Investing in rural people

Papua New Guinea

PNG MVF Final Design Report

Final project design report

Main report and appendices

Document Date: 27-Jul 2017
Project No.: 2000000899-PG
Report No.: 4533-PG
Asia and the Pacific Division
Programme Management Department

Contents

Currency equivalents		iii
Weights and measures		iii
Abbreviations and acronyms		iv
Map of the project area		vi
Executive Summary		vii
Logical Framework		viii
I.	Strategic context and rationale	1
	A. Country and rural development context	1
	B. Rationale	5
II.	Project description	7
	A. Project area and target group	7
	B. Development objective and impact indicators	9
	C. Outcomes/Components	9
	D. Lessons learned and adherence to IFAD policies and the SECAP	19
III.	Project implementation	21
	A. Approach	21
	B. Organisational framework	22
	C. Planning, M&E, learning and knowledge management	25
	D. Financial management, procurement and governance	26
	E. Supervision	28
	F. Risk identification and mitigation	29
IV.	Project costs, financing, benefits and sustainability	30
	A. Project costs	30
	B. Project financing	31
	C. Summary benefits and economic analysis	31
	D. Sustainability	32

Appendices

Appendix 1: Country and rural context background ... 35
Appendix 2: Poverty, targeting and gender ... 45
Appendix 3: Country performance and lessons learned ... 59
Appendix 4: Detailed description ... 63
Appendix 5: Institutional aspects and implementation arrangements ... 103
Appendix 6: Planning, M&E and learning and knowledge management ... 133
Appendix 7: Financial management and disbursement arrangements... 139
Appendix 8: Procurement ... 151
Appendix 9: Project cost and financing ... 161
Appendix10: Economic and financial analysis... 181
Appendix 11: Draft Project Implementation Manual ... 187
Appendix 12: Compliance with IFAD policies ... 189
Appendix 13: Content of Project Life File ... 191

Currency equivalents

Currency Unit	=	PGK
USD1.0	=	PGK3.1

Weights and measures

1 kilogram	=	1000 g
1 000 kg	=	2.204 lb.
1 kilometre (km)	=	0.62 mile
1 metre	=	1.09 yards
1 square metre	=	10.76 square feet
1 acre	=	0.405 hectare
1 hectare	=	2.47 acres

Abbreviations and acronyms

ABCD	Assets Based Community Development
ACIAR	Australian Centre for International Agriculture Research
ADB	Asian Development Bank
AGO	Auditor General's Office
AIC	Agriculture Investment Corporation
AWPB	Annual Work Plans and Budget
BDSP	Business Development Service Provider
BSP	Bank South Pacific
CEFI	Centre for Financial Inclusion
CIF	Cost Insurance Freight
DA	Designated Account
DAL	Department of Agriculture and Livestock
DoF	Department of Finance
DoT	Department of Treasury
DPI	Departments of Primary Industry
DSIP	District Service Improvement Programme
EIRR	Economic Internal Rate of Return
ENB	East New Britain
ENBDC	East New Britain Development Corporation
EOI	Expression of Interest
EU	European Union
FAM	Financial and Administrative Manager
FBS	Farmer Business School
FER	Functional Expenditure Review
FFS	Farmer Field Schools
FIAU	Functional Expenditure Review Implementation and Advisory Unit
FPDA	Fresh Produce Development Agency
GBV	Gender Based Violence
GDP	Gross Development Product
GESI	Gender Equity and Social Inclusion
GM	General Manager
HACCP	Hazard Analysis and Critical Control Point
HDI	Human Development Index
HIES	Household and Income Expenditure Survey
ICT	Information and Communication Technologies
IFC	International Finance Corporation
ISM	Implementation Support Mission
KM	Knowledge Management
M&E	Monitoring and Evaluation
MIS	Management Information System
MSP	Multi-Stakeholders' Platform
NADP	National Agriculture Development Programme
NAQIA	National Agriculture Quarantine and Inspection Authority
NARI	National Agriculture Research Institute
NGO	Non-Governmental Organisation
NPV	Net Present Value
PBA	Project Bank Account
PC	Project Coordinator
PHAMA	Pacific Horticulture and Agriculture Market Access Programme
PMU	Project Management Unit
PNG	Papua New Guinea
PPAP	Productive Partnerships in Agriculture Project
PSC	Project Steering Committee

PSIP	Province Service Improvement Programme
RFP	Request for Payment
SECAP	Social Environmental and Climate Assessment Procedures
SME	Small and Medium Enterprise
SOE	Statement of Expenditure
SP	Service Provider
TA	Technical Assistance
TAC	Technical Appraisal Committee
UAV	Unmanned Aerial Vehicle
UNCDF	United Nations Capital Development Fund
VCE	Village Community Educator
VEW	Village Extension Worker
WA	Withdrawal Application
WOP	Without Project
WP	With Project

Map of the project area

Papua New Guinea

Markets for Village Farmers (MVF) - Maket Bilong Vilis Fama

IFAD

The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.

Map compiled by IFAD | 08-02-2017

Executive Summary

The Market for Village Farmers – Maket Bilong Vilis Fama (MVF) aims at improving the livelihoods of village farming households in the target provinces, by facilitating their transition from semi-subsistence agriculture to market-oriented production and farming as a business. The project's development goal is to achieve sustainable increased returns to village farming households from increased marketed production.

The project will predominately focus on the fresh produce sub-sector which involves approximately 94% of village farmers across PNG. In addition, the project provide limited investment to pilot activities focussed on stimulating the development of the galip nut value chain as this has potential to be become a new export cash crop for village farmers in PNG.

The project will target six provinces of PNG. Activities related to the fresh produce sub-sector will be implemented in four provinces in the Highlands Region (Western Highlands, Jiwaka, Simbu and Eastern Highlands) and one province in the Momase Region, Morobe. Galip nut related activities will be implemented in East New Britain. MVF targets around 25,000 farming households, benefiting approximately 125,000 people.

The MVF will support the development of sustainable business partnerships, where farmers will have secure and remunerative market options incentivizing them to invest in increasing the production of better quality fresh produce, whereas buyers will obtain reliable and consistent supply of vegetables in line with the demand of more remunerative market segments. The design builds on the experience gained in the IFAD-World Bank-European Union Productive Partnerships in Agriculture Project, which has developed successful models for supporting partnerships between buyers and small growers of coffee and cocoa. The project also aligns to IFAD's 4Ps model.

The MVF includes three interlinked components:

- *Component 1 - Inclusive Business Partnerships* supports all the activities required to build and implement business partnerships bringing together village farming households and buyers mainly in the fresh produce sub-sector. The component also includes a small set of activities to test the commercialization of galip nuts (for example dried galip nuts and virgin galip nut oil);
- *Component 2 – Supportive Value Chain Investment* complements partnership investment with interventions that aim at impacting the whole value chain by: (i) improving access to production areas through spot improvements on feeder roads; and (ii) facilitating the access of farming households and other players in the value chain to affordable and diversified financial services;
- *Component 3 – Collective Governance and Project Management* includes all the activities aiming at promoting a favourable policy and institutional environment to support the development of inclusive fresh produce and galip nut value chains.

MVF will adopt a family-based targeting approach to increase the capacities of participating farming households, and especially of women and youth, to take advantage of project benefits, through financial, business and nutrition education. The approach will also be used to engage the community to create a supportive environment for household level activities and to support broad inclusion.

The Department of Agriculture and Livestock will be the lead executing agency and the Fresh Produce Development Agency (FPDA) will be the implementing agency for the project. A Project Management Unit will be embedded within FPDA to support project implementation. Provincial teams composed of FPDA and district staff will support and monitor partnership development and implementation.

The total project cost amounts to USD50.26, of which IFAD would finance 50.7%, the GoPNG 5.7% %, beneficiaries 2.4%, financial institutions 8.4%, provinces and districts 25.9%. The project has a financing gap of approximately 6.9% which is expected to be filled by IFAD through an increase in PBAS resources.

Logical Framework

Results Hierarchy	Indicators					Means of Verification			Assumptions (A) / Risks (R)
	Name	Baseline	Interim review 1	Interim review 2	End Target	Source	Frequency	Responsibility	
Goal: Improved livelihoods of village farmers' households (HH) in target provinces	▪ 30 % increase in HH asset ownership index ▪ No of persons receiving services *	[1]	0%	15%	30%	Project survey	Interim review 2 and project end	PMU + FPDA	Continued GoPNG commitment to improve returns to farmers in agriculture value chains
Development Objective: Increased returns to village farming households from increased marketed production	▪ Percentage of total farmer fresh produce production sold to market increased by at least 40% ▪ Percentage of total galip nut production per farmer sold to galip plant	0 0	15% 20%	30% 50%	40% 90%	Partnership reports	Quarterly reports	Lead Partners	
Outcome 1: Village farming households have access to markets and services in the target value chains	▪ Yield in selected fresh produce crops increased by 40% on average ▪ Annual volume of galip nut sold to plant (tons) ▪ Percentage of persons reporting increase in production *	0% 0 0	20% 100 20%	30% 200 40%	40% 500 75%	Partnership reports	Quarterly reports	Lead Partners	Private investors interested in partnering with men and women village farmers
Outputs: 1.1 Different types of business partnerships involving FP/GN are implemented 1.2 Farming households in partnerships are trained to use improved technologies	▪ 23,200 farming households (23,200 men and 23,200 women) involved in project-supported partnerships ▪ At least 20,000 trained in production practices and/ or technologies *	0 0	10,000 9,000	22,000 15,000	23,200 20,000	Partnership reports	Quarterly reports	Lead Partners	
Outcome 2: Improved value chain environment to facilitate small farmers' inclusion	▪ At least 18,000 people reporting using financial services * ▪ At least 10,000 farming households reporting improved physical access to markets, processing and storage facilities *	0 0	9,000 0	15,000 5,000	18,000 10,000	• CEFI reports • PMU reports	Biannual reports	• CEFI • PMU	

[1] Will be established based on the baseline study to be carried out at project start.

Results Hierarchy	Indicators					Means of Verification			Assumptions (A) / Risks (R)
	Name	Baseline	Interim review 1	Interim review 2	End Target	Source	Frequency	Responsibility	
Outputs: 2.1 Financial institutions (FIs) with improved capacities to serve target value chains players	▪ At least 9 financial service providers supported in delivering outreach strategies, financial products and services to rural areas *	0	6	9	9	• CEFI reports	• Biannual reports	• CEFI	
2.2 Improved, climate resilient feeder roads from main production areas to main road	▪ 100 km of climate-resilient feeder roads rehabilitated * ▪ Up to 20 districts have maintenance arrangements in place to sustain feeder road practicability after spot improvements after spot improvements	0 0	0 0	50 6	100 20	• PMU reports	• Biannual reports	• PMU	
Outcome 3: Organised industry players contribute to policy development and sector coordination for inclusive industry growth	▪ Two national, at least 3 provincial and 10 district-based multi-stakeholders' platforms regularly meeting ▪ At least three policy and regulatory measures proposed to policy makers for approval, ratification or amendment * ▪ FPDA MIS operational FPDA MIS operational	0 0 0	2/0/3 0 1	2/2/6 1 1	2/3/10 3 1	• PMU reports	• Biannual reports	• PMU	
Outputs: 3.1 Multi-stakeholders' platforms created and trained 3.2 Policy and regulatory instruments prepared 3.3 MIS system in place at FPDA and FPDA staff trained	▪ Two national, at least 3 provincial and 10 district-based multi-stakeholders' platforms supported * ▪ At least three policy relevant knowledge products completed * ▪ MIS in place and number of staff trained ▪ MIS in place and number of staff trained ▪ Annual set of evidence-based knowledge products posted on FPDA website as of year 3	0 0 0 0	2/0/3 0 1/25 1	2/2/6 2 1/35 1	2/3/10 3 1/35 1	• PMU reports	• Biannual reports	• PMU	

I. Strategic context and rationale

A. Country and rural development context

1. **Growing, diverse population.** Papua New Guinea is a relatively young nation (it became independent in 1975) with a territory composed of more than 600 islands of various sizes and a total land area of 460,000 km^2. The harsh terrain contributes to the isolation of many rural communities, who live far from any road connection. Around 52% of the population is under 19 years of age, which reflects a high annual demographic growth rate averaging 2.9%. Due to significant rural-urban migration, the urban population rates are growing faster (4.5% per annum), contributing to social, economic and environmental stress, particularly among youth. Population density varies considerably between the highlands, which constitute 16% of the territory, hold most fertile land and host 42% of the population, and the lowlands and islands, which hold 54% of the population over 66% of the total land area.

2. **Strong economic growth, dual economy.** PNG is a lower-middle-income economy with a GNP per capita of USD 2,381. However, despite an average 5% growth over the last decade, the country's economy remains dominated by two sectors: a formal, largely capital-intensive sector which draws on the country's rich endowment in natural resources, particularly in the mining and energy industry, and a largely informal agriculture sector that employs the majority of the active population. Rapid economic growth has not transformed into improved livelihoods or increased opportunities to participate in the monetised economy for the 40% of the population that live under the poverty line and are unable to meet minimum food and non-food needs. With a stagnant 0.50 Gini coefficient, high inequality has been subsiding over the past four decades and it is estimated that 20% of the population earn 80% of the total income. The rural/urban divide also conceals significant differences across different urban and rural areas: for instance, the incidence of hardship is significantly higher in the highlands and remote and isolated islands, compared to other rural areas. Within each of the regions, there are again significant variations by province, and then again by district within most provinces.

3. **Poverty and nutrition.** Poverty is more prevalent in the rural areas where people have lower access to services, education, markets and economic inputs. More than three quarters of the population depend on semi-subsistence agricultural production as a main livelihood strategy. A large share of household consumption is self-produced, with cash incomes used for essential non-food items (school fees, kerosene, and garden tools), to improve diet quality by allowing consumption of purchased protein and energy-dense staples, and to provide insurance for periods of agricultural stress. Unexpectedly, in rural areas, where access to customary land should lead to lower incidence of food poverty, the rate of food poverty was estimated at 28.5% of the population compared to 14.4% of the population in urban areas. Broad national poverty trends and symptoms include: (i) an increasing welfare divide between households with access to formal employment and households dependent on the informal economy; (ii) low life expectancy (63 years); (iii) underweight children (29%), severe to chronic undernutrition and malnutrition, with marked deficiencies in animal and plant proteins; (iv) 36% of the population is illiterate and poverty is strongly correlated with education levels of the household head; and (v) poor performance on all Human Development Indicators (HDI). Further details on poverty are in Appendix 2.

4. **Agriculture.** Agriculture employs 80% of the active population and accounts for 27% of GDP. Most of the farming sector is held by about 4.3 million smallholders, or village farmers, who operate close to subsistence level. Diversified farming systems are dominated by food crops (tubers, banana, sago), which provide most of the food consumed in the country, with pigs, poultry and cash crops (mainly coffee, cocoa and copra) supplementing income. Low availability and high cost of modern inputs and technologies, lack of irrigation and low access to support services (and in particular to under-funded public extension) contribute to low yields. High logistical costs due to the poor transport network, and the lack of market organisation and of market information further discourage small farmers from raising production for the market – it is estimated that only 4% of the country's land is used for commercially-oriented agriculture production. Finally, while high rainfall, long dry seasons and excessive cloud cover are common constraints to agricultural development, they are further aggravated by increasing climate-change related hazards.

5. **Gender-based discrimination.** While they have a prominent role in both production and post-harvesting, women have considerably less access to services (as well as to education and health) than men. They also have limited control over the use of productive resources and limited participation in decision-making. On virtually every measure of social and economic wellbeing and empowerment (from income to school enrolment, life expectancy and parliamentary representation), males score more highly. Gender-based violence is shockingly high and is widespread within the family and in public spaces such as markets and public transportation, severely affecting women's abilities to participate in the economy, control business profits and assets and support their families, thereby contributing to increased poverty. PNG is ranked 158 in the 2014 Gender Inequality Index, out of 188 countries.

6. **Access to land.** With 97% of the land under customary tenure and considerable social and cultural diversity, land tenure systems vary greatly throughout the country. While land disputes are common and intensify under the impact of high demographic rates and an increased number of large-scale extractive resource industries, they do not affect food crop production systems, particularly in the Highlands. It is assumed that the annual (and not perennial) nature of the crops, coupled with the relatively low scale of development and the system of tenure ownership by family units, may have contributed to this tenable outcome. Nevertheless, the commonly used Clan Land User Agreement (CLUA) should be used to give assurance to interested parties on the tenure security of land used. CLUA is a standard land use agreement signed between the land developer and several clan leaders, which can be used by clan members in the absence of legal land titles for bank collaterals.

7. **New business models.** New business models offer potential to curb some of the constraints affecting the rural sector and to improve the access of small producers' to markets and services. New models include: service-oriented cooperatives; limited liability companies and nucleus farms providing access to inputs, technical assistance, transport, storage and markets; partnerships between smallholders and agribusiness (exporters, processing companies, supermarkets and hotels) sourcing from small farmers and advertising local origin; and outgrowers' schemes supplying services to smallholders. Private service providers become available to provide technical and management services to farmers' organisations.

8. **Fresh produce sector.** Population growth at an estimated 2.3% per year, combined with internal migration to urban and peri-urban areas, generate increased demand for food products, which is further intensified by a growing middle class and the expatriate community in the mining and gas industry. It is estimated that the total market demand for fresh produce is 1.32 million tonnes per annum, of which about 60% is covered by local production. Conversely, about 60 % of the modern market segments (supermarkets, catering companies, hotels, public institutions) are yet to be captured by PNG producers. While the ban placed on importing fruits and vegetables had been relaxed because of shortages and rising prices, the GoPNG announced that it was now reinstating it for fourteen fruits and vegetables.

9. Fresh produce is farmed by 94% of village-based families throughout the country. The majority grow small vegetable gardens for family consumption and sell tiny surpluses on local markets whenever they need cash. As urban demand is growing, increasing numbers of highland farmers attempt to switch from semi-subsistence production to market-oriented farming. Smallholders' capacity to deliver larger volumes of good quality produce is however affected by low access to inputs, lack of support services and lack of simple irrigation technologies to mitigate the effects of more recurrent droughts and to sustain consistent production over longer periods of time. Low outreach of financial institutions in the rural areas, combined with a lack of financial education, constrains farmers' ability to turn to credit for the financing of farm improvements. Market access is hampered by the lack of collaboration between smallholders, inadequate post-harvest management and long travel distances to urban markets.

10. The growing demand for fresh produce has also expanded the range of players along the value chain. However, largely informal and unstructured trading relationships result in high price variability, surpluses and shortages, as well as high wastage levels. Poor buyer-seller relationships are compounded by the lack of postharvest handling systems, limited postharvest infrastructure, lack of cool chain management, lack of specialised transport equipment, and frequent delays in transportation to market, due to damaged roads and changing shipping and airfreight schedules. The lack of access to finance eventually affects farmers' incentive to sell, as buyers are unable to pay them on delivery. However, the demand for PNG produced produce in domestic markets is

strengthening, especially in regards to import replacement. This is reflected in the development of enhanced buyer-seller relationships, evidenced by emerging examples of improved communication between end markets and fresh produce suppliers, new business relationships and a greater whole of chain awareness of limitations in value chain infrastructure, equipment and distribution systems.

11. **Galip nut.** *Canarium indicum* is an indigenous tree known as galip which grows in the wild in low land areas. Aside from producing edible nuts, which are part of local diets, it is an excellent shade tree for cocoa. Efforts to domesticate the crop and develop manual processing technologies have been led by the National Agriculture Research Institute (NARI) since the early 2000s, with support from the Australian Centre for International Agriculture Research (ACIAR) and the European Union (EU). Adding to the current stock of wild trees, several public and private initiatives are promoting the planting of galip trees, mostly for intercropping with cocoa (see Appendix 1 for details). It is expected that the volume of nuts available for processing will reach 50-70,000 tonnes of nuts in shell by 2030, and yield some 7,000 to 10,000 tonnes of saleable products (dried nuts and high quality virgin oil). The inclusion of galip as a priority export crop at the first meeting of the Fresh Produce Industry Working Group (a public-private multi-stakeholder platform) is one more indication of this growing interest.

12. Global tree nut production has increased by 56% compared with 2004/2005, with higher rates achieved by costlier types of nuts catering for top-end markets such as pine nuts, pecans and macadamia, which have achieved respectively 87%, 60% and 55% growth in the last ten years. Over the same period, total consumption of tree nuts has grown by 53%. With a strong global market for nuts of all types, particularly those with a favourable health profile like galip, galip nuts could become a profitable smallholder export crop, provided processing and marketing pathways can be developed. Several investors active in the cocoa or fruit tree sector are interested in scaling up. The National Agriculture Research Institute (NARI), with support from the Australian Centre for International Agriculture Research (ACIAR) is developing a small, mechanised pilot processing unit line, which started purchasing nuts from farmers, as well as tests on the domestic market. The NARI/ACIAR project is expected to build private sector confidence and facilitate their later investment in a privately owned commercial plant. Indeed, this set of initiatives has stirred growing interest on behalf of farmers, planters and other players down the value chain, who are looking at galip as a new cash crop with commercial potential. However, a number of gaps are yet to be addressed to achieve the demonstration of a profitable business model. These include: a resource assessment to estimate the stock of trees as well as their age and condition; an understanding of how to efficiently organise the supply chain from trees to plant and of related costs; market development beyond the relatively narrow domestic market; a model for commercially operating the pilot plant (in lieu of its operation by a research station); agronomic practices; tree selection and propagation; and a clear roadmap for developing the industry. In addition, a public-private strategy is needed to build on current achievements and nurture the development of a nascent industry.

13. **Policies.** *Papua New Guinea Vision 2050* outlines the long-term strategy for the country. The main objective is to shift the economy currently dominated by the mining and energy sectors to broad-based growth in agriculture, forestry, fisheries, eco-tourism and manufacturing, with a view to expand household income, enhance socio-economic performance and improve overall HDI ranking. The *PNG Strategic Development Plan (2010-2030)* aims at transforming PNG into a prosperous middle-income country by 2030, by promoting broad-based growth. Objectives for the agriculture sector are a five-fold increase in agricultural production, mostly through improved land use and productivity. Public-private partnerships are to become a cornerstone of the sector development. The *National Agriculture Development Programme (NADP) (2007-2016)* aims at stimulating economic growth in the agriculture sector by increasing income earning opportunities, focusing on increased private sector participation and on three priority sub-sectors, which include food and horticultural crops. Another key NADP objective is to improve the recognition of women’s contributions to rural industries and to increase opportunities for women’s decision making in agriculture. Key priorities of NADP are: agriculture research and extension; food and horticultural crops; tree and industrial crops; livestock, apiculture and aquaculture development; spice and minor crops; gender, social and HIV/AIDS related issues; and regulatory and technical services.

14. In the face of the low implementation rate of NADP and reported abuse, a Functional Expenditure Review (FER) of the Department of Agriculture and Livestock (DAL) and seven commodity boards and agencies was carried out in 2014. The review noted that agriculture public

departments had weak capacities and limited resources, which contributed to a lack of visible impact on the agriculture sector. FER called for a reorganisation of the agriculture institutional framework, with: (i) DAL refocusing on policy development and on the coordination and monitoring of policy implementation by commodity boards and provincial agencies; (ii) the creation of an Agriculture Investment Corporation to provide a funding and governance structure for the commodity boards and agencies; and (iii) the reorganisation of the commodity boards, to become responsible for regulation, farmer-driven research, business facilitation and the promotion of farmer-based SMEs. This includes the creation of a Food and Grains Board to be established through the merger of the Fresh Produce Development Agency (FPDA) with NARI, which would become the lead agency for the food and grains sector, including fresh produce as well as alternative crops (which could cover galip nut). The reform implementation is progressing slowly and is expected to further slow down with the closing of the FER Implementation and Advisory Unit (FIAU) and further uncertainty linked to upcoming elections.

15. **Institutions.** The *Department of Agriculture and Livestock (DAL)* is responsible for the agriculture sector. The *Fresh Produce Development Agency (FPDA)*, based in Goroka (Eastern Highlands) provides technical and market information to smallholder farmers and other key players in the horticulture value chain. FPDA has been in the forefront of providing market driven extension and of supporting farmers throughout the country to grow fresh produce for the formal and informal markets. Farmers have been trained using innovative extension methods based on model farms and village extension workers (VEWs). However, the resources available to FPDA mean that only a small percentage of farmers participate in these schemes at any one time. The *National Agriculture Research Institute (NARI)* is a publicly funded research organisation mandated to undertake agriculture research and development on food crops, alternate crops and livestock breeding and management. The *Centre of Excellence for Financial Inclusion (CEFI)* was created with the support of ADB-financed Microfinance Expansion Project (MEP – see below) and is responsible for driving the implementation of the National Strategy on Financial Inclusion and for coordinating all related initiatives. *Provinces and Districts* are responsible for local development planning and service delivery, but have limited resources and capacities. The Provincial, District and Local Level Government Service Improvement Programme (PSIP and DSIP) has opened new perspectives with additional resources accruing to local governments.

16. **Development projects.** Few donors remain in the agriculture sector in PNG. Key projects, also of interest to MVF, include:

- ***PPAP:*** the Productive Partnerships in Agriculture Project (PPAP), is co-financed by IFAD, the World Bank, the European Union (EU) and the GoPNG. The project aims at improving the livelihoods of smallholder coffee and cocoa producers, by promoting partnership agreements between farmers and agribusiness for the provision of technologies and services, through a package of incentives directly benefitting farmers. The success of the partnership model has prompted GoPNG, IFAD, the World Bank and the EU to approve additional financing to scale up PPAP nationally;
- ***Lead Firm Programme:*** New Zealand Aid has been funding institutional support to FPDA for many years. The ongoing Lead Firm Programme aims at supporting the growth of three fresh produce sub-sector leaders that source from smallholders. New Zealand Aid has indicated interest in participating in MVF, which has strong potential for synergies with the Lead Firm Programme;
- ***PHAMA:*** the Pacific Horticultural and Agricultural Market Access (PHAMA) Program is co-financed by Australia and New Zealand and aims at helping Pacific island countries, including PNG, to improve their exports of primary products. While there are few opportunities for export in the fresh produce sector (the main market is domestic and the main scope is to substitute imports), PHAMA is supporting the creation of a Fresh Produce Industry Working Group gathering key sector players. PHAMA is ending in 2017, but a second phase is being prepared;
- ***TADEP:*** the Transformative Agriculture and Enterprise Development in Papua New Guinea (TADEP) is co-financed by Australia and ACIAR and brings together five research-for-development initiatives aiming at increasing food security and rural income. Of particular relevance to MVF are: *(i) Improving opportunities for economic development for women smallholders in rural PNG*, which has developed the Family Team approach that will be up-scaled

in MVF; (ii) *Supporting commercial sweet potato production and marketing in the PNG highlands;* and (iii) *Enhancing private sector-led development of the canarium industry,* which will undertake a range of technical, marketing and economic studies upon which MVF will build to support the creation of a commercial plant for galip nut processing under Component 1.2;

- ***MEP:*** the Microfinance Expansion Project (MEP) is financed by the Asian Development Bank (ADB). It aims at promoting financial inclusion through capacity building provided to financial institutions, financial education and the operation of a risk-management facility. MEP has assisted in creating the Centre for Financial Inclusion (CEFI), which is a public institution responsible for coordinating and guiding financial inclusion initiatives.

B. Rationale

17. **National policy framework.** Further to the Agricultural Functional Expenditure Review (FER), GoPNG has embarked on a major overhaul of the agriculture sector, with a view to achieving higher economic growth, providing rural men and women with better opportunities to participate in market-oriented agriculture, and increasing private sector investment in the sector. The key orientation of the new approach supported by DAL, as well as by FPDA, is to focus on the promotion of public-private partnerships to support smallholder access to markets and support services.

18. **Innovative business models.** PPAP has opened the way to developing business partnerships in the two major export value chains. Successful business models associating farmers and agribusiness are emerging in other value chains, including fresh produce. Yet these initiatives remain scattered because of the risks involved both for private investors and for smallholders and of the current inability of the public sector to provide the incentives that would be needed to offset risks and promote innovative partnerships.

19. **Target value chains.** MVF aims at adapting PPAP's approach to two value chains in which production mostly originates from smallholders and which are part of NADP priority sub-sectors. The two target value chains were selected jointly with DAL. Fresh produce sub-sector will be allocated more than 90% of project resources, because it is grown by village male and female farmers throughout the country and because domestic fresh produce markets are expanding. While not as important, galip nut holds potential to develop into a new export cash crop in cocoa producing areas, therefore benefitting thousands of cocoa growers. Main reasons further justifying the selection of the target value chains are as follows:

- ***Adaptation to village farmers:*** more than 90% of village farmers already grow vegetables. Fresh produce therefore already plays a role in the livelihood, food security and risk management strategies of village farmers and offers an opportunity for generating income with relatively low risk. The existence of different market channels and market segments leaves the possibility to adapt partnership content and project support to participating households, depending on their absorptive and organisational capacity. As for galip, it is being planted extensively in association with cocoa, which is the main cash crop for village farmers in East New Britain (the target province for galip);
- ***Adaptation to women:*** women undertake most of the tasks associated with the cultivation of fresh produce and play an active role in selling fresh produce in informal markets throughout the country. As smallholders venture more into farming crops for cash income, tasks associated with consolidation of fresh produce – re-sorting and re-packing, transportation, cool storage, and freighting to distant markets – are shared between men and women. Women conduct the majority of galip nut growing and trading activities. However, women simply sell the raw nuts in village and roadside markets as there are no reliable commercial markets for value-added products;
- ***Potential for production growth:*** the adoption of seeds, inputs and practices allowing year-round production is expected to significantly boost vegetable production (increased yields by up to an estimate 40%). With regard to galip, there is already volume of production, without the need for the project or for smallholders to put any additional investment. By the time the project is expected to start (2018), the 250,000 galip trees planted with EU financing will have entered into production and the 600,000 planned for planting by PPAP will progressively start bearing fruits;

- ***Market potential:*** only a small fraction of vegetable production is currently marketed, because of the low quality and volumes, inconsistency of production, lack of access to financing at all steps in the value chain and lack of market linkages. The demand for vegetables is expanding, because of the rising population and income growth in the cities, changing diet patterns and consumption habits, as well as mining operations catering needs. While close to two thirds of the modern market segments are currently largely supplied by imports, there is a growing interest from final market buyers (notably supermarket chains, catering companies, mining operations and hotels) to source from smallholders. New opportunities will also develop with the import ban on vegetables and fruits. Developing domestic vegetable production however requires major investments in better extension and financial services, better access to inputs, better farmers' organisation and better market linkages. As for galip, the steadily growing global market for tree nuts offers big potential for transforming it from a fresh product essentially suppling local wet markets into an export crop. By diversifying cocoa farmers' revenues, the commercialisation of galip would offer a way to mitigate the adverse impact of cocoa price fluctuation on farmers' income. It would thereby contribute to the sustainability of cocoa production (and of PPAP's investments in that sector), by offering farmers an alternative to the traditional behaviour of uprooting cocoa trees for planting other crops when cocoa prices go down
- ***Higher farmers' share over the final added value:*** while the market is largely for fresh produce, there is scope for farmers retaining a larger portion of the final value added when selling to modern market segments, under the form of grading, some conservation (for example drying onions) or adequate packing – the latter is completely neglected at the moment and is one of the main causes for up to 40% post-harvest management losses. And although certification is not a priority, there might be some scope, likely at a later stage, for organic certification or for branding local origin. As for galip nut, farmers will be able to retain value added in two ways: by performing primary processing (de-pulping and drying) to enable easy storage and transport of nuts in shell; and by holding part of the share capital of the processing plant, thereby earning dividends on the company's profit.

20. **Business partnerships.** In line with IFAD's PPPP[2] approach, MVF will build on the PPAP approach (see lessons learnt in section II D) to promote collaborative arrangements, whereby farmers will have secure and remunerative market outlets incentivizing that they invest in increased production of better quality vegetables, whereas buyers will obtain reliable and consistent supply of vegetables in line with the demand of more remunerative market segments. As with PPAP, partnerships will: originate in a competitive selection process, to ensure transparency and meeting project objectives; cover a demand-driven package of activities to secure farmers' access to inputs and technical services in accordance with the specificities of every partnership; and be matched by technical assistance to strengthen industry organisation and knowledge management. However, the PPAP approach will be adapted to the specificities of the fresh produce sub-sector, where buyers are smaller, source from smaller groups of farmers, and are less familiarised with business management and markets than in the cocoa and coffee sectors.

21. **FPDA.** In the fresh produce sector, MVF will also take stock of the considerable experience gained by FPDA in promoting market-oriented farming through the 'model farm approach', which builds farmers' capacities with regard to agricultural practices, post-harvest management, market linkages and farming as a business, along a gradual and participatory approach. The model farm also has potential for becoming a starting point for the development of farmers' organisations offering access to a diversified range of services such as input delivery, collection or primary processing. Finally, the project will scout innovative business arrangements promoted by public and private stakeholders (such as a farmer-owned buying company and public-private partnerships sponsored by provincial and district governments encountered during the inception mission) and seek to upgrade and scale-up most promising models within the partnership framework.

22. **Galip.** In the galip sector, the project will build on NARI/ACIAR project to demonstrate a profitable business model for the commercial, mechanised processing of galip nuts. If the demonstration is successful, the project will then provide further support to facilitate private sector investment into a full-fledged private-sector owned, commercial plant, along modalities to be defined based on a feasibility study. The set of interventions on galip nut is expected to cost less than 5% of the total project cost and would be concentrated on one single province, East New Britain. However,

[2] Public-Private-Producer Partnerships.

this limited intervention will open a new source of income for thousands of smallholders in the lowlands, by leveraging project resources to unleash private investment in commercial galip nut processing.

23. **Potential for scaling up.** The Government of Papua New Guinea has requested that IFAD pursue programmatic investments in the country. The MVF has potential to be scaled up geographically within the two current value chains or also to target other agricultural commodities relevant to village farmers. Due to the importance of fresh produce and galip nut in terms of volumes, the two target value chains hold significant scope for scaling up MVF innovative approaches. The combination of knowledge management; close partnership with FPDA, provinces and district governments; industry structuring; and participation of financial institutions will pave the way for the replication and scaling up of the partnership model. In East New Britain, the stock of galip trees grown in cocoa will reach 850,000 trees in the next few years, and there is scope to expand galip tree plantation in all of the cocoa growing areas, which would come in addition to indigenous galip trees growing in the lowlands. Scaling up is built into the approach for the galip nut component, which will facilitate private investors crowding in for increasing the processing plant share capital.

II. Project description

A. Project area and target group

24. **Target area.** Five target provinces were selected by the GoPNG for the main intervention in the fresh produce sector: four provinces in the Highland region (Western Highlands, Jiwaka, Simbu, Eastern Highlands) and one province in the Momase Region (Morobe). The five provinces encompass a continuous geographic area going from Mount Hagen, the main hub for fresh produce trade in the Highlands, down to Lae, the second largest city and urban market in PNG and the major port supplying Port Moresby, the capital city. The highlands provide excellent growing conditions for a wide range of temperate fruits and vegetables year-round. The project has scope for expansion to other regions, as the intention is to develop innovative business models for further replication and upscaling. Furthermore, the main cocoa producing province, East New Britain, is targeted for a small intervention in the galip sector, which has potential to impact the livelihoods of farmers across the lowlands. Project target areas within a province will coincide with those areas where the target commodities are produced, stored, processed and marketed, rather than with a strict administrative delimitation.

25. The target provinces are among the most densely populated in the country and with the highest rates of deprivation by almost every measure occur in rural parts of the Highlands and Momase regions. The Highland provinces have the highest estimate numbers of poor in the country, as well as the highest stunting rate at 58%.

26. **Target groups.** It is expected that MVF will directly benefit approximately 23,500 households, of which around 22,000 in the fresh product value chain and 1,5000 in the galip sector. This would represent 46,000 primary beneficiaries in application of the family-based approach that will be used throughout the project (similar to IFAD's household-based methodologies, see Component 1). Around 117,500 people would directly benefit from project activities based on a household of five. Primary beneficiaries will mostly be semi-subsistence households (low input-low output farmers mostly growing food crops and limited cash crops) but may also include market-oriented small farmers involved or with potential to get involved in the target value chains. Women village farmers will constitute a specific target group, because of their disempowerment, lack of access to services and markets as well as elevated gender-based violence, which altogether negatively affect household revenues and well-being. The project will also benefit youth, by creating new economic opportunities in the production and trading of fresh produce, facilitating access to innovation and new technologies and services (including through digital applications) and supporting small business growth. Inclusive business partnerships offer a solid opportunity for young people, both as smallholders and as business partners, to capture value from the fresh produce sub-sector, building on available assets.

27. Primary beneficiaries also include different categories of fresh produce buyers that source from village farmers, have scope for expanding their operations and can become a conduit to provide village farmers with access to markets and services. They range from micro (wet market-based

intermediaries supplying larger traders) and smaller buyers (such as farmers with an entrepreneurial mind collecting and marketing produce from neighbours, or district-based middlemen) to medium traders that consolidate and commercialise fresh produce to supply modern market buyers and large chain leaders trading vegetables for major end market clients.

28. Building on FPDA experience, it is expected that for every farmer directly benefitting from support services, another four are indirectly benefitting, which would bring gains to another 185,600 farmers. Financial institutions are also part of the secondary beneficiaries, as they will get project support to expand their rural outreach and build their capacities to better meet financing needs in the fresh produce sub-sector. Improved access to credit will not be restricted to partnership members, but as financial institutions' service offer expands, it will benefit a much larger universe of clients. Finally, consumers will benefit from increased and more consistent supplies of higher quality fresh produce and reduced reliance on high cost imports.

29. **Inclusive strategy.** The target value chains respond to a range of self-targeting features. Fresh produce is grown by village farmers on very tiny surfaces (0.1 ha in average) and plays an important role in the livelihood, food security and risk management strategies of the poor. Galip is grown by small cocoa producers whose income is exposed to the fluctuations of cocoa international prices. However, the self-targeting aspects of the project need to be supplemented by operational measures to ensure that inclusion and gender equity are mainstreamed in all aspects of project implementation. In PNG the challenge is not only to deliver benefits but also to ensure that communities and households are able to translate these benefits into sustainable household welfare improvements. Measures to address social divides and build social, financial, technical and organisational capacity for livelihood planning in the context of the fresh produce and galip nut value chains is therefore central to the design and an integral part of project activities.

30. **Family-based approach.** The main strategy for empowerment, capacity building and targeting of appropriate interventions will be a family-based approach, building on the Family Team approach developed by an ACIAR-FPDA project[3] and the Family Business Management Training developed by CARE. It addresses the fact that households are not cohesive units with shared needs and resources and that different members pursue different goals and are responsible for different production and consumption activities. The family-based approach helps families to look at the work done by women, men and youth to work towards a more equitable distribution of agricultural and household work and to create a joint vision and an action plan for working towards this vision. It has been successful because it works through traditional leadership structures and explicitly includes men, seeking to build a consensus and demonstrate that social inclusion and gender empowerment will bring social and economic benefits to the entire family.

31. The family-based approach will form the foundation based on which MVF will support partnership development and promote support services such as financial literacy, business education and extension. Key elements of the FT approach (detailed in Appendix 2) include: (i) a community mobilisation process aiming at gaining community and social structures' participation in the family-based approach and support to business partnerships; (ii) the creation of a basic plan for achieving family long-term objectives by working together as a family; and (iii) capacity building provided to households in financial education, sustainable livelihoods and nutrition. The family-based approach will be adapted to the specific features of the project, particularly with regard to: (i) *land tenure security:* community structures will be sensitised to facilitate sustainable land tenure arrangements between landowners and vegetable growers; (ii) *extension:* different extension approaches may be chosen in the various partnerships, but they will all have to be harmonised with the family-based approach; (iii) *social inclusion:* the family-based approach will also be used to identify more vulnerable households and to facilitate their participation in the partnership. (iv) *nutrition*: module 3 of the approach ("feeding your family team") enables participants to consider the food and nutritional security of the whole family, including in terms of drought and food shortage. Specific topics include planning a balanced daily diet, eating locally grown foods replacing store-bought foods, setting up home gardens, and organizing cooking classes for both men and women, etc.[4]

32. The approach will be implemented in communities pre-selected through partnerships. A consortium composed of CEFI and of an international NGO with experience in household-based

[3] Examining women's business acumen in Papua New Guinea: working with women smallholders in horticulture.

