4 Increase in number of PICTs developing and adopting ICM (Integrated Crop Management) technologies</p> <p>8.5 Increase in number of extension modules developed, adopted, piloted</p> <p>8.6 Number of women and youth that benefit from an increase in developed technologies</p>	<p><b>KRA 9:</b> Engagement and collaboration with members and partners strengthened</p> <p>9.1 Number of new partnership and funding agreements signed</p> <p>9.2 Increase in LRD participation in strategic events and working groups</p> <p><b>KRA 10:</b> Capabilities of people, systems and processes enhanced</p> <p>10.1 Compliance with corporate requirements</p> <p>10.2 Efficient budget execution rate</p> <p>10.3 Compliance with SPC planning, monitoring, reporting, evaluation and learning requirements</p> <p>10.4 Compliance with the LRD research and development system</p> <p><b>KRA 11:</b> Technical and scientific knowledge and expertise strengthened</p> <p>11.1 Increase in the number of key technical positions</p> <p>11.2 Increase in the number of LRD staff benefiting from capacity building</p> <p>11.3 Increase in the number of research papers published</p> <p>11.4 Increase in the number of projects implemented with a people-centred approach</p> <p><b>KRA 12:</b> Improved visibility, information and knowledge sharing with members and partners</p> <p>12.1 Increase in the number of subscribers on platforms, etc.</p> <p>12.2 Increase in the number of hits on the LRD website and KM platforms</p> <p>12.3 Increase in the number of knowledge tools and products developed and disseminated</p> <p>12.4 Increase in the number of publications inclusive of gender and youth perspectives</p>

<p><b>KRA 2:</b> Increased adoption of sustainable forest, land and agricultural management policies, legislations, plans, approaches, technologies and systems</p> <p>2.1 Number of farms adopting SLM (Sustainable Land Management) practices through scaling up</p> <p>2.2 Increase in number of hectares covered by integrated natural resources management practices (land and forest) by country</p> <p>2.3 Increase in the number of organic certifications attained, by country</p> <p>2.4 Increase in the number and percentage of women and youth that are directly participating in and benefitting from SLM practices.</p> <p>2.5 Number of natural resources management plans, policies, regulations and guidelines developed/reviewed</p>	<p><b>KRA 4:</b> Environmental food safety, SPS and other voluntary standards and certification strengthened</p> <p>4.1 Increase in the number of countries adopting new biosecurity legislation and SOPs encompassing OIE, IPPC and Codex standards</p> <p>4.2 Increased in the number of biosecurity non-compliance issues rectified</p> <p>4.3 Increased in the number of biosecurity NPPOs trained, by country (with sex and age disaggregated data)</p> <p>4.4 Effective pest emergency planning and response to pest incursions and zoonotic diseases</p>	<p><b>KRA 6:</b> Increased utilization of nutritious and resilient crop varieties by PICTs</p> <p>6.1 Number of CePaCT – derived varieties and other LRD germplasms distributed and/or included in local production, by country</p> <p>6.1 Number of CePaCT-derived varieties and other LRD germplasms distributed and/or included in local production, by country</p> <p>6.2 Established new and/or strengthened existing partnerships for seed systems</p>			
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