[4] http://aciar.gov.au/files/mn_194_family_teams-web-updated_4-10-2016.pdf

methodologies in the PNG context will manage the implementation of the family-based approach. It will build the capacities of FPDA and the PMU technical staff, including Provincial teams, as well as of the Business Development Service Providers that will assist in developing partnership plans and agreements, so that they are conversant with the approach and that it is mainstreamed throughout all project activities. The consortium set-up will ensure that the family-based approach and financial education component will be perfectly harmonised into a seamless gender-inclusive programme aiming at raising household capacities to take the best advantage of project services to improve their livelihoods.

33. Other key measures (detailed in Appendix 2) designed to support inclusive project implementation include:

- *GESI strategy and action plan:* a GESI strategy and action plan will be developed at project onset, with support from a GESI consultant, in close coordination with the consortium. Practical guidelines and procedures will also be developed and incorporated in the Project Implementation Manual (PIM). Key measures will include: the establishment of quotas for women's and youth access to services (women minimum 50% of serviced clients, youth 30%) and women's/youth participation in decision-making bodies; and GESI training in connection with the family-based approach training, for project staff and implementing agents;
- *Project management:* to support the development and implementation of the project inclusive strategy, the PMU will include a GESI Officer, who will be responsible for ensuring that GESI is mainstreamed throughout project activities.
- *Knowledge management and institutional support:* the project M&E/KM system will include the monitoring of inclusion and gender aspects, and lessons learnt will be made available to multi-stakeholders' platforms and project implementers to support regular analysis, improved performance and annual programming of related activities. Building on lessons learnt from project achievements, the GESI Officer will also support the mainstreaming of gender and inclusion into FPDA's analytical and operational systems, including trainings and the development of guidelines and toolkits as appropriate.

B. Development objective and impact indicators

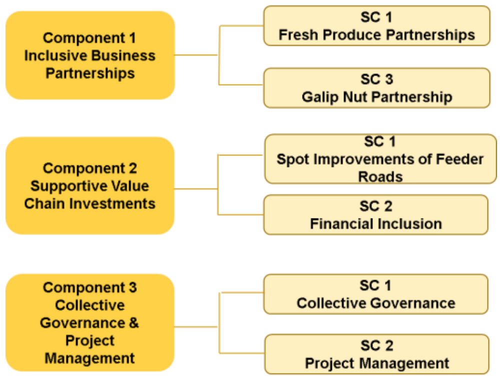
34. The proposed project goal is to improve the livelihoods of village farming households in target provinces, by facilitating their transition from semi-subsistence agriculture to market-oriented production and farming as a business. The development objective is to achieve sustainable increased returns to village farming households from increased marketed production. Main indicators are: increase in household asset ownership index; percentage of farmer production of fresh produce sold to market increased by at least 40%; and percentage of farmer production of galip nuts sold to processing plant increased from 0 to 90%.

C. Outcomes/Components

35. MVF comprises three components, which are summarised in Figure 1 below:

- *Component 1 - Inclusive Business Partnerships* supports all the activities required to build and implement business partnerships bringing together village farming households and buyers in the two target value chains: (i) fresh produce and (ii) galip nut;
- *Component 2 – Supportive Value Chain Investment* complements partnership investment with interventions that aim at impacting the whole value chain by: (i) improving access to production areas through spot improvements on feeder roads; and (ii) facilitating the access of farming households and other players in the value chain to affordable and diversified financial services;
- *Component 3 – Collective Governance and Project Management* includes all the activities aiming at promoting a favourable policy and institutional environment to support the development of inclusive fresh produce and galip nut value chains.

Figure 1 – Project components



Component 1 – Inclusive Business Partnerships

36. **Objective and approach.** Component 1 aims at building inclusive partnerships between village farmers and buyers, whereby: (i) farmers will gain improved access to markets and support services; and (ii) buyers will source from farmers to supply remunerative markets. The component design responds to five major thrusts:

- ***Building on the existing:*** the component builds on a series of initiatives and development projects, which include: (i) the PPAP approach, which is adapted to the specificities of the target value chains (see Lessons learnt in II 6); (ii) FPDA's 'model farm approach', which builds farmers' capacities with regard to agricultural practices, post-harvest management, market linkages and farming as a business, along a gradual and participatory approach; (iii) household-based methodologies developed in ACIAR-financed '*Improving opportunities for economic development for women smallholders in rural PNG'* project, in partnership with FPDA, as well as by CARE in the Family Business Management Training Programme; (iv) the set of studies and tests paving the way to the creation of a commercial plant for galip nut processing developed under ACIAR-financed *Enhancing private sector-led development of the canarium industry'* project, in partnership with NARI. This will enable strong project ownership on behalf of PNG stakeholders and facilitate the adoption of scaled up innovations;
- ***Supporting the development of business partnerships:*** MVF will promote collaborative arrangements whereby farmers will have secure and remunerative market outlets justifying that they invest in increased production of better quality fresh produce, whereas buyers will obtain reliable and consistent supply in line with the demand of more remunerative market segments. To this effect, the project will provide technical and brokering services to ensure sound agreements spelling out a clear distribution of responsibilities and a balanced share of risks and benefits. In the fresh produce sub-sector, partnerships will be market responsive and non-prescriptive. The project will not target specific crops, but will rather support partnerships that are potentially profitable and sustainable once project support will be over. Where there are promising innovative business arrangements already, it will seek to upgrade and scale up within the partnership framework. In the galip nut sector, the project will contribute to demonstrating the profitability of commercial, mechanised processing, and pave the way for scaling up through further private sector capital investment. IFAD support will build on the pilot plant currently operated by NARI, which will be leased to a private operator who will run partnerships with farmers;
- ***Offering support to both farmers and buyers:*** the project will make available support services to both farmers and buyers, within the partnership framework or through the provision of additional technical assistance. Farmers will be supported to gain the skills required to meet market demand, but also to improve their organisation to have sustained access to services and markets once partnerships are over. Buyers will access business development services so that

they can consolidate and expand their businesses and sustainably source from larger number of village farmers;

- ***Adapting the content of partnership to specific partners' needs:*** partnership will be demand-driven and tailor-made to meet the specific characteristics and needs of the partners and of the market they decide to target together. Each partnership will cover investments that respond to such specific features, building on a list of eligible investments described in Appendix 4;
- ***Combining different sources of financing:*** partnerships will be financed through a mix of partners' contribution, credit, and incentive grants aimed at decreasing partners' risk and facilitating their engagement into innovative agriculture practices and marketing arrangements. Access to credit is aimed at strengthening the sustainability of business partnership by ensuring continued access to financial services. It will be facilitated under Component 2;
- ***Engaging communities:*** community-based activities will be implemented in the partnership target areas, with the objective of ensuring broad community support to partnership development and of engaging the participation of farming households as a family team. The family-based approach will empower women so that they access project benefits alongside with men, within the family unit. Furthermore, it will facilitate the channelling of capacity building services in areas such as financial education and nutrition, where the private sector partners would have no comparative advantage;
- ***Using a value chain approach:*** the cornerstone of MVF approach is the partnership linking a buyer and a group of farmers. This mode will however be developed within a more global value chain approach, whereby partnerships will be driven by market signals, will be geared towards developing steady relationships with end buyers, and will receive support to improve production but also marketing, handling and transport down to final markets.

37. **Expected outcome.** The **expected outcome** is that village farming households have access to markets, technologies and services in the target value chains. The **main outputs** from Component 1 will be: (i) different types of business partnerships linking fresh produce and galip nut producing households to buyers; (ii) at least 20,000 farming households (20,000 men and 20,000 women) trained in and using good agricultural and post-harvest practices for fresh produce; (iii) around 23,000 farming households trained for family engagement in decision-making on production and marketing.

38. Sub-component 1.1 – Fresh Produce Partnerships. Investments in this sub-component will cover:

- ***Risk analysis and mitigation plan***. A substantial risk analysis and mitigation plan of the Partnership Agreement (PA) will be prepared prior to the scoping study and while implementing the first PAs. This will cover four levels of risk: fiduciary risk, risk of doing harm, effectiveness risk, and reputational risk, following QA recommendation.
- ***Scoping study and climate risk assessment:*** a participatory scoping study will be carried out in the target provinces at project inception in order to: (i) map the fresh produce sub-sector, identify crops with stronger comparative advantages and business opportunities, as well as potential partners; (ii) evaluate the availability of relevant service providers able to provide support services in each target province, including their respective capabilities, capacities and interest in delivering services within the project; (iii) provide orientations to support the project GESI strategy; and (iv) provide orientations to address possible tenure challenges that might affect the project target group. In parallel to the scoping study, MVF will finance a climate risk assessment to identify areas with climate change risks, establish baseline data and identify a suite of appropriate short, medium and longer term agricultural risk management strategies and best practices to feed into partnership business plans and in the provision of extension and advisory services to growers;

- ***Pre-investment activities:*** the PMU will carry out the following sequence of activities, which will be repeated in years 1, 2 and 3, to develop partnerships and prepare partnership agreements:
  - *Information campaign*, to disseminate information about the project and opportunities offered to farmers and buyers;
  - *Calls for expressions of interest*, to identify interested in developing partnerships with village farmers to supply identified markets. Expressions of interests (EOI) will be short proposals presenting the partners, identified markets, partnership objectives and proposed investments, expected benefits in particular for farmers, cost estimate and financing sources. The calls will specify eligibility criteria for: (i) partners, e.g. farmers and buyers of different sizes; and (ii) investments, such as nurseries, farmers' booster kits, extension and advisory services for farmers, small-scale irrigation and farmer-based water management; machinery and equipment for improved production, processing, storing and transporting; business development services; and partnership management costs for bigger partnerships;
  - *Screening,* to determine which proposals will be further developed into full partnership agreements, based on pre-established selection criteria;
  - *Family-based approach*, to build household capacities to take advantage of project services, empower women within the family business and extending financial, business and nutrition education. Land tenure issues will be addressed as part of the family-based approach that will be developed as part of the partnership design process, to empower women as part of a family team, but also to gain community buy-in and sign Clan Land Use Agreements to guarantee smooth implementation of project-supported activities in the community. Community support will be sought to facilitate the implementation of the family-based approach, to support households' participation in the development of partnerships and to facilitate the inclusion of more vulnerable households in the partnerships. Community structures will also have an important role in securing sustainable tenure arrangements between landowners and vegetable growers;
  - *Preparation of partnership proposals:* applicants approved at EOI stage will be provided with assistance from a business development service provider to prepare full partnership proposals, including: (i) a partnership agreement detailing the contractual arrangements between the buyer and the farmers, their respective obligations, including modalities for equitably sharing benefits and risks; (ii) a 3-year business plan describing how the partners will achieve contractual objectives, including partnership investments and modalities of implementation; and (iii) a 3-year financing plan detailing the total cost of the partnership, how each partner will contribute to the costs, the amount sought from financial institutions and the amount of incentive grant. Preference will be given to partnerships that: (i) offer equitable opportunities for participation by men, women and youth; (ii) incorporate specific measures to facilitate the inclusion of disadvantaged and vulnerable groups; and (iii) address the need for smallholders to adapt to climate change.
  - *Approval and signature of partnership agreements:* partnership proposals will be reviewed by the PMU, then submitted to an independent Technical Appraisal Committee (TAC) for endorsement, and then to the Project Steering Committee for final approval. Partnership agreements will be signed by partners, FPDA and the PMU.

BOX 1 - Pre-investment activities
Step 1: Annual information campaigns to disseminate information about the project and opportunities offered to buyers and farmers
Step 2: Calls for expression of interest, issued annually by the PMU to identify market players interested in partnerships with village farmers.
Step 3: Screening of EOIs to determine proposals that will be developed into partnership agreements
Step 4: Family-based approach adopted to carry out preparatory community-based activities
Step 5: Preparation of partnership proposals by applicants with assistance from a business development service provider, including a business plan
Step 6 - Approval and signature of partnership agreements.

- ***Partnership financing:*** partnerships will be supported for a maximum duration of three years. Investments will be financed by three financing sources: (i) *partners' contribution*, to be provided both by lead partners and by farmers; (ii) *credit*, which will be made accessible by participating financial institutions; and (iii) a project-financed incentive grant. While the partners will be free to include any type of investment and activity in the partnership, project financing will be capped, based on pre-established rules that will be advertised in the call for EOI;
- ***Resource centres:*** PPAP experience suggests that village-based resource centres (covered area with cement slab) used as training and storage facilities greatly contribute to strengthen farmers' groups and collaboration between groups. Furthermore, they could support the development of farmer hubs extending services to farmers. Resource centres, their use and operation modalities will be programmed jointly by partners and Provincial Teams during partnership implementation;
- ***M&E and overseeing:*** Lead partners (in collaboration with Village Extension Workers (VEWs) or lead farmers) will submit brief progress reports to support their disbursement requests. Provincial teams headed by FPDA and composed of district staff will oversee partnership implementation, in line with the specifications of the partnership agreement. Every year, a partnership meeting will be convened to review implementation results and challenges and address any issues affecting smooth implementation. In the context of fiduciary oversight of the contracts, their conformity to financial and institutional rules will be monitored by FPDA and PMU. The project will also make sure that the contracts are mutually-beneficial, to both buyers and sellers. The various beneficiary/outcome or impact assessment surveys will also assess these aspects to ensure maximum accountability and adjustments over implementation if need be.

39. **Sub-component 1.2 – Galip Nut Supply Chain.** IFAD will organise its interventions in two phases. In the first phase, which will be implemented over the first two project years, it will finance a set of activities aimed at complementing ACIAR/NARI efforts to demonstrate a profitable business model for a commercial galip production and processing. Key activities envisaged (partnerships and commercial operation of a pilot plant) will provide direct benefits to farmers, while the remaining ones will help in setting up an enabling environment for further scaling up.

40. At the end of the first phase (coinciding with a first interim review), IFAD will commission an independent study to assess whether there is justification for private sector investment. If is the results are positive, the project will consider providing additional support to facilitate private sector investment based on a feasibility study. If there is no clear business case for investment, then the balance of resources allocated to Sub-component 1.2 will be reallocated, based on proposals to be made by the interim review.

41. Investments in the first phase will cover:

- ***Galip nut resource assessment study:*** the study will aim at identifying the stock of wild and planted trees, their age and condition, as well as farmers' willingness to harvest nuts for selling. It will also explore possible modalities for nut collection and transport in the different target areas. It will be conducted by NARI and will combine geospatial methods and physical surveying, in partnership with field staff from cocoa buying companies;
- ***Commercial operation of NARI's plant:*** with assistance from a specialised consultant, the PMU will set up a management operating system whereby NARI will lease the pilot plant to a private manager selected through competitive bidding, who will agree to manage the plant and its operations over a minimum of two seasons. This will enable the commercial management of the plant with adequate resources and skills, for increased buying capacity from farmers, higher efficiency and generation of knowledge in view of a possible scaling up. The management agreement will specify the modalities of partnering with the current ACIAR project so that the pilot plant can benefit from technical assistance and operate as a pilot, i.e. trial different scenarios for sourcing, processing and marketing and ensure close monitoring and detailed documentation of achievements;
- ***Organisation of supply chain:*** building on the resource assessment, the plant manager, with support from the PMU Galip Nut Manager and the Production and Value Chain Systems Manager, will organise the supply of galip nuts, with a view to ensure that the plant can be used at its maximum capacity. To best serve the purpose of the trial, different channels, with different

modalities for collection and transport, will be used from different locations. These will include agreements with two major trading companies that have confirmed their interest in investing in a future commercial plant, Agmark and East New Britain Development Corporation (ENBDC). IFAD will finance the working capital for purchasing the nuts, as well as the cost of an information campaign every year, in areas selected based on their availability of resource (building on the resource assessment);

- ***Market development:*** an international market study will be undertaken by the University of Adelaide (which is co-implementing the ACIAR project) in partnership with PHAMA, building on preliminary work carried out for Vanuatu. It will target Australia and New Zealand potential buyers, with a view to assess market potential and position galip nut products on the Australia and New Zealand markets. Furthermore, PHAMA will conduct a market access study to identify market access requirements prevailing on the domestic and on the target export markets;
- ***Study tour to the Philippines:*** a study tour to the Philippines will be organised to earn knowledge about the canarium (*pili)* industry and explore transfers of knowledge and technology;
- ***Industry roadmap:*** the project will build on the Reference Group set up by ACIAR/NARI project, with a view to upgrade it into a public-private multi-stakeholder platform and develop a roadmap for the development of a galip nut industry in PNG. This activity will be implemented under Component 3.1;
- ***Independent assessment study:*** the independent study will aim at assessing whether the conjunction of ACIAR/NARI project achievements (terminating in June 2018) and IFAD-financed activities provide sufficient assurance that there is a case for private sector investment in a profitable commercial processing plant that could serve domestic and export markets. The assessment will cover all the steps in the tree-to-market chain, including nut production, supply chain organisation, processing and marketing, and will analyse costs and revenues at the various steps;
- ***Monitoring and Evaluation:*** the plant manager partnership will be required to submit brief quarterly progress reports, in line with the Management Agreement. The PMU will device a template for the progress report, which will be attached to the Management Agreement. At the end of every season, a meeting of the Multi-Stakeholder Platform will be convened to share results (see Component 3).

42. If the independent assessment is successful, it will also include recommendations as to how to promote private sector investment into a new, private-sector owned commercial plant. A budget allocation has been set aside for providing further IFAD support to the scaling up. It is expected that it could cover the following pre-investment activities: (i) full feasibility study; (ii) call for expression of interest from potential investors and due diligence; (iii) business plan preparation; (iv) support to investment; (v) partnerships with farmers along the model used in Sub-component 1.1; (vi) family-based approach training and financial education to farmers.

43. Further investment from IFAD in the galip sector will however also be contingent on the GoPNG securing a new phase to the ACIAR/NARI project, so that private sector investment can be matched by public investment into further research needed to increase nut productivity (good agronomic practices and tree selection), production (propagation) and marketing (market development studies). The lease agreement with the manager of NARI-owned pilot plant will be extended for a third season, to bridge the gap with the entry in operation of the new commercial plant. ACIAR/DFAT have already indicated their interest in further promoting research in support of the nascent galip nut industry and of IFAD investment.

44. **Implementation modalities for Component 1.** FPDA Production and Value Chain Systems Manager will be responsible for implementing Sub-component 1.1, in collaboration with the Component 1 Officer. In every target province, a Provincial Team headed by an FPDA middle manager and staffed with two-three district extension staff will be responsible for implementing the sub-component activities. An international technical assistant will be assigned to provide methodological support and technical guidance in the first three years. Incentive grants will be managed by CEFI, based on milestones to be defined in the partnership agreements and verified by the PMU (through the Provincial Teams). The implementation of Sub-component 1.2 will be supported

by a Galip Nut Manager that will be assigned at FPDA provincial office in Kokopo. The independent assessment will be carried out by two short-term consultants hired by IFAD.

Component 2 – Supportive Value Chain Investment

45. **Objective and approach.** Component 2 has two main objectives. Firstly, it will facilitate farmers' access to markets by unlocking production areas through road spot improvements. Secondly, it will also support the access of farming households and other value chain stakeholders to responsive and suitable financial services, provided at an affordable cost by sustainable financial institutions. Three main strategic thrusts guided the design of the component:

- ***Linking road improvement to partnerships:*** to ensure that partnerships have the maximum impact on target farming households, the selection of feeder roads that will benefit from road improvements will be based on proposals made by the partnerships in every province, which will be ranked based on cost benefit analysis. Investments will be co-financed by the project and province and districts contributions, drawing from resources of the Province/District Services Improvement Programmes (PSIP/DSIP). They will only be implemented once sustainable, resourced commitments for their long-term maintenance are secured. MVF will finance spot improvements rather than rehabilitate full stretches of roads, to benefit larger number of farmers;
- ***Improving the outreach of financial institutions*** to the rural areas through alternative solutions to the construction of brick-and-mortar branches that are better adapted to remote areas and scattered settlements such as in the Highlands. The project will primarily strengthen existing branchless systems (networks of agents and points of service) and develop new mobile money applications, to ensure that farming households in the partnership areas have access to financial services;
- ***Developing innovative financial instruments to meet the needs of farming households and value chain stakeholders,*** and enable them to ease the cash constraints preventing them from expanding their businesses. Based on demand new products may be promoted by the project will offer alternative solutions to classic loan financing, by using the contracts materialised by the partnership to obtain debt financing. Risk mitigating financial instruments and particularly adapted savings products will also be developed.

46. **Expected outcomes.** The expected **outcomes** are that at least 15,000 farming households have easier access to main roads to market their production, and that at least 18,000 farming households have access to credit. The **main outputs** will be: (i) 100 km of climate-resilient feeder roads to key production areas in the five Highland target provinces are practicable and maintained; (ii) up to 20 districts have maintenance arrangements in place to sustain feeder road practicability after spot improvements; and (iii) 9 financial institutions with increased outreach and capacities extend adapted financial products to farming households and value chain stakeholders.

47. **Sub-component 2.1 – Spot improvements of feeder roads.** The purpose of this sub-component is to provide targeted spot improvements to the tertiary network to restore priority roads to all-weather access, and to establish sustainable arrangements for maintaining the completed works beyond the life of the project. This sub-component will only be implemented in the five target provinces in the Highlands. Investments will cover the following:

- ***Selection of spot improvement programmes:*** the selection of investments will be undertaken within the scope of the partnerships supported under Component 1, to maximise the provision of complementary benefits through the reduction of constraints on geographical target areas. Most investments will consist in spot improvements on district access and feeder roads to remove 'pinch points', thereby providing all-weather access. However other type of low-cost infrastructure that could facilitate the transport of fresh produce (such as walking tracks and footbridges, ropeways or 'flying fox' aerial transportation) or facilitate storage at critical locations will be considered. Partnerships will be invited to nominate candidate sub-projects for prioritisation assessment, which will determine the location of the sub-projects. The preparation of individual sub-projects will involve consultation with, and the active participation of stakeholders (partners, communities, customary landowners and districts) to obtain their agreement to the scope and nature of the investment. A key selection criterion will be the commitment of the district government to share the financing of climate-proof road improvements. A Memorandum of Understanding will be negotiated between the parties and facilitated by the PMU, setting out the roles and responsibilities of the parties during implementation as well as for maintenance;

- ***Studies and construction:*** MVF will finance the preliminary technical and financial studies, as well as the cost of supervision and final design of works. A specialised firm will be selected through a competitive bidding organised by the PMU to undertake studies and supervision, in close coordination with local authorities. Works will be co-financed by the project and the relevant districts, by a constructing firm similarly selected through competitive bidding;
- ***Maintenance:*** MVF will support partnership entities (Lead Partner and farmers) on the one part and the district and provincial administrations on the other to set up and manage a sustainable framework for long-term maintenance. This will involve the signing of an MoU whereby the parties will agree on the distribution of responsibilities, the provision of training in simple but effective maintenance methods, and the development and distribution of technical manuals;
- ***Climate resilience*****:** spot improvements will incorporate measures to increase climate resilience of the improved assets. All drainage conduits will be designed for a longer flood return period (e.g. 20 years instead of 10 years) and will be capable of passing heavier floods generated by climate change-induced increased rainfall intensity and frequency.

48. **Sub-Component 2.2: Financial inclusion.** To ensure coverage of all of the target provinces[5] and promote competition in the financial sector, the project will work with up to nine financial institutions (including commercial banks, non-bank financial institutions and savings and loans societies). They will be selected based on a call for expression of interest to be launched by the PMU, followed by a due diligence exercise by a specialised service provider. The final selection will be made by a selection committee that will be set up by the PMU with CEFI's assistance. Considering the important differences in the status of development among the three different types of financial institutions, the project will adopt a demand driven support approach. The same service provider will design a tailor-made programme of support for each of the participating institutions, based on their interest and needs. Project support will cover the following:

- ***Outreach:*** this could include the development of: (i) networks of agents for commercial banks and non-bank financial institutions, which could build on Village Extension Workers; (ii) points of services specifically adapted to people with a low degree of literacy, based on a similar experience in an IFAD-financed project in Swaziland [6], which could either be operated by a part-time bank staff or agent (including at project-supported 'model farms') or consist in an automated teller machine; and (iii) new mobile money applications, such as transfers from any mobile phone, interconnectivity with agents and points of services, loan application submission, payments to third parties;
- ***New products and services*****:** the project will provide support to each participating financial institution to design, implement, and test and/or scale up the specific products that would be adapted to their current level of development and to the needs of their clientele, with special focus on the areas covered by the partnerships. This could include:
    - *financial instruments to reduce the time gap between flow of goods and cash flow,* enabling banks to advance funds to traders on the basis of invoices (receivable financing) or bills of delivery signed by the two parties (non-invoice financing), until end buyers have effectively processed their payment;
    - *innovative savings products* for education, health or productive investments - it is expected that around 80% of the farming households supported under Component 1 would have opened a bank account and a savings account by the end of the project;
    - *financial instruments offering an alternative to simple loan products* such as tri-partite financing (whereby a bank transfers directly to a buyer the proceeds of bank loans extended

[5] Only in the five target Highland provinces in the two first years, extend to East New Britain if the independent assessment in Sub-component 1.2 is successful and activities are scaled up.
[6] Rural Finance and Enterprise Development Programme, http://operations.ifad.org/web/ifad/operations/country/project/tags/swaziland/1373/project_overview.

to farmers for the purchase of inputs to be delivered in kind to farmers) or supplier credit (goods or services received on deferred payment terms - also called supplier financing).

Furthermore, the project will finance a temporary risk-sharing mechanism where innovative products would not be covered by existing guarantee funds, which will consist of a cash deposit at the level of each participating financial institution to cover possible losses. Cash deposits on interest-bearing accounts will be managed by CEFI and will provide the opportunity to financial institutions to implement and test innovative financial products without bearing all the risk.

- ***Capacity building:*** the project will build the capacity of financial institutions through the provision of various training courses focusing on financing rural and agriculture-related activities, risk and project assessment and management, project monitoring and control, based on prior capacity building need assessment. Training will be provided jointly by CEFI and by financial institutions' in-house trainers, along a three-year training plan based on prior capacity assessment.

49. **Implementation modalities for Component 2.** Activities under Sub-component 2.1 will be implemented by service providers contracted by the PMU based on competitive bidding. The PMU will include a Component 2 Officer – Road Engineer to plan, facilitate and oversee implementation. Sub-component 2.2 will be implemented by CEFI, which will be contracted for the whole project duration. MVF will finance related costs, including additional staff, participation in training courses, specialised technical assistance and a share of CEFI's overheads.

Component 3 – Collective Governance and Project Management

50. **Objective and approach.** Component 3 aims at **promoting a favourable policy and institutional environment** to support the development of inclusive fresh produce and galip nut value chains. Main strategic thrusts orienting the component are as follows:

- ***Organising value chain governance:*** the fresh produce sub-sector is currently very fragmented, with limited linkages among players. Building on the positive outcomes of the first National Horticulture Conference organised by FPDA in 2014, MVF will support value chain structuring and coordination, with a view to facilitate access to information and knowledge and to enable public-private dialogue to address bottlenecks affecting the whole value chain. To this end it will facilitate the creation and operation of multi-stakeholders' platforms (MSPs) from the district to national level. The project will also strengthen FPDA capacities to promote the inclusive and viable development of the fresh produce sub-sector. In the galip nut sector, while there is no value chain yet, the project will lay the foundations for multi-stakeholder dialogue to support coordinated sector growth;
- ***Building and sharing knowledge:*** access to technical and market information is key to upgrade village farmers' capacities and enable them to enter the value chain. Moreover, project implementation will lead to the development of a set of innovative business models, with different types of partnership arrangements and business linkages between value chain players, with potential for scaling up through public-private partnerships, especially considering the new institutional framework coming up in the agricultural sector. MVF will organise access to information and knowledge sharing through a Management Information System (MIS) that will be developed based on interaction with users and will be complemented by multi-channel communication (including through ICT) and by a strong project monitoring and knowledge management system.

51. **Expected outcome.** The expected **outcome** is that organised industry players contribute to policy development and sector coordination for inclusive industry growth. The **main outputs** from Component 3 will be: (i) two national, at least 3 provincial and 10 district-based multi-stakeholders' platforms (MSPs) created and trained; (ii) at least three policy and regulatory measures adopted and implemented building on MVF knowledge products; (iii) operational Management Information System (MIS) established at FPDA; and (iv) annual set of evidence-based knowledge products posted on FPDA website as of year 3. Component 3 is organised in two sub-components: (i) Collective Governance; and (ii) Project Management.

52. **Sub-component 1: Collective Governance.** The project will finance activities in five main areas:

- ***Value chain organisation:*** MVF will provide tailor-made support to the Industry Working Group for Fresh Produce, so that it can develop its membership, expand its network at the local level and develop its capacities to represent member's interests. To further support industry dialogue and to ensure that the Industry Working Group takes on board the views of larger panels of industry stakeholders, the project will support the creation of multi-stakeholder platforms (MSPs) at the provincial level and in districts that have significant concentration of production areas. MSPs will offer a venue to collectively address constraints affecting the industry, build knowledge on successful experiences, promote understanding and trust among value chain players, and support advocacy and public-private policy dialogue. In addition, provincial MSPs will have a role in identifying priority areas for policy studies to be financed by MVF (see below). A similar but simpler approach will be adopted in the galip nut sector, building on the Galip Nut Reference Group set up by the ACIAR/NARI project. The project will assist in upgrading the group to a multi-stakeholder Industry Working Group and help it in designing a long-term (10-15 years) strategic plan providing a roadmap for development of the galip nut industry that could be used to attract private sector, government and donor funding support;
- ***Institutional strengthening:*** the project will strengthen FPDA institutional capacities, so that it can: (i) implement the project in an accountable and transparent manner and deliver project outcomes and outputs according to plans; (ii) track achievements and capitalise on good results to improve sector performance and inform policy dialogue; and (iii) promote inclusive and economically viable development of the fresh produce industry. Capacity building will be provided on the basis of annual participatory capacity assessments and capacity development plans;
- ***Policy development:*** MVF will contribute to enhancing the policy and regulatory environment in the target value chains, building on the recommendations of MSPs - areas pre-identified during the design mission include: quality standards and certification for domestic and export markets; fair contracting standards to bring transparency to contractual arrangements between village farmers and buyers and support a fair distribution both of the final value added and of risks; and the regulation of imports to ensure access to quality farm inputs;
- ***Research:*** applied research activities in support to the development of the fresh produce sector will be identified in annual programmes to be developed jointly by FPDA (with support from the PMU/international technical assistance) and NARI, building on recommendations from the Multi-Stakeholder Platforms. Research outcomes will be made available to programme stakeholders, through the value chain platforms, the MIS and specifically designed training programmes to be delivered by service providers supporting the partnerships. A first key area for research jointly identified with FPDA is in the field of post-harvest management;
- ***Information and communication:*** the project will strengthen information management systems with a view to support policy development and stakeholders' decisions in the fresh produce industry and to improve transparency in the sector. To this effect, it will: (i) set up an effective MIS within FPDA to ensure stakeholders' access to technical and market information; (ii) support ICT-based solutions for facilitating farmers' access to information; (iii) set up a project-based knowledge management system, which will track good practices, document successful business models and innovative schemes for facilitating farmers' access to inputs and markets and the cost-effective organisation of village farmers-based supply chains; and (iv) organise targeted communication campaigns around key policy and farming practice changes. Similar activities will be organised to support galip nut industry development, with lesser intensity given the incipient stage. Knowledge management and sharing are however considered to be key to support sector development.

53. **Implementation arrangements.** The implementation of the sub-component will be the responsibility of FPDA Research, Policy and Communication Manager, in collaboration with the Policy Development Manager, the MIS Development and Content Manager, the Senior M&E/KM Officer, FPDA Value Chain Programme Manager and the Production and Value Chain Systems Manager.

54. **Sub-component 2: Project management.** The strategy and activities related to project management are described in Section III.

D. Lessons learned and adherence to IFAD policies and the SECAP

55. **Lessons learnt.** PPAP has opened the way in PNG two major export value chains, coffee and cocoa, by introducing an innovative approach that leverages public and private investment to support business arrangements between agribusiness and smallholder farmers. Five years of PPAP implementation point to a number of key lessons learned, which are reflected in the project design[7]:

- ***Farmers' demand:*** there is a strong demand from smallholders, their organisations, and cocoa/coffee buyers for engaging in demand-driven partnerships. Accessible markets and remunerative prices constitute a powerful incentive for small farmers to increase production;
- ***Partnerships:*** partnerships with agribusiness are efficient to channel services enabling farmers to increase volumes and quality of produce in line with market requirements and at a scale that cannot be matched by underfinanced public extension services. While sourcing from smallholders entails significant risks, the demand-driven package of incentives financed by PPAP enables agribusiness to engage with smallholders and assists in developing new, stable partnerships in their early stages;
- ***Farmers' engagement:*** the strengthening of farmers' organisations is key to facilitate the channelling of services and produce aggregation, to retain part of the value added, and to enable farmers becoming less dependent of buying companies by taking over some services or by negotiating better terms and conditions. Partnerships should not only aim at helping farmers to gain the skills required to produce and market improved volumes and quality, but also ensure that adequate structures and capacities are in place so that they can have sustained access to services and markets once partnerships are over;
- ***Lead partners' engagement:*** project design overestimated lead partner's abilities to provide quality support to partnerships in key areas such as agricultural extension, community development and farmers' organisations. Lead partners require technical support and guidance from the project and must involve co-partners for the delivery of some services in areas where they do not have a comparative advantage;
- ***Community engagement:*** *s*witching from semi-subsistence farming providing cash as needed to farming as a business requires a thorough change of mind-set, which better succeeds when the community is involved and has a sense of ownership. However, the private sector and demand-driven nature of the partnerships may limit the extent to which these can address more social-oriented needs, including the promotion of gender equitable and socially inclusive approaches. Therefore, lead partners require technical support from the project and must involve co-partners for the delivery of some services in areas that are not part of their core business;
- ***Sustainability:*** PPAP funding model, whereby from 80 to 90% of partnership costs are borne by the project, may be justified by the innovative approach but it is costly, and hard to sustain for the GoPNG;
- ***Local government engagement:*** there is an untapped potential for synergies with local and provincial governments and for leveraging additional financial support, in particular for infrastructure development and maintenance;
- ***Road rehabilitation:*** while investments are selected on a competitive basis, careful consideration needs to be given as to whether there should be some threshold to the competition – e.g. allowing each applying partnership at least one investment, so as to spread the benefits as widely as possible. At all stages the PMU has to work hard not to raise expectations of farmer groups or unrealistically, which implies that the preparation process needs to build in a consistent consultation process and that selection needs to be very transparent and defensible. Furthermore, establishing adequate maintenance arrangements needs to be the responsibility of a specialist, since it requires considerable input and dedication to identify the future maintenance needs, carry out awareness with the respective parties, negotiate the terms of the MoU, and undertake training of the parties once the works are complete.

56. **Replication.** MVF design has adapted PPAP's approach to the specific features of the target value chains, and particularly the fresh produce sub-sector, where buyers are smaller, source from

[7] A more extensive description of lessons learnt derived from the 2001 Country Programme Evaluation and past IFAD engagement in PNG is in Appendix 3.

smaller groups of farmers, and are less familiar with business management and markets than in the cocoa and coffee sectors. As in PPAP, partnerships will be financed by an incentive grant aimed at decreasing partners' risk and facilitating their engagement into innovative agricultural practices and marketing arrangements. However, the portion of partnership costs that will be covered by the incentive grant will be reduced and the project will facilitate partners' access to credit, with a view to enhance sustainability and to benefit larger number of farmers. Other adaptations include: providing technical and management support to buyers as part of the partnership activities, so that they can consolidate and expand their businesses; providing technical and brokering services for the preparation of partnerships, to ensure sound agreements spelling out a clear distribution of responsibilities and a balanced share of risks and benefits; supporting gender equitable and socially inclusive approaches at community level through the -family-based approach to achieve more impact.

57. **Social Environmental and Climate Assessment Procedures (SECAP).** Table 1 summarises potential project's social and environmental impacts, as well as mitigation measures reflected in project design.

Table 1 - Potential Project Impacts and Mitigation Measures

Potential impacts		Mitigation measures
Social	. Difficulty of women and youth to fully participate in partnerships . Income generated not equitably shared among family members.	. Assessment of EOIs and applications for partnership funding will include evaluation criteria related to social inclusion of vulnerable and disadvantaged groups. . Family-based approach.
Land degradation	. Deforestation caused by expansion of cropping areas. . Soil erosion and fertility depletion caused by cultivation of steeply sloping land.	. The project will not support agricultural activities involving clearance of primary forest. . Model farms and FFS will demonstrate sustainable land management practices such as terracing, vegetative barriers to soil erosion, minimum/zero tillage, cover cropping and mulching.
Water resources	. Use of stream flows for irrigation may threaten domestic water supplies. . Contamination of water supplies by agrochemicals	. Any irrigation development will be on a very small scale. . Hydrological assessments as part of the design of small scale irrigation systems to ensure that domestic water supplies and environmental flows are not compromised. Farmers will be trained in integrated pest and disease management and correct use of pesticides and fertiliser
Road construction	. Disturbance to the ground and vegetation cover. . Temporary construction impacts such as dust, noise, waste and wastewater. . Increased erosion potential and disruption to farming activities.	. There will be full community consultation in the process of identifying and designing feeder roads to ensure that social and environmental concerns are recognised and addressed. . Qualified and experienced engineers will be engaged in the design and construction supervision of all roads to ensure that environmental impacts are minimised.

58. The SECAP study carried out as part of project design determined that MVF pertains to **environmental and social category B** on the ground that there may be some adverse environmental and/or social impacts but the impacts are expected to be moderate in magnitude, site-specific and not irreversible in nature; and can be readily remedied by preventive actions and/or mitigation measures. The climate risk classification is considered **moderate** given that the project interventions will be diversified and non-prescriptive. Farming households will be able to choose from a range of different crops and farming systems based on their own experiences about the climate resilience of different options, and will be trained about climate smart agriculture through model farms/FFS.

59. Project design is also in compliance with main IFAD policies and strategies, including with regard to targeting and gender mainstreaming, public-private-producer partnerships (PPPPs), inclusive rural finance, private sector and indigenous people.

III. Project implementation

A. Approach

60. The proposed project implementation structure rests on the current organisation of the agriculture sector, with DAL as the project executing agency, delegating implementation to FPDA. Key FER recommendations/provisions of the draft Agriculture Administration Adjustment Act are already reflected in project design, including the linkages between commodity boards, provincial and district governments and the development of farmer-oriented, market-driven, pluralistic extension services. Another key feature of the implementation framework is that it is based on public-private partnerships: while the government retains overall implementation responsibility, private sector players (fresh produce and galip nut buyers, but also financial institutions and business development service providers) will have a key role in providing village farmers with support services and access to markets. FPDA is already working closely with market players along the value chain as well as with private service providers, with a view to reach out to larger numbers of farmers. MVF will enable FPDA to leverage its good relations with leading buyers, by supporting partnerships between village farmers and a wider range of buyers of different sizes and capacities and by connecting them with financial institutions.

61. Service providers will be hired to implement specific packages of activities that go beyond FPDA competences or capacities. CEFI has already been pre-identified and will be responsible for implementing project activities related to financial inclusion under Component 2. Implementation responsibilities will be detailed in a MoU, which will be signed between the PMU, CEFI and DAL. CEFI will also lead the consortium that will be responsible for implementing the family-based approach and financial education, which it will form together with an international NGO with experience in household-based methodologies in the PNG context.

62. Finally, the implementation set-up aims at strengthening the capacities of FPDA to steer the inclusive development of the fresh produce sector and to provide technical advisory and market support services in line with its mandate. Therefore, the Project Management Unit (PMU) is not configured as a self-standing organisation but is embedded into FPDA and geared to work closely with FPDA divisions. The PMU will collaborate with the three divisions of FPDA, the Corporate Affairs Division which covers finance and procurement and human resource, the Planning Research and Communication Division and the Production and Value Chain Innovation Division.

63. **Phasing.** The project is expected to start mid-2017 and will be implemented over six years. Phasing will be as follows:

- ***Year 1:*** the first project year will be devoted to: (i) setting up the organisational structure as described below, including MoUs with CEFI and the consortium that will implement the family-based approach and financial education and the hiring of the International Technical Assistance; (ii) carrying out the scoping study (Component 1); (iii) selecting Business Development Service Providers and participating financial institutions (Component 2); (iii) developing the targeting and gender strategy and setting up the M&E/KM system; (iv) launching the first call of EOIs, implementing the family-based approach and starting developing partnerships; (v) setting up the leasing and management agreement at NARI's pilot plant and launching other activities; and (vi) initiating other activities in Components 2 and 3;
- ***Year 2:*** a second call for EOIs will be launched in 2019 and a new batch of partnerships will be developed. The project is designed in such a way that all partnerships can be supported for a maximum of three years. The first call for proposals of infrastructure sub-projects will be launched, followed by the selection process. At the latest at the end of the second year, the independent assessment of the demonstration of a viable business model at the galip nut pilot plant will take place. The first Interim Review will be carried out concomitantly or right after, to review achievements, orient further development and decide on whether to go ahead with the financing of a commercial galip nut processing plant or to reallocate resources;
- ***Year 3:*** the third call for EOIs will be launched in 2020 and a last batch of partnerships will be developed. The second call for proposals of infrastructure sub-projects will be launched and the implementation of the first call sub-projects will start. The feasibility study of the commercial galip processing plant will start in case of a successful assessment;

- ***Year 4:*** the third and last call for proposals of infrastructure sub-projects will be launched. The second Interim Review will be conducted at the end of the fourth year. It will make recommendations with regard to key measures required to secure the sustainability of project achievements, based on which the PMU will prepare a detailed exit strategy;
- ***Year 5 - Year 6:*** activities will proceed and progressively come to an end. The PMU main concern will be to ensure sustainability and the implementation of the exit strategy in close collaboration with FPDA.

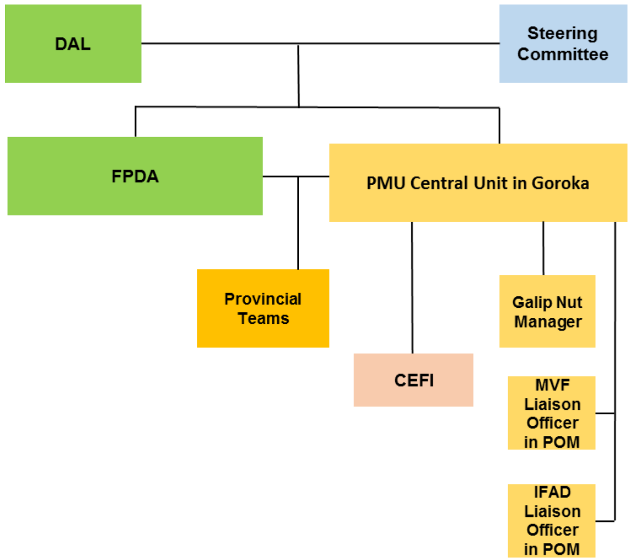
B. Organisational framework

64. Against this background, the main features of MVF implementation setting are as follows:

- *DAL* is the project executing agency that is responsible for overall accountability, oversight and coordination. A Project Coordination Unit will be established within DAL to ensure strong coordination and oversight, and to act as a Secretariat for the Project Steering Committee;
- *FPDA* is the project implementing agent with overall responsibility for project implementation. A Project Management Unit (PMU) embedded in FPDA will assist in carrying out project implementation responsibilities;
- *Provincial teams* led by FPDA current staff and staffed with seconded district extension officers will be responsible for field implementation of project activities in each of the target provinces;
- *Provincial governments* will facilitate project implementation at the provincial level, through the appointment of fully dedicated Focal Points;
- *District governments* will have a similar role at district level and will co-finance road works;
- *A Project Steering Committee* gathering the representatives of main stakeholders involved in MVF implementation will provide overall guidance and oversight;
- *An independent Technical Appraisal Committee* will be responsible for assessing partnership proposals and bring transparency and objectivity in the selection process;
- *Fresh Produce/Galip Nut Multi-Stakeholder Platforms* will be established at the national/provincial/district levels, and will provide a venue to discuss sector challenges and constraints. Multi-stakeholders' platforms will also be involved in the preparation of Annual Work Plans and Budgets (AWPB), as well as in the identification of policy studies;
- *A Project Management Unit* (PMU) embedded in FPDA will assist in carrying out project implementation responsibilities;
- *CEFI* will be responsible for implementing activities related to financial inclusion, by virtue of a MoU signed with the PMU.

65. Figure 2 represents the project institutional set-up.

Figure 2 – Project implementation set-up



66. **DAL.** As the project executing agency, DAL will be responsible for overall accountability, oversight and coordination of the project, under the direct authority of DAL Secretary. This would notably include the chairing of the Project Steering Committee; the approval of Annual Work Plans and Budgets (AWPB) and Annual Procurement Plans (APP); the approval of technical and financial reports; the endorsement of Withdrawal Applications (WA) and Statements of Expenditure (SOE), prepared by PMU and submitted by FPDA's General Manager, for subsequent approval of the Department of Treasury; project technical and financial reports prepared by FPDA with PMU support; the facilitation of policy dialogue; and the coordination between MVF and other relevant initiatives in the agriculture sector. A small Project Coordination Unit (PCU) will be established within DAL to support DAL executing its functions. The PCU will consist of a Project Coordinator, an M&E Officer, and an IFAD Liaison officer.

67. **FPDA.** As MVF implementing agency, FPDA will be responsible for project management and coordination of government and non-government agencies participating in the project. FPDA will also be responsible for day to day financial management activities, including accounting, reporting and coordinating audit processes. The FPDA General Manager will have overall responsibility for project implementation. However, line responsibility for day-to-day project implementation will be delegated to the PMU Coordinator. The PMU will be organised within FPDA so that it works closely with FPDA divisions and sections (see FPDA organisational chart in Attachment 1), with adequate distribution of responsibilities to ensure smooth delivery of project investments.

68. **Provincial Teams.** Provincial Teams in each of the target provinces will be responsible for implementing Component 1 in their respective provinces. Each Provincial Team will be headed by an FPDA middle manager and staffed with two seconded district extension staff. To expand district exposure to project activities and increase the number of district officers that could get practical experience, consideration will be given to renewing the team of seconded district officers after three years. Provincial Teams will be under the direct supervision of the PMU Coordinator with regard to the implementation of project activities, and overall supervision of the FPDA General Manager. FPDA will open provincial offices in Simbu and Jiwaka to accommodate the Provincial Teams, for which MVF includes a small provision for setting up and refurbishment of office. In East New Britain, activities will be reduced and there will therefore be only one Galip Nut Manager, who will be placed under the direct authority of the PMU. Provincial Teams will in particular be responsible for the following in their respective. provinces: promote the calls for expression of interest; facilitate the preparation of full partnership proposals, with support from a Business Development Service Provider (BDSP); facilitate the implementation of the family-based approach and the implementation of MVF GESI strategy, in collaboration with the GESI Officer; monitor partnership implementation and provide M&E training to Lead partners and VEWs; support the organisation of annual partnership reviews; prepare and

facilitate the meetings of the district/provincial MSPs; and ensure the M&E of all project activities in the province, in collaboration with partnerships.

69. **Province and district governments** will co-finance project activities with resources from their regular budgets or PSIP/DSIP resources earmarked for economic activities, or by seconding district staff and paying for their salary. Focal Points will be designated by every participating province/district.

70. **Project Steering Committee.** A Project Steering Committee (PSC) will be set up at the national level to provide overall guidance and oversight, to ensure that MVF programming is aligned on national sector priorities, to offer a venue for sharing MVF good practices and for channelling policy issues to the appropriate policy making bodies. The PSC will also approve annual AWPBs and annual progress and financial reports, prepared by FPDA/PMU and endorsed by DAL. It will be chaired by DAL Secretary and will include representatives from major public and private stakeholders (see Appendix 5). The PMU Liaison Officer based in DAL (see below) will provide the Secretariat to the PSC.

71. **Technical Appraisal Committee.** An independent Technical Appraisal Committee (TAC) will be set up to appraise partnership proposals submitted by the PMU, rank them and provide a recommendation for their financing, prior to their approval by FPDA Board. All TAC members will be individuals with an established reputation for their knowledge of the sector and their integrity.

72. **Project Coordination Unit.** A small Project Coordination Unit will be established within DAL to strengthen project coordination and oversight. The PMU established in FPDA headquarters would focus on managing the implementation of three components of the project in the target provinces and provide oversight over the Galip nut project in East New Britain. The PMU will continue to perform its financial reporting and submission of financial statements and withdrawal applications through the PCU for on-forwarding to Treasury to sign off and submit to IFAD for approval or no objection. The PCU will consist of a Project Coordinator, an M&E Officer, and the IFAD Liaison Officer.

73. **Project Management Unit.** The PMU, which will be imbedded within FPDA, will be responsible for carrying out MVF implementation responsibilities and will be fully accountable for the performance of project implementation and the use of funds. It will be responsible for: (i) providing strategic guidance to ensure that all project implementation partners develop activities along a common, coherent approach in line with the Project Design Report; (ii) ensuring the financial and administrative management of project resources in line with the Loan Agreement and IFAD rules; (iii) planning project activities in consultation with project stakeholders; (iv) procuring project-related services and supplies; (iv) coordinating project activities with the various project partners; (v) securing M&E and KM in relation to all activities; and (vi) promoting inclusive approaches and the mainstreaming of targeting and gender requirements in all of the project activities.

74. **Composition.** FPDA based in Goroka (Eastern Highlands), the apex industry coordinating body for the fresh produce sector. FPDA provides technical and market information to smallholder farmers and other key players in the horticulture value chain. The MVF PMU and the Eastern Highlands Provincial team will be based in Goroka at FPDA premises. FPDA will expand its existing office (with MVF financing) to accommodate the PMU until FPDA new premises are ready. MVF Liaison Officer and the IFAD Liaison Officer will be based in Port Moresby, within DAL premises. The Galip Nut Manager will be based at FPDA provincial office in Kokopo.

75. The PMU will comprise the staff indicated in Table 2. Detailed job descriptions are attached to Appendix 5.

Table 2 – PMU Staff

Goroka
1 PMU Coordinator 1 Production and Value Chain System Manager 1 Infrastructure Engineer 1 Policy Development Officer 1 Senior M&E/KM Officer 1 MIS Content Manager 1 GESI Officer 1 Financial and Administration Manager 1 Procurement Officer 1 Accountant

1 Office Assistant 2 Drivers
Port Moresby (based at DAL)
1 MVF Liaison Officer
1 IFAD Liaison Officer
Mount Hagen, Kurumul, Kundiawa, Goroka, Lae
1 Provincial Team Manager (paid by FPDA)
2 seconded District Agriculture Officers (paid by districts)
1 M&E Officer
Kokopo (based at FPDA)
1 Galip Nut Manager

76. The **IFAD Liaison Officer** that will be based in the PCU within DAL. S/he will be responsible for facilitating the linkages between IFAD and the GoPNG. Sh/e will also help GoPNG in accessing IFAD regional initiatives and other, non-project services that will tap on IFAD expertise to foster inclusive rural growth.

77. **Project Expeditor.** A Project Expeditor will be hired to support fast project start-up. Terms of reference are in Attachment 4.

78. **Service providers.** Service providers will be hired to implement specific packages of activities that go beyond FPDA competences or capacities. Aside from CEFI and the consortium that will implement the family-based approach and financial education (see above), service providers will be engaged to provide technical and business management services to the partnerships. FPDA will have overall responsibility for facilitating and monitoring technical advisory services supplied by service providers. The availability, range of services offered, capabilities and capacities of potential service providers will be assessed as part of the scoping study undertaken within Component 1.1. All service providers will be hired based on a competitive basis in line with IFAD procurement guidelines. All service providers' contracts will stipulate clear deliverables and will specify responsibilities with regard to monitoring and reporting. Terms of reference for service providers will require gender-balanced teams, and that contract deliverables reflect gender and inclusion target and indicators.

C. Planning, M&E, learning and knowledge management

79. **Objectives.** The integrated monitoring and evaluation (M&E) and knowledge management (KM) system will be developed with three main objectives:

- *steer project implementation:* it should provide project stakeholders with information and analysis required to: measure project outcomes; assess project effects on the livelihoods of target groups, and in particular women, poor households and youth; assess the relevance of the project strategy, methodologies and implementation processes; detect difficulties and successes; and support decision-making to improve project performance;
- *support economic decisions and policymaking:* it should provide project stakeholders, in particular farmers and agribusiness partners, service providers, FPDA and the PMU, with the information and analysis they need to assess the return brought by innovation, to develop profitable and sustainable activities and to adapt their strategies accordingly. It should also provide FPDA and DAL with the information needed to make policy decisions;
- *share knowledge and upscale good practices:* it should develop lessons learnt, capture good practices and successful innovation, and share knowledge, with a view to support project performance and policy dialogue.

80. **Strategic principles.** The M&E and KM system will be accessible to all stakeholders and not restricted to PMU or FPDA staff, and it should associate project stakeholders in the definition of indicators, data collection, analysis and dissemination of results. It should be geared to generate analysis, learning and sharing in support of decision-making and policy dialogue, and not merely on data production. It should be harmonised with FPDA and GoPNG relevant information systems. It should have an inclusive approach so that women, poor and marginalised groups participate in the system. Finally, it should be phased, thus small initially and developing as needs and capacities increase.

81. **Framework and implementation plans.** The M&E system will be setup and managed by the PMU, in consultation with FPDA and other project stakeholders, and with support from a short-term international consultant. PPAP PMUs will be consulted to build on their experience. The consultant will produce a detailed M&E/KM manual, together with an implementation plan, including capacity development arrangements.

82. **Baseline and completion survey**. The PMU will carry a baseline study measuring the status of main indicators at project onset, with assistance from an outsourced qualified consulting firm. Additionally, mini-baseline surveys will be carried out by Lead partners as part of the partnership preparation process. An impact assessment and outcome survey will be carried out in preparation to the second interim review (end of 2021) and again at the end of the project, to compare the impact generated by project interventions with the baseline study.

83. **Project planning, data collection and analysis**. The M&E/KM cycle will start with the preparation of the project Annual Work Plan and Budget (AWPBs), which will build on AWPBs prepared by Lead Partners, CEFI and other service providers and they will be submitted to the PSC for final approval. M&E data will be collected against both qualitative and quantitative indicators and disaggregated by gender, at the partnership level (where information will be gathered by Lead Partners and Village Extension Workers, with support from the Provincial Teams), provincial and sub-contractor levels (CEFI) and will be collated by the Senior M&E/KM Officer. The MIS (see Component 3) will also encompass project related data, as well as lessons learnt, good practices and innovative business models. Data will be consolidated and analysed so as to provide information on the performance of the various components, detect problems, identify possible solutions and track good practices to share through the knowledge management system. A monthly dashboard will be issued by the PMU, which will be electronically distributed and will disclose project performance and achievements to project stakeholders, after the experience of IFAD-financed Coastal Community Development Project (CCDP) in Indonesia[8].

84. **Knowledge management.** The purpose of KM is to ensure that knowledge generated within the project is systematically identified, analysed, documented and shared, and that it is used to: (i) improve project performance and delivery of project objectives; (ii) be flexible and responsive to changing circumstances; (iii) support the dissemination of innovation to the benefit of stakeholders throughout the project area and beyond; (iv) provide information to support decisions on up-scaling to be made at interim review; and (v) identify important issues to convey to policy makers. Particular attention will be given to documenting: (i) business models for ensuring farmers' access to services and markets, in the framework of MVF-supported partnerships; (ii) innovative modalities for sharing benefits and risks between partners; (iii) innovative models for accessing financial services; (iv) the family-based approach and women and youth empowerment. In consultation with project stakeholders and in collaboration with the Senior M&E/KM Officer, the same consultant hired to design the M&E system will prepare a detailed KM framework and implementation plan. The framework will include objectives, responsibilities and methodology, together with an implementation plan for the first year, which will be regularly updated. It will also include a communication strategy, which will outline how knowledge will be disseminated and will identify most appropriate communication channels according to the target audience.

D. Financial management, procurement and governance

85. DAL will have overall accountability for the Project, including fiduciary aspects. The Project Steering Committee (PSC) will approve the project's annual work plans and budgets (AWPBs) and Procurement Plans, for IFAD´s no objection. A good governance and mutual accountability framework (IFAD and GoPNG) will be adopted to strengthen accountabilities and transparency, in line with international best practices.

86. The day to day implementation will be delegated by DAL to the PMU embedded within FPDA, which will be responsible for day to day financial management activities, including accounting, reporting and coordinating audit processes

[8] https://asia.ifad.org/web/ccdp/resources/-/resource_library/7805/newsletter.

87. DAL will request DOF to open two Trust Bank Accounts for FPDA/PMU to received funds from IFAD and from the government, beneficiaries and partners and one trust bank account for the FPDA Provincial Team to receive IFAD funds to cover operations costs.

88. **Financial management.** MVF financial management will be governed by the Public Management Act and the Department of Finance (DOF) regulations, and will be in line with IFAD guidelines on financial management. The financial management system will be under the overall responsibility of the PMU. Project financial management arrangements will ensure that: (i) funds are used only for the purpose intended under the Financing Agreement, in an efficient and economical way and in accordance with the activities described in the Project Design Report and in the Annual Work Plans and Budgets (AWPBs); (ii) the disbursement of project funds facilitates the timely implementation of activities; (iii) funds are properly managed, disbursed and documented and flow rapidly, adequately, regularly and predictably; (iv) accurate financial reports are issued on a timely basis; (v) a robust flow of reliable information on project activities facilitates accountability, transparency and disclosure; and (vi) project resources and assets are safeguarded.

89. Main features of the financial management system will be as follows: (i) establishment of the PMU with delegated authority to plan, manage, disburse and control project resources (including counterpart financing); (ii) hiring of key financial and administrative management staff from the market with relevant experience and qualifications and establishing the PMU office with adequate office facilities and equipment; (iii) establishment of Provincial Teams; (iv) preparation of AWPBs, for review by DAL PCU, and approval by the PSC and by IFAD; (v) (iv) submission of WAs and SOEs to DAL PCU for endorsement, with a cover letter by FPDA GM for submission to DoT for approval and onward submission to IFAD for fund release; (v) procurement and installation of an accounting software, and associated staff capacity building; (vi) preparation of a financial management manual, integrating controls closely linked to the project operational dimensions and consistent with FPDA financial policies and IFAD financial and disbursement guidelines; (vii) establishment of a control framework integrating periodic internal audits and annual external audits, and social safeguards to be adopted based on IFAD policies; (viii) adoption of a good governance and mutual (IFAD and GoPNG) accountability framework to strengthen accountability and transparency in line with international best practices (see below). Details of financial management arrangement are in Appendix 7.

90. **Procurement.** The procurement of goods, works and services financed from resources provided or administered by IFAD will be undertaken in accordance with the GoPNG regulations and consistent with the provisions of IFAD's Procurement Guidelines and Handbook. Goods and services (non-consulting) procured using International or National Competitive Bidding, National Shopping (NS) and Direct Contracting (DC) will follow the procedures and processes defined in the Project Implementation Manual (PIM) approved by the Project Steering Committee and IFAD. The selection of individual consultants and individual service providers will also be defined in the PIM, which shall include details of the selection method to be applied in case of consultancies services such as Quality and Cost Based Selection, Fixed Budget Selection, Least Cost Selection, Consultants Qualification Selection and Single Source Selection. The PMU will submit an 18-month Procurement Plan immediately after the Financing Agreement enters into force, with support from the Project Expeditor, and it will update it annually or as required to reflect actual implementation needs. Procurement will be undertaken as per the consolidated procurement plan submitted by the PMU approved by the Project Steering Committee (PSC) and by IFAD. Detailed procedures for procurement are in Appendix 8.

91. **Governance.** PNG is ranked 139th out of 168 countries, with a score of 2.5/10, in the Corruption Perceptions Index (CPI) published by Transparency International in 2015. This indicates high risk in overall country context. The 2015 Public Financial Management (PFM) conducted by the International Monetary Fund rated inherent risks at country level, based on an assessment of PEFA indicators grouped under seven pillars. Three pillars (Credibility of fiscal strategy and budget, Policy based planning and Budgeting and comprehensiveness and transparency) scored well, while the remaining four (Assets and liability management, Predictability and control in budget execution, accounting, recording and reporting, and External scrutiny and audit) were deemed weak (details provided in Appendix 7 Financial Management).

92. IFAD will apply a zero-tolerance policy on corruption. The PMU will prepare an Integrated Framework for Good Governance, which will be included in the PIM and published on MVF website.

This framework will include provisions to ensure that procurement and the selection of enterprises that will enter into business partnerships and benefit from MVF support, are carried out in accordance with GoPNG and IFAD rules (including IFAD's Policy on Preventing Fraud and Corruption in Its Activities and Operations); and with project design specifications. The framework Measures will include: (i) the publication/posting of all procurement, calls for proposals, contract awarding and business partnership details on local newspapers, at district and provincial offices and on MVF website, including assessment criteria and weighing; (ii) the participation of representatives of end-users in bid assessments; (iii) the prompt communication to bidders of bid evaluation outcomes; (iv) contracts will include a provision requiring suppliers, contractors and consultants to ensure compliance with IFAD zero tolerance anticorruption policy and to permit IFAD to inspect their accounts, records and other documents relating to the bid submission and contract performance, and to have them audited by IFAD-appointed auditors; and (iv) rules to allow potential project beneficiaries and other stakeholders to channel and address any complaints they may have on the implementation of the Project.

93. This framework will also include an internal code of conduct to be signed by all PMU staff, and a code of business ethics, to be signed by all partners and beneficiaries of MVF activities and business partnerships. The draft framework and codes will be prepared with support from the Project Expeditor and subsequently discussed and agreed upon at the project inception workshop.

94. Other measures reflected in project design to ensure transparency include the following: (i) IFAD's direct supervision process will specifically address fiduciary compliance and the implementation of the project framework for transparency and publicity; (ii) project stakeholders will be directly involved in programming, implementation and M&E of MVF activities; (iii) MSPs will provide a forum for raising issues affecting value chain development, including transparency. Details are provided in Appendix 8...

E. Supervision and Implementation Support

95. **Inception.** An inception workshop will be organised with project stakeholders and implementing partners to ensure that all partners understand and agree on the scope and implementing modalities of the project and to introduce key processes, tools, strategies for M&E and KM.

96. **Implementation Support.** Twice annually joint review missions (supervision) will be organised by IFAD jointly with GoPNG and participating partners, in close collaboration with FPDA, Provincial Teams and project stakeholders. ISMs will offer an opportunity to assess achievements and lessons jointly, to review compliance with the conditions of the Financing Agreement, to review innovations, and to reflect on improvement measures.

97. **Interim reviews.** Two interim reviews will be organised by IFAD, the GoPNG and participating donors, at the end of year three and in year five. The reviews will: (i) assess achievements and interim impact, the efficiency and effectiveness of MVF management, and the continued validity of MVF design; (ii) identify key lessons learnt and good practices; and (iii) provide recommendations for improved performance. Specific issues to be addressed include the following:

- Effectiveness and performance of the partnerships, including with regard to the sharing of benefits and risks between partners;
- Performance of partners in terms of productivity, quality, and profitability;
- Progress in gender equality and social inclusion, and effectiveness of targeting and of the family-based approach;
- Performance of financial institutions in delivering project-supported financial instruments and in improving financial inclusion in the financial sector;
- Progress and effectiveness of value chain organisation and institution building;
- Performance of the PMU and of key implementation partners.

98. **Impact assessment.** Impact surveys will be carried out in preparation to the second interim review (end of 2021) and again prior to project completion to measure changes at beneficiary level,

compared to the baseline study. Survey data and analysis will be shared with the multi-stakeholders' platforms.

F. Risk identification and mitigation

99. Table 3 identifies main risks and mitigation measures built into project design.

Table 3: Risks and mitigation measures

Risk description	Probability of occurrence	Mitigation measures
Limited interest on behalf of agribusiness to expand operations with smallholders because of the risks and high transaction costs involved	Medium	. Provision of incentives to support private sector engagement . Technical support services to improve farmers' productivity
Limited benefits to women because of social and cultural context	High	. Family-based approach to support women empowerment within family unit
Wantok networks or cultural patterns undermine partnership operations and economic lines of cooperation at community level	Medium	. Family-based approach to gain community support for partnerships and project activities
Weak technical and management capacities of farmers' organisations and lack of capacities to negotiate fair deals with private investors	High	. Project playing role of a fair broker to support equitable and remunerative partnerships . Support to developing sustainable management of farmers' organisations
Climate change and extreme climatic events (higher rainfall, longer dry seasons)	High	. Integration of climate risk assessment into the value chain analysis and assessment . Promotion of climate-resilient varieties and of water, crop and soil management practices . Promotion of crop insurance and weather-based index insurance . Climate-resilient improvement of feeder roads
Remoteness of some production areas	High	.Spot improvements on feeder roads . Development of mobile phone money applications and ICT-solutions for accessing services
Tenure insecurity associated to demographic pressure and expansion of cash-cropping activities	Medium	. Community structures will be sensitised to facilitate sustainable land tenure arrangements as part of family-based approach . All communal land uses will be covered with Clan Land Usage Agreements between the partnerships and the land owners
Uncertainty with regard to profitability of commercial galip nut processing	Medium	. Preparatory activities aimed at demonstrating viable business model and independent assessment required to confirm viability prior to invest in processing plant . Thorough technical, economic and marketing studies prior to unlock financing .
Financial institutions are not interested in extending services in the rural areas	Low	. Incentive schemes and risk-sharing will offset risk, as well as prospect to build a financial literate, credit-worthy clientele
Delays in making available public funds	High	Availability of district funds will be a criterion to select spot improvement locations among proposals forwarded by partnerships
No experience by FPDA for management of IFAD funds	Medium	FPDA has experience with administering external financing. FPDA has a Finance and Administrative Manual and a fully structured and staffed Finance and Administrative unit. PIM will include detailed procedures on financial management and procurement including the adoption of a financial and administrative manual consistent with FPDA financial policies and IFAD financial and disbursement guidelines. Mitigation measures include (i) the establishment of the PMU with delegated

Risk description	Probability of occurrence	Mitigation measures
		authority to plan, manage, disburse and control project resources (including counterpart financing); (ii) contracting of key financial and administrative management with relevant experience and qualifications; (iii) preparation of AWPBs, for review by DAL, and approval by the PSC; (iv) procurement and installation of an accounting software, and associated staff capacity building; (v) preparation of a financial management manual, integrating controls closely linked to the project operational dimensions and consistent with FPDA financial policies and IFAD financial and disbursement guidelines; (vi) establishment of an internal control framework, including periodic internal audits; (vii) submission of quarterly financial reports to DAL and IFAD; and (viii) coordination of external audit processes.
Changes in policy orientations further to June 2017 elections	Low	Because of the structure of the economy and of the country's population, agriculture sector will remain an important priority. The project start-up has been delayed to October 2017 to mitigate the risk of political instability immediately following elections

IV. Project costs, financing, benefits and sustainability

A. Project costs

100. The total programme costs, including physical and price contingencies, duties and taxes, are estimated at USD 50.26 million over a six-year implementation period. Programme investments are organised into three major components: (i) Inclusive business partnerships (44.8% of the costs); (ii) Supportive Value Chain Investments (39.6% of the costs); (iii) Collective governance and programme management (15.6% of the costs). A summary breakdown of the programme costs by components is shown below in Table 4.

Table 4. Programme costs by component

Papua New Guinea
Market for Village Farmers
Project Components by Year -- Totals Including Contingencies
(US$ '000)

	Totals Including Contingencies						
	PY1	**PY2**	**PY3**	**PY4**	**PY5**	**PY6**	**Total**
A. Inclusive business partnerships							
1. Fresh produce partnerships	870	3,464	5,613	7,681	2,102	748	20,479
2. Galip nut development	430	296	881	428	7	-	2,042
Subtotal	1,301	3,760	6,494	8,109	2,109	748	22,521
B. Supportive Value Chain Investments							
1. Spots improvements of field roads	-	52	3,731	4,757	5,082	3,369	16,990
2. Financial inclusion	829	834	798	357	81	-	2,899
Subtotal	829	886	4,529	5,114	5,163	3,369	19,889
C. Collective Governance and Project Management							
1. Collective Governance	147	464	546	396	170	161	1,883
2. Project Management	1,064	852	1,033	971	1,065	982	5,966
Subtotal	1,211	1,315	1,579	1,367	1,234	1,143	7,849
Total PROJECT COSTS	3,340	5,962	12,602	14,590	8,506	5,260	50,260

B. Project financing

101. An IFAD loan will cover USD 25.5 million, or 50.7% of the total programme cost. The GoPNG will contribute USD 2.85 million (5.7%), beneficiaries USD 1.21 million (2.4%), financial institutions will finance USD 4.22 million (8.4 per cent) of the total programme cost, and provinces and districts will contribute USD 13 million or 25.9% of the total programme cost. The project currently has a financing gap of USD 3.47 million, or 6.9%. Should another co-financier not be confirmed, such as the EU, IFAD will meet this financing gap over the next PBAS cycle.

102. Financial institutions and beneficiaries will contribute to the financing of partnerships in Component 1. Provinces and districts will contribute with USD 13 million to the Spot Improvements of Field Roads sub-component. The Government contribution will mainly consist in exemption from taxes and duties on all programme inputs that involve funding from the IFAD loan. The estimate of taxes and duties was based on the rates in effect prevailing at the time of the design. The proposed financing plan is summarised in Table 5 below.

Table 5: Programme Financing Plan

Papua New Guinea
Market for Village Farmers
Components by Financiers
(US$ '000)

	The Government		IFAD Loan		Provinces & districts		Unidentified financier		Beneficiaries		Financial Institutions		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Inclusive business partnerships														
1. Fresh produce partnerships	1,188	5.8	11,534	56.3	-	-	2,320	11.3	1,214	5.9	4,223	20.6	20,479	40.7
2. Galip nut development	117	5.7	773	37.9	-	-	1,152	56.4	-	-	-	-	2,042	4.1
Subtotal	1,305	5.8	12,307	54.6	-	-	3,472	15.4	1,214	5.4	4,223	18.8	22,521	44.8
B. Supportive Value Chain Investments														
1. Spots improvements of field roads	378	2.2	3,613	21.3	13,000	76.5	-	-	-	-	-	-	16,990	33.8
2. Financial inclusion	245	8.4	2,654	91.6	-	-	-	-	-	-	-	-	2,899	5.8
Subtotal	622	3.1	6,267	31.5	13,000	65.4	-	-	-	-	-	-	19,889	39.6
C. Collective Governance and Project Management														
1. Collective Governance	294	15.6	1,589	84.4	-	-	-	-	-	-	-	-	1,883	3.7
2. Project Management	629	10.5	5,337	89.5	-	-	-	-	-	-	-	-	5,966	11.9
Subtotal	923	11.8	6,926	88.2	-	-	-	-	-	-	-	-	7,849	15.6
Total PROJECT COSTS	2,851	5.7	25,500	50.7	13,000	25.9	3,472	6.9	1,214	2.4	4,223	8.4	50,260	100.0

103. For detailed information on programme cost and financing, reference is made to Appendix 9, which includes a more elaborate explanation, as well as a complete set of summary and detailed costs tables in its Attachments.

C. Summary benefits and economic analysis

104. The programme objective is to achieve sustainable increased returns to village farming households, from improved market linkages. Benefits will derive from: (i) improving small farmers' access to markets, technologies and services in the target value chains; (ii) developing different types of business partnerships involving small farmers and agribusiness; (iii) reducing post-harvest losses; (iv) improving value chain environment to facilitate smallholder farmers' inclusion; and (v) supporting policies and institutional capacities required to ensure sustainability.

105. **Number of beneficiaries**. The project is expected to benefit about 23,200[9] households. This would represent 46,400 primary beneficiaries in application of the household approach, where two members of the same family (generally husband and wife) will receive project support (see Component 1). Women will constitute 50% of beneficiaries. Around 117,500 people would directly benefit from project activities based on a household of five members. Moreover, based on FPDA's experience whereby, for every trained farmer, four people indirectly benefit (by spontaneously adopting improved practices introduced by training beneficiaries), the total number of indirect beneficiaries expected is 185,600 individuals. In the final economic aggregation, the analysis conservatively considers a benefit/adoption rate of 70% for the farm models and an adoption rate of 90% for the consolidators business models, reflecting the following: (i) farmers' project uptake may be

[9] Indicative figure based on the number of estimated number of farmer groups supported by each partnership and the number of farmers per group. Actual numbers will depend on the number and content of actual partnerships EOIs and applications received.

lower than expected; and (ii) farmers supplying micro partners will not receive any input packages (see annex 10 for more details).

106. **Summary of the results of financial models.** Eleven illustrative financial models were prepared to demonstrate the financial viability of the investments. Five crop models, on 1 ha, were prepared and used as bases for the farm models: (i) broccoli crop model, (ii) sweet potato crop model, (iii) cabbage crop model, (iv) bulb onion crop model, and (v) potato crop model. Two farm models were developed on 0.5 ha: (i) farm 1 – where 0.2 ha is cropped with sweet potato, 0.1 ha with broccoli, 0.1 ha with cabbage and 0.1 ha with bulb onion, (ii) farm 2 - where 0.2 ha is cropped with sweet potato, 0.1 ha with broccoli, 0.1 ha with bulb onion and 0.1 ha with potato. In order to show the benefits accruing to other actors of the value chain, three consolidators' business models – micro, small and medium[10] - were also developed. Finally, a galip nut intercropped with cocoa model was also developed in order to show the additional income that a smallholder cocoa producer can earn by also harvesting nuts from galip trees, where they are used as shade trees for cocoa trees..

107. Table 6 below summarizes the main results of the crop models, farm models, business models and the galip nut model[11]. All models generate attractive results in terms of NPV, and Benefit/Cost ratio. Similarly, the net incomes after labour are positive already starting from the second year.

Table 6. Financial models summary

Farm and business models	Income after labour costs PGK		NPV @ 10% (PGK)	B/C ratio	Return to family labour per day (PGK)
	WOP	WP			
FARM 1	1,855	5,327	16,649	2	114
FARM 2	1854.697	5,543	17,844	2	120
Galip nut	0	164	794	1	42
Micro	68440	89,780	86,553	1.2	
Small	93310	215,984	540,420	1.4	
Medium	216200	479,500	653,562	1.1	

108. **Economic Rate of Return**. The overall Economic Internal Rate of Return (EIRR) of the programme is estimated at 39% for the base case. The Net Present Value (NPV) of the net benefit stream, discounted at 7%, is USD 140.4 million. The economic analysis is detailed in appendix 10.

109. **Sensitivity Analysis**. In order to test the robustness of the economic analyses results, a sensitivity analysis has been carried out. The sensitivity analysis shows the economic impact that a decrease in programme benefits – up to -50% – would have on the programme viability. Similarly, it shows how the economic viability of the programme would be affected by an increase of up to 50% in programme costs; and by a one to three-year delay in programme implementation. The analysis confirms that the economic viability of the programme remains attractive as a positive NPV and ERR above 7% are preserved in each case analysed.

D. Sustainability

110. All partnerships will have access to up to three years of project support, after which they are expected to be self-sustaining, which would imply that: (i) farmers enjoy continued access to services and markets beyond the completion of their partnership agreement; (ii) buyers have well managed

[10] There is no model representing a large consolidator for two main reasons: (i) only two large companies are envisaged to be involved in project activities; (ii) there are no grant incentives budgeted for equipment for large companies, but only for micro, small and medium companies. This is mainly because large companies are able to finance their own equipment. They will only access project support to deliver advisory services and technical assistance to their farmers/suppliers.

[11] The galip nut model is developed on 0.5 ha of land intercropped with cocoa. Galip trees are initially only used as shade trees and it is assumed their mortality rate is 40% (therefore total number of galip nut trees harvested is 12 in the model).

and profitable businesses with reliable markets that they are able to supply consistently with quality products.

111. The progressive construction of sustainable access to services and markets will be addressed as part of the preparation of every single partnership agreement, which will have a specific section devoted to building sustainability. Furthermore, the M&E system will specifically monitor partnership progress in ensuring sustainable access to services and markets (see Appendix 6). While it is expected that every partnership will develop a tailor-made approach building on local opportunities and partners' specificities, key elements of the project approach that should support sustainability include the following:

- ***Farmers' organisation:*** MVF will provide support to assist farmers in strengthening their organisation so that they can undertake collective actions facilitating their access to services and allowing them to make economies of scale and to increase their bargaining power;
- ***Cooperatives and service hubs:*** the FPDA model farm has potential to develop into a farmers' organisation (possibly a cooperative, as supported by FPDA in Ela province) as well as in a service hub, whereby a bundle of services (such as access to inputs, aggregation and marketing, mechanisation, access to financial services etc.) could be accessed by farmers in a single, farmer-owned facility. Partnership preparation will explore how the model farm may progressively develop into a service or farmer hub, in line with local needs and potential. Preliminary steps will be detailed in the business plan and in the partnership proposal submitted to project approval. As partnerships develop, a final decision on whether model farms evolve into farmer hubs can be made, depending on partnership interest and development. This will be assessed after one year of partnership formation with evaluation criteria including confirmation of the types of services the partnership would like to organise collectively within the hub and how they intend utilising and managing the hub facility
- ***Local resources:*** the use of local resources to develop partnerships (BDSPs) and to provide technical advisory services (VEWs) will increase local empowerment as well as the adaptation of MVF-supported mechanisms to local potential and capacities. A similar approach governs the Provincial teams, which will be constituted by FPDA middle managers and seconded district officers, thereby ensuring that the experience, systems and tools acquired through project implementation will be mainstreamed into regular procedures at FPDA and district level;
- ***Capacity building:*** capacity building will be provided to ensure that stakeholders (farming households, private sector partners, private sector service providers and public institutions) have the right mix of technical and management competences to carry on activities beyond project completion;
- ***Innovative business models and knowledge management:*** project implementation will lead to the development of a set of innovative business models, which will be documented and disseminated through MSPs at the district, provincial and national level. This is expected to generate a knowledge basis for sustaining project achievements, as well as to promote further public and private sector engagement in up-scaling most promising and commercially viable mechanisms.

112. The second Interim Review planned for the end of the fifth year will make recommendations with regard to key measures required to secure the sustainability of project achievements, based on which the PMU will prepare a detailed exit strategy.

Appendix 1: Country and rural context background

Economic and agriculture context

1. **Growing, diverse population.** Papua New Guinea is a relatively young nation (it became independent in 1975) with a territory composed of more than 600 islands of various sizes and a total land area of 460,000 km^2. Because of extended forests, mountains, volcanoes and flooded plains, only 30% of the territory is occupied by a population of 7 million, of which 80% live in the rural areas. The harsh terrain contributes to the isolation of many rural communities, who live far from any road connection and have to walk or use aircrafts for travel. Population density varies considerably between the highlands, which constitute 16% of the territory, hold most fertile land and host 42% of the population, and the lowlands and islands, which hold 54% of the population over 66% of the total land area. Around 52% of the population is under 19 years of age, which reflects a high annual demographic growth rate averaging 2.9%. Due to significant rural-urban migration, the urban population rates are growing faster (4.5% per annum), contributing to social, economic and environmental stress, particularly among youth. The country has considerable linguistic diversity, with over 800 spoken languages, or 13% of the world total for only 0.1% of the world population. Language creates powerful social bindings: *wantoks*, or group of people speaking the same language, constitute strong solidarity networks that offer support in times of difficulty, but may also favour patronage and deter individual initiative and entrepreneurship.

2. **Dual economy.** PNG is a lower-middle-income economy with a GNP per capita of USD 2,381. Steady economic growth averaging 5% has been sustained over the last decade through a mix of sound macro-economic management, high commodity prices and broad-based private sector investment, linked to developing the productive capacity in mineral extraction and mostly financed by foreign direct investment. However, the country's economy remains dominated by two sectors: a formal, largely capital-intensive sector which draws on the country's rich endowment in natural resources, particularly in the mining and energy industry, and a largely informal agriculture sector that employs the majority of the active population. Rapid economic growth has not transformed into improved livelihoods or increased opportunities to participate in the monetised economy for the 40% of the population that live under the poverty line and are unable to meet minimum food and non-food needs. Revenues starting to flow from a USD 19 billion Liquefied Natural Gas (LNG) project were expected to boost economic growth and to generate a flow of public resources that were to sustain ambitious public investment in infrastructure and services. Instead, with the drop in commodity prices, GDP growth plummeted from 9% in 2014 to a forecasted 3% in 2016. The drastic fall in government revenues and increased public expenditure now contribute to a growing deficit, exacerbated by high public debt.

3. **Agriculture.** Agriculture employs 80% of the active population and accounts for 27% of GDP. The limited contribution of agriculture to the country's economy can partly be explained by the dominance of extractive industries and falling commodity prices, but it also reflects low production levels and declining productivity[12]. Most of the farming sector is held by about 4.3 million smallholders, or village farmers, who operate close to subsistence level. Diversified farming systems are dominated by food crops (tubers, banana, sago), which provide most of the food consumed in the country, with pigs, poultry and cash crops (mainly coffee, cocoa and copra) supplementing income. Fresh vegetables and fruits are grown by about 94% of the population, followed by coffee (45%), betel nut (35%) and cocoa (27%).

4. **Low access to services and markets.** The policy focus on plantation agriculture and commercial livestock pre- and early post-independence has deprived village agriculture of adequate government attention, despite the fact that it supports the vast majority of the population[13]. While extension programmes have assisted smallholder participation in the tree crops sector over the post-independence period, the food sector has been totally neglected by policy makers. Low availability and high cost of modern inputs and technologies and low access to support services (and, in particular, to under-funded public extension) contribute to low yields. High logistical costs due to the poor transport network, and the lack of market organisation and of market information further

[12] Functional Expenditure Review (FER), DAL, 2014.
[13] FER.

discourage small farmers from raising production for the market – it is estimated that only 4% of the country's land is used for commercially-oriented agriculture production.

5. **Low access to finance.** The vast majority of agricultural stakeholders lacks access to finance and are unable to invest in modern inputs and technologies. It is estimated that 85.6%, or 3.5 million adults, have no access to deposit services[14] and that 83% of the population have no access to credit. In the absence of any studies on credit demand, the overall demand of project stakeholders has been assessed by the design mission based on interviews with farmers, traders, end buyers and different types of financial institutions (banks, micro-banks and finance companies. Based on the projected partnerships, the following demand for credit has been identified: (i) for growers: investment loans would amount to approximately USD 3.3 million while working capital loan would amount to USD 0.8 million; (ii) for micro-traders, investment loans would represent USD 0.04 million and they would need approximately USD 0.3 million for working capital during the first two years of operations; (iii) for small traders, investment loans would amount to USD 0.2 million while working capital loans would amount to USD 0.5 million revolving over 2 to 3 years; (iv) for medium traders, investment loans would amount to USD 1,0 million while working capital loan would amount to approximately USD 0.5 million as medium traders have the financial capacity to self-finance a substantial part of the working capital needed (around 60 %).

6. **Climate change.** While high rainfall, long dry seasons and excessive cloud cover are common constraints to agricultural development, they are further aggravated by increasing climate-change related hazards. These include irregular rainfall patterns, hail storms and cyclones, longer droughts, extended floods both in the extensive river system and along the 20,000 km coastline, and rising sea level causing the gradual submersion of coastal areas and some of PNG's islands. Food security for more than one million people in vulnerable parts of the highlands and lowlands is considered to be seriously at risk, due to recurrent and increasingly intense El Niño and La Niña events, with 20% of the districts experiencing existing or emerging food insecurity based on energy per capita.

7. **Access to land.** With 97% of the land under customary tenure and considerable social and cultural diversity, land tenure systems vary greatly throughout the country. While land disputes may be common and are believed to intensify under the impact of high demographic rates and an increased number of large-scale extractive resource industries, they do not affect food crop production systems. It is assumed that the annual (and not perennial) nature of the crops, coupled with the relatively low scale of development and the system of tenure ownership by family units, may have contributed to this tenable outcome. Despite this overall positive assessment, the commonly used Clan Land User Agreement (CLUA) should be used to give assurance to interested parties on the tenure security of land used. CLUA is a standard land use agreement signed between the land developer and several clan leaders, which can be used by clan members in the absence of legal land titles for bank collaterals. The CLUA is an accepted agreement used by the National Development Bank (NDB) and other financial institutions to legitimise the use of land by the developer for a specific purpose over a certain period. There are no known disputes due to the use of CLUAs.

8. **Access to roads.** Farmers in the PNG highlands rely on access along the road network for receiving their farm inputs (seedlings, fertilizer, tools etc.) and for transporting their produce to markets. The entire road network, including primary (national) and secondary (provincial) roads, is in very variable condition due to chronic lack of maintenance, but the tertiary roads (district access and feeder roads) are generally in very poor condition. Feeder roads, which provide the immediate access to and from farming areas, are little more than earth tracks over rugged topography with minimal drainage, and are often rendered impassable in wet weather by flooding or bogging in vulnerable locations. The purpose of this sub-component is to provide targeted spot improvements to the tertiary network to restore priority roads to all-weather passability, and to establish sustainable arrangements for maintaining the completed works beyond the life of the project.

9. **New business models.** New business models offer potential to curb some of the constraints affecting the rural sector and to improve the access of small producers' to markets and services. These include service-oriented cooperatives, limited liability companies and nucleus farms providing access to inputs, technical assistance, transport, storage and markets are emerging. Next to more traditional schemes of collectors clustering production and selling to different types of market outlets,

[14] Based on data on total deposits submitted by financial service providers (commercial banks, microbanks, and SLSs) to BPNG as of June 2013, cross-referenced with demographic data.

innovative partnerships between smallholders and agribusiness (exporters, processing companies, supermarkets and hotels) source from small farmers and advertise local origin. New models for the provision of financial and non-financial services are also developing, including outgrowers' schemes or mobile phone-based service delivery, due to the dramatic increase of mobile phone network coverage (80% coverage and 49% subscribers). Private service providers become available to provide technical and management services to farmers' organisations, with resources provided by commodity boards or local governments. Yet these initiatives remain scattered because of the risks involved both for private investors and for smallholders, and of the current inability of an ineffective public sector to provide incentives needed to offset risks and promote innovative partnerships. A few examples of innovative business models are in Attachment 2.

Target value chains

10. **Fresh produce sub-sector.** Population growth at an estimated 2.3% per year, combined with internal migration to urban and peri-urban areas, generate increased demand for food products, which is further intensified by a growing middle class and the expatriate community in the mining and gas industry. The total volume of fresh produce production in PNG is not known, but it is estimated that the total market demand for fresh produce is 1.32 million tonnes per annum, of which about 60% is covered by local production. Conversely, about 60 % of the modern market segments (supermarkets, catering companies, hotels, public institutions) are yet to be captured by PNG producers (details in Working Paper 1).

11. Fresh produce is farmed by 94% of village-based families throughout the country. The majority grow small vegetable gardens for family consumption and sell tiny surpluses on local markets whenever they need cash, either to traditional nearby local markets or to middlemen selling to a chain of intermediaries that can reach as far as Port Moresby. Volumes are limited or irregular as is quality. Smallholders are often reluctant to collaborate for production or marketing, particularly outside their own family group, feeling that they lack the skills or are unfairly treated by other players in the chains and so are not motivated to do so or restrict marketing to local markets. Women traditionally play a bigger role than men in producing and marketing, especially at open-air wet markets and roadside markets.

12. As urban demand is growing, increasing numbers of highland farmers attempt to switch from semi-subsistence production to market-oriented farming. Smallholders' capacity to deliver larger volumes of good quality produce is however affected by low access to inputs, lack of support services and lack of simple irrigation technologies to mitigate the effects of more recurrent droughts and to sustain consistent production over longer periods of time. Low outreach of financial institutions in the rural areas, combined with a lack of financial education, constrains farmers' ability to turn to credit for the financing of farm improvements. Market access is further hampered by the lack of collaboration between smallholders, inadequate post-harvest management and long travel distances to urban markets.

13. However, largely informal and un-structured trading relationships result in high price variability, surpluses and shortages, and high wastage levels. Traditionally, poor buyer-seller relationships, lack of collaborative arrangements and limited communication between value chain players are compounded by poor transport infrastructure, lack of cool chains, lack of specialised transport equipment and packaging and high transaction costs. The lack of access to finance at all stages in the value chain eventually affects farmers' incentive to sell: while they demand cash payment on delivery, buyers lack financial resources to assemble a consignment and pay upfront. Small and medium-sized buyers also lack the technical and management capacities that would enable sustainable business development.

14. **Growing demand.** Nevertheless, the demand for PNG produce in domestic markets is strengthening, especially in regards to import replacement. This is providing an incentive for the development of enhanced buyer-seller relationships, evidenced by emerging examples of improved communication between end markets and fresh produce suppliers, new business relationships and a greater whole of chain awareness of limitations in value chain infrastructure, equipment and distribution systems.

15. A major trigger event for emerging value chain relationships was the PNG Government's banning of selected vegetable imports in 2015 (subsequently lifted) which left PNG markets totally

reliant on domestic supply of staple products such as potato, bulb onion, some cabbage varieties, carrot, tomato, capsicum, pumpkin, peas, zucchini, eggplant, French beans, lettuce and celery. The ban provided an opportunity for some local growers to fill gaps in the market and also made PNG end markets critically aware of how heavily reliant they were on imports of fresh produce. Consequently, a number of leading retailers and food service companies have begun actively modifying their sourcing programs to include greater supplies of fresh produce from domestic suppliers, including those in the PNG Highlands. Value chain limitations such as quality degradation and high postharvest losses, unreliability of supply, significant transportation constraints and delays due to poor road conditions and lack of specialised fresh produce road transport options, breaks in cool chains, poor communication and inadequate packaging and labelling are starting to be addressed collaboratively by formal end markets and selected suppliers. The private sector, including supplier companies and end market retailers and food service companies are beginning to invest in enhanced cool chain systems including refrigerated transport and cool store facilities at consolidation points. Chain collaborations are being further enhanced by input from other key chain participants (such as newly formed Fresh Produce Industry Working Group under PHAMA) and facilitation and technical support from agencies such as FPDA.

16. These nascent initiatives coincide ideally with the planned commencement of the MVF project, as they confirm access to new and expanding market opportunities for fresh produce growers and traders via inclusive, market-driven value chain developments.

17. While it is recognised that fresh produce cropped and marketed in PNG lumps together a large range of vegetables, including roots, stem and leaf vegetables, they are considered as a sub-sector because they have the same buyers, markets and broadly similar constraints. However, the fresh produce sector in the target provinces can be further refined and described in terms of variances in postharvest handling and storage requirements of different crops and variances in end market requirements.

18. **Variance of post-harvest requirements.** Fresh produce ranges from relatively ‘hardy’ through to ‘highly perishable’ products. Hardy products are mainly characterised by potentially long shelf lives if handled and stored correctly, whilst highly perishable crops have a relatively short shelf life, even if handled and stored optimally. An example of a *hardy vegetable crop* is kaukau (sweet potato) which can be stored for up to 28 weeks at an optimum temperature of 13-15 degrees C and a high relative humidity. Broccoli is an example of a *highly perishable crop*, with a potential shelf life of only 2 to 3 weeks, even in ideal storage conditions of 0 to 4 degrees C and very high relative humidity. Composite postharvest handling, marketing and storage systems for both hardy and highly perishable products must factor in differences in product temperature and relative humidity requirements as well as other critical factors, such as the product’s production of or susceptibility to ethylene. Incompatibility between products may limit options for mixed transport loads (for example, within one container) or longer term storage within cool rooms. However, where postharvest compatibility does exist, products can be conveniently grouped and consolidated within distribution and storage systems to enhance efficiencies and reduce costs.

19. Shelf life also has a direct bearing on choosing how to best transport fresh produce from the Highlands, particularly to distant markets. Combined road and sea freight from the target provinces to Port Moresby is a viable option only when adequate shelf life within the end market can be assured. When it can’t, airfreighting of produce may be necessary. The respective end market value of products is another transport consideration. Whilst air freight greatly reduces transportation time, the relatively high cost (as much as 9.9 kina per kilogram from Mt Hagen to Port Moresby) requires a high market value to justify the investment.

20. Different end markets for fresh produce may also require compliance with different quality specifications. For example, the food service industry normally requires that produce be delivered in a “ready to use” stage of ripeness/readiness, whilst retailers more often require a longer shelf life to facilitate sale of the product. Tomatoes are an example where retailers may specify delivery of products at “half to three-quarter ripeness” measured by the ratio of green to red colour of the fruit as an indicator of continued shelf life, whilst food service companies may require “full red colour” at receipt for immediate use in meal preparations.

21. **Farmers’ diversification.** Whilst these variances add complexity, fresh produce growers and marketers in the target provinces will generally produce and sell a range of different crops. This is

considered a sound strategy for several reasons. Agronomically, it allows crop rotations to occur on limited productive land and the consequences of crop failures due to climate change issues like drought can be reduced through planting of crops with varying drought susceptibility. Growing and marketing a range of crops can even out income streams over the year due to differing harvest times and helps compensate for ups and downs in market returns due to changes in supply and demand.

22. Highlands growers have a competitive market advantage with cool temperate products such as broccoli, potatoes and onions due to the suitable growing conditions. This is reflected in buyer demand in distant markets such as Port Moresby. However, formal markets accessible by road to growers in the target provinces, such as mining companies and retailers located in the region, may require a broader range of locally grown produce to meet their needs. This includes cool temperate crops but also other crops such as salad lines and tomatoes that grow well in other parts of PNG such as Central Province, but can be sourced more cost competitively from local suppliers.

23. Therefore, whilst the same buyers and suppliers are involved in the fresh produce sector in the target provinces and in the markets, many factors impact on the design and management of specific fresh produce value chains. Industry relevant issues such as considering market demand and climate change risk mitigation when choosing crops to produce, developing methods to ensure product compatibility in postharvest transport and storage and awareness of varying end market quality requirements will be reflected in the scope of proposals and business plans put forward within the MVF project.

24. Fresh produce value chain interventions may be designed to increase productive yields through enhanced production methods. They may also be designed to reduce postharvest losses, which also increase marketable yields and subsequent financial returns at each applicable stage of the chain. When attempting to quantify the causes and extent of postharvest losses in an agricultural sub-sector such as fresh produce, many variables come into account, which can lead to generalised and sometimes misleading loss estimates; Surveys and interviews may require chain actors to try and recall what happened in the past, perhaps over a period of weeks or months in which a range of weather, production and crop cycle factors may have influenced postharvest quality; postharvest losses in the fresh produce industry are often aggregated to include multiple products, even though these products may have varying susceptibility to physical damage (a major cause of postharvest degradation); losses calculated in the market are likely to be cumulative, but the causes of these losses may have occurred at various stages of the chain and need to be clearly identified in order to take appropriate corrective action. Sampling and direct measurements along each link in value chains can provide more accurate data, but sampling and testing methodologies need to be well defined and appropriate to the value chain and product/s being evaluated. In order to ensure that interventions within MVF partnerships are the most appropriate, more in-depth research is needed into the real causes and extent of postharvest losses within the PNG fresh produce sector, from point of harvest to final point of sale.

25. **Galip nut.** *Canarium indicum* is an indigenous tree known as galip, which is an excellent shade tree for cocoa, increases cocoa gardens' resilience to climate change and to major pest and disease outbreaks, and produces edible nuts. Efforts to domesticate the crop and develop manual processing technologies have been led by NARI since the early 2000s, with support from the Australian Centre for International Agriculture Research (ACIAR) and the EU. These include: 250,000 galip seedlings produced with EU funding and mainly distributed to smallholders between 2008 and 2012; 600,000 trees planned for planting in the next few years under the Productive Partnership in Agriculture Project (PPAP) cocoa partnerships (see below); 6,000 trees planted by Agmark, the major cocoa exporter, in 2011-2012, which are now bearing nuts and are replanted to expand nurseries; galip plantations developed in New Ireland; private forest development in East New Britain project in which landowners included in the contract with the forest developer the replanting of logged areas with cocoa and galip nut, over an area that could range from 2,000 to 5,000 ha. It is expected that the volume of nuts available for processing will reach 50-70,000 tonnes of nuts in shell by 2030, and yield some 7,000 to 10,000 tonnes of saleable products (dried nuts and high quality virgin oil). The global market for nuts of all types is strong, particularly those with a favourable health profile like galip. Galip could become a profitable smallholder export crop, provided processing and marketing pathways can be developed.

Policy and Institutional Context

26. **SDP.** The *PNG Strategic Development Plan (2010-2030)* aims at transforming PNG into a prosperous middle-income country by 2030, by promoting quality education and health, equal participation in development and access to services, good governance and a broad-based growth drawing on sustainably managed natural resources and on PNG's rich heritage of traditional wisdom and knowledge. Objectives for the agriculture sector are a five-fold increase in agricultural production, mostly through improved land use and productivity. Public-private partnerships are to become a cornerstone of the sector development, including with regard to service delivery.

27. **NADP.** Against this backdrop, the National Agriculture Development Programme (2007-2016) aims at stimulating economic growth in the agriculture sector by increasing income earning opportunities, focusing on increased private sector participation and on three priority sub-sectors, which include food and horticultural crops. In the face of the low implementation rate of NADP and reported abuse and corruption, a Functional Expenditure Review (FER) of the Department of Agriculture and Livestock (DAL) and seven commodity boards and agencies was carried out in 2014.

28. **FER.** The review notes that agriculture public departments have very weak capacities and that it is unclear to what extent the limited available funds have impacted the rural areas, in part due to the lack of data on sector performance. Main weaknesses identified include: limited size and skills of human resources; lack of clear directions and weak systems for planning and for policy monitoring and evaluation; lack of financial capacity and associated staffing and capital equipment constraints; dysfunctional delivery systems, in particular for extension.

29. In the face of the low implementation rate of NADP and reported abuse and corruption, *a Functional Expenditure Review (FER) of the Department of Agriculture and Livestock (DAL)* and seven commodity boards and agencies was carried out in 2014. The review noted that agriculture public departments had weak capacities and limited resources, which contributed to a lack of visible impact on the agriculture sector. FER called for a reorganisation of the agriculture institutional framework, with: (i) DAL refocusing on policy development and on the coordination and monitoring of policy implementation by commodity boards and provincial agencies; (ii) the creation of an Agriculture Investment Corporation to provide a funding and governance structure for the commodity boards and agencies; and (iii) the reorganisation of the commodity boards, to become responsible for regulation, farmer-driven research, business facilitation and the promotion of farmer-based SMEs. This includes the creation of a Food and Grains Board to be established through the merger of the Fresh Produce Development Agency (FPDA) with the National Agriculture Research Institute (NARI), which would become the lead agency for the food and grains sector, including fresh produce as well as alternative crops (which could cover galip nut).

Development projects

30. Few donors have remained in the agriculture sector. Key projects, also of interest to MVF, include the following:

- **PPAP:** the Productive Partnerships in Agriculture Project (PPAP) is co-financed by IFAD, the World Bank, the European Union and the GoPNG. The project aims at improving the livelihoods of smallholder coffee and cocoa producers, by promoting partnership agreements between farmers and agribusiness for the provision of technologies and services, through a package of incentives directly benefitting farmers. It also aims at strengthening the organisation of the coffee and cocoa industries, and at increasing smallholders' access to markets through road improvement. The success of the project and of the partnership model has prompted GoPNG, IFAD, the World Bank and the European Union (EU) to recently approve additional financing for the PPAP to replicate and scale up the project nationally. Lessons learnt on PPAP are in Appendix 3;
- **Lead Firm Programme:** New Zealand Aid has been funding institutional support to the Fresh Produce Development Agency (FPDA) for many years. While it is still focusing on the fresh produce sector, the ongoing Lead Firm Programme aims at supporting the growth of three value chain leaders that source from smallholders, by co-financing 50% of the cost of collection and storage facilities as well as transport equipment, in addition to providing funding for extension services and technical assistance delivered by the International Finance Corporation (IFC). New

Zealand Aid has indicated interest in participating in MVF, which has strong potential for synergies with the Lead Firm Programme;

- **PHAMA:** the Pacific Horticultural and Agricultural Market Access (PHAMA) Program is an Australian government initiative, co-funded by the New Zealand government. It is designed to help Pacific island countries, including PNG, better manage and utilise opportunities to export primary products. While there are few opportunities for export in the fresh produce sector (the main market is domestic and the main scope is to substitute imports), PHAMA is supporting the creation of a PNG Fresh Produce Association, which will gather key players in the industry. PHAMA is ending in 2017, but a second phase is under;
- **TADEP:** the Transformative Agriculture and Enterprise Development in Papua New Guinea (TADEP) is co-financed by the Australian government and the Australian Centre for International Agriculture Research (ACIAR). TADEP brings together five research-for-development initiatives that all aim at increasing food security and rural income. Of particular relevance to MVF are: *(i) Improving opportunities for economic development for women smallholders in rural PNG*, which has developed the Family Team approach; (ii) *Supporting commercial sweet potato production and marketing in the PNG highlands;* and (iii) *Enhancing private sector-led development of the canarium industry,* which will undertake a range of studies, including market research, economic analysis and feasibility studies, upon which this project will build to support the creation of a commercial plant for galip nut processing under Component 1.2;
- **MEP:** the Microfinance Expansion Project (MEP) is financed by the Asian Development Bank (ADB). It aims at promoting financial inclusion through capacity building provided to financial institutions, financial education and the operation of a risk-management facility. MEP has assisted in creating the Center for Financial Inclusion (CEFI), which is a public institution responsible for coordinating financial inclusion initiatives, disseminating knowledge and implementing specific innovative projects in support to financial inclusion. CEFI will be entrusted with the implementation of Sub-component 2.1 – Financial inclusion.

Attachment 1: Country Data Sheet

COUNTRY ECONOMIC BACKGROUND

Land area (km2 thousand) 2015 1/	452.9	**GNI per capita Atlas method (Current USD) 2014 1/**	2 240
Total population (million) 2015 1/	7 619 000	**GDP per capita growth (annual %) 2014 1/**	5.8
Population density (people per km2) 2009 1/	14.8	**Inflation, consumer prices (annual %) 2014 1/**	5.2
Local currency Papua New Guinea Kina (PGK)		**Exchange rate: USD 1 =** 3.06780	

Social Indicators		**Economic Indicators**	
Population growth (annual %) 2014 1/	2.1	GDP (Current USD million) 2014 1/	16 928
Crude birth rate (per thousand people) 2015 1/	28.2	GDP growth (annual %) 1/	
Crude death rate (per thousand people) 2015 1/	7.6	2010	7.7
Infant mortality rate (per thousand live births) 2015 1/	44.5	2014	8.5
Life expectancy at birth (years) 2015 1/	63		
Number of rural poor (million) (estimate) 1/	n/a		
Poor as % of total rural population 1/	n/a	Sectorial distribution of GDP 2014 1/	
Total labour force (million) 2014 1/	3.4	% agriculture	n/a
Female labour force as % of total 2014 1/	48.3	% industry	n/a
		% manufacturing	n/a
Education		% services	n/a
School enrolment, primary (% gross) 2013 1/	n/a		
Adult literacy rate (% age 15 and above) 2013 1/	63.3	Consumption	
		General government final consumption expenditure (as % of GDP)	n/a
Nutrition		Household final consumption expenditure, etc. (as % of GDP)	n/a
Daily calorie supply per capita	n/a	Gross domestic savings (as % of GDP)	n/a
Malnutrition prevalence, height for age (% of children under 5) 2011 1/	49.5		
Malnutrition prevalence, weight for age (% of children under 5) 2013 1/	n/a	**Balance of Payments (USD million)**	
		Merchandise exports 2014 1/	5 670
Health		Merchandise imports 2014 1/	4 000
Health expenditure, total (as % of GDP) 2014 1/	4.3	Balance of merchandise trade	n.a
Physicians (per thousand people) 2010 1/	0.1		
Population using improved water sources (%) 2015 1/	40	Current account balances (% of GDP)	14
Population using adequate sanitation facilities(%) 2015 1/	18.9	before official transfers 1/	n/a
		after official transfers 1/	n/a
Agriculture and Food		Foreign direct investment, net BoP current USD 2014 1/	-203.6
Food imports (% of merchandise imports) 2011 1/	11.6		
Fertilizer consumption (kilograms per hectare of arable land) 2014 1/	107.3	**Government Finance**	
Food production index (2004-06-01=100) 2013 1/	118.2	Cash surplus/deficit (as % of GDP) 2012 1/	n/a
Cereal yield (kg per ha) 2014 1/	4970	General government final consumption expenditure (% of GDP) 2014 1/	n/a
		Present value of external debt (as % of GNI) 2014 1/	n/a
Land Use		Total debt service (% of GNI) 2014 1/	7.1
Arable land as % of land area 2013 1/	0.7		
Forest area as % of total land area 2015 1/	74.1	Lending interest rate (%) 2015 1/	8.7
Irrigated land as % of total agric. land 2005 1/	n/a	Deposit interest rate (%) 2015 1/	0.4

1/ World Bank, *World Development Indicators* Online database (http://databank.worldbank.org/data)

Attachment 2 - Emerging business models supporting farmers' integration in the target value chains

Model	Example	Province	Value chain	Ownership	Services
Farmer-owned venture organising service provision around a storage or processing facility	Simbu Farmers Marketing Ltd	Simbu	Fresh produce	72% farmers' ooperative,28% provincial government	Input supply, extension, storage facility, sorting, grading, collection at farms' gate and delivery to buyers with own trucks
	Morobe Farms Produce Ltd	Morobe	Fresh produce	Private joint venture	(Planned) Input supply, extension, sale/use of equipment, collection , grading and packaging, financial services
	South Waki Organic Food Farmers	Western Highlands Jiwaka	Fresh produce	Public-private partnership (district and farmers)	Extension, collection, grading, packaging, selling to hotels and supermarkets
	MP Camillus Dangima's project	Simbu	Pigs and poultry	Public-private partnership (district and farmers)	(Planned) Breeding farm, input supply, vet services and extension, transport, slaughtering, cutting, packaging, marketing
	DOMIL Cooperative	Jiwaka	Pigs and poultry	Farmers' cooperative	Input supply, extension, credit, transport, slaughtering, cutting, packaging, marketing
Contract farming/ outgrowers' schemes	Niugini Tablebirds Ltd	Morobe	Pigs and poultry	100% privately-owned	Hatchery, provision of day-old chicks, feed and drugs, vet services and extension, transport to and from farmers' sheds
	Organic Mountain Produce Ltd	Simbu	Fresh produce	Owned by charity	(Planned) Inputs, extension, collection, storage facilities, transport
	NKW Holdings/Wau Fresh	Morobe	Pigs and poultry	Landowners' company	Inputs, extension, collection and aggregation, grading, slicing, packaging
Public and private service providers	Fresh Produce Development Agency	7 provinces	Fresh produce	Public agency	Extension, booster kits, market information system
	Smallholder Support Services Project (SSSP)	Several provinces	All crops and livestock production	Public (provincial) service	Training in technical and business skills, nutrition
	FARMSET	7 provinces	All crops and livestock production	100% privately-owned	Input supply with extension and demonstration , interest-free credit

Appendix 2: Poverty, targeting and gender

Poverty Trends

1. With a GNP per capita of USD 2,381, Papua New Guinea (PNG) is a lower-middle-income economy, but the country's ranking along the Human Development Index (HDI) has regressed from 126 in 1997 to 157 in 2013 (HDI of 0.491). National data conceals wide disparities between and within provinces, and for the majority of the population, rapid economic growth has not transformed into improved livelihoods or increased opportunities to participate in the monetised economy.

2. There is no official definition of poverty in PNG. The 2009-2010 Household and Income Expenditure Survey (HIES) published in 2012 is the first comprehensive and nationally representative survey of the socio-economic status of PNG households since 1996. Notwithstanding significant caveats regarding the comparability of data between the previous 1996 HIES and the 2009–2010 HIES, available evidence suggests that, despite more than eleven years of sustained high average rates of economic growth, there was no decline in poverty between 1996 and 2010. The proportion of people living below the basic needs poverty line rose from 34% in 1996 to 36% in 2010, whilst close to 40% of the population are below the upper poverty line. The proportion of people living below the food poverty line – 26.5% - is very high by Pacific standards.

Table 1: Poverty Measures for PNG (%)

	Food Poverty Line	**Basic Needs Poverty Line**	**Upper Poverty Line (used in HIES)**
By proportion of population below the line			
PNG	26.5	36.2	39.9
Urban	14.4	24.3	29.3
By economic activity			
No activity	29.8	36.2	44.5
Wage Earner	17.1	42.2	28.4
Self-employed	29.5	39.2	43.5

Source: UNDP (2014)[15]

3. The 2011 National Census shows PNGs population was at 7,254,442. This is an increase of just over 2 million people from 2000, showing average annual growth of 2.9 per cent, which indicates that the population is likely to double by 2030. Life expectancy is growing and – by international standards – continuously high fertility rates outweigh high mortality rates. As a result, the population is very young, with 40 per cent under the age of 15 (and a median age of 19-years (2000). With around 20 per cent of the population living in the urban areas, PNG is one of the most rural countries in the world.

4. Poverty is more prevalent in the rural areas where people have lower access to services, education, markets and economic inputs; 80% of the population depends on semi-subsistence agricultural production as a main livelihood strategy. A large share of household consumption is self-produced, with cash incomes used for essential non-food items (school fees, kerosene, and garden tools), to improve diet quality by allowing consumption of purchased protein and energy-dense staples, and to provide insurance for periods of agricultural stress. Unexpectedly, in rural areas, where access to customary land should lead to lower incidence of food poverty, the rate of food poverty was estimated at 28.5 per cent of the population compared to 14.4 per cent of the population in urban areas. Broad national poverty trends and symptoms include: (i) high levels of inequality (Gini coefficient at 0.50); (ii) an increasing welfare divide between households with access to formal employment and households dependent on the informal economy; (iii) 36% of the population is

[15] UNDP (2014) From Wealth to Well-Being: Translating Resource Revenue into Sustainable Human Development, National Human Development Report PNG.

illiterate and poverty is strongly correlated with education levels of the household head and; (iv) poor performance on all Human Development Indicators (HDI).

5. Widespread malnutrition is another expression of poverty. Over 50% of children under 5 years of age suffer from moderate to severe chronic malnutrition/undernourishment, with marked deficiencies in animal and plant proteins. The overall stunting, underweight and wasting rates are high (48.2 percent, 27.2 percent and 16.2 percent, respectively) and appears to be increasing. Severe cases among the stunted, underweight and wasted children are also high at around 50 percent in each category. The stunting rate is particularly high in the Highlands region, at 58 %. Malnutrition is associated with low monetary income and poor delivery of health services. Furthermore, food and nutrition security are critically constrained by a lack of co-ordination between public sector agencies.

6. National level development indicators conceal some marked differences in development achievement. There are four critical dimensions of inequality and exclusion: (i) a rural/urban divide; (ii) provincial and district level variations; (iii) differences by gender; and (iv) differences derived from wealth. First, the approximately 20 per cent of Papua New Guineans living in the urban areas have, overall, significantly higher levels of human development than the 80 per cent of the population who reside in rural areas. While an urban/rural divide in human development is common in many parts of the world, in PNG it is particularly stark[1]. Second, the rural/urban divide also conceals significant differences across different urban and rural areas. For instance, the incidence of hardship is significantly higher in the highlands and remote and isolated islands, compared to other rural areas. The highest rates of deprivation by almost every measure occur in rural parts of the Highlands and Momase regions. Within each of the regions, there are again significant variations by province, and then again by district within most provinces. Because of this it is important to speak of 'poor places' or 'hotspots' of deprivation at quite local scales.

7. The National Population Policy (draft 2013) contains an analysis of a set of indices related to various MDGs at the provincial level. In the absence of data that will allow for the calculation of a province level HDI, this shows that after the National Capital District (NCD), the five provinces that make up the Island region of Papua New Guinea (the provinces of Manus, New Ireland, East and West New Britain, and Bougainville) have higher levels of achievement of the MDGs (and hence higher human development) than the rest of the country (along with Milne Bay). After this, the geographic spread of achievement is mixed, with the four provinces with the lowest overall rankings being Enga, Gulf, Southern Highlands and West Sepik. Table 2 provides a composite index of progress related to 5 MDG targets on a scale from one to ten. These include: (i) eradication of extreme poverty and hunger; (ii) education; (iii) gender parity; (iv) infant mortality and (v) maternal health and reproductive health care.

Table 2: Composite Index and Rank Order Related to MDGs

Province	Rank Order	Composite Index
National Capital District	1	.773
Manus	2	.727
E. New Britain	3	.723
Northern Ireland	4	.715
Milne Bay	5	.683
Autonomous Region of Bougainville	6	.676
West New Britain	7	.658
Central	8	.656
Western	9	.630
Northern	10	.611
Western	11	.587
Chimbu	12	.574
Morobe	13	.570
Madang	14	.557
Eastern	15	.554
East Sepik	16	.551
Enga	17	.514
Gulf	18	.489
Southern	19/20	.478
West Sepik	19/20	.478

Source: National Population Policy 2013 (draft)

8. Thirdly, as will be further discussed below, measures of Human Development vary greatly by gender in Papua New Guinea. On virtually every measure of social and economic wellbeing and empowerment (from income to school enrolment, life expectancy and parliamentary representation), males score more highly. Gender-Based Violence (GBV) and female-specific health measures (including the Maternal Mortality Rate) are shockingly high (more than twice as high as elsewhere in the Pacific).

9. Finally, economic inequality continues to stratify the measures of Human Development among Papua New Guineans. The high Gini translates into fewer opportunities for social and economic advancement for the large proportion of poor people in PNG, urban and rural. For instance, the proportion of 15-29 year olds completing grade 6 in the poorest 40% of the population [effectively those living in poverty] is half that of the top 20%[2]. This in turn creates a social-economic cycle of insecurity and deprivation: educated people are far less likely to end up in poverty than those without an education – around 55 per cent of those with no education live below the upper poverty line compared with around 30 per cent for those who have completed high school, and less than 15 per cent of those who have a university qualification.

10. In summary, poverty trends show stagnant poverty levels and high levels of inequity in income and opportunity, both between rural and urban areas and within rural areas. The rapid economic growth led by the extractive industries has not translated into tangible benefits for the majority population, many of whom continue to depend on rain-fed semi-subsistence agriculture with high levels of vulnerability to natural disasters and changing environmental conditions.

11. The four main drivers of poverty, according to the UNDP 2014 National Human Development Report[3], are: (i) the diverse, fragmented and rugged landscapes of the country which impedes government extension and market access; (ii) the relatively recent exposure to the cash economy and to modern health and education systems; (iii) the resource-driven growth in PNG over the last four decades has not required large-scale mobilisation of the labour force or new technologies and neither has it generated the development of a consumer base for products, and; (iv) subnational governance and government capacity remains limited in many areas, impacting centrally on social, environmental and economic issues. The Project concept and approach, as outlined further below, responds to these constraints as well as the challenge outlined in Vision 2050, which is reflected in national development strategies, described as: "How do we shift an economy that is currently dominated by the mining and energy sectors, to one that is dominated by agriculture, forestry, fisheries, eco-tourism and manufacturing, between 2010 and 2050?"

Social Dynamics

12. The HIES 2009-2010 does not establish poverty indicators or provide a framework for the analysis of poverty trends and differentiation between rural producers. It is therefore of limited guidance for the identification of different needs and capacities amongst the potential target group. There are however several smallholder and fresh produce sub-sector studies that provide some insight into poverty and social dynamics amongst smallholders, although as noted; 'the complexity of the sociocultural environment of PNG farming systems means that it is difficult to extrapolate and predict how livelihood improvements can best be made. It also means that such improvements (for example, new technologies or crops) are not likely to succeed if they are promoted without sufficient reference to the prevailing sociocultural context.'[4] Whilst none of the studies makes reference to household differentiation or ownership of assets (finance, land size, tools, infrastructure) and how this affects production and market access, there are several recurrent themes on social dynamics that have implications for the design. These are outlined below.

13. **Social fragmentation, *wantokism* and social safety nets.** With over 800 spoken languages, PNG is one of the most ethnically and linguistically diverse countries in the world. It is home to a diverse and highly fragmented society, with small and unstable clans, shifting allegiances and short-lived cooperation. Cooperation amongst households has been dominated by the *wantok* system, a system of reciprocity and obligation that binds people of a common language, place, kinship group and/or ethnic origin. The *wantok* system still constitutes the single most important factor influencing social and cooperative behavior in PNG. These binds provided traditional coping mechanisms, including rural households' access to land for home food production and strong support through

reciprocal exchange. Whilst *wantok* networks have in the past provided social safety nets there are several challenging aspects of the *wantok* system that need to be considered: (i) many households in PNG are unable to participate fully in an increasingly monetized society, with a resultant lack of adequate cash to meet customary household obligations. This contributes to an increasing inequality and reduced effectiveness of the *wantok* system as a safety net for all members, because poorer and more vulnerable households are often not able to fulfil their cash *wantok* obligations; (ii) *wantokism* is by definition exclusive, because it operates on the principles of social and kinship membership, and so can work against cooperation along economic lines, for example those that may be created by development initiatives around market access; (iii) the obligation to 'give back' and share economic gains can act as a disincentive to household accumulation and (iv) these entrenched social networks are evident in state-society relations and vertical patronage lines, undermining the effectiveness of public services and of horizontal social and economic lines of cooperation. These dynamics are not unique to PNG, however they are unusually pronounced and have been accounted for in the targeting and gender strategy described in this annex.

14. **Gender dynamics in PNG and in agriculture.** PNG occupies the 134th position in the 2012 Gender Inequality Index out of 148 countries (index value 0.617). Gender inequality is a significant development challenge in PNG and is recognized in the Medium-Term Development Plan (MTDP) as a "threat to future development". Whilst female-headed households are not statistically poorer, women have substantially poorer access to health care services, and lower levels of educational attainment and literacy pose barriers to their equal participation in economic activity and political life. Gender Based Violence (GBV) is very high, and women's access to justice and legal protection is low[5]. GBV has been considered to have epidemic proportions and the social, physical, emotional and economic costs at the national level are widely recognized.[6] Women's disempowerment has wide-ranging consequences, notably, economic gains are not as consistently invested in household human capital, especially nutrition and education, as in other development contexts.[7] Women do not generally own land and or productive assets, have lesser access to credit, do not generally take decisions (unless allowed by the man) and often are not able to retain the income they generate. They have less access to markets then men and are often not safe in the public domain, such as transportation and markets. Successful women run the risk of antagonizing their husbands, as well as others in the village (including women), with potentially violent repercussions, including accusations of sorcery. Whilst women have a lesser status throughout PNG[8], the exact gender relations and how this impacts their role as economically empowered smallholders will vary significantly between regions.[9] There is also a strong gender division of labour in agriculture but this varies by commodity, activity and region.

15. **Young people and inter-generational differences**. PNG is a young country, with 52% of the population under 19 years of age. The lack of opportunities for the youth in both the formal and informal sectors as well as growing intergenerational tensions constitute both a social and economic challenge. Youth unemployment contributes to insecurity, which, in the rural areas, adversely affects business development and smallholders' investment and fuels criminality. Studies note[10] a strong intergenerational gap in values and norms in PNG. Relationships between the generations have historically been quite rigid, with decision-making power consolidated with the clan elders. These relationships are being challenged by recent socioeconomic changes, including increased mobility between some geographic areas, urbanisation, and the shift away from exclusively subsistence agriculture. Young people are taking on leadership roles in some cases, and are being privileged in access to some economic opportunities, but lack the social skills that would enable them to play these roles in ways that contribute to increased social cohesion. At the same time, young people are becoming disconnected from the social norms that regulated the behaviour of their parents and grandparents, deepening a rift between the generations. Young people also struggle to access employment and income generating opportunities, particularly when preference for jobs goes to elders or particular clans.

16. **Institutional fragility, conflict and violence**. PNG's institutions – both customary and formal – are struggling to effectively manage the stresses that have arisen from social and economic changes. PNG is socially fragmented with little common identity or vision, rapidly transforming social norms, a large youth population, distrust in modern state institutions and substance abuse. Triggers of violent conflicts include: (i) extreme power imbalances between genders; (ii) land, which is held communally and is central to identity, has historically been a source of conflict and continues to be a source of conflict as investments increase the productive potential of land; (iii) patronage politics within state structures, the limited professionalism of political parties, a lack of confidence in the justice system

and frequent incitement of political violence[11]; (iv) increased household income is frequently spent on substance abuse, can increase the incidence of sexually transmitted diseases (STDs), lead to an increase in GBV, be spent on patronage politics and generally erode hard earned gains; and[12] (v) increased household income can lead to jealousies, accusations of sorcery and violent reprisals. These social themes are universal, but whilst in other country contexts the consequences of a design 'getting it wrong' can be a less effective project, in PNG it can mean one-step forward, three steps back.

Gender and social inclusion issues in the project value chains

17. **Production and livelihood strategies**. The salient parts of agricultural production in PNG include: (i) a semi-subsistence orientation of low input-low output production; (ii) diversified farming systems, comprising mainly food and limited cash crops, provide for risk management; (iii) land held under customary tenure; (iv) production and ownership of the means of production is highly differentiated by gender and; (v) social structures and *wantok* have a powerful influence on determining livelihood strategies. Limited access to finance, technology, inputs, as well as low literacy levels, poor infrastructure and a resultant incapacity to supply the quality demanded in formal markets constrains market options for poor farmers. For the majority of rural households, the flexibility to switch between subsistence, semi-subsistence and limited 'commercial' agriculture is key to the production of fresh produce. Producers in PNG, as has been the finding elsewhere[13], are most likely to adopt technologies if these are proven and reversible and will prefer investments that enable them to switch between different production orientations, enabling them to access higher value markets on their own terms[14].

18. **Market access and marketing channels.** There is limited information about the social and economic factors that influence access to markets; most of the analysis is on constraints resulting from remoteness, poor infrastructure and produce of poor quality not ready to enter competitive institutional markets. A recent study[15] notes that there are distinct differences between smallholders, based on their origin, on their responses to market opportunities, with Highlanders, particularly from the Western Highlands showing a greater capacity to recognise entrepreneurial opportunities, acting more cohesively, and producing a greater variety of produce. However, in general, several points stand out as characterising most of the sector: (i) producers have limited information and understanding of value added and often go to markets not knowing whether they will be able to make a profit; (ii) up to 40% of losses are incurred through poor packaging and transport; (iii) a part of these losses are incurred because there is no clear price signal for quality and understanding of how to grade produce; (iv) mistrust between producers, as well as between producers and transporters/traders, prevent collective action and problem solving that could generate greater value for everyone and; (v) most production and marketing activities are unplanned with no relationship, communication or formal marketing arrangement.

19. **Support services for smallholders.** Rural producers have poor access to support services, such as finance, extension, training and transport and where support services are available, they have had a negligible impact on improving livelihoods. Initiatives to support farmers to access financial services through group loans have a poor record because of: "*wantokism*, nepotism, corruption, financial illiteracy, a lack of savings culture, irregular incomes and farmers' attitudes towards marketing as a means to gain cash, not build wealth." In addition, for women, credit is hazardous because they have no control of the income generated through their work. There are some useful lessons; the Fresh Produce Development Agency (FPDA) invested in financial literacy, rather than focusing on groups to overcome credit constraints and found that for the first time vegetable farmers had received credit and were able to access new markets as a result of investments in new seed, fertilizers and packaging because financial literacy changed attitudes towards both farming (seeing it as a business) and borrowing (seeing it as a debt not a grant).

20. **Extension and training** programs have a poor record in PNG due to the social obstacles already outlined. There are some valuable lessons on extension and training emerging from the work of FPDA, the Department of Agriculture and Livestock (DAL) and ACIAR in the fresh produce sub-sector. The following are brief findings: (i) extension services have to be sensitive to gender division of labour in production; (ii) like elsewhere, but even more so, "place based training needs, determined and prioritized by the people themselves, will benefit adoption of improved horticultural practices more than generic horticultural training which does not appeal to different needs of men, women and the

young"[16;](iii) farmer to farmer and lead farmer technologies will only work through social not economic networks , namely where community, kinship and *wantok* networks motivate sharing and learning; (iv) in sum, for the fresh produce sub-sector: "content based training that would allow for regional context, low levels of literacy and would be supported by pictorial based training manuals in Tok Pisin, covering issues such as farm planning and management and financial literacy."[17] Considerable progress has been made with the Family Team (FT) approach, a method whereby all members of a household create a household vision through joint livelihood planning which was developed under an ACIAR project, in collaboration with FPDA. It is a consensus driven approach at both community and household level that has proved effective in overcoming social and gender constraints in PNG. The success, however, remains with work done within a single *wantok,* community work that expects cooperation between *wantok* groups remains challenging.

Target Group and Targeting Strategy

21. **Targeting rationale and self-targeting**. The project goal of delivering livelihood improvements to poor farmers in the selected provinces is well served through the fresh produce and galip nut value chains as these involve large numbers of small producers, have potential for productivity growth and serve differentiated markets accessible to farmers with different capacities. The value chains already play an important role in the livelihood, food security and risk management strategies of the poor and therefore offer an opportunity for relatively low risk diversification into generating income from agriculture. Given high levels of food insecurity, the targeting of differentiated markets and concentration on food commodities is particularly important, as the project can deliver differentiated benefits to participating households, depending on their absorptive and organizational capacity. Furthermore, more than 90% of smallholders already grow vegetables.

22. **Target group.** The project provinces include a high percentage and density of the poor in PNG, as noted in the analysis. MVF primary beneficiaries will be semi-subsistence farmers (low input-low output farmers mostly growing food crops and limited cash crops) and market-oriented small farmers involved or with potential to get involved in the target value chains. Women village farmers will constitute a specific target group, because of their disempowerment, lack of access to services and markets as well as elevated gender-based violence, which altogether negatively affect household revenues and well-being. The project will also benefit youth, by creating new economic opportunities in the production and trading of fresh produce, facilitating access to innovation and new technologies and services (including through digital applications) and supporting small business growth. The project complies with IFAD's Indigenous Peoples Policy as all people of PNG are considered to be indigenous according to the policy and as extensive free, prior and informed consultation ensures voluntary participation. In addition, a highly participatory approach to implementation will ensure broad inclusion and support for more vulnerable households, as outlined below.

Main drivers of targeting strategy

23. There is limited information on socio-economic differentiation at the household level and no evidence of successful socio-economic targeting using, for instance, government poverty criteria, wealth ranking, Participatory Poverty Analysis and community based targeting in PNG. The social dynamics in PNG point to broad based community participation, going through traditional leadership structures, supported by measures to insure broad inclusion and negotiate social constraints on production and diverse livelihood strategies.

24. **Empowerment and capacity building.** The main strategy for empowerment, capacity building and targeting of appropriate interventions will be a family-based approach. As noted in the preceding analysis, in PNG the challenge is not only to deliver benefits but also to ensure that communities and households are able to translate these benefits into sustainable household welfare improvements. Measures to address social divides and build social, financial, technical and organisational capacity for livelihood planning in the context of the fresh produce and galip nut value chains will therefore be central to the design and an integral part of project activities.

25. In the last ten years, growing attention has been paid to participatory or farmer-driven extension. This has been an important shift in training and extension thinking, as the focus of the extension work goes beyond training to collaborative problem-solving. However, the very strongly delineated social and gender roles in agriculture and a lack of understanding of PNG women

smallholders' learning context and training needs create an 'invisible barrier'. The family-based approach addresses the fact that households are not cohesive units with shared needs and resources and that different member's pursue different goals and are responsible for different production and consumption activities. The family-based approach enables farming families to explore issues of gender and culture within communities and families, seeking to encourage more effective, sustainable and gender-equitable farming and business practices. The approach helps families to look at the work done by women, men and youth to work towards a more equitable distribution of agricultural and household work and to create a joint vision and an action plan for working towards this vision. The family-based approaches implemented by ACIAR and CARE have been successful because they work through traditional leadership structures and explicitly includes men, seeking to build a consensus and demonstrate that social inclusion and gender empowerment will bring social and economic benefits to the entire family.

26. The family-based approach, because it has been successfully used to support smallholders and women empowerment in PNG, will form the foundation through which the project will support partnership development and promote support services such as extension, financial literacy and business education. The following key elements are envisaged to prepare and implement a family-based approach and are fundamental to the empowerment of the project target group

Table 3 – Envisaged activities in the family-based approach

Activity	Description
Community mobilisation	Information and consultations on the project (including an overview of the family-based approach) and partnership objectives directed at the community and traditional structures, to ensure that there is prior and informed consent to carry out the partnership and that the community will support the partnership objectives and partners' operations. Community structures will be sensitised to facilitate sustainable land tenure arrangements between landowners and vegetable growers. Will also enable completion/confirmation of farmers' registration
Creating and achieving a family vision	Setting family long-term objectives, understanding the family budget and looking at household gendered roles and responsibilities, creating a basic plan for achieving the family dream by working together as a family
Financial education	Planning and monitoring the family budget (one module) and saving to meet family goals (one module)
Healthy families	Enhancing the health of family members through good nutrition and hygiene practices
Follow-up	Discussing specific challenges and opportunities and providing targeted support and advice

27. The family-based approach will be adapted to the specific features of the project, particularly with regard to: (i) *extension:* different extension approaches may be chosen in the various partnerships, but they will all have to be harmonised with the FT approach; (iii) *social inclusion:* the FT approach will also be used to identify more vulnerable households and to facilitate their participation in the partnership. The approach will be implemented in communities pre-selected through partnerships (whose farmers are included in an expression of interest and the subsequent development of partnership plans and agreement).

28. The family-based approach will be implemented by a consortium composed of the Centre of Financial Excellence in Financial Inclusion (CEFI), which has developed a set of comprehensive modules on financial education widely used in PNG, and an international NGO with experience in implementing family-based approaches in the PNG context. The consortium-based implementation approach aims at ensuring that the overall family-based approach and the financial education component will be perfectly harmonised into a seamless gender-inclusive programme aiming at raising household capacity to take the best advantage of project services and to improve family livelihoods. CEFI, which is the implementing agent for Sub-component 2.2 – Financial inclusion, will also be the leader of the consortium.

29. The consortium will also be responsible for building the capacities of FPDA and the PMU technical staff, including provincial teams, as well as of the Business Development Service Providers that will assist in developing partnership plans and agreements (see Component 1) so that they are conversant with the approach and that it is mainstreamed throughout all project activities.

30. **Gender and youth targeting**. The project design provides for a 50% participation rate of women as project beneficiaries and the family-based approach is explicitly directed at supporting the empowerment of women in a socially acceptable modality that will not risk negative consequences against women. The project will work towards the equal participation of women throughout the project management and implementation structure, including the PMU, FPDA, CEFI and the Business Development Service Providers. Experience and capacity for supporting gender empowerment will be a key criterion for selecting service providers and once selected they will be required to institutionalize best practice gender policies, such as ensuring equal opportunity and a working environment and modality that is safe for women. Women will be represented as a special interest group in the multi-stakeholders' platforms, through which the project aims at contributing to reforms in the policy and institutional system to support women to operate as empowered smallholders.

31. Inclusive business partnerships offer a solid opportunity for young people, both as smallholders and as business partners, to capture value from the fresh produce sub-sector, building on available assets. The family-based approach will provide an opportunity to work with young people to change the gender dynamics and social norms that inform production, consumption and livelihood choices for improved and more equitable household welfare. Young people, and young women especially, will also benefit from project support for improved nutrition practices which will be integrated into agricultural extension services.

32. **GESI provisions for project components and activities.** Gender and social inclusion objectives will be mainstreamed throughout the project and integrated into all activities and interventions. The main GESI provisions will be integrated into the establishment of the project management structure, the definition of a GESI action plan, its operationalization through the project Implementation Manual (PIM) and the capacity building and empowerment work in Component 1. Table 4 provides an outline of the GESI provisions for the Project.

Table 4: Project Provision for Gender and Social Inclusion

GESI Provisions	Activities/ GESI Purpose	Implementation Responsibility
Project Structure		
Recruit GESI officer	Overall responsibility for GESI outcomes.	PMU/International TA
Write GESI strategy	Develop GESI objectives, targets, action plan and indicators for M&E. Gender targeting of 50% in all project activities. Youth targeting of 30% in all project activities.	GESI Officer with support from International TA
GESI integrated into PIM	Practical guidelines and procedures for GESI	GESI Officer with support from International TA
GESI criteria for hiring service providers	Ensure that all SP's willing and able to contribute to GESI objectives	GESI Officer with support from International TA
GESI training	Provide training on GESI objectives to all project staff, implementing partners and SP's.	GESI Officer with support from International TA
Component 1: Inclusive Business Partnerships – GESI provisions to ensure that poor and vulnerable households are included, that they are empowered to negotiate their interests, and that working with poor households is a viable economic option for private sector operators, as well as accepted as a legitimate intervention by the community.		
Phase 1: Pre-investment activities	**Knowledge gathering and partnership selection**	
Scoping study	Include information on socio-economic differentiation amongst producers in project value chains and the impact of gender, generation gaps, *wantok* networks, land rights etc. on opportunities to benefit from the project[16].	GESI Officer

[16] See details in Attachment 1.

GESI Provisions	Activities/ GESI Purpose	Implementation Responsibility
Information campaigns	Ensure free prior and informed consent of the target group to participate in partnerships. Disseminate information in language & media accessible to target group.	Component 1 Manager GESI Officer Provincial Teams
Expression of Interest	Integrate GESI eligibility criteria into EOIs	GESI Officer
Screening of proposals	Compare and evaluate GESI potential of different proposals.	Component 1 Officer GESI officer
Family-based Approach	**Creates inclusive framework and foundation for partnership implementation**	**GESI Officer Component 1 Manager**
Community mobilisation	Community level support for inclusive business partnerships, identification of capacities, priorities and participant households. Rapid rural appraisal to ensure that social dynamics (*wantok*, land issues etc.) enable inclusive business partnerships and GESI objectives.	Consortium Provincial teams
Family-based approach modules	Establish the principles of inclusive household level action plans around project investments.	Consortium
Community baseline and household profiles	Identification of differentiated household needs and priorities to support financial inclusion services, business training and nutrition education.	Consortium Provincial Teams VCE
Partnership brokering and implementation	**Support the development of inclusive management and communication systems between communities and business partners.**	**Provincial Teams GESI Officer**
Agricultural extension & nutrition training	Extension/technical inputs and training delivered through/in line with the family-based approach. Financial literacy and business development services for project households	Extension SPs
Business development and partnership management	Business development services to maximise partnership arrangements and support identification of GESI practices that support business, such as gender inclusivity as smart economics, investing in smallholder loyalty, price and payment schedules that buffer risk and reward loyalty	BDSP
Financial Support Services	.	**CEFI**
Component 2: Supportive Value Chain Investments - address key bottlenecks in transport, storage, processing and rural finance that impede GESI in project value chain.		
Financial Inclusion	Access to savings, credit and other financial services as appropriate, using the FT as entry-point	International TA GESI Officer CEFI
Market Access	As above – GESI bottlenecks to be addressed. Infrastructure investments that address constraints on women's safety and mobility to be prioritised.	International TA GESI Officer FPDA Provincial Manager
Component 3: Value Chain Governance and Project Management – creation of a policy and institutional environment that supports GESI in the fresh produce and galip nut value chains.		
Fresh Produce Multi-Stakeholder Platforms (MSPs)	Community/household representatives, such as VCEs, as MSP members Women and youth to be represented as separate interest groups.	Project Manager Component 3 Officer GESI Officer
Enhanced policy and regulatory environment in the target value chains support inclusion	Exploration of food standards/grading that are GESI supportive. Support for GESI sensitive integrated support services Support for nutrition advice to be mainstreamed into agricultural extension packages for fresh produce Support for measures to increase the security for women and children in transport, markets and processing and storage facilities.	Project Manager Component 3 Officer Component 1 Officer

GESI Provisions	Activities/ GESI Purpose	Implementation Responsibility
Promote knowledge management and communication	Set up gender-sensitive M&E system Disseminate information about business models that support GESI outcomes Promote ICT solutions that enable GESI	Senior M&E Officer M&E/GESI consultants KM & Communication Officer GESI Officer

Implementation Arrangements and Responsibilities

33. The design provides for comprehensive support for GESI objectives managed by a GESI Officer within the PMU. With support from international technical assistance, the GESI Officer will write a GESI Action Plan and be responsible for ensuring that GESI interventions are mainstreamed into all component activities and interventions, with guidelines outlined in the PIM.

34. The family-based approach will provide the main entry-point for empowerment and capacity building to enable GESI objectives and will also provide the modality through which specialist value chain support services, such as agricultural extension, financial literacy and business development are channelled. A consortium led by CEFI and associating an international NGO experienced in household-based methodologies in the context of PNG will provide training to the FPDA and service providers involved in project implementation on how to mainstream the family-based approach throughout all project activities.

35. The project will take the family-based approach as a departure point, as it has been successfully trialled in PNG and in the fresh produce sub-sector. However, during the initial pilot phase in which the approach is adapted to interventions required to build smallholder capacity, the approach used in similar and parallel methodologies will be examined for useful material. These include the Gender Action Learning System (GALs) approach implemented in several IFAD projects as well as the material, modules and training material that have been developed to support gender inclusion in value chains.

36. The project aims to support the institutional capacity building of the FPDA for supporting GESI in fresh produce. Accordingly, the FPDA will work closely with the consortium to support sustainable information and knowledge transfer. Within the Provincial teams and the PMU, technical staff will be given training on the family-based approach, as well as on the different aspects of the integrated approach (core family-based approach, partnership implementation, financial inclusion). This approach supports the sustainable development of a 'community of practice' in PNG able to implement and roll-out GESI sensitive support services for the fresh produce sub-sector.

---

[1] This section draws on the analysis in the UNDP 2014 Human Development Report: From Wealth to Well-Being.
[2] UNICEF (2012) Annual Report for Papua New Guinea. Available on- line at http://www.unicef.org/about/annualreport/files/Papua_New_ Guinea_COAR_2012.pdf
[3] UNDP (2014) National Human Development Report PNG_ From Wealth to Well-Being.
[4] ACIAR (2013) Socio-Economic Research in PNG, pg. 115.
[5] A recent study of business in PNG reviews the cost of GBV at the firm level and argues that costing the multi-dimensional impact of GBV is smart economics and an important first step in building the business case for an intervention in GBV.
[6] ODI (2015) Gender Violence in PNG: The Cost to Business. Overseas Development Institute, London.
[7] Empirical research from PNG shows that a mother's education is at least three times more 'productive' than father's education in terms of generating positive health and nutritional outcomes for children. (Gibson, J. 1997, "How Can Women's Education Aid Economic Development? The Effect on Child Stunting in Papua New Guinea" Background paper prepared for a poverty assessment of PNG, World Bank,)
[8] The Eastern Highlands, for example, is characterised by an emphasis on extreme masculinity, a strict separation of the sexes in all activities and often violent defence of clan and territory. Whilst commercial agriculture, because of coffee, has been active in the Eastern Highlands and there has been an explicit agenda of commercialisation as a means to counter warfare and male cults, the underlying gender relations have not been significantly improved. Economic exchange has contributed to the workload of women without a significant improvement in their status or welfare.
[9] Toombe, H. (2013) Exchange and Gender Relations in the Papua New Guinea Highlands, Academic Edu. Anthropology, www.academia.edu.
[10] Summary of an assessment on youth presented in the World Bank Country Program Strategy, 2012

[11] Allen, M. and Z. Hasnain (2010). Power, pork and patronage: Decentralisation and the politicisation of the development budget in Papua New Guinea. Commonwealth Journal of Local Governance, 6: July 2010. Available on-line at http://epress.lib.uts.edu.au/ojs/index. php/cjlg/article/download/1617/1748
[12] World Bank (2012b). Papua New Guinea - Country gender assessment for the period 2011-2012. Washington D.C.: World Bank.
[13] Hystra (2015) Smallholder Farmers and Business: 15 Pioneering Collaborations for Improved Productivity and Sustainability.
[14] Chang, H (et al) Improving Access to Credit for Smallholder Farmers in PNG: Lessons Learned, in ACIAR (2013) Socio economic Agricultural Research in Papua New Guinea. Proceedings of a workshop held in Lae, 5-6 June.
[15] Bonney (et al) 2012, Feasibility Study for a New Wholesale Market for the Fresh Produce Market in Port Moresby, New Zealand, MFAT.
[16] ACIAR (2013) Socio economic Agricultural Research in Papua New Guinea. Proceedings of a workshop held in Lae, 5-6 June.
[17] Pamphilon, B (et al) Two-Way Learning: Key Gender Lessons from Participatory Community Workshops with Smallholders in the Baiyar Valley and Kerevat Areas of Papua New Guinea, in ACIAR (2013) Socio economic Agricultural Research in Papua New Guinea. Proceedings of a workshop held in Lae, 5-6 June.
[18] Hystra (2015) Smallholder Farmers and Business: 15 Pioneering Collaborations for Improved Productivity and Sustainability.

Attachment 1 – Orientations for the GESI Strategy

Whilst the selection of the fresh produce sub-sector is clearly justified from a GESI perspective there is limited information on socio-economic differentiation in the fresh produce sub-sector; analysis of the factors affecting access focus mainly on the key bottlenecks (finance, transport, storage), not on how these affect different socio-economic groups. The scoping study, and the community and household profiling that will follow initial interventions in the community and the implementation of the family-based approach, should gather information about social and economic factors that affect access to the fresh produce sub-sector and that will affect the operation of different intervention and business partnership modalities.

The basic questions to be explored to improve the GESI impact of the project include:

- What are the minimal assets and capacities a household requires to improve and commercialize production and interact with markets?
- What factors will influence household level capacity to enter into traditional and modern markets?
- Which commodities have the greatest multi-functionality and potential for graduation? For example sweet potato serves household food needs, both traditional and modern markets and can be used for livestock feed (traditional and modern)?
- What is the difference in the asset base (finance, labour, time) required to enter traditional and modern markets for particular commodities?
- What steps support graduation from traditional to modern markets for different commodities (would be useful also to break down the horticulture value chain into different products)?

Key questions to evaluate the comparative advantage of different institutional options/business models for working with smallholders and optimising GESI outcomes include:

- What is the ‘social catchment’ of members/participants (community, village, *wantok*, area based)?
- What asset base is required to enter into the partnership (land, labor, literacy, financial assets) and do these meet those of the project target group?
- What investments are expected of farmers, what risks do these entail to existing livelihood structures and how reversible are these if they do not work?
- What is the gender balance of membership/participation in the scheme?
- What are the gender differences in the types of engagement in the partnership?
- What is the leadership structure of the partnerships, how are farmer interests represented and decisions taken?
- How accessible are the services provided (distance, meeting schedules etc.)?
- Who were the drivers/initiators of the business partnership?
- How reliant is the partnership on external funding and support?
- What is the loyalty, reward and penalty structure of the partnership for services and how and by who are these decided and enforced?
- What measures, if any, were taken and are needed to secure partnership formalities/legalities with participants with limited literacy?
- How do participants understand their ‘ownership’ of a cooperative, for example the Simbu Farmers’ Cooperative and how is this managed and governed?

GESI questions regarding production and livelihood strategies of smallholders in project value chain include:

- Who owns and controls the assets and makes decisions at the household/community level?
- What has been the main entry point to communities used by agribusinesses (lead farmer, public sector, NGO) and what can we learn from their experience?
- What are low-hanging fruit for technological adaptation and market graduation (products within the horticulture sector can also be broken down further these lines).
- What factors determine household decision-making on which markets to enter?
- Who are the key figures within the community who can act as a fair broker and intermediary in the introduction of project services?

Sustainable support for GESI in the project value chains will require the internalisation of GESI capacity building first within the FPDA and public services and ultimately, as much as possible, in the business partnerships themselves. Some key questions regarding this shift include:

- How can intensive social capacity building around production be matched with agribusiness commercial interests and the limitations of these?
- What, if any, are the systems of extension and training provided through the business models proposed for replication in the concept note?
- How do current models of agribusiness extension and technology provision protect against default and ensure farmer loyalty for investments?
- How can service providers be used to bridge the capacity building gap and complement the services provided through business partnerships?

The design would benefit from an assessment and comparison of the likely returns to producers (differentiated by gender) of different intervention types (improved production, grading, processing) to support access to different market channels (traditional, modern, institutional). The following are three key questions:

- What are social and economic entry costs to participate in traditional, modern and institutional markets?
- How do *wantok* networks affect the different market types, if at all?
- Where is value added and captured by value chain actors in traditional, modern and institutional markets and what the implications for producers?

Appendix 3: Country performance and lessons learned

1. IFAD had an active engagement in PNG in the 1980s and 1990s, financing three investment projects: the Artisanal Fisheries Project approved by IFAD's Executive Board in April 1982, the South Simbu Rural Development Project approved in September 1986, and the North Simbu Rural Development Project approved in April 1993. After a period of disengagement following the closure of the North Simbu project in 1999, IFAD resumed its cooperation with GoPNG in April 2010 with the financing of the Productive Partnerships in Agriculture Project (PPAP), jointly with the World Bank. In April 2014, the Fund approved additional financing to scale up PPAP nationally, bringing IFAD's total financing to PPAP to USD 36 million, or 30% of the total.

2. An independent Country Programme Evaluation (CPE) was carried out in 2001. Little or no data was available to gauge project impact, but the overall assessment of programme performance was moderately satisfactory and it was found that the sustainability of interventions was rarely assured. Key explanatory factors were that: no funding was available to keep up with the provision of project-sponsored services; service delivery had a high cost, further compounded by accessibility issues and law and order problems; community participation was limited; and ownership of project interventions at the local level was very low. The lack of measurable progress in the reduction of malnutrition from lack of energy and animal protein deficiencies was an issue of particular concern. The empowerment of women and their organisations to access the services required to improve their standards of living, and the development of small livestock for raising protein supply were among key proposed solutions.

3. Key lessons derived from the CPE, PPAP and consultations with stakeholders (including a session on lessons learnt from past engagement in Simbu province chaired by the Provincial Governor) point to the following issues:

- *Access to markets:* few farmers are commercially oriented because they face excessive constraints to engage with markets - difficult and costly transport, lack of market information, limited bargaining power with middlemen, limited access to support services or technology to improve quality and to adhere to market requirements. Accessible markets and remunerative prices constitute a powerful incentive for small farmers to increase production and to generate marketable surpluses. When access to market is difficult or prices found to be less attractive, farmers reallocate workforce and land – to crops that can bring returns where there are opportunities (as demonstrated by the vanilla boom in response to high prices or by PPAP experience) or back to food crops;

- *Role of private sector:* agribusiness enterprises (buyers, exporters, processors, private service providers) are critical for linking smallholders to markets, for strengthening their ability to respond to market demand through the provision of support services and for bringing innovation. Furthermore, they have the ability to deliver services with scale and in line with market requirements. However, sourcing from smallholders also entails significant risks, because of their lack of organisation, low skills, lack of experience in dealing with the markets and connectivity problems. Incentives designed to offset those risks are therefore required to bring agribusiness to engage with smallholders and to assist in developing new partnerships in the early stages;

- *Farmers' organisations:* a high proportion of organisations established at local level are formed to obtain external funding for community or private activities, with little sustainability prospects. In particular, the development of agriculture cooperatives has suffered many failures in the past, mostly related to mismanagement and internal conflicts. However, the experience of successful cooperatives today demonstrates that farmers' organisations that have clear objectives and governance structures, provide effective services to members and enjoy transparent and accountable management are sustainable and succeed in increasing their membership;

- *Community mobilisation:* setting up effective farmers' organisations and developing a business mind-set requires a major transformative process, which can succeed when the community is involved and has a sense of ownership. Traditional leaders, traditional groups (in particular women groups), church leaders and local counsellors can play a positive role in supporting change if they are mobilised rather than being side-lined;

- *Project organisational frameworks:* complex project settings covering a large range of sectors are rarely adapted to the limited institutional capacities and end up spreading benefits too thinly. Projects that start simple, concentrating on a focused range of industries in a limited geographical area (which is the approach adopted by PPAP) are more likely to reach impact, have increased potential for developing linkages and synergies within the target industries and can progressively be expanded or scaled up;
- *Implementation arrangements:* self-standing project implementation units are not conducive to sustainability and have largely failed to build institutional capacity. Project implementation responsibilities should be vested in existing government institutions with technical assistance provided to ensure that service delivery can continue beyond project completion.

4. More specific lessons directly deriving from five years of PPAP implementation are as follows:

- *A successful, innovative model:* there is strong demand from farmers, their organisations, and lead partners for engaging in partnerships such as promoted by the project. Partnerships with agribusiness are an efficient way to channel services enabling village farmers to increase volumes and quality of produce and to connect them to markets at a scale that cannot be matched by underfinanced public extension services;
- *Support to lead partners:* the first calls for proposals underestimated the time required from lead partners for project reporting and partnership management, which led to a streamlining of project administrative requirements and a strengthening of project support to partnerships. Besides, project design overestimated lead partner's abilities to provide quality support to partnerships in key areas such as agricultural extension, community development and farmers' organisations. Lead partners require technical support and guidance from the project and must involve co-partners for the delivery of some services in areas where they do not have a comparative advantage. In addition, the project must also be realistic about the incentives and capacity of lead partners to deliver types of support and services that are not directly linked to their core competencies;
- *Sustainability: s*witching from semi-subsistence farming providing cash as needed to farming as a professionally run and profit-making business requires from farmers a complete change of mind-set and the durable acquisition of a large range of technical and managerial skills. Such a process takes time. Partnerships should not only aim at helping farmers to gain the skills required to produce and market improved volumes and quality of produce, but also ensure that adequate structures and capacities are in place so that farmers can have sustained access to services and markets once partnerships are over. Conversely, the funding model whereby close to 90% of partnership costs are paid by a project grant is costly and hard to sustain for the GoPNG;
- *Farmers' engagement*: strengthening their organisation is important for farmers as it will facilitate the channelling of services and produce aggregation, but also to become less dependent of buying companies by taking over some services or to improve their ability to negotiate terms and conditions. Farmers' organisation is also important for buyers to develop efficient supply chains. Specific support is required to support farmers' organisation and related capacity building. Besides, community participation has emerged as a factor of success in building cohesion and in promoting sustainable organisations. The construction of village-based resource centers, i.e. simple constructions for meetings, trainings and storage, has proven a powerful investment in support of group strengthening;
- *Commercial lead partners:* non-commercial partners such as NGOs or universities do not have access to markets and have no economic interest to sustain partnerships once project financing is over. Lead partners should be commercial entities (buyers) but they could partner with non-commercial partners to retain their services in areas where they have comparative advantages and expertise;
- *Local government engagement:* PPAP innovative model has generated strong interest from provincial and local governments across the country. There is an untapped potential for synergies with local and provincial governments and for leveraging additional financial support, in particular for infrastructure development and maintenance. There are also opportunities for the project to

better link with local government agriculture programs and to strengthen extension support through greater participation of extensions agents;

- *Improving road passability:* investments are selected on a competitive basis (those with the most favourable benefit/cost ratio), but careful consideration needs to be given as to whether there should be some threshold to the competition – e.g. allowing each partnership that applies at least one investment, so as to spread the benefits as widely as possible. The process for selection of priority investments needs to be very transparent and defensible, both within partnerships and among partnerships, as those farmers/partnerships whose candidates are not selected will understandably be very disappointed. At all stages the PMU has to work hard not to raise expectations of farmer groups or communities unrealistically. This involves a well-resourced, carefully programmed and actively managed preparation process, with multiple stages and consultation at all stages with several partnerships, communities and local authorities in several different geographic areas, which can be very time consuming. Establishing the maintenance arrangements needs to be the responsibility of a specialist, rather than included in the role of the PMU engineer, since it requires considerable input and dedication to identify the future maintenance needs, carry out awareness with the respective parties, negotiate the terms of the MoU, and undertake training of the parties once the works are complete.

Appendix 4: Detailed description

COMPONENT 1: INCLUSIVE BUSINESS PARTNERSHIPS

1. Component 1 aims at building inclusive partnerships between village farmers and buyers, whereby: (i) farmers will gain improved access to markets and to the services enabling them to supply buyers in line with market requirements; and (ii) buyers will source from farmers to supply remunerative markets. The expected **outcome** is that village farming households have access to markets, technologies and services in the target value chains. The **main outputs** from Component 1 will be: (i) different types of business partnerships linking fresh produce and galip nut producing households to buyers; (ii) at least 20,000 farming households (20,000 men and 20,000 women) trained in and using good agricultural and post-harvest practices for fresh produce; and (iii) around 23,000 farming households trained for family engagement in decision-making on production and marketing. Component 1 includes two sub-components: Sub-component 1 - Fresh Produce Partnerships, which will concentrate most of Component 1 resources and Sub-component 2 - Galip Nut Supply Chain.

Sub-component 1.1 – Fresh Produce Partnerships

2. This sub-component aims at developing linkages between village farmers and other stakeholders in the fresh produce sector, whereby farmers will gain improved access to markets and to the services enabling them to increase productivity, quality and consistency in line with market requirements. This will be achieved by supporting partnership agreements between: (i) village farmers, looking to increase and improve vegetable production provided they have a secure and remunerative market outlet; and (ii) buyers of fresh produce with access to identified markets, willing to secure reliable and consistent supply from village farmers. Partnerships will be financed through a mix of partners' contribution, credit, and incentive grants aimed at decreasing partners' risk and facilitating their engagement into innovative agriculture practices and marketing arrangements. They will also provide access to support services both for farmers (including technical and business advisory services as well as support to strengthen their organisation) and for smaller and medium buyers (business development services). They will not target specific crops or value chains in the fresh produce sector, but will rather support partnerships to respond to market demand and to become profitable and sustainable after project support is phased out.

3. The sub-component will build on the PPAP approach, drawing lessons from experience (see Appendix 3) and adapting it to the specificities of the fresh produce sector, where:

- ***Buyers are smaller:*** whereas the cocoa and coffee sectors have large traders and exporters, often global companies, that have the capacity to directly implement project resources to supply services to farmers, the fresh produce sub-sector has an overwhelming majority of micro and small operators, that, alongside with growers, need support to build capacities and grow their business;
- ***Crops are diverse:*** rather than specialising in one single crop, farmers produce a diversity of crops, which enables them to diversify their risk and compensate price variability, but also to make the best use of small land plots through crop rotation. Technical advisory services are needed to support sustainable diversification (ensuring a steady flow of revenues while allowing the preservation of land fertility) and need to be adapted to different agro-ecological potential and market demand;
- ***Value chains are complex:*** as reviewed in Appendix 1, the diversity of traders (according to size and capacity to source from varying numbers of farmers and to position in the chain) and end buyers (from retailers of different sizes, to catering companies and hotels) requires a flexible approach to adapt project support to different types of partnerships and target markets. It also requires support to strengthen value chain linkages and ensure regular communication between players along the chain (which is addressed in Component 3), building on the excellent work started by FPDA;
- ***Reaching out to markets is arduous:*** although mostly domestic, markets are hard to reach out, because of the remoteness of many production areas in the Highlands, but also because of the distance between production areas and key end markets (Port Moresby and Lae) and the

complexity of the transport chain (road and sea freight/air freight). This in turn generates high post-harvest losses. Here as well, the strengthening of value chain linkages is a key requirement, along with the building of post-harvest management skills of growers and traders, and the raising of investment capacities to improve transport equipment of traders.

4. Partnerships will be market responsive, non-prescriptive and based on the principles of public-private-producer partnerships (PPPPs). In the Highlands, most partnerships are likely to engage in production and marketing of temperate produce such as broccoli, carrots, cabbages, onions and potatoes for distant end markets and a broader range of products for regional, closer market outlets. In the Lowlands, a different range of crops will be covered possibly including taro, okra, tomatoes, watermelons etc. Main activities will be as follows.

Scoping Study and Climate Risk Assessment

5. A participatory scoping study will be carried out in the target provinces at project inception in order to: (i) map the fresh produce sub-sector, identify crops with stronger comparative advantages and business opportunities, as well as potential partners; (ii) the availability of relevant service providers able to provide relevant support services in each target province will be evaluated, including their respective capabilities, capacities and interest in delivering services within the project; (iii) provide orientations to support the project GESI strategy; and (iv) provide orientations to address possible tenure challenges that might affect the project target group. The study would therefore: (i) carry out detailed value chain analysis in the target provinces through to the major domestic markets, identifying main production areas, market channels and specific market opportunities with potential for increasing farmers' income; (ii) identify specific chain constraints and the major causes and likely extent of postharvest losses at each link of the value chain; (iii) identify key players - i.e. existing farmer-owned ventures (cooperatives and limited liability companies), different categories of buyers and service providers and existing value chain relationships between chain actors – and assess their interest in participating in the project as well as their capacities; (iv) identify factors of socio-economic differentiation amongst producers (such as gender, generation gaps, *wantok* networks) that could affect opportunities to benefit from the project and provide orientations to secure broad inclusion;; and (iv) assess tenure systems and recommend ways to secure land tenure for the project target groups. The study will be carried out by an international service provider, in coordination with the preparation of the GESI strategy (described in Appendix 2). It will generate information to orient the rest of pre-investment activities, as well as baseline data for the M&E system. Detailed terms of reference for the scoping study are in Attachment 1.

6. The PMU/FPDA will organise capacity building for service providers, based on assessments carried out during the scoping study, to address identified capacity gaps. Annual partnership meetings will discuss service provision. Further capacity building will be made available and /or amendments will be brought to partnership agreements as required.

7. In parallel to the scoping study, MVF will finance a climate risk assessment, which will: (i) reference existing mapping studies undertaken within the target provinces; (ii) identify areas with climate change risks that must be addressed (such as drought, flood and frost prone localities); and (iii) establish baseline data and identify a suite of appropriate short, medium and longer term agricultural risk management strategies and best practices. The climate change risk assessment outcomes will be reflected in extension methodologies and recommended agricultural risk mitigation strategies that will be supported through partnerships. Risk assessment outcomes will also be reflected in the MIS by way of dissemination of the most suitable climate change risk management practices within the agricultural sector. The study will be carried out by an international service provider.

Pre-investment activities

8. Pre-investment activities will be implemented in years 1, 2 and 3. Partnerships will benefit from project assistance over a maximum period of three years. The annual sequence of activities will unfold in six steps.

9. **Step 1: Information campaign.** Annual campaigns will be organised to disseminate information about the project and opportunities offered to buyers and farmers. This will be achieved

through media and information meetings organised by the Provincial Teams at provincial and district level. Existing industry networks, such as those initiated by FPDA (growers, traders and end buyers) will also be referenced as a means to further disseminate information and generate interest in the project.

10. **Step 2: Calls for expression of interest.** The PMU will issue annual calls for expression of interests (EOIs) through regional radios, newspapers, notice boards and other appropriate supports, to identify market players interested in developing partnerships with village farmers to supply identified markets. Expressions of interests will be short proposals presenting the partners, identified markets, partnership objectives and proposed investments, expected benefits in particular for farmers, cost estimate and financing sources. The calls will specify eligibility criteria for partners and for investments.

Eligible partners

11. Partnerships will be formed between farmer groups and village farmer households in the partnership target production areas, and, any of the following lead partners:

- ***large buyers/chain leader****s* operating substantive operations with established business management structures and capabilities and owning commercial postharvest and cold storage facilities, such as farmer-owned marketing companies, other private aggregating and marketing companies, catering companies supplying extractive businesses and major institutional buyers, or end buyers such as supermarkets;
- ***medium buyers,*** or established entrepreneurs (most with a vegetable farming background) who are buying fresh produce direct from growers or from small-sized aggregators and consolidate and commercialise fresh produce to supply modern market buyers;
- ***small buyers,*** such as farmers with an entrepreneurial mind, usually farming larger surfaces (1-2 ha) aggregating and marketing produce from their neighbours to supply modern and traditional markets, or district-based traders/middlemen buying at farm gate;
- ***micro buyers,*** wet market-based intermediaries supplying larger traders, who provide a quick, safe and simple market outlet to growers and reduce transaction costs for larger traders.

12. The proposals will specify the number and location of farmer partners. Large buyers will have to be a registered cooperative or legally incorporated company. NGOs and service providers may be included in partnerships but only as secondary partners, because of their limited potential to sustain the partnership post-project.

Eligible investments

13. Partnerships will be demand-driven and will cover investments required to achieve the specific partnership objectives. To encourage innovation and to ensure sufficient flexibility exists to cover the scope of crops, production and postharvest scenarios and marketing objectives included within partnership business plans there will be an open menu of eligible investments. These will fall into the following categories.

- ***Nurseries:*** nurseries could be established at village level, to serve a group of farmers, and/or at household level. Nursery establishment will be matched with technical and management training. Larger nurseries serving a group of farmers will be geared for operation on a commercial basis;
- ***Booster kits:*** booster kits will support the adoption of new technologies for increased productivity, quality and risk management. They could include: basic inputs for soil and plant nutrition (pest control, quality seeds and planting material); farming tools; simple and adapted irrigation systems (see below); and post-harvest materials such as field harvesting crates. Access to the booster kit would be contingent on (prior) regular participation in extension activities;
- ***Water management*****:** because of the very small size of smallholder farming plots in the PNG Highlands, watering is normally done manually using buckets/watering cans with water being carried in buckets from available water sources. Where a suitable water source is available, booster kits could include small-scale irrigation equipment (such as hydraulic ram pump and

pipe/hose systems) or farm-based water management systems (such as storage tanks), allowing farmers to better cope with seasonal weather patterns, drought and natural disasters, to improve product quality and consistency, wash produce, develop water based postharvest cooling systems and reduce labour demand for watering. Small scale rainwater harvesting systems are also an option for storing irrigation water for use in dry periods or when water sources are not easily accessible;

- ***Extension and advisory services*****:** this will include capacity building in good agricultural practices, such as integrated pest and disease management, climate smart agriculture, sustainable land management practices, nurseries management, production planning, post-harvest management, primary processing (such as grading and packaging) and farm business management. The project will support multi-benefit approaches that deliver multiple benefits for production, poverty reduction, environment and climate resilience. Main features of the project strategy for providing extension and technical advisory services to growers, which will be developed with the international technical assistance, are as follows:
    - Capacity building will be provided along participatory approaches and in line with the family-based approach (participation of husband and wife), building on FPDA-developed Model Farm approach, and the training of Village Extension Workers (VEW) (also see Annex 1). Model farms provide technically sound participatory learning on small scale, commercial production of selected crops. A model farm is a plot of about 0.5 hectare that is made available by a lead partner as a collective learning plot catering to a group of about 50 growers. Farmers learn together and hands-on topics such as basic agronomy applicable to the crops, crop planning, plant care and protection, soil management, crop nutrition, harvesting practices and relevant climate change mitigation practices. Practical sessions include construction of a nursery, land preparation, soil conservation, drainage, pest and disease management and on-farm safety practices. Model farms also assist farmers to better understand the needs of formal end markets and become more market driven in their farming practices. VEWs selected among the group of farmers involved in the model farm get more intensive training so that they are able to provide ongoing technical advice to the group, getting a modest stipend. The VEW learning programme will include production, post-harvest management, market linkages, farming as a business and farmers' organisation, along a gradual approach;
    - Model farms will be the starting point for farmers' organisation and can evolve into farmer hubs for developing a more diversified range of services (such as input delivery, collection or primary processing), depending on partnership interest. This will be assessed after one year of partnership formation with evaluation criteria including the types of services the partnership would like to organise collectively within the hub and how they intend utilising and managing the hub facility. Farmer hubs could potentially be developed and managed based on the same principles evident within model farms that is a strong market focus, emphasis on the benefits of participation such as the ability to aggregate and better prepare products for formal end markets, collaborative decision making, clear definition of roles and responsibilities and allocation of same and strong community involvement. Farmer hubs are a practical means for facilitating farmer organisations and also the building of trust between value chain actors (growers, buyers, distributors and end markets) by way of providing a forum for enhanced communication and information sharing;
    - The most appropriate extension services for each partnership will be evaluated and determined during preparation of partnership proposals and will be reflected within respective partnership business plans. In practice, for example, confirmation within the business plan of specific production and postharvest activities needed to meet contractual market objectives will be reflected in the design of the model farm established within that partnership;
    - Extension and advisory services will be greatly enhanced by further development of a Management Information System, which will benefit all the partnerships (and is therefore handled in Component 3), as access to smartphones and associated technologies are enjoyed by an estimated 95% plus of smallholder families in the target provinces. The MIS will provide immediate access to technical production and postharvest information covering the range of crops grown and marketed commercially in MVF-supported partnerships. The MIS

will also incorporate crop specific marketing information and updates for business and crop planning purposes and hence support the development of commercially focused farming groups and organisations. The on-demand availability of the MIS will constitute an invaluable resource particularly for smallholders and VEWs in remote areas. The MIS will also ensure consistency in the dissemination of production and postharvest best practices within the various extension modalities utilised within MVF;

- ***Machinery and equipment*** for improved production, processing, storing and transporting. mechanised farming equipment; product harvesting, collection and packing equipment and facilities, cooling and storage systems; other specialised equipment (such as an onion dryer or produce washing system); enhanced grading and packaging systems; and dedicated fresh produce suitable transport (such as trucks fitted with refrigerated containers to maximise mobility and commercial flexibility). Equipment would be fitted with generators to provide an alternative power source when needed. It may also include tablets for accessing ICT-based services such as extension, marketing related information, value chain case studies and access to industry networks developed and implemented within the Management Information System (Component 3);
- ***Business development and partnership management:*** this would include capacity building for mostly micro, small and medium lead partners (see above) so that they can operate sustainable, profitable business sourcing from village farmers and supplying markets with growing quality requirements. This could cover both business management training and mentoring. It could also cover market development such as marketing exposure tours, support to the negotiation of supply agreements/contracts with catering companies and other end buyers, or setting up standard compliance and quality assurance systems. Access to market information would benefit the whole value chain (as opposed to specific partnerships) and is handled in Component 3. It would also cover partnership management costs for medium and large partnerships.

14. The sub-component will support partnerships for crops that have comparative advantage and can be sold at a competitive price

15. **Step 3: Screening.** The PMU will screen EOIs to determine which proposals will be further developed into full partnership agreements, based on the following criteria: (i) eligibility of partners and proposed investments; (ii) experience and capacities of the Lead partner; (iii) number of potential beneficiary households; (iv) target markets and technical requirements; (v) estimated financial, social and nutritional benefits; and (v) risks. Preference will be given to partnerships that: (i) offer equitable opportunities for participation by men, women and youth; (ii) incorporate specific measures to facilitate the inclusion of disadvantaged and vulnerable groups; and (iii) address the need for smallholders to adapt to climate change.

16. **Step 4: Family-based approach.** Once partnership proposals have been pre-selected, preparatory community-based activities will be implemented in the partnership target areas, with the objective of: (i) ensuring broad community information and consultation with a view to gain the community's free and prior-informed consent as well as community support to partnership development and implementation; (ii) increasing the capacities of participating farming households to take advantage of project benefits, notably through financial education; (iii) empowering women so that they access project benefits alongside with men, within the family unit; (iv) raise awareness on good nutrition practices; and (v) engaging the community to create a supportive environment for household level activities and to support broad inclusion. This will be achieved by implementing the family-based approach, which is described in Appendix 2. The approach is based on the concept of a family unit as an inclusive way to work as a smallholder family: family heads, man and woman, determine together farming goals, financial goals and general family goals.

17. Two financial education trainings will be delivered separately. The first training will target all households participating in the partnerships and will consist of two modules, one on household budgeting, and the other on savings. Each module will last one day. At the end of this first training, all households will be invited to open a current account and a savings account at the financial institution of their choice. The second, two-day training will concern about 30% of all participating households and will focus on mobile phone banking.

18. Community support will be sought to facilitate the implementation of the Family-based approach and to support households' participation in the development of partnerships. In particular, the capacities of community structures will be built to facilitate the inclusion of more vulnerable households in the partnerships. Community structures will also have an important role in securing sustainable tenure arrangements between landowners and vegetable growers, building on the recommendations of the scoping study. All communal land uses will be covered with voluntary land use agreements (Clan Land Usage Agreements) between the partnerships and the land owners.

19. The family-based approach will not be delivered through partnerships because: (i) activities involved fall out of the competence of Lead partners; (ii) they will benefit the community as a whole and are therefore considered as public goods; and (iii) they will give capacity to farmers to enter into a partnership agreement The approach will be implemented by a consortium composed by CEFI, who is also the implementing agent of Sub-component 2.2 – Financial Inclusion, and an international NGO with recognised experience in household-based methodology in the context of PNG. More details on the Family-based approach are in Appendix 2.

20. **Step 5: Preparation of partnership proposals.** Applicants approved at EOI stage will be provided with assistance from a business development service provider (BDSP) to prepare full partnership proposals. The assistance package will include:

- ***Due diligence of the lead partner(s),*** including capacity assessment and risk analysis;
- ***Preparation of a partnership agreement,*** detailing the contractual arrangements between the buyer and the farmers and their respective obligations, including: (i) volumes and quality of produce to be supplied by the farmers and that will be bought by the lead partner; (ii) quality specifications, modalities for quality assessment and in case of lack of conformity; (iii) terms of delivery (conditioning, timing); (iv) pricing, price revision modalities and payment modalities; (v) services to be provided by the partner and related modalities; (vi) modalities for risk sharing; (vii) modalities for communication (farmers' representation and communication channels, especially in the larger partnerships) and mechanisms for dispute settlement (preferably on an amicable basis, and building on PPAP's procedures for grievance); and (vii) role of the PMU and of the Provincial teams. Partnership agreements will also incorporate reference to the community awareness and consultation process (see Step 4) and a commitment by farmers to protect partnership assets;
- ***Preparation of a business plan:*** the 5-year business plan should describe how the partners will achieve contractual objectives, including the organisation of production and marketing and service provision to farming households; partnership investments and modalities of implementation; expected financial, social and nutritional benefits and expected portion of the final value added accruing to farmers; risk management, in particular environmental and financial risks, and measures for sharing risks between farmers and buyers; measures to ensure sustainability; provisions for partnership management and for M&E. It will include a 3-year financing plan detailing the total cost of the partnership, how each partner will contribute to the costs (including through value chain financing), the amount sought from financial institutions, the amount of incentive funds to be provided by the project (see below) and the cost per farmer.

21. **Step 6 - Approval and signature of partnership agreements.** Partnership proposals will be reviewed by the PMU to make sure they meet more detailed assessment criteria, as well as management, procurement, financial, and M&E requirements. Once cleared, proposals will be sent to an independent Technical Appraisal Committee (TAC) for review and endorsement, and then to the Project Steering Committee for final approval. TAC will be composed of independent personalities with recognised technical, social, economic or management competences, who will be invited to provide their advice and feedback on the partnership proposals, on the model of PPAP's TAC. Partnership agreements will be signed by partners, FPDA and the PMU.

Partnership Implementation

22. **Number of partnerships.** The number of large, medium, and micro Lead partners engaged by the project and the number of farmers they would partner with cannot be pre-determined since it will depend on EOIs received and developing into full partnerships. Indicative numbers are given in Table 1, based on assumptions derived from FPDA experience, on a rough mapping of the different categories of traders and assessment of their capacities. These indicative numbers were determined

for the sake of sizing project allocations for partnership financing. In reality, the PMU will be accountable for delivering project benefits to 22,000 fresh produce farmers involved in partnerships – but the proportion of micro/small/medium/large partnerships can, and most probably will, be different than what is illustrated in Table 1.

Table 1: Indicative number of partnerships and farming households

	Number of partnerships (A)	Number of HH groups per partnership (B)	Total number of HH groups (C=A*B)	Number of HH per group (D)	Total number of HH (E=C*D)
Large lead partners	2	20	40	50	**2,000**
Medium lead partners	50	4	200	50	**10,000**
Small lead partners	100	1	100	50	**5,000**
Micro lead partners	100	1	100	50	**5,000**
Total	**155**				**22,000**

23. The number of farmers per type of partnership is calculated on the basis of groups of 50 farmers, which is the average number of farmers that a VEW can cater for. As shown in Table 1, each of the large lead partners is expected to engage with and support about 20 groups of farming households each and a total of 2,000 households. Medium sized lead partners are each expected to work with about four groups/VEWs each and a total of 10,000 farmers. MVF will support around 100 small lead partners and VEWs farmers, together with 5,000 farmers, as well as 100 micro lead partners. The latter will not support farmers' groups as they are based in wet markets but will extend marketing and post-harvest management advisory services to about 50 farmers each.

24. **Phasing.** Table 2 shows the phasing of partnerships and related number of households by year.

Table 2 – Phasing of partnerships and households

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Provinces phasing in	0	2	3	0	0	0	
% of partnerships phasing in	0%	20%	30%	50%			100%
Micro partnerships phasing in		**20**	**30**	**50**			**100**
Total		20	50	100	80	50	
Small partnerships phasing in		**20**	**30**	**50**			**100**
Total		20	50	100	80	50	
Medium partnerships phasing in		**10**	**15**	**25**			**50**
Total		10	25	50	40	25	
Large partnerships phasing in		**1**	**1**				**2**
Total		1	2	2	1		
Total number of partnerships		**51**	**76**	**125**			**252**
Total number of HH		**4,640**	**6,960**	**11,600**			**23,200**

25. **Financing modalities.** Partnerships will be supported for up to three years. Different financing modalities will be applied for capacity building, equipment and value chain coordination within each partnership:

- *Capacity building* will be extended to farmers, as well as micro, small and medium lead partners. It will be financed 100% by the project, with the exception of capacity building extended to medium lead partners for which a contribution of minimum 10% will be required;
- *Equipment.* Equipment will be considered for both growers and all partners with the exception of large lead partners. Investments will be financed by three financing sources:

- *Partners' contribution*, to be provided both by lead partners and by farmers. It is expected that partners' contribution will amount to a minimum of 10% of the envisaged investment;
- *Credit*, which will be made accessible by participating financial institutions or through value chain financing, using financial instruments developed with project support (see Sub-component 2.2 – Financial inclusion);
- *Project incentive grant,* to promote innovation as well as to decrease perceived risk, both for farmers and for buyers. For semi-subsistence farmers, changing their low-cost cultivation practices for the promise of bigger revenue by indebting the family is perceived as a major risk that could worsen their already precarious situation rather than improving it. The incentive grant, together with financial and business education, will facilitate farmers' adoption of innovation and successful implementation of their obligation in the partnership. As for buyers, the incentive grant aims at facilitating their involvement in partnerships with smallholders and in accepting the responsibility to supply them not only with a market but also with a bundle of services that they will have to organise and deliver. The incentive grant on productive investment will only be made available once, after which partners are expected to resort to credit or self-financing. This will be facilitated by the financial education delivered under the family-based approach (where one of the expected final outcomes is that all participating households have opened a bank account) and by the collaboration with partnering financial institutions covering the target area, as described in Component 2;

- ***Value chain coordination.*** Specific and specialised advisory services for medium and large lead partners will be cost-shared over two years as outlined in Table 2.

26. The project contribution to partnership costs, i.e. the incentive grant, will be limited to a percentage, which will vary according to the type of investment and beneficiary, within an established ceiling. In other words, while the partners will be free to include any type of investment and activity in the partnership, the project will only finance part of them, based on pre-established rules that will be advertised in the call for EOI. These will include the obligation for partners to mobilise their own contribution.

27. Table 3 details financing modalities for the different categories of eligible investments for farmers and for each category of lead partners. It also indicates the minimum beneficiaries' contribution as well as the ceiling for investment to be considered for the calculation of the project incentive grant. To simplify table 3, support extended to growers has only been mentioned once but will be included in small, medium and large partnerships (not in micro partnerships).

Table 3 – Types of partnership investment and financing modalities

Stakeholders	Capacity Building			Investments			Value chain coordinator		
	Detailed activities	Project Financing	Benef. Contrib.	Detailed investments	Project Grant	Benef. Contrib. *(1)*	Detailed costs	Project Grant	Contrib.
Micro Lead Partner	Include: Entrepreneurship training, business management training and business support services during 1 year and refresher courses 2 years later	**100%**	**-**	Include: Business management tools such as tablets and product handling equipments such as storage crates, scales	**40% for an investment capped at US$ 1,000**	**60%**	n.a.		
Growers	Include: Technical advisory services and technical training as per model farm structure developed by FPDA during 2 years (1 day per week during two years)	**100%**	**-**	Include: Start-up kits inclusive of: basic irrigation elements, shade cloths, knapsack spray, seed trays, safety gears and necessary soil and plant nutrition inputs and pest and disease management inputs	**40% for an investment capped at US$ 500**	**60%**	n.a.		
Small Lead Partner	Include the same activities as for micro lead partners plus marketing study tours	**100%**	**-**	Include: Fully-equiped nursery and 1st year crop inputs, machinery and equipments such as hand tractor, cultivation and/or post-harvest equipment.	**40% for an investment capped at US$ 5,000**	**60%**	n.a.		
Medium Lead Partner	Include the same activities as for micro lead partners plus marketing study tours	**90%**	**10%**	Include: Refrigerated truck(s); packing and packaging equipments; walkabout coldstores; cold stoarge facilities; back-up generator	**40% for an investment capped at US$ 50,000**	**60%**	Include provision for 120 days of advisory services from SPs per year for 2 years to deal with production, organization, market and distribution, logistic constraints	**70% 1st year - 30% 2nd year**	**30% 1st year - 70% 2nd year**
Large Lead Partner	n.a.			n.a.			Include provision for specialized and specific advisory services amounting to a maximum of US$ 62,000 for two years	**70% 1st year - 30% 2nd year**	**30% 1st year - 70% 2nd year**

(1) Contributions can be made by the beneficiary either from his/her own resources or from borrowed funds from financial institutions including suppliers' credit for growers.

28. **Implementation modalities.** The PMU will issue detailed guidelines, which will provide a detailed description of the sequence of activities described above and of related modalities of implementation. They will also serve as a basis for providing training and capacity building to Provincial Teams and service providers involved in implementation. Guidelines will form part of the PIM.

29. Key features would be as follows:

- *Start-up kits and machinery/equipment:* a four-party arrangement between the lead partner, the PMU, a financial institution and a partnering supplier (the latter selected through competitive bidding organised by the PMU and/or the Lead Partner) will secure direct payment to the supplier, who will deliver the goods to the partnership (supplier credit – see Component 2);
- *Extension and technical advisory services:* training will be provided by VEWs and contracted extensionists or extension service providers, with FPDA providing orientations and overseeing;
- *Market development and business development:* services will be provided by service providers identified through the initial scoping study.

30. MVF-financed incentive grants will be managed by CEFI.

31. Once approved by the PMU, the partnership business plan will be presented by the lead partner, on behalf of the partnership, to one/several financial institutions (FIs) participating in the project for obtaining credit. A copy of the business plan will also be submitted to CEFI, who will review eligibility to the incentive grant, in line with the specifications of Table 2, and will notify eligibility to the relevant FIs. CEFI will transfer the amount of the incentive grant to the FI, once the lead partner and growers will have: (i) agreed on the terms and conditions offered by the FI of their choice; (ii) signed the loan contracts, and (iii) transferred their contribution to the FI. Suppliers of equipment/services will be directly paid by the FI. Details on the type of credit accessible through participating financial institutions are provided under Sub-component 2.2 – Financial inclusion.

32. Access to financial institutions and to credit will be facilitated by the financial education provided through the family-based approach, with the objective of reaching around 80% of the target households opening a bank account and/or a savings account with partnering financial institutions. Moreover, the recently enacted Personal Property Act, which allows individuals to provide financial institutions with registered movable assets as collateral, should ease access to financial resources including for farming households. Once the regulation is approved, which may require some time, the PMU (through CEFI) will fine tune the financial approach of the project accordingly.

33. **Resource centres.** PPAP experience suggests that village-based resource centres (covered area with cement slab) used as training and storage facilities greatly contribute to strengthen farmers' groups and collaboration between groups. Resource centres, their use and operation modalities will be programmed jointly by partners and Provincial Teams during partnership implementation. Resource centres will provide suitable facilities for farmer hubs that not only offer a venue for participatory learning, but become the starting point for farmers' organisation and for developing a more diversified range of services (such as postharvest training and extension, input delivery, collection or primary processing) - harmonised within the family-based approach.

34. **M&E and overseeing.** The Lead partner (in collaboration with VEWs/lead farmers) for each partnership project supported by MVF will be required to submit brief progress reports to support each request for disbursement of the next tranche of funding from the project, as described in the specific Partnership Agreement. The PMU will device a template for the progress report, which will be attached to the Partnership Agreement. Progress reports should be brief in length so as not to burden project partners, but include at least the following information: financial summary, main activities and achievements against partnership agreement/business plan (including with regard to marketing), number and description of beneficiaries, and support received by beneficiaries. Progress reports will be signed by the representatives of the partners (lead partner and others).

35. Provincial teams headed by FPDA and composed of district staff (see Appendix 5) will oversee partnership implementation, in line with the specifications of the partnership agreement. They will also provide capacity building to lead partners and VEWs to organize M&E and prepare progress reports.

36. CEFI will report on a monthly basis to the PMU on grants, disbursed amounts, and key indicators to monitor the investment (such as return on investment, projected increase in the turnover, profit, benefit for farming households, number of jobs created). Lead partners will be required to maintain accounts showing how the grant proceeds were used, and to allow audit of these accounts if requested.

37. Every year, a partnership meeting will be convened, with representation of the Provincial team, to review implementation results and challenges, solicit feedback from partners and address any issues affecting smooth implementation. If needed, consensual amendments to the partnership agreement will be agreed upon and signed. Annual partnership meetings will also facilitate the tracking of good practices to feed into FPDA/the project knowledge management system. They will also offer an opportunity to identify issues that should be put on the table of the Multi-Stakeholders' Platforms (see Component 3).

Sub-Component 1.2: Galip Nut Supply Chain

38. The sub-component aims at promoting an additional source of income for cocoa smallholders, by taking advantage of the stock of galip trees planted in their cocoa gardens and opening a new market for the commercialisation of galip nut. While research programmes in galip nut production and manual processing conducted by NARI and ACIAR over the last decade show commercial potential, private investors are deterred by the absence of a proof of concept to sustain their investment and decrease the risk inherent to setting up a new industry.

39. **Situation analysis.** An analysis of achievements of the current ACIAR/NARI project[17] has shown the following:

- *Upgraded processing:* the pilot factory has progressively increased capacity and is now selling product into formal markets in East New Britain, with excellent response. Equipment and methods for commercial production are being developed for mechanised production, including the installation of an 8 ton drier, a new mechanical cracking machine, ovens and a cool storage container;
- *Purchase of nuts:* production has increased since the project commenced in June 2015, as indicated by Table 4.

Table 4 – Production at NARI's pilot galip nut processing plant

Year	Nut in pulp purchased	Processed product	No of farmers selling
2014	Small volumes (<1000 kg) for research trials	<200kg	N/A
2015	11 tons nut in pulp	Approx. 1.1 tons	243 smallholder farmers
2016	26 tons nut in pulp	Approx. 2.5 tons	647 smallholder farmers

  Further increase is contingent on efficient plant operation, but also on the stock of nuts available for selling at farmers' level;

- *Resource base:* close to one million seedlings have been distributed only in East New Britain (further planting has occurred in New Ireland by a private investor/plantation owner), which add to the stock of wild galip trees. However, there is no knowledge of how many seedlings have actually been planted, where and in what shape they are, especially after the major El Niño related drought of 2015-2016, oil palm encroachment on cocoa plantations (which has also affected intercropping with galip trees) and recent incursion of a weevil affecting seedlings imported from Bougainville. The current ACIAR/NARI project includes a resource based assessment to be carried out by NARI. While results are not yet available, it appears that this exercise is of a limited scope (only one district covered in East New Britain with limited sample) and will not be sufficient to size the available stock – comprehensive data is however critical to size the processing capacity of the potential new commercial plant, build marketing projection, promote nurseries and planting, and ultimately ensure the viability of the new plant and the growth of the industry;

[17] Enhancing private sector-led development of the canarium industry in PNG.

- *Market tests:* the University of Adelaide, through the ACIAR project, has supported the development of four lines of products: two roasted whole kernel products produced at the pilot plant, as well as a spread and cookies (using broken nuts) to be produced by a major food manufacturing company in Port Moresby. Agreements are now being negotiated with the food company and retailers and the launching of the new products is expected to coincide with the next galip season (starting in June 2017). However, it is estimated that the domestic market ranges in the order of 20,000 consumers, which is not sufficient to launch any private sector investment. Further market research is needed to target export markets, as well as to clarify market access requirements;
- *Plant operation:* the plant is installed in NARI's premises at the Kerevat research station and is operated by NARI's staff. While they have accomplished a remarkable job so far, they struggle to manage the plant and carry out their regular duties with minimal resources. Aside from time and resource limitations, they also have to face a lack of specialisation in business management, which is likely to become a constraint once the plant will need to operate at full capacity to start serving a wider, Port Moresby-based market;
- *Organisation of supply chain:* the ACIAR/NARI project is focusing on processing and marketing, but the modalities and costs for harvesting and for organising the supply chain from farmers to plant, have not yet been addressed. It is assumed that the collection, aggregation and transport of the galip nuts should build on existing, organised cocoa supply chains where possible, so as to benefit from existing collection points and transport system. This however remains to be tested. Besides, farmers have been delivering their nuts directly to the plant, which may be a viable alternative that needs to be further assessed;
- *Industry roadmap:* while there is growing interest in a future galip industry, the current lack of vision and of a clear and phased strategy to achieve it is a major obstacle, as it prevents concerted action and the orderly and coordinated intervention of public and private stakeholders. The ACIAR/NARI project has set up a Reference Group composed of potential private investors of different sizes, which may constitute the starting point of a public-private multi-stakeholder platform, whose role would be to develop a roadmap for developing a galip nut industry.

40. On the other hand, the ACIAR/NARI project has undoubtedly created a momentum: several private sector players have expressed interest to engage in the new industry as either processors or retailers, there is increased interest of farmers to grow galip trees, including outside of PPAP, and the Fresh Produce Industry Working Group set up with support from the Pacific Horticultural and Agricultural Market Access Program (PHAMA) has included galip nut among priority crops for export.

41. **Approach.** While the situation assessment carried out by the design mission reveals that there is potential for developing a new industry and that a number of building blocks are being laid out by the ACIAR/NARI project, it also shows that these will not be sufficient to demonstrate a viable business model to support private investment into a commercial plant. IFAD engagement will enable to provide the missing elements in areas that are better tied to an investment fund than to a research organisation. Besides, key activities envisaged (partnerships and commercial operation of the pilot plant) will provide direct benefits to farmers, while the remaining ones will help in setting up an enabling environment for further scaling up.

42. IFAD will organise its interventions in two phases. In the first, preparatory phase, it will finance a set of activities aimed at complementing ACIAR/NARI efforts to demonstrate a profitable business model for a commercial galip processing plant. The preparatory phase will be implemented over the first two project years, by the end of which IFAD will commission an independent study to assess whether achievements of the ACIAR/NARI and of IFAD preparatory phase enabled the development of a viable business model for private investment into a commercial plant. If that is the case, IFAD will provide further support with a view to facilitate private sector into a full-fledged private-sector owned, commercial plant, along modalities to be defined based on a feasibility study. If there is no viable business model yet, then the balance of resources budgeted for Sub-component 1.2 will be reallocated, based on proposals to be made by the first interim review.

43. **Preparatory phase.** Investments in the first phase will cover the following:

- *Galip nut resource assessment study:* the study will aim at identifying the stock of wild and planted trees, their age and condition, as well as farmers' willingness to harvest nuts for selling. It will also explore possible modalities for nut collection and transport in the different target areas (cocoa collection system, agents, plantations…). It will be coordinated by NARI and will combine geospatial technologies (such as remote sensing or UAV technologies/drones) and physical surveying of areas known to have large number of galip trees, based on available assessments and PPAP records. This would likely cover (parts of) four districts in East New Britain (Gazelle, Kokopo, Rabaul and Pomio). Areas to be assessed will be aligned with farmers' access to the road network or to boat transport. NARI will seek assistance from experts at the Forestry Research Institute and the Remote Sensing Lab at the University of Technology (Lae), which will also facilitate the purchase of satellite imagery. Physical surveys will be coordinated by NARI and implemented in partnership with PPAP cocoa Lead Partners, the University of Natural Resources and Environment (students) and District Agriculture Officers, who will receive prior training;
- *Commercial operation of NARI's plant:* with assistance from a specialised consultant, the PMU will set up a management operating system whereby NARI will lease the pilot plant to a private manager selected through competitive bidding, who will agree to manage the plant and its operations over a minimum of two seasons. This will enable the commercial operation of the plant with adequate resources and skills, for increased buying capacity from farmers, higher efficiency and generation of knowledge in view of a possible scaling up. The management agreement will include a business plan and will specify the modalities of partnering with the current ACIAR project so that the pilot plant can benefit from technical assistance and operate as a pilot, i.e. trial different scenarios for processing and marketing and ensure close monitoring and detailed documentation of achievements. IFAD will pay the operating costs of the pilot plant over two seasons;
- *Organisation of supply chain:* building on the resource assessment, the plant manager, with support from the PMU Galip Nut Manager and Production and Value Chain Systems Manager (see below), will organise the supply of galip nuts, with a view to ensure that the plant can be used at its maximum capacity. To best serve the purpose of the trial, different channels, with different modalities for collection and transport, will be used from different locations. These will include agreements with two major trading companies that have confirmed their interest in investing in a future commercial plant, Agmark and East New Britain Development Corporation (ENBDC). Agmark is a private company, with over 6,000 shareholders, of which a majority of smallholders, and ENBDC is owned by the province of East New Britain. They both are cocoa exporters and have an established supply chain for the collection of cocoa beans (including storage facilities) that will be used to organise the galip nut supply chain. They both are Lead Partners for PPAP. Other channels could include agreements with agents, plantations, PNG Growers' Associations, districts… or just rely on extensive dissemination of information to farmers in the target areas, and will be explored during the resource assessment. IFAD will finance the working capital for purchasing the nuts, as well as the cost of an information campaign every year, in areas that will be selected based on their availability of resources (building on the resource assessment);
- *International market study:* the study will be undertaken by the University of Adelaide (which is co-implementing the ACIAR project) building on preliminary work carried out for Vanuatu and in partnership with PHAMA. It will target Australia and New Zealand potential buyers, with a view to assess market potential and position galip nut products on the Australia and New Zealand markets. It will include market analysis and market tests with retailers, processors and five-star hotels. Furthermore, PHAMA will conduct a market access study to identify market access requirements prevailing on the domestic and on the target export markets, and make recommendations to adapt processing accordingly;
- *Study tour to the Philippines:* a study tour to the Philippines will be organised to earn knowledge about the canarium (*pili)* industry and explore possible transfers of knowledge and technology;
- *Industry roadmap:* the project will build on the Reference Group set up by ACIAR/NARI project, with a view to upgrade it into a public-private multi-stakeholder platform and develop a roadmap for the development of a galip nut industry in PNG. This activity will be implemented under Component 3.1;

- *Independent assessment study:* the independent study will aim at assessing whether the conjunction of ACIAR/NARI project achievements (terminating in June 2018) and IFAD-financed activities provide sufficient assurance that there is a case for private sector investment in a profitable commercial processing plant that could serve domestic and export markets. The assessment will cover all the steps in the tree to market chain, including nut production, supply chain organisation, processing and marketing, and will analyse costs and revenues at the various steps.

44. **Preparatory phase timeframe.** At project inception, the resource assessment study and the international market study will be launched by the PMU (through the Galip Nut Manager). In addition, the PMU will contract an international consultant, who will carry out a rapid due diligence of NARI's plant, will draft the lease agreement for NARI's pilot plant and will prepare the relevant documentation for the bidding process required to select the manager/management team for NARI's plant. The consultant will also prepare a 3-year business plan (including financial projections based on technical and commercial assumptions from the current level of NARI's plant production – see preliminary projections in Annex 2) for the pilot plant and draft a set of reporting documents to be used by the manager/management team of NARI's plan. Once the lease agreement and management contract have been signed (in due time for the 2018 galip nut harvesting season), the selected manager/management team will manage the plant in a cost-effective and profitable way and, with support from the Galip Nut Manager, will organise the galip nut supply chain. Before the start of the second galip nut harvesting season, the PMU will organise the study tour in the Philippines. The Reference Group/Industry Working Group, extended to all galip nut value chain stakeholders, will regularly meet to learn and discuss plant results and experience, and, with support from technical assistance, will define the key priorities of the development of the galip nut industry and elaborate the industry roadmap. The independent assessment study will be carried out after the end of the 2nd galip nut harvesting season.

45. **Investment phase.** If the independent assessment is successful, it will also include recommendations as to how to promote private sector investment into a new, private-sector owned commercial plant. A budget allocation has been set aside for providing further IFAD support to the scaling up. It is expected that it could cover the following pre-investment activities: (i) full feasibility study; (ii) call for expression of interest from potential investors and due diligence; (iii) business plan preparation; (iv) support to investment; (v) partnerships with farmers along the model used in Sub-component 1.1; (vi) family-based approach training and financial education to farmers. Possible options are discussed in Annex 3.

46. Further IFAD investment in the galip sector will however also be contingent on the GoPNG securing a new phase to the ACIAR/NARI project, so that private sector investment can be matched by public investment into further research needed to increase nut productivity (good agronomic practices and tree selection), production (propagation) and marketing (market development studies). The management agreement with the manager of NARI-owned pilot plant will be extended for a third season, to bridge the gap with the entry in operation of the new commercial plant. ACIAR/DFAT have already indicated their interest in further promoting research in support of the nascent galip nut industry and of IFAD investment.

47. **Monitoring and Evaluation**. The plant manager partnership will be required to submit brief quarterly progress reports, in line with the management agreement. The PMU will device a template for the progress report, which will be attached to the management agreement. At the end of every season, MVF will Every year, a meeting of the Multi-Stakeholder Platform will be convened to share results (see Component 3).

Implementation Modalities for Component 1

48. The implementation of Sub-component 1.1 will be the responsibility of FPDA Production and Value Chain Systems Manager, in collaboration with the Production and Value Chain Systems Manager. In every target province, a Provincial Team headed by an FPDA middle manager and staffed with two seconded district extension staff will be responsible for implementing the sub-component activities. International technical assistant will be available to provide methodological support and technical guidance.

49. The implementation of Sub-component 1.2 will be the responsibility of a Galip Nut Manager, who will be based at FPDA provincial office in Kokopo. The independent assessment will be carried out by two short-term consultants hired by IFAD.

50. Details on the implementation structure are in Appendix 5 and terms of reference for the technical assistant are in Annex 4.

COMPONENT 2: SUPPORTIVE VALUE CHAIN INVESTMENTS

51. While Component 1 is focusing on partnerships, Component 2 aims at complementing interventions in support of specific partnerships, by addressing cross-cutting bottlenecks affecting the development of a whole value chain. This component therefore aims at: (i) facilitating farmers' access to markets by unlocking production areas through road spot improvements; and (ii) improving the access of farming households and other stakeholders in the value chain to adapted and affordable financial services extended by a range of viable financial institutions. The expected **outcomes** are that feeder roads to key production areas are practicable and maintained, and that at least 18,000 farming households have access to credit. The **main outputs** will be: (i) 50 km of feeder roads to key production areas are practicable and maintained; (ii) up to 10 districts have maintenance arrangements in place to sustain feeder road practicability after spot improvements;; and (ii) 9 financial institutions with increased outreach and capacities extend adapted financial products to farming households. Component 2 includes two sub-components: (i) Spot improvements of feeder roads and (ii) Financial inclusion.

Sub-Component 2.1: Spot improvements of feeder roads

52. **Road selection.** The strategic framework for selecting investments to be financed by the project (mini-programmes of spot improvements) builds on PPAP experience and will be as follows:

- The selection and prioritisation of investments will be undertaken within the scope of the partnerships supported under Component 1, to maximise the provision of complementary benefits through the reduction of constraints in geographical target areas;
- Investments will be financed by three complementary financing sources (province budget, district budget and project grant), which will ensure maximum leverage of available resources;
- Investments will only be implemented once sustainable, resourced commitments for their long-term maintenance are secured;
- A sustainable framework for maintenance of facilities and transport routes should be achieved through partnership between the private sector, districts and/or provincial governments, sharing responsibility and costs;
- Investments will focus on spot improvements and maintenance of existing assets to maximize available resources and avoid increasing the burden of maintenance on stakeholders through the provision of new facilities.

53. A key element of the framework, therefore, is the relationship with partnerships identified in Component 1: these will have to be formed before any consideration is given to the identification of spot improvements. Individual partners and the Project Management Unit (PMU) will work together to identify, screen and prioritise market access infrastructure within the partners' geographical area of operation. The nature and scope of the infrastructure will be designed to support the improvement strategy of the partnership and considering the market access infrastructure constraints identified after performing a technical review of the existing situation. Spot improvements will benefit the fresh produce partnerships exclusively, given the limited resources available and the anticipation that the collection and transport of galip nuts will build on the cocoa transport network, which is also benefitting from investments financed by PPAP.

54. **Type of works.** While it is expected that most investments will be directed towards carrying out spot improvements on district access and feeder roads to remove 'pinch points', thereby providing all weather access, other types of critical infrastructure will be considered, e.g. walking tracks and

footbridges, ropeways or 'flying fox' aerial transportation[18]. Other, non-transport infrastructure improvements may include warehouses and/or cold stores for improved storage of vegetables at strategic locations on partnerships' supply routes, subject to confirmation (based on the scoping studies) that there is a need for such collectively owned storage facilities (which could not be confirmed by the design mission). The public works investments will be limited to low-maintenance or maintenance-free spot interventions, primarily works constructed in concrete and/or masonry. For road improvements this will involve culverts and headwalls, lined drains, tyre paths on steep gradients, low-level river/stream crossings (drifts/'Irish crossings') and small span log bridges. All investments will be specifically designed and constructed to require minimal maintenance.

55. **Scope and timing of investments.** It is anticipated that over the life of the project, one or more spot improvements will be implemented in up to 100 different locations in around 30 districts spread approximately equally among the five target fresh produce producing provinces, over four years from Year 3 through Year 6 (with preparation starting Year 2).

56. **Selection of spot improvement programmes.** The preparation of market access infrastructure investments will involve a process of identification, data collection, consultation with stakeholders screening and evaluation of individual candidate sections of infrastructure. The prospective sub-projects will be identified in collaboration with the partnerships formed under Component 1, through an initial invitation to each partnership to nominate candidate sub-projects for prioritisation assessment, which will determine the location of the sub-projects. Proposals will be ranked based on pre-established criteria, including cost benefit analysis and resourced commitments form relevant districts. Only those programmes that include 50% financing from the relevant district will be taken into consideration.

57. The preparation of individual sub-projects will involve consultation with, and the active participation of, all stakeholders to obtain their agreement to the scope and nature of the investment, and the roles and responsibilities of each party in the future operation and maintenance of the infrastructure, once rehabilitation is complete. The range of possible stakeholders includes various levels of government, community groups, customary landowners and private sector.

58. The following steps will be followed during the annual preparation process for infrastructure within the target area of each partnership:

- ***Initial list of priority improvements*:** in Years 3 to 5 the PMU will annually invite all newly established partnerships to consult internally (lead partner and farmer groups) and externally (with local level government and district administrations) to identify, agree and submit a list of the top four priority access infrastructure improvements within their operational area as candidates for project funding. The submission will clearly set out the reasons why the proposed sub-projects are priorities based on: (i) the condition of the asset to be improved, (ii) the number of partnership farmers that will benefit and (iii) the volume of production affected. It will also include a preliminary estimate of the scope and cost of improvement works required. Finally, the submission will confirm that each of the proposed sub-projects meet the agreed eligibility criteria for project funding, in particular a commitment in principle to 50% matching funding from the district, in principle using DSIP resources[19], and a commitment to long-term maintenance by the stakeholders. Only eligible candidates will advance to the next stage;
- ***Field screening and confirmation visits*:** the PMU Road Engineer, with assistance from consultants as required, will undertake field visits to each partnership to: consult with the stakeholders; confirm the identity, scope and cost; assess the likely benefits of each candidate sub-project; and screen the sub-projects to eliminate those that do not meet the project eligibility criteria. To minimize the possibility of project infrastructure development resulting in serious adverse social or environmental impacts, all candidate sub-projects will be screened against a wide range of potential impacts (e.g. temporary and permanent impacts on surface water,

[18] Cableway or ropeway supported on pylons, with hooks, baskets or trays that can transport a single sack of produce from a collection point on a hilltop or high ground to a delivery point on lower ground, or across a river or gorge, and which uses gravity or a small motor to move the goods. On a cableway, or ropeway, the cable or rope moves over pulleys – with a flying fox the cable or rope is stationary and the load is suspended from a pulley on the rope.

[19] Because of the requirement for each infrastructure works investment to be 50% financed by DSIP funding, the preparation process in each year will need to be closely aligned with the annual DSIP budgeting and allocation cycle – see table.

gardens and plantations, pedestrian and vehicle safety, extracting construction materials, noise and dust levels etc.);

- *Ranking of priority sub-projects* - the PMU Road Engineer, with assistance from consultants as required, will undertake a careful cost/benefit assessment of all confirmed eligible candidate sub-projects to establish a transparent ranking list of priority investments for that year's implementation program;
- *Confirmation of DSIP funds:* at this stage the PMU will seek formal written confirmation from the District Administrators in all districts of ranked priority projects, that District Services Improvement Programme (DSIP) funding to the value of at least 50% of the engineer's estimated cost of works is available and has been budgeted in the district budget;
- *Sustainable maintenance assessment*: the PMU Road Engineer, with assistance from consultants as required, will discuss the proposed future maintenance framework with the stakeholders of each ranked sub-project to assess and obtain the commitment of the public and private parties to undertake the necessary routine and periodic/emergency maintenance over the life of the asset;
- *Recommendation:* the PMU will annually prepare and submit its recommendations to the Technical Appraisal Committee (TAC) for approval to implement the top-ranked sub-projects (subject to available project component funding);
- *Memorandum of Understanding (MoU)*: a MoU covering the scope, financing, implementation and future maintenance arrangements of the asset will be negotiated between and signed by the parties, with PMU facilitation. The MoU will set out the roles and responsibilities of the parties: partnership (represented by the Lead Partner), district/provincial administrations, communities, PMU.

Table 5: Annual preparation process for infrastructure (starting in Year 3) and DSIP annual cycle

Activity	**Timing**	**Responsibility**	**Expected Duration**
Call for proposals	01 March	PMU	(Event)
DSIP budget preparation			
Proposal preparation period Deadline for return of proposal Field screening & confirmation Cost/benefit ranking Confirmation of DSIP funds	March / April 30 April May / June July August	Partnerships Partnerships PMU PMU Districts	2 months (Event) 2 months 1 month 1 month
DSIP budget ceilings announced	August / September		
Sustainable maintenance assessment	Sept /October	PMU	2 months
Recommendation / TEC approval	November	PMU / TEC	1 month
DSIP budget approved by District Team	November		
MoU negotiations / agreements	Nov / December	PMU	2 months
DSIP budget proposals submitted to Office of Local Development	December		
Detailed design / bid documents	November / mid-December	PMU / Consultants	1.5 months
Bid period / evaluation	Mid-Jan / February	PMU / Consultants	1.5 month
DSIP funds available	February		
Award of works contracts	01 March	PMU / consultants	(Event)

59. **Implementation.** The implementation phase can be considered as three separate, repeated stages, all managed by the PMU Road Engineer, with technical support as required from outside consulting firms:

- *Pre-construction stage:* site investigation leading to detailed design of rehabilitation works, preparation of tender invitation documents, bidding and evaluation process, and award of works contracts, bidding through public tender or shopping procedures under Provincial Tenders Boards, evaluation process, and award of works contracts;

- *Construction stage:* construction of the infrastructure;
- *Operation and maintenance stage:* introduction of sustainable maintenance regime for completed sub-projects.

60. **Technical support.** Outside consulting firms will be contracted through the PMU to provide technical engineering support during the preparation and implementation stages as required. This is likely to be in the form of back-up resources for field visits to confirm the scope and cost of candidate sub-projects, nominal engineering design of individual works once selected, and support in preparation of bid documents and evaluation of bids, all in close cooperation with stakeholders and local authorities. During implementation, the consulting firms will be responsible for construction supervision and works contract administration.

61. **Works procurement and contracting**. All construction works will be publicly procured and contracted under the auspices of the Provincial Tenders Boards processes and in accordance with IFAD rules. While it is a requirement in PNG that all international donor-funded works should be procured through the Central Supplies and Tenders Board (CSTB) – a very time-consuming process - it is expected that all works contracts in this sub-component will be below the CSTB threshold of PGK500,000.

62. **Financing.** Investments in public infrastructure will be cost-shared between the project and districts, using the District Services Improvement Programme (DSIP) allocation. The remaining 80% will be financed by a Market Access Facility, which will pool MVF funds and provincial funds from their Province Services Improvement Programme (PSIP) allocation, and will be established under the form of a Trust Account (applying the same model as formerly ADB-financed SSS Programme). The basis of province and district financing will be as follows:

- *Provinces:* at least four annual contributions of PGK1.0 million from each of the five provinces where fresh produce partnerships are established. The project will establish a Financing Facility for Infrastructures through a joint bank account opened by the PMU, which will receive core IFAD funds and annual PSIP funds.
- *Districts:* to be eligible for project funding, all sub-projects will require to have committed matching funds from the district on a 50/50 basis. As it is expected that individual sub-projects will cost in the order of PGK0.5 million, the district contribution would be on average PGK0.25 million per sub-project. This would represent a commitment of less than 10% of its current annual DSIP infrastructure allocation of PGK3 million. Depending on the geographic spread of priority investments, one district could expect to see requests for three or four contributions over the life of the project. Provincial administrations will raise awareness of districts as to the opportunities offered by the project and will promote and facilitate their committing and delivering resources.

63. All provinces have confirmed willingness to contribute as indicated above. As for districts, the competitive selection approach, and provincial authorities' facilitation, should also facilitate district financing as planned. Finally, as discussed during the design mission with provincial and district stakeholders, the possibility offered to provinces and districts to leverage their funds and to programme infrastructure in support of specific economic development activities is expected to constitute a major incentive to contribute.

64. Districts and provinces will also be required to commit sufficient resources for providing future periodic maintenance services to public infrastructure assets that will be constructed under the project. This commitment will be enshrined in the MoU to be signed by the parties.

65. **Maintenance framework.** The framework for long-term maintenance of improved public infrastructure assets will be a memorandum of understanding (MoU) between private and public stakeholders - the partnership entities (Lead Partner and farmers) on the one part and the district and provincial administrations on the other – whereby the partnership entities will undertake simple routine maintenance (drain clearing, vegetation cutting etc.), while the public administrations will carry out periodic and emergency maintenance using their own budget resources. The project, through the Road Maintenance Specialist), will work closely with the stakeholders at the location of each investment, to develop understanding among the parties of the need for long-term maintenance, to provide training in simple but effective maintenance methods, and to develop and distribute manuals for maintaining specific improvements.

66. Other works will be subject to an agreed operations and maintenance regime to be undertaken by the facility owner.

67. **Increasing climate resilience.** The spot improvements will incorporate measures to increase climate resilience of the improved assets. All drainage conduits (lined drains, culvert pipes, drifts, log bridges etc.) will be designed for a longer flood return period (e.g. 20 years instead of 10 years) to provide a lower probability of annual exceedance. This will result in all conduits being a size larger than otherwise, which although causing marginally increased construction costs, will provide assets that will be capable of passing heavier floods generated by the increased rainfall intensity and frequency predicted to result from climate change over the design life of the assets.

Sub-Component 2.2: Financial Inclusion

68. This sub-component aims at improving access to affordable and diversified financial services for farming households and other value chain stakeholders that can unlock access to markets and services for farmers. This will be achieved by supporting financial institutions to bridge the gap with farming households and other value chain stakeholders in rural areas that have limited access to financial services. The sub-component will aim at: (i) increasing the outreach of selected financial institutions in rural areas; (ii) developing innovative financial products and services meeting the needs of farming households and other relevant value chain stakeholders; (iii) reducing the risk for farming households and lending financing institutions through simple risk-sharing mechanisms; and (iv) building the capacities of financial institutions for a better assessment and increased financing of agriculture-based projects.

Due Diligence Exercise

69. **Target financial institutions.** The project will work with the three different types of institutions that compose the financial sector in PNG, i.e. commercial banks (4), non-bank financial institutions (6) and savings and loans societies (21). Preliminary discussions with the commercial banks and non-bank financial institutions (microfinance institutions and micro-banks) indicate that one to two commercial banks and six. non-bank financial institutions are willing to partner with the project. As for the savings and loans societies, most of them are profession-based societies (such as for police or teachers - 12 in total). Out of the remaining nine, only three are operating in the project selected provinces: two in East New Britain (East New Britain Savings and Loan Society and National Farmers, although this last one is currently under administration) and one in Eastern Highlands (Alekano).

70. **Selection process.** The selection of financial institutions to partner with the project will be based on a call for expression of interest launched by the PMU during PY1, followed by a due diligence exercise undertaken by an audit firm or an international financial consultant. Due diligence will review, for each applying institutions: (i) financial statements (liquidity position, risk and quality of the portfolio, current outreach); (ii) governance; (iii) manual of procedures, especially the sections on portfolio management and monitoring, risk assessment and management of the non-performing portfolio, and social and environmental safeguards procedures; (iv) medium-term development plan, especially growth of financial base, increase of outreach and ways to achieve it; (v) products and services; (vi) pricing; and (vii) current and projected geographical zones of interventions. The service provider (a consulting firm or a consultant) undertaking this assignment will also visit and meet the senior management of each responding financial institution. It will submit a report presenting the outcomes of the review with conclusions for each applicant to an ad-hoc selection committee that will be set up by the PMU with CEFI's assistance.

71. The ad-hoc selection committee will be composed of one representative from the Institute of Bankers, one representative from the microfinance industry, and one representative from the Central Bank (outside of the supervision department). A representative from the Department of Agriculture will be invited to the discussions, without voting rights, for the selection to take into consideration specific constraints and needs of the agricultural sector. The Project Manager will act as the secretary of the committee. It will review the conclusions of the due diligence exercise presented by the consulting firm/consultant and will submit a shortlist of financial institutions to the Project Steering Committee for approval. It is expected that the project will start working with at least six financial institutions (i.e. one commercial bank, three non-bank financial institutions and two savings and loan societies). The number of selected financial institutions will also depend on their coverage and presence in the target

provinces. The ad-hoc selection committee will ensure that at least two selected financial institutions are operating in each province to promote competition and a wider range of financial services. The project will then gradually include at least three more financial institutions and one savings and loans society before its completion (one commercial bank, one non-bank financial institution and one savings and loan society). In that respect, another round of due diligence exercise will take place during PY4, following the same modalities.

Support to Financial Institutions

Business development plan. Considering the important differences in the status of development among the three different types of financial institutions, the project will adopt an à-la-carte support approach. Once financial institutions have been selected, the same service provider who did the due diligence will work with each selected financial institution to identify their needs with regard to: (i) outreach; (ii) products and services; (iii) risk-sharing mechanism, and (iv) capacity building. It will then develop a business development plan to be approved by the PMU and the ad-hoc committee.

72. **Outreach.** With more than 92% of the rural population unbanked, outreach of financial institutions is a key issue that will be addressed by the project. Based on the development plan of each selected financial institution, the project will support any of the following sets of activities, in line with activities described in the business development plans:

- ***The development of agents' networks covering the selected provinces.*** Agents constitute the most effective way to increase financial institutions' outreach in rural areas and the Central Bank has built on Kenya's legislation on agents to ensure their monitoring and control. Participating financial institutions will have the opportunity select and recruit new agents, who could also be Village Extension Workers. The project will partly finance the training costs of these agents and will decreasingly cover their operating costs. It will also co-finance any required mean of transportation for the agents;
- ***The development of points of services specifically adapted to people with a low degree of literacy*** (based on a similar experience in an IFAD-financed project in Swaziland [20]). Points of services could take various forms: units opened a few days per week (generally during market days) operated by one bank staff and with limited banking activities (deposits, repayments of loans, submission of loan applications); units opened at the level of a model farm (operated by agents or bank staff) with limited banking activities; automated teller machine with a few key banking functions (deposits, cash withdrawals). The type of points of services supported by the project will be based on assessment of the security conditions prevailing in the region. The project will co-finance the construction/rehabilitation and equipment of these points of services, as well as decreasingly finance their operating costs;
- ***The further development of mobile money applications that will ease access to finance.*** This support will mainly be for commercial banks and leading non-bank financial institutions. The support will be anchored to the current development of mobile money and will aim at adding new applications aiming at facilitating the access to financial services. In close collaboration with financial institutions and service providers, the project will co-finance the development of new applications (transfer of money from any mobile phone, interconnectivity with agents and points of services, loan application submission, payments to third parties; transformation of goods into money, deposits and loans …) as well as co-finance related implementation (adaptation of the MIS and accounting systems) and operating costs (including users' training).

73. Financial institutions met during the design mission have already expressed their interest in partnering with the project and most of them have already identified one or two of the innovations proposed above in their development plans. Most financial institutions would rather opt for the development of a network of agents combined with the development of digital money applications through tablets and interconnectivity with non-bank points of services such as shops or traders.

[20] Rural Finance and Enterprise Development Programme, http://operations.ifad.org/web/ifad/operations/country/project/tags/swaziland/1373/project_overview.

74. A lumpsum based on estimates provided by commercial banks and non-bank financial institutions has been provisioned in the sub-component budget to finance the development of their outreach through agents and through points of services. A lumpsum has been provisioned in the sub-component budget to finance any support related to mobile/digital money. Both lumpsums will complement resources already earmarked by commercial banks and non-bank financial institutions for the development of such activities/technologies.

Products and services. The objective of the project in assisting financial institutions to develop products and services is twofold: (i) reduction of the time gap between the flow of products from growers to end-markets and the related flow of funds from the end-users back to the growers; (ii) adaptation of current products and services and introduction of innovative, tailor-made products and services to meet the needs of project target groups. Because the project targets different groups from growers to micro, small, medium entrepreneurs and large companies, the range of financial products and services to be considered by the project is as large as required to meet substantially different needs. In addition, for every financial product meeting the needs of a specific target group, the project will have to address three related issues: (i) product design; (ii) training of potential beneficiaries and of financial institutions staff (as well as the adaptation of the financial institutions' MIS and accounting system), and (iii) the collateral requirement from the financial institutions to minimize their risk. These activities are mutually supportive and one cannot be implemented without the others.

75. Innovative products and services meeting the needs of project stakeholders along the value chain include the following:

- ***Financial instruments to reduce the time gap between flow of goods and cash flow***. While growers intend to be paid cash on delivery to fresh produce traders, these are being paid up to 90 days after supplying the end buyer (generally catering companies or supermarkets). As a result, traders are short of financial resources to ensure regular purchases from growers and supplies to end buyers. This results in a lack of incentive for growers to increase production and for traders to grow their business and invest into quality equipment, which results in the absence of continuity of the cold chain, lack of adequate storage facilities, lack of adequate packing and packaging equipment, lack of adequate means of transportation. The project will support financial institutions to implement two products well known in the global financial sector: (i) receivable financing (or factoring)[21], and (ii) non-invoice financing[22]. These two financial instruments aim at enabling the bank to advance funds to traders on the basis of: (i) invoices (receivable financing), or (ii) bills of delivery signed by the two parties (non-invoice financing), until end buyers have effectively processed their payment. These two financial instruments will enable traders to access sufficient financial resources to timely pay their suppliers, which will in turn enable growers to increase production and sales. Receivable financing and bills of delivery financing have already been tested in other Pacific Island countries by Bank South Pacific (BSP - the largest commercial bank in PNG with close to 75% of the market share), which has expressed its willingness to experiment it in PNG;
- ***Innovative savings products*** for education, health and future productive investments. The PNG Financial Inclusion Policy and the Central Bank have prioritized the development of savings accounts as a way to promote financial inclusion especially among rural households. MVF will support this vision through the promotion of financial education as part of the Family-based approach (see component 1). In addition, CEFI will have the possibility to reinforce its team with contracted international and national consultants to identify and assist partnering financial institutions in implementing or experiences elsewhere savings accounts that meet the needs and possibilities of rural households (especially considering their particular and irregular cash flow). Consultants will build upon existing experience in the country such as the Christmas saving account or Education savings account proposed by some financial institutions. It is expected that around 80% of the farming households supported under Component 1 would have opened a bank account and a savings account by the end of the project.
- ***Financial instruments as an alternative to simple loan products*** such as the following:

[21] Receivable financing is a type of asset-financing arrangement in which a company uses its receivables (outstanding invoices) as collateral in a financing agreement. In this agreement, a financial institution gives the original company an amount equal to a reduced value of the unpaid invoices or receivables
[22] A similar modality as above, but where the collateral is a bill of delivery, approved and certified by the end buyer.

- *Tri-partite financing agreement:* this is a mechanism that involves farming households, buyers and a financial institution, whereby the proceeds of a loan extended by a financial institution to a farmer for the purchase of inputs is transferred by the financial institution to the buyer, who in turn will purchase and provide the farmer with inputs in-kind. Upon farmer's produce delivery to the buyer, the latter deducts loan repayment from the final payment to the farmer, and transfers it to the lending financial institution. The loan contract will be signed between the framer and the financial institution. This mechanism is well-known in PNG for specific commodities like cocoa and coffee. It has also been implemented in numerous IFAD projects as a way to circumvent financial institutions' collateral issues;
- *Suppliers' credit:* (goods or services received on deferred payment terms - also called supplier financing). Financial education and monitoring of farming households will enable the implementation of suppliers' credit, especially for input suppliers who have no fresh produce trading activities. Suppliers' credit will be promoted by the project for the financing of inputs as required by growers (generally needed in small quantities, for which Savings and Credit Societies and small non-bank financial institutions offer adequate lending products, as confirmed during design). Suppliers will be assisted on a case-by-case basis by the project to develop such a financial mechanism, access better terms and conditions from financial institutions as well as with technical assistance on credit management.

76. **Temporary risk-sharing mechanism.** The implementation of innovative products might require the development of a temporary risk-sharing mechanism between the project and the financial institutions, especially when the projected financing operations are not covered by existing guarantee funds. There are two existing guarantee funds in PNG: one is financed by ADB and managed by CEFI for loans below PGK 100,000 and the other is funded and managed by IFC for larger loans. While they are not explicitly excluded in the types of financial operations that are guaranteed by these schemes, some of the new financial instruments (suppliers' credit, non-invoice financing, receivable financing) might not be eligible as they are not considered as loans by financial institutions.

77. In such cases, unless the guarantee fund managers agree to modify their eligibility criteria, the project will finance a risk-sharing mechanism consisting of a cash deposit at the level of each participating financial institution to cover possible losses. These cash deposits on interest-bearing accounts will be managed by CEFI and be based on the outstanding loan portfolio, projected loan disbursements and risk-sharing arrangement. When a loss occurs, the lending financial institution will call in the risk-sharing mechanism and submit the necessary documentation to an ad-hoc committee consisting of a financial expert, an agriculture/fresh produces expert and CEFI Managing Director. The committee will review the documentation, estimate the share of the loss to be borne by the mechanism and submit a request for payment to the PMU. Upon PMU's approval, CEFI will transfer the related amount to the lending bank in two tranches: one no later than 30 days after the call-in, and the second and final tranche 120 days after the first tranche. Recoveries made by the financial institution after the two payments will be treated pari passu. Risk borne by the risk-sharing facility will not exceed 50% (the remaining risk will be borne by the lending financial institution). This risk-sharing mechanism will not be permanent and will not be accessible more than twice by the same beneficiary. It is a kick-start mechanism that will provide the opportunity to financial institutions to implement and test innovative financial products without bearing all the risk.

78. **Capacity building.** On the basis of prior capacity building need assessment, the project will build the capacity of financial institutions' staff through the provision of various training courses focusing on financing rural and agriculture-related activities, risk and project assessment and management, project monitoring and control. The capacity building need assessment will be undertaken by the same service provider as above, after the selection of the participating financial institutions partnering with the project is completed. A three-year training plan will be elaborated for each financial institution, in close collaboration with their training department. Training will be provided to financial institutions' staff in the loan and savings departments as well as to staff from senior management, internal control, legal and recovery department. Training will be provided jointly by CEFI and by the in-house trainers of the financial institutions (if any).

Implementation Modalities for Component 2

79. Activities under Sub-component 2.1 will be implemented under the overall responsibility of a Road Engineer in the PMU, who will plan, facilitate and oversee implementation. While it is expected that province and district resources will be made available as planned (see above Financing under Sub-component 2.1), the implementation set-up is geared towards sizing implementation support in line with the actual volume of resources available. The PMU will hire a consulting firm to be able to draw on additional qualifying engineers to support the PMU Road Engineer as required. Studies, supervision and works will similarly be contracted out. All contracts will be based on competitive bidding.

80. Sub-component 2.2 will be implemented by CEFI, which has developed strong relationship with the three different types of target financial institutions with the objective of strengthening the financial sector as a whole (a description of CEFI is in Appendix 5). The project will finance the cost of three additional staff (salaries and operating costs of a manager and two assistants), a vehicle, attendance to training courses in the region (in liaison with the Asia-Pacific Rural and Agricultural Credit Association (APRACA[23]), an exposure visit in the region (Vietnam or Thailand) to study the different instruments implemented to finance rural development and agriculture, and a share of CEFI's management overheads. For activities under sub-component 2.2, CEFI will be contracted at project inception and for its entire duration. CEFI will submit an Annual Work Plan and Budget to the PMU and will report on technical and financial progress against it on a quarterly basis.

COMPONENT 3 – COLLECTIVE GOVERNANCE AND PROJECT MANAGEMENT

81. Component 3 aims at **promoting a favourable policy and institutional environment** to support the development of inclusive fresh produce and galip nut value chains. It will also contribute to DAL efforts to reform the agriculture sector and to facilitate the participation of village farmers in agricultural growth. The expected **outcome** is that organised industry players contribute to policy development and sector coordination for inclusive industry growth. The **main outputs** from Component 3 will be: (i) two national, at least 3 provincial and 10 district-based multi-stakeholders' platforms (MSPs) created and trained; (ii) at least three policy and regulatory measures adopted and implemented building on MVF knowledge products; (iii) operational Management Information System (MIS) established at FPDA; and (iv) an annual set of evidence-based knowledge products posted on FPDA website as of year 3. Component 3 is organised in two sub-components: (i) Collective Governance; and (ii) Project Management.

Sub-component 1: Collective Governance

82. The project will finance activities in four areas: (i) value chain organisation and institution building; (ii) policy and business environment; (iii) research; and (iv) knowledge management and communication.

Value Chain Organisation and Institution Building

83. **Fresh produce.** In 2014, FPDA organised a national horticulture conference which brought together 300 industry stakeholders. The conference paved the way to developing new marketing and business linkages between suppliers and modern market players, chiefly supermarket chains and catering companies. It also laid the foundation of a value chain-based multi-stakeholder platform that would offer a venue to develop dialogue among value chain players. Financial constraints have not permitted to set up a permanent multi-stakeholder platform in the fresh produce sector. Meanwhile, the Pacific Horticulture and Agriculture Market Access Programme (PHAMA) has set up an Industry Working Group for Fresh Produce, composed of public sector (FPDA, NARI, National Agriculture Quarantine and Inspection Authority (NAQIA) and private sector (major growers, aggregators, transportation companies and wholesale/retailers). The group has one first meeting and aims at determining priorities and providing orientations to the sector development. PHAMA will come to an

[23] APRACA is a regional association that promotes cooperation and facilitates mutual exchange of information and expertise in the field of rural finance.

end in 2018. Building on these encouraging first steps, MVF will promote value chain organisation and coordination through two main channels:

- ***Supporting the Industry Working Group:*** taking over from PHAMA, it will provide tailor-made support to the Industry Working Group for Fresh Produce, so that it can develop its membership, expand its network at the local level and develop its capacities to represent member's interests. Activities would include: (i) a baseline study, which would assess achievements, the potential for expanding membership (including an identification and capacity-based typology of farmers' cooperatives and groups involved in the fresh produce sector), members' expectations, sustainability issues (especially with regard to financing); (ii) capacity building as required; (iii) support for meeting organisation;
- ***Structuring industry players at the local levels:*** to further support industry dialogue and to ensure that the Industry Working Group takes on board the views of larger panels of industry stakeholders, the project will support the creation of multi-stakeholder platforms (MSPs) at the provincial level and in districts that have significant concentration of production areas. MSPs will gather industry players (including VEWs and adequate representation of women growers) as well as other stakeholders from the public and private sector engaged in supporting value chain development, such as agri-dealers, financial institutions, transporters and logistics companies, FPDA delegations/Provincial teams, DPIs and district agriculture departments. MSPs will offer a venue to collectively address constraints affecting the industry such as transport and handling, build knowledge on successful experiences (in particular knowledge generated by the project - see below), promote understanding and trust among value chain players, and support advocacy and public-private policy dialogue. These chain relationships can be expected to grow as commercial marketing activities increase during MVF. In addition, provincial MSPs will have a role in identifying priority areas for policy studies and applied research to be financed by MVF (see below);
- ***Building linkages between value chain players:*** downstream chain actors have expressed a strong willingness to work with highlands growers and produce aggregators to address existing value chains constraints to their mutual benefit. Buyers in formal end markets, both retailers and food service companies, are beginning to develop formal supply arrangements with selected fresh produce suppliers, largely due to the impact of the import ban in 2015. These supply arrangements, such as bills of quantities or purchase orders, stipulate volumes to be supplied by product line, delivery schedules and predetermined prices (normally aligned to the current market price). Such business arrangements (which are required to implement innovative financial products such as receivable financing and non-invoice financing) will be promoted through the multi-stakeholder platforms as well as during partnership preparation.

84. A detailed strategy to implement these three sets of activities will be prepared by a specialised consultant to be recruited by the PMU in year 2. The strategy will specify the composition, organisation and mandate of the various platforms and identify the type of support that should be financed by the project, including advisory services, capacity building and meeting costs. It will also specify how to develop linkages before the various levels, and how to build on the outcomes of Annual partnership meetings (see Component 1). The strategy implementation will be under the responsibility of the PMU Policy Development Officer, with support of specialised consultants as required.

85. Furthermore, MVF will provide assistance to strengthen FPDA institutional capacity, based on FPDA's upcoming Mid-term Development Plan (2016-2019). Capacity building would support FPDA's ability to: (i) implement the project in an accountable and transparent manner, in line with GoPNG and IFAD procedures, and deliver project outcomes and outputs according to plans; (ii) track achievements and capitalise on good results to improve sector performance and inform policy dialogue; and (iii) promote inclusive and economically viable development of the fresh produce industry. This would also cover the provision of assistance to: explore the possibility of collecting levies to recover part of FPDA operating costs, as suggested by the Functional Expenditure Review, as well as ways to include a more balanced representation of sector private players (farmers and agribusiness) on FPDA board. Capacity building will be provided on the basis of annual participatory capacity assessments and capacity development plans, under the responsibility of FPDA Corporate Affairs Division.

86. **Galip nut.** A similar but simpler approach will be adopted in the galip nut sector, which reflects the fact that there is not yet a value chain and that activities will be of a more limited scope, as described above. The approach will build on the Reference Group set up by ACIAR/NARI project but will expand the current membership to include other stakeholders involved in the nascent value chain (farmers, public stakeholders, end market buyers - retailers and Paradise Food) and build an Industry Working Group. The project will assist the Working Group in designing a long-term (10-15 years) strategic plan providing a roadmap for development of the galip nut industry that could be used to attract private sector, government and donor funding support. The project will also assist in clarifying the organisation and mandate of the Working Group and provide support for its legalisation as needed. One meeting per year will be organised to present and discuss the results of the pilot plant.

Policy Development

87. MVF will contribute to enhancing the policy and regulatory environment in the target value chains. Studies and research required to address collectively identified constraints affecting industry development will be identified by the Industry Working Groups. Areas jointly pre-identified with FPDA during project design include:

- ***Quality standards and certification for domestic and export markets:*** this would include policy and legal provisions for grades and standards; single origin, participatory guarantee systems and branding; food safety and traceability; and export and certification for galip nut (including with regard to environmental and social standards such as international labour standards) and, if and when there will be market demand, for fresh produce. Progress in this field will facilitate farmers' access to quality-based premium prices, bring clarity to contractual arrangements with end market buyers (supermarkets and catering companies) and support export activities, particularly for galip nut. Activities will be developed in close collaboration with National Agriculture Quarantine and Inspection Authority and the National Institute of Standards and Industrial Technology as appropriate;
- ***Fair contract standards*****:** this would include the provision of standards for ensuring: more transparent contractual arrangements between farmers and buyers and further down the fresh produce chain (which will be a requirement to develop receivable financing - see Sub-component 2.2); fair contracting terms between farmers and buyers that would support a fair distribution both of benefits and risks; and fair mechanisms for the settlement of disputes;
- ***Import of quality inputs:*** this would support the regulation of imports of seeds and chemicals, to ensure quality standards and compliance with safety and environmental standards.

88. The project will finance: specialised technical assistance; policy workshops with industry stakeholders, either to support the preparation of policy studies or to present and discuss the results of such studies; awareness raising and capacity building; and exposure visits in the region.

89. **Policy dialogue.** The outcomes of policy studies and workshops, as well as project learnings and documented successful models will be disseminated under appropriate formats to relevant government policy making bodies and industry organisations, such as those described above. It is expected that the majority of policy instruments will be regulations, for which adoption is easier than laws and is the responsibility of the National Executive Council (NEC). Jointly with DAL, FPDA will prepare the documentation required and will submit it for approval to NEC through the Minister of Agriculture.

Research

90. Following the scoping study, the International Technical Assistance available to the project, in consultation with FPDA and other relevant industry stakeholders, will develop terms of reference for an initial study to better pinpoint and quantify the causes, location and extent of postharvest losses in the fresh produce sector. This work could be undertaken by NARI and the ITA working collaboratively. The study will make recommendations as to priority areas for applied research in the field of post-harvest management, for example : commercially viable mechanisms for reducing physical damage, such as modified/specialised fresh produce transportation systems and packaging technologies; cool chain interventions, such as postharvest cooling to quickly reduce crop field heat and reduce the rate

of product decay; upscaling of curing and drying technologies for applicable crops such as bulb onions.

91. Other areas for applied research activities in support to the development of the fresh produce sector will be identified in annual programmes to be developed jointly by FPDA (with support from the PMU/international technical assistance) and NARI, building on recommendations from the Multi-Stakeholder Platforms. Research outcomes will be made available to programme stakeholders, through the value chain platforms, the MIS and specifically designed training programmes to be delivered by service providers supporting the partnerships.

Information and Communication

92. **Fresh produce.** This set of activities will aim at strengthening information management systems necessary to support policy development and stakeholders' decisions in the fresh produce industry and to improve transparency in the sector. It will: (i) set up an effective information system within FPDA to ensure stakeholders' access to technical and market information; (ii) support ICT-based solutions for facilitating farmers' access to information; (iii) set up a project-based knowledge management system, which will track good practices, document successful business models and innovative schemes for facilitating farmers' access to inputs and markets and the cost-effective organisation of village farmers-based supply chains; and (iv) organise targeted communication campaigns around key policy and farming practice changes.

93. **MIS.** MVF will assist FPDA in enhancing its Management Information System (MIS), so that it becomes a cornerstone of industry knowledge management and provides industry stakeholders with technical and market knowledge to support decision-making, inform policy development and support the scaling up of good practices and successful business models. The enhanced MIS will include:

- ***Market information,*** building on the Market Information System operated by FPDA in partnership with Digicel, which makes available weekly average prices for 30 crops and 5 markets through mobile phones. The system will be improved to increase its relevance to farmers and buyers (who are interested in getting daily prices) and to make a more strategic use of the amount of data collected (by issuing markets and trends analysis). Market intelligence (including analysis of demand on specific markets, market studies, potential for certification etc.) would also be made accessible through the MIS;
- ***Technical advice,*** including information on technologies and production and postharvest best practices at each link of the value chain, on a product or product category basis as applicable. This will allow partnership members (growers and buyers), support personnel/agencies, distributors and marketers to access and utilise up-to-date, industry relevant information applicable to the project value chains;
- ***Stakeholder information,*** or information on suppliers and buyers, including business opportunities and networking forums;
- ***Weather information*** and climate change mitigation advice;
- ***Transport information*****,** such as shipping schedules and costs, road outages impacting on delivery of fresh produce consignments and best practices for road, sea and air freight of fresh products;
- ***MVF performance:*** the MIS will also provide information on MVF achievements, good practices and successful business models. Focus areas for KM will include public-private partnerships facilitating farmers' access to services and markets, and innovative financial instruments. Details on project M&E and KM are provided in Appendix 6.

94. The MIS will be developed progressively, based on interaction with users. This will include: a preliminary assessment of information needs of industry stakeholders, FPDA and the PMU; a phased approach to setting up the MIS, starting small to address priority needs and progressively adding new features; mechanisms for getting users' feedback and adapt the system and the procedures for collecting, verifying, storing, processing, analysing and presenting information.

95. The MIS will be placed under the responsibility of FPDA's Research, Policy and Communication Division, and specifically of the Communication and Information Manager. Short-term technical assistance will be provided to develop the MIS framework, guide its implementation, train FPDA staff and prepare a communication plan, in collaboration with the PMU Knowledge Management and Communication Officer and Senior PMU Officer, and based on the results of the scoping study, subsequent investigations and identification of established best practices in similar production and marketing environments. The MIS Development and Content Manager and their FPDA counterparts will have ongoing responsibility for ensuring MIS content is up-to-date, user-friendly and that communication delivery channels as described below are working effectively and meeting stakeholder needs. This will involve the MIS Development and Content Manager and his/her counterparts in FPDA working closely with persons and agencies responsible for developing and/or supplying MIS resources and information.

96. **Communication.** Information and knowledge will be shared through several channels, such as:

- ***ICT:*** in connection with the MIS, the project will explore ICT-based solutions such as radio, cell phones and tablets, for making information available to farmers and other value chain stakeholders, building on the IFAD/IFC study on linking farmers to fair trade buyers through ICT services (2014). Based on an expressed farmers' preference for getting information through mobile phones and building on the Market Information System, several ways of making available technical advisory services could be explored (including SMS alerts or bulk messaging, hotline, extension reference library accessible through VEWs' tablets etc.). The project will finance studies, a phased and cost-shared implementation plan, and part of development costs, together with FPDA and service providers. Assistance will also be provided to FPDA to develop its website and make it client-oriented and responsive to the needs of fresh produce stakeholders;
- ***Publications*,** including policy briefs capitalising on project learning, manuals and methodological tools, technical briefs, business model analysis, analytical case studies, etc.
- ***Communication campaigns*** around key policy and farming practice changes;
- ***Multi-stakeholder platforms:*** MSPs will also be used as a venue for discussing project achievements and innovations, identifying successes and problems as well as good practices, discussing possible solutions, and organising learning events on thematic issues. Multi-stakeholder platforms can strengthen relationships and build trust between value chain actors by enhancing understanding of the various roles, activities and challenges of chain participants and industry sectors;
- ***Study tours:*** study tours will be organised to support the exchange of knowledge and good practices, building on the learning route approach, building on the learning route approach implemented by IFAD in other countries. Learning Routes are an innovative approach to structure peer-to-peer learning on innovative practices, by complementing field visits with activities designed to ensure transfer and implementation of knowledge.

97. **Galip nut.** Similar activities will be organised to support galip nut industry development, with lesser intensity given the incipient stage. Knowledge management and sharing are however considered to be key to support sector development.

Implementation arrangements

The implementation of the sub-component will be the responsibility of FPDA Research, Policy and Communication Manager, in collaboration with the Component 3 Officer, the Knowledge Management and Communication Officer, FPDA Value Chain Programme Manager and the Component 1 Officer. Short term international technical assistance will be hired by the PMU to develop the MIS framework, ICT-based solutions and a communication strategy and guide implementation. Research activities will be implemented by NARI, through annual MoUs signed with the PMU.

Sub-Component 2 – Project Management

98. The strategy and activities related to Project Management are described in Appendix 5.

Annex 1 – Building on the FPDA Model Farm Concept

The following is a summary of how FPDA has developed the Model Farm concept until now, so as to engage groups of smallholders in learning activities designed to increase their interest and capabilities in growing fresh produce for commercial end markets. The Model Farm concept will be further refined for inclusion within MVF, building on the work done by FPDA to date: (i) the awareness campaign rolled out at the commencement of the MVF will include an explanation of the Model Farm concept and how it will be applied within partnerships developed during the project; (ii) discussion on the concept and how to best utilize the Model Farm within partnership activities will be continued with interested parties during the expression of interest and business planning stages; (iii) the grower-buyer relationships inherent within MVF partnerships will be reflected in how the Model Farm is managed and the learning content and inputs made available to partnerships will be a reflection of the specific production activities needed to meet market requirements, as described in each partnership business plan; (iv) service providers will undertake the training function previously done by FPDA extension personnel, with FPDA providing an overall facilitation and advisory role.

1. Model Farms are established for three main reasons; one, to increase the outreach of extension services provided to farming communities, two, to collectively provide technically sound learning outcomes to a large number of farming families and three, to help growers develop a commercial focus and understanding by encouraging and supporting them to develop systems to better supply large formal markets.

2. In 2014, the FPDA approach to providing extension services changed from being mainly “production driven" to “market driven" as FPDA focused on the needs of formal markets for the first time. The Model Farm concept was recognized as an extension model that focused on growers gaining a better understanding of the requirements of formal markets and was embraced as a key extension methodology accordingly.

3. Model Farms promote learning rather than teaching. Farmers are not told what to do (conventional training), but rather learn production techniques and skills practically by working on the Model Farm itself. The Model Farm learning approach has helped to overcome communication barriers and recognizes and helps compensate for low literacy levels among rural communities. The initial rate of uptake (that is growers moving on to produce new crops in their own right) ranged between 30-40 % in the first two years but is gradually increasing. FPDA has limited resources available for establishing and monitoring Model Farms but has been innovative in its delivery to maximize beneficial impacts. With further assistance provided to growers within the MVF project, including financial literacy and a continued family based approach it is anticipated that far better uptake outcomes can be achieved.

Steps in Implementing a Model Farm Project (current practice)

- A local project team is formed comprising of FPDA officer/s, local DPI officer/s (provincial/district), law enforcement agency (Police) and prominent community leader/s.
- An awareness campaign is then conducted to identify communities interested in participating in the project. The awareness campaign is conducted in marketplaces, at church gatherings, through provincial and district DPI offices, via local government agencies and by FPDA officers communicating with the broader community at large (word of mouth awareness).
- Interested communities are identified and a screening process commences. These communities are visited to discuss the concept in more detail. Consultations are held with local police, church leaders, councilors, village magistrates, DPI officers and local leaders to assess the standing of communities expressing an interest to participate. Communities with a poor standing (for various reasons) are eliminated from the process.
- After the first screening communities are revisited and further discussions held. Key tasks are assigned that must be completed before a second screening is undertaken. These tasks include (a) identifying and clearing a suitable piece of land between 0.5-1 hectare in size (the land has to be made available for free for the life of project) (b) obtaining fencing timber for the area allocated for the Model Farm (c) obtaining timber and other materials needed for construction of a Model Farm nursery.

- The second round of screening takes place after a month to allow communities sufficient time to complete their assigned tasks. Completion of tasks in a timely manner is considered a good indicator of seriousness and commitment to the project.
- FPDA provides Model Farm inputs such as certified seed, plant and soil nutrition inputs, pest control inputs, any simple irrigation components that may be needed and other basic equipment and materials. Community members provide free labor, bring their own farming tools and provide the timber for fencing the Model Farm site and constructing the nursery. FPDA and the community share the cost of fencing wire.
- The community also takes responsibility for hosting the officers providing training on the Model Farm.

The Model Farm Teaching Process

Initial Training

- The purpose and process for running the Model Farm is explained to participants from the start to minimize any disruption during implementation. Participants are informed of project expectations, their expected contribution and participation, processes for dispute resolutions, income management and farm management, including election of a committee for that purpose. Once the committee is formed, they take full responsibility for managing the Model Farm whilst FPDA officer/s provide an advisory role and focus on up-skilling of farmers. Local leaders are invited to meetings to help facilitate discussion and take responsibility for managing social issues. At the same time a VEW candidate is selected amongst the learning group based on VEW selection criteria. VEWs are supported by FPDA to provide an ongoing extension service to graduating farmers and other interested groups at the end of the Model Farm training process.
- Training is open to all members of the community who wish to participate. A training team comprising two FPDA extension officers moves into the selected community and spends a week in the village conducting on-site training. Farmers learn basic agronomy, plant care and protection, soil management and climate change mitigation practices (amongst other topics). Practical sessions include construction of the nursery, land preparation, soil conservation, drainage, soil sterilization, pest and disease management and on-farm safety practices.
- Once the initial training program is completed, ongoing Model Farm training activities start. One officer is able to supervise 5 model farms with 60-70 farmers per Model Farm. The officer ideally spends a day each week providing supervision at each Model Farm for which he or she has responsibility.

The Ongoing Training Process

- Farmers turn up at the Model Farm on an agreed day of the week with their own tools, whilst the FPDA officer provides supervision of learning activities.
- Training is segmented and delivered corresponding to crop production cycles. Farmers are given adequate time to learn and demonstrate their competency in the field. It takes 3 months to complete a training cycle for brassicas and 6 months for longer term crops including bulb onion. A farmer is expected to be trained and appropriately skilled after two training cycles. For example, one year of training will see farmers graduate with a sound knowledge of bulb onion production.

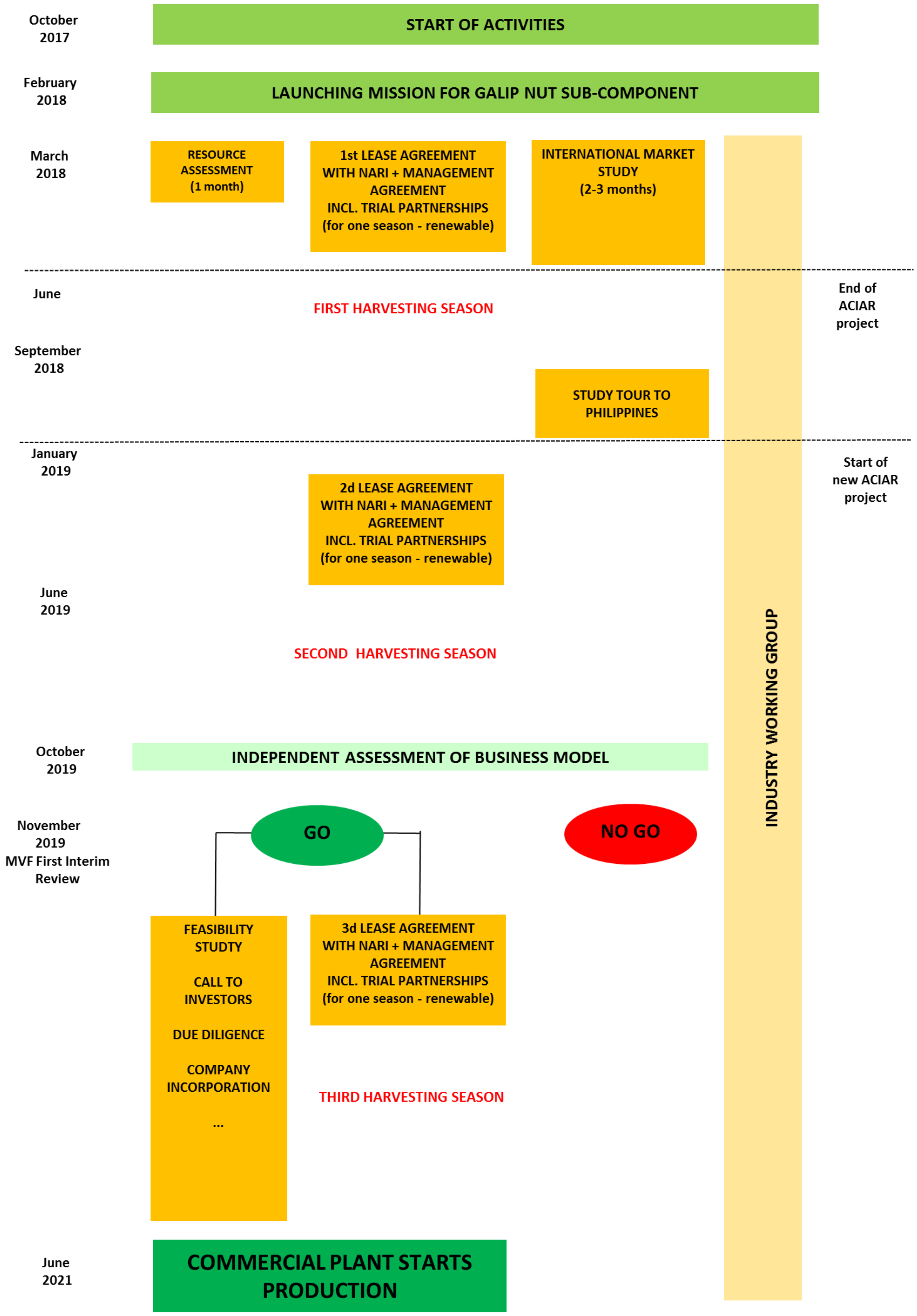
Continuing Development and Support

- Crops harvested from Model Farms are sold to long term formal markets organized by FPDA and income generated is kept in a Model Farm account. 30% of income per sale is used for Model Farm operations, including further purchasing of necessary crop production inputs. A small allowance is also paid to Model Farm committee members. At the end of the project, 10% of the account balance is used to support the person/s or family donating their land for the Model Farm to allow them to continue farming. The balance of income is kept in the account and distributed to graduating farmers to help in the purchase of production inputs necessary for them to farm independently.
- At this point, Model Farms may evolve into ‘Farmer Hubs’ which can become a point of consolidation and sales; quality checks and some postharvest handling and packing. Farmer

Hubs are an appropriate venue for meetings and farmer group development activities as well as providing a facility for the further dissemination of information and training for farmers.

- Trained VEWS continue to provide extension services among the farming communities and maintain a link with FPDA. FPDA provides ongoing technical and marketing support based on reports provided by VEWs.

Annex 2 – Sub-Component 1.2 – Galip Nut Supply Chain Indicative Timeline for Preparatory Phase



Annex 3 – Sub-Component 1.2 – Galip Nut Supply Chain
Indicative Timeline for Preparatory Phase – Financial Details[24]

1. Based on assumptions detailed in annex 1 of this paper and worked out after interviews with ACIAR, NARI and galip nut specialists, table 1 shows the Profit and Loss Statement for the current NARI's galip nut processing unit.

Profit and Loss Statement	2017	2018	2019	2020
Revenues				
Testa-on kernel 7%MC packed and delivered	307,795	554,031	1,108,062	3,077,951
Total Revenues	**307,795**	**554,031**	**1,108,062**	**3,077,951**
Expenses				
Purchase of raw materials	75,000	135,000	270,000	750,000
Sub-total production costs	75,000	135,000	270,000	750,000
Production staff salaries	38,866	62,963	113,334	283,334
Management fees	-	-	-	-
Energy and water	23,066	41,518	83,037	230,657
Freight	44,504	80,107	160,214	445,038
Marketing	50,000	50,000	50,000	50,000
Other running costs	10,000	10,000	10,000	10,000
Depreciation on 300,000 Equipment	60,000	48,000	38,400	30,720
Sub-total other operating costs	226,436	292,588	454,984	1,049,750
Total Expenses	**301,436**	**427,588**	**724,984**	**1,799,750**
Net result	**6,359**	**126,443**	**383,078**	**1,278,201**

2. With assistance from a specialised consultant, the PMU (under the responsibility of the Galip Nut Manager) will set up a management operating system whereby NARI will lease the pilot plant to a private manager selected through competitive bidding, who will agree to manage the plant and its operations over a minimum of two seasons. This will enable the commercial operation of the plant with adequate resources and skills, for increased buying capacity from farmers, higher efficiency and generation of knowledge in view of a possible scaling up. The management agreement will include a business plan and will specify the modalities of partnering with the current ACIAR project so that the pilot plant can benefit from technical assistance and operate as a pilot, i.e. trial different scenarios for processing and marketing and ensure close monitoring and detailed documentation of achievements. IFAD will pay the operating costs of the pilot plant over two seasons.

3. At project inception, the PMU will contract an international consultant who will draft the lease agreement for NARI's plant (after a rapid due diligence of NARI's plant) and prepare the relevant documentation for the bidding process required to select the manager/management team for NARI's plant. The consultant will also draft a set of reporting documents to be used by the manager/management team of NARI's plant as well as s/he will elaborate financial projections based on technical and commercial assumptions from the current level of NARI's plant production. Once the lease agreement and management contract have been signed (in due time for the 2018 galip nut harvesting season), the selected manager/management team will manage the plant following private sector principles and will organize the galip nut supply chain.

[24] Profit and loss statement and basic financial assumptions are based on detailed projections prepared by the University of the Sunshine Coast, in the framework of ACIAR/NARI project 'Enhancing private sector-led development of the Canarium industry in PNG', February 2017.

4. The lease fees will be calculated on (i) the estimated value of the equipment in the current NARI's processing unit (estimated at PGK 300,000) and (ii) the net profit after management fees. Lease fees will be equal to 10% of the estimated value of the investment and a decreasing percentage of the net profit before management fees (20%, 15% and 10% respectively for the first, second and third years of operations). The lease agreement will be made between the project and NARI.

5. The management fees will be calculated based on: (i) the turnover of the processing unit; and (ii) the net profit before management fees. Management fees will be equal to 10% of the turnover and 50% of the profit before management fees for the first year of operations. For the second year of operations, the management fees will be equal to 5% of the turnover and 20% of the profit. It is expected that at least 50% of the management fees will be paid from the company's profit and not by the project as for the first year.

6. The project will also finance the working capital of the processing unit. During the first year of operations, the project will finance 100% of the nuts to be purchased by the processing unit as well as 80% of the other operating costs. Cash inflows will only happen at the end of the processing season and therefore all operating expenses need to be financed by the project. For the second year, it is expected that the cash flow will enable the financing of 50% of the volume of nuts to be purchased, as well as 50% of the other operating costs. The remaining 50% will still need to be financed by the project as the cash-flow generated by the first year of operations will not be sufficient.

Basic assumptions for the NARI's current Galip Nut processing unit

Specifications		**2017**	**2018**	**2019**	**2020**
Processing season	days				
Nuts in pulp	kg	50,000	90,000	180,000	500,000
Tonnes testa-on 7%MC kernel recoved	kg	3,300	5,940	11,880	33,000

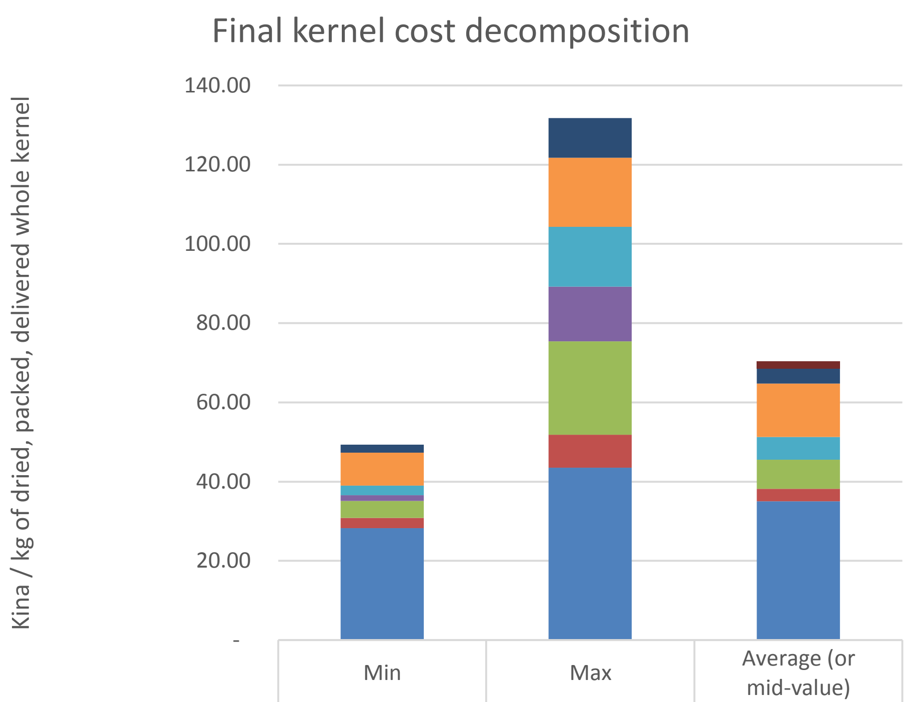
Production parameters	**unit**	**2017**	**2018**	**2019**	**2020**	**unit cost**	**2017**	**2018**	**2019**	**2020**
Testa-on kernel 7%MC packed and delivered	kg	3,300.00	5,940.00	11,880.00	33,000.00	PGK	93.27	93.27	93.27	93.27

Production costs						***Unit cost per kg of testa on product***			
Purchase of Nut in pulp	75,000.00	135,000.00	270,000.00	750,000.00	PGK	35.00	35.00	35.00	35.00
Wages:					PGK				
Depulp	7,631.34	12,362.77	22,252.99	55,632.46	PGK	2.88	2.59	2.33	2.10
Cracking	17,574.81	28,471.19	51,248.14	128,120.35	PGK	6.62	5.96	5.36	4.83
Drying, sorting, packing	13,660.02	22,129.24	39,832.63	99,581.57	PGK	5.15	4.63	4.17	3.75
Electrictiy	12,467.96	22,442.33	44,884.67	124,679.63	PGK	4.70	4.70	4.70	4.70
Gas	6,233.98	11,221.17	22,442.33	62,339.81	PGK	2.35	2.35	2.35	2.35
Water	4,363.79	7,854.82	15,709.63	43,637.87	PGK	1.64	1.64	1.64	1.64
Freight	44,503.80	80,106.84	160,213.68	445,038.00	PGK	13.49	13.49	13.49	13.49

Breakdown of costs per kg of dried, sorted, packed, testa off kernel

	Min	Max	Average (or mid-value)
Purchase	28.26	43.52	35.00
Depulp	2.61	8.34	3.19
Cracking	4.22	23.52	7.36
Testa removal	1.44	13.82	
Drying, sorting, packing	2.44	15.11	5.72
Freight	8.37	17.44	13.49
Electricity and gas	2.00	10.00	3.78
Gas			1.89
Water			1.32
Total	49.34	131.74	71.75

	Min	Max	Average (or mid-value)
Purchase	57%	33%	49%
Depulp	5%	6%	4%
Cracking	9%	18%	10%
Testa removal	3%	10%	0%
Drying, sorting, packing	5%	11%	8%
Freight	17%	13%	19%
Electricity and gas	4%	8%	5%
Overhead	0%	0%	3%
Total	49.34	131.74	71.75



	Min	Max	Average (or mid-value)
Gas			1.89
Electricity and gas	2.00	10.00	3.78
Freight	8.37	17.44	13.49
Drying, sorting, packing	2.44	15.11	5.72
Testa removal	1.44	13.82	
Cracking	4.22	23.52	7.36
Depulp	2.61	8.34	3.19
Purchase	28.26	43.52	35.00

Annex 4: Options for the Capitalisation of a Commercial Galip Nut Processing Plant

1. **Financing.** If the independent assessment concludes that there is a viable business model for setting up a commercial galip nut processing plant, MVF will support the creation of a limited company by shares, which will have the galip nut processing plant (building and equipment) as assets. Ideally, the financing of the company should be twofold: equity and long-term financing. However, considering the uncertainty around the galip nut industry, its novelty in terms of marketing and commercialization, as well as the limited experience with galip nut processing, accessing long-term financing from commercial banks might be a difficult challenge in the first years of operations. As a result, it has been considered that the company would be financed exclusively through its equity.

2. **Options.** Several options for the capitalisation of the galip nut company are possible. In order to further promote Private Public Producers Partnerships (4Ps), the design mission has elaborated a scenario that includes private and public investors as well as integrates galip nut producers in the capitalization of the company. For the latter, in the long term, revenues would therefore not only derive from the sale of nuts to the processing plant but also from the dividends distributed by the company. Such an institutional set-up associated with a buy-back mechanism for smallholders has already been successfully implemented by IFAD in different countries[25]. Other more classical capitalisation schemes could also be implemented without any participation of galip nut producers.

3. Along the first option, the company's equity would be subscribed by three categories of investors:

- *East New Britain Development Corporation*: ENBDC is the commercial arm of East New Britain (ENB) province and the only province-created company that is profitably operated and has subsided over the years. It has developed a range of activities, and is one of ENB major cocoa exporters. It is also a Lead Partner with PPAP. ENBDC has expressed its interest in supporting the development of the galip nut industry and in participating in the company's share capital. It could hold about 15% of the company's shares;
- *Private investors:* private investors will be scouted through commercial banks through their investment department. For that purpose, CEFI, the PMU and the management team of NARI's pilot plant (see preparatory phase) will prepare a one-page documentation with the main characteristics of the investment (amount, potential products and markets, marketing study and market positioning, financial projections and return on investment, Board representation, company's social mandate), to be distributed by the banks to potential investors. These could be from the private or public sector. Private investors might own up to 51% of the company's shares;
- *Galip nut growers or entities representing them such as cooperatives:* since galip nut growers have limited capacity to invest in the company's equity, the project will finance the company's shares on behalf of the growers. These shares would initially be held in trust by CEFI. Once the company would be profitable, dividends would be paid to shareholders. CEFI would keep 10% for itself and 90% would be distributed to galip nut growers/cooperatives in proportion of the amount of nuts supplied to the plant. A percentage of the dividends paid to the growers/cooperatives (50%) would be used to buy back shares held in trust by CEFI, until ownership would have been fully transferred to growers/cooperatives. Payments made by growers/cooperatives under this buy-back mechanism would be kept by CEFI and used to subscribe additional shares for later recapitalisation.

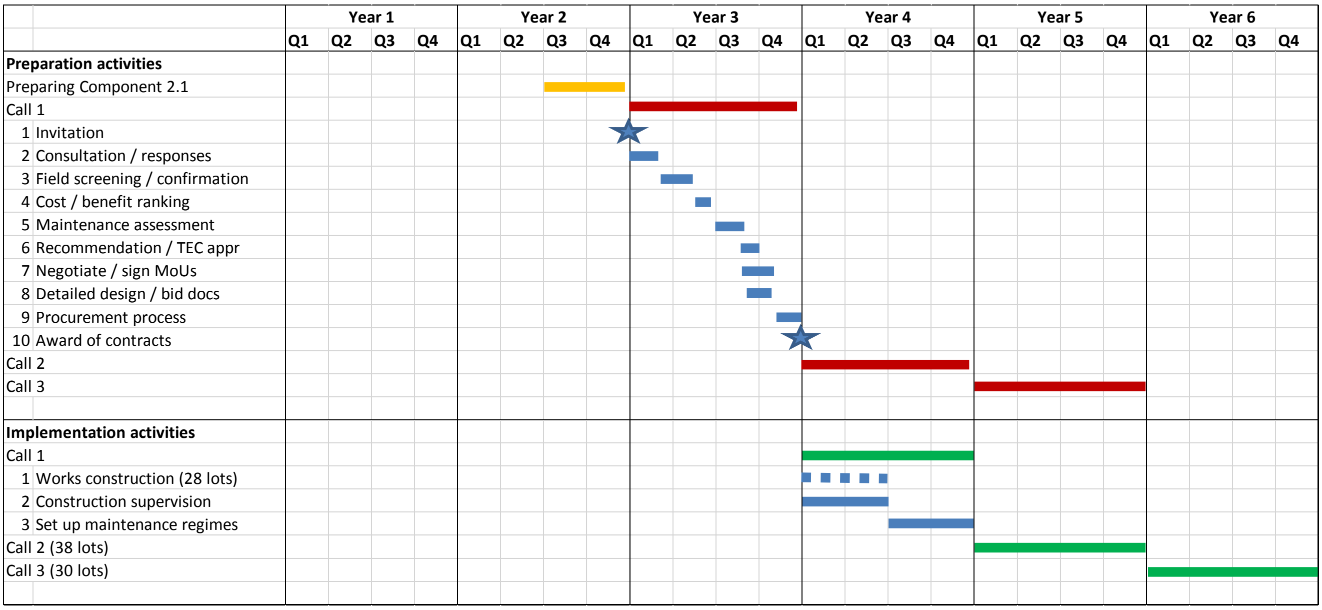
4. Percentages mentioned above are just estimated and would depend on the capacity of banks and investment companies to mobilise investors to capitalise the company. Should private investors not be interested in participating in the company's equity up to the percentage considered above, the percentage of shares held by CEFI/galip nut growers would be increased. In another words, the project would complement the resources injected by other investors to ensure the financing of the entire investment.

[25] Including (not exclusive): Yemen (Economic Opportunities Programme, Fisheries Investment Project, Rural Growth Project and YemenInvest – Rural Employment Programme), Moldova (Agriculture Revitalization Project), Armenia (North West Agriculture Service Project and Agricultural Services Project), Mozambique (Pro Poor Value Chain Development in the Maputo and Limpopo Corridors), Mauritania (Projet de Développement des Filières Inclusives), Cambodia (Accelerating Inclusive Markets for Smallholder).

5. **Grower Support Services**. The project will inform galip nut farmers (most of whom are also cocoa growers) about the projected venture and possible modalities of participation. MVF will then provide assistance to best organise growers' participation in the company's capital (as individual shareholders, or as cooperatives, or through a specifically created legal entity) and will provide capacity building so that growers/their organisations can fully exert their shareholders' rights and obligations. Capacity building and legal assistance will be provided by CEFI, which will hold shares in trust for farmers and will represent their interests for around 5 years.

6. Galip nut partnerships would be developed to provide extension services to farmers for harvesting and processing, and for the establishment of a nut collection network, to operate alongside existing cocoa collection system, where feasible.

Annex 5 - Timeline for Sub-component 2.1 – Spot Improvements of Feeder roads



Appendix 5: Institutional aspects and implementation arrangements

Background

Central and decentralised government institutions

1. **DAL.** The Department of Agriculture and Livestock is responsible for the development of policy and provides the overall guidance on the development sustainable agriculture and livestock production in the country. Main constraints identified by the 2014 Functional and Expenditure Review of DAL and Commodity Boards and Agencies include: the lack of statutory powers to oversee the action of the commodity boards and ensure service delivery in the provinces; up to 80% percent of the government's appropriation to DAL and its affiliates goes to the recurrent budget with bulk of it used for salaries and allowances; the performance of extension services is impaired by their operation independently from DAL (under district authorities - see below), confusion over financial responsibility, inadequate funding support and long delays in funds reaching districts.

2. FER called for a reorganisation of the agriculture institutional framework, with: (i) DAL refocusing on policy development and on the coordination and monitoring of policy implementation by commodity boards and provincial agencies; (ii) the creation of an Agriculture Investment Corporation to provide a funding and governance structure for the commodity boards and agencies; and (iii) the reorganisation of the commodity boards, to become responsible for regulation, farmer-driven research, business facilitation and the promotion of farmer-based SMEs. This includes the creation of a Food and Grains Board to be established through the merger of the Fresh Produce Development Agency (FPDA) with the National Agriculture Research Institute (NARI), which would become the lead agency for the food and grains sector, including fresh produce as well as alternative crops (which could cover galip nut).

3. A FER Implementation and Advisory Unit (FIAU) has been established at DAL with the objective of preparing the policy and institutional framework for the implementation of FER recommendations. Two legislative bills giving the sector its new configuration have been prepared: the Agriculture Administration Adjustment Act and of the Agricultural Investment Corporation Act (AIC). AIC will provide a funding and governance structure for the commodity boards. However the recent closing of FIAU and upcoming elections cast vast uncertainty as to whether and one the new legislation will be passed and implemented.

4. **FPDA.** The Fresh Produce Development Agency (FPDA) provides technical and market information to smallholder farmers and other key players in the horticulture value chain. FPDA also provides mentoring, agribusiness advisory and support services and post-harvest handling advice. The organisation has its headquarters in Goroka with regional offices located in Port Moresby, Lae, Kokopo and Mt. Hagen. FPDA's vision is "Food and nutrition secure and prosperous communities in PNG". Its mission is to "Maximise the efficiency and productivity of female and male farmers and others in the value chain to enhance development of a commercially and economically viable and sustainable horticulture industry". FPDA's second medium term plan (2016-2020) identifies six thematic areas as summarised in Table 1.

Table 1 – FPDA Programme Areas

Thematic Programme Area	Programmes and Projects
Productivity Improvement	Research and Technology Development Programme
Scaling of Production and Supply	Village Extension Worker Programme Potato Programme Bulb Onion Programme
Marketing Systems	Value Chain Innovation Programme
Information Management, Communication and Outreach	Information and Communication Programme ICT Project
Enabling Legal and Policy Environment	Policy Unit
Institutional Strengthening	Administration Human Resources Business Development

5. The FPDA Board oversees the functioning of the organisation. The management team consists of the General Manager and three Divisional Managers. FPDA is organised into three divisions: Production and Value Chains Innovation (PVCI), Research, Policy and Communication (RPC) and Corporate Affairs (CAD).

6. FPDA's 2016 budget is based on the grants appropriated in the 2016 national government's annual budget and supplemented by project funds from other external development partners such as ACIAR (Australian Centre for International Agriculture Research). The estimated total revenue for 2016 is PGK 9.1 million. The grants comprise PGK 6.7 million for recurrent expenditures and PGK 2.0 million for capital expenditures towards the development of effective value chain systems and increased supply of seed potatoes. The balance comes from other sources such as ACIAR. FPDA accounts are audited by an international audit firm. The latest audit (2014 financial year) declared that the financial accounts fairly presented the agency's situation and that they complied with International Financial Reporting Standards.

7. FPDA has been in the forefront of providing market driven extension, supporting farmers throughout the country to grow fresh produce, supplying both the formal and informal markets. Farmers have been trained to shift from subsistence to commercial farming and farming as a business, using innovative extension methods based on model farms run by lead farmers or village extension workers (VEWs). Lead Farmers, farmer-traders and contact farmers are trained. Over the last five years FPDA has supported about 13,600 contact farmers. However, the resources available to FPDA mean that only a small percentage of farmers participate in these schemes at any one time.

8. **NARI.** The National Agriculture Research Institute (NARI) is a publicly funded research organisation mandated to undertake agriculture research and development on food crops, alternate crops and livestock breeding and management. It also provides services related to resource management, technical, analytical and diagnostic services and serves as the data and information services hub for the agriculture sector. NARI works primarily with smallholder and semi-subsistence primary producers and carries out adaptive research including pest and disease management and post-harvest technology development and adoption.

9. **CEFI.** The Centre of Excellence for Financial Inclusion (CEFI) was created under the Association Incorporation Act and officially launched in 2013. CEFI is endorsed by PNG's National Executive Council as the industry apex body for coordinating, advocating and monitoring all financial inclusion activities in PNG, CEFI is an independent entity, founded by the Bank of PNG (BNPG) as a spin-off of ADB-financed Microfinance Expansion Project (MEP). CEFI established its Governing Board, with the Governor of the BPNG being the ex-officio Chairman. While the founding members of CEFI are the BPNG and the Department of National Planning and Monitoring, the Board also includes representatives from the Ministry of Community Development, the Ministry of Treasury, the Savings and Loans Societies Federation, the Institute of Bankers, the SME Corporation and a representative from the microfinance industry.

10. CEFI/MEP has developed a financial education and literacy program now adopted by all financial institutions. It has also participated in the drafting of the Financial Inclusion National Policy of the GoPNG in close collaboration with UNCDF and it bridges the gap between GoPNG and financial institutions to ensure effective implementation of the Financial Inclusion National Policy. CEFI also participated in the definition of targets to measure progress made against financial inclusion policy and activities. CEFI currently has a total of 12 staff including long term international technical assistance, and 7 certified financial education/literacy trainers located in different provinces.

11. A rapid due diligence exercise carried out during project design has confirmed that CEFI has a demonstrated staff capacity that has been strengthened through different donors and programs, which has resulted in an effective capacity to implement and monitor project rural finance activities. All of the project activities planned to be implemented by CEFI are within CEFI's usual scope of work: CEFI has already provided financial literacy and education training courses to more than 150,000 people, is closely working with all 4 tiers of the PNG financial sector to improve their financial services and make them more responsive to clients' needs, is participating to financial institutions staff training, and is also providing assistance and support to financial institutions in the development of digital money and other mechanisms to increase their outreach. However, the rapid due diligence has also identified the necessity for CEFI to recruit additional staff in order to efficiently absorb the additional workload resulting from the implementation of project activities, especially with regard to the management and monitoring of the cash credit guarantee deposits, and the management and

monitoring of the incentive grants that will be extended within the project-supported partnerships. In that respect, the project will finance the cost of three additional staff (one manager and two assistants), their operating costs and well as the cost related to their capacity building and training. These additional staff will come under the direct management of CEFI's Director and will be vested with the full responsibility to implement project activities.

12. **Local governments.** The decentralisation policy adopted at independence empowered provincial governments by transferring development functions and financial resources to them. Ever since, extension has been shared by provincial governments and national boards/agencies. In 1995, the Organic Law on Provincial and Local Level Governments recognised the districts as the focal point for local development planning and service delivery. According to NADP, institutional capacity to deliver services at the local level is generally poor. New perspectives are open with the allocation of sizeable annual block grants to local governments by the Provincial, District and Local Level Government Service Improvement Programme (PSIP and DSIP. The transparent and effective use of these resources and their impact on rural livelihoods is however contingent on the existence of sufficient capacities at the various levels of local government, in an overall context of ineffective delivery systems, abuse and clientelism, and weak absorption capacity. Furthermore, the financial crisis that is hitting PNG as a result of the commodity price fall has affected the regular and full allocation of earmarked resources under PSIP/DSIP.

Private sector organisations

13. **Farmers' organisations.** While farmers' clusters are a common conduit for the provision of extension services, most remain without any formal structure or mandate. Cooperatives established after the colonial period were often undermined by management problems and lacked the technical skills and resources to support members in interacting with the markets. However recent experience with newly formed farmers' associations and cooperatives, often benefitting from some sort of external support, shows that they can be successful and gain farmers' interest where they are able to deliver services to members. At the national level, PNG Women in Agriculture (15,000 members), the Smallholder Coffee Growers' Association (14,000) and the PNG Growers' Association channel the views of their members to national stakeholders and policy makers, through the Rural Industries Council or more informally. Farmer-owned limited liability companies constitute a new emerging model that is well adapted to attract public resources for the financing of heavy equipment such as storage facilities through capitalisation. Finally, landowner companies are set up to manage grant resources from extractive industries and invest them in productive areas. While a few have made it into larger, commercially-managed businesses, the majority struggle with mismanagement and a lack of capacities.

14. **Agribusiness.** PNG's economy is dominated by a large informal sector - only about 15% of the population has formal employment. In the agriculture sector, aside from 4,500 cooperatives (of which the number engaged in business is believed to be considerably less) only 1,500 agribusiness are legally registered. Formal business development is constrained by the low productivity of labour and limited education, particularly in the rural areas; poor communication networks and low access to costly electricity, contributing to high production costs; difficulties in registering and acquiring land, of which 97% is held under customary tenure; and limited access to financing, in particular for start-ups. Women seeking to set up and operate formal businesses are further disadvantaged, particularly with regard to access to customary land and to finance, although they constitute an untapped population of economically active micro-entrepreneurs. Security concerns and poor law enforcement further increase the costs and risks of doing business. PNG ranks 113 out of 189 countries in the 2013 Doing Business Index.

15. **Financial sector.** The financial sector consists of four tiers: (i) four commercial banks; (ii) eight microfinance companies mainly working with the public sector; (iii) four licensed micro-banks; and (iv) 22 savings and loans societies, the majority of which are institution-based (employees, teachers, medical staff…). It is estimated that only 15% of the population have access to any type of formal financial services, and numbers are even lower in the rural areas, or for women and youth. The remote terrain, lack of transport infrastructure, insecurity and associated high transaction costs contribute to confining most financial institutions to townships. Furthermore, inadequate financial products and perceived risks of dealing with rural producers and businesses leave the rural sector almost unbanked. However, improving technology and regulatory environment open up opportunities for the development of new services. In particular, with the liberalisation of telecommunications, the

number of mobile phone users dramatically increased (reaching about 46% in 2013) and several mobile phone operators partnering with financial institutions offer a range of services, including cash deposits and micro loans. The PNG Financial Inclusion Strategy (2014-2015) aims at reaching one million more unbanked and underserved low-income people, 50% of whom will be women, through financial education and an innovative use of technology for scaling-up access to financial services.

Overall Organisation

16. The proposed project implementation structure rests on the current organisation of the agriculture sector, with DAL as the project executing agency, delegating implementation to FPDA. Key FER recommendations/provisions of the draft Agriculture Administration Adjustment Act are already reflected in project design, including the linkages between commodity boards, provincial and district governments and the development of farmer-oriented, market-driven, pluralistic extension services. Another key feature of the implementation framework is that it is based on public-private partnerships: while the government retains overall implementation responsibility, private sector players (fresh produce and galip nut buyers, but also financial institutions and business development service providers) will have a key role in providing village farmers with support services and access to markets. FPDA is already working closely with market players along the value chain as well as private service providers, with a view to reach out to larger numbers of farmers. MVF will enable FPDA to leverage its good relations with leading buyers by supporting partnerships between village farmers and a wider range of buyers of different sizes and capacities and by connecting them with financial institutions.

17. The implementation of Sub-component 2.2 – Financial Inclusion will be entrusted to CEFI, along a MoU that will be negotiated and signed with the PMU.

18. The implementation set-up aims at strengthening the capacities of FPDA to steer the inclusive development of the fresh produce sector and to provide technical advisory and market support services in line with its mandate. Therefore, the Project Management Unit (PMU) is not configured as a self-standing organisation but is embedded into FPDA and geared to work closely with FPDA divisions.

19. Against this background, the main features of MVF implementation setting are currently as follows:

- *DAL* is the project executing agency that is responsible for project oversight and coordination;
- *FPDA* is the project implementing agent with overall responsibility for project implementation;
- *Provincial teams* led by FPDA current staff and staffed with seconded District Agriculture Officers will be responsible for field implementation of project activities;
- *Provincial governments* will co-finance project activities and facilitate project implementation at the provincial level, through the appointment of fully dedicated Focal Points;
- *District governments* will have a similar role at district level;
- *A Project Steering Committee* gathering the representatives of main stakeholders involved in MVF implementation will provide overall guidance and oversight;
- *An independent Technical Appraisal Committee* will be responsible for assessing partnership proposals as well as infrastructure sub-projects, and will bring transparency and objectivity in the selection process;
- *Fresh Produce/Galip Nut Multi-Stakeholder Platforms* will be established at the national/provincial/district levels, and will provide a venue to discuss sector challenges and constraints. Multi-stakeholders' platforms will also be involved in the preparation of Annual Work Plans and Budgets (AWPB), as well as in the identification of priority feeder roads for project-financed spot improvements;
- *A Project Management Unit* (PMU) embedded in FPDA will assist in carrying out project implementation responsibilities;
- *CEFI* will be responsible for implementing activities related to financial inclusion, by virtue of a MoU signed with the PMU.

20. The responsibilities of each of the implementation stakeholders are further described below.

Key Implementing Institutions

21. **DAL.** As the project executing agency, DAL will be responsible for overall project oversight and coordination, under the direct authority of DAL Secretary. This would include the following responsibilities:

- chair the Project Steering Committee;
- approve project technical and financial reports prepared by FPDA with PMU support;
- approve Withdrawal Applications prepared by FPDA with PMU support, for submission to IFAD;
- ensure coordination between MVF and other relevant initiatives in the agriculture sector and facilitate project access to knowledge generated by such initiatives;
- facilitate policy dialogue and support policy measures requested/prepared by MVF-related structures.

22. **FPDA.** As MVF implementing agency, FPDA will be responsible for project management and coordination of government and non-government agencies participating in the project. FPDA General Manager will have overall responsibility for project implementation. However, line responsibility for day-to-day project implementation will be delegated to the PMU Coordinator. This would involve the following:

- ensure the management and timely implementation of project activities, with support from the PMU (see below);
- prepare Annual Work Programs and Budgets (AWPBs), jointly with the PMU, for submission to the Project Steering Committee;
- ensure the integration of project activities within FPDA overall programme of activities and the coordination of project activities with other FPDA initiatives;
- support private sector participation in project activities and in multi-stakeholders' platforms
- support provincial and district governments' participation in project implementation, the fulfilment of their responsibilities and the channelling of resources as planned;
- liaise with DAL.

23. **Provincial teams.** Provincial Teams will be responsible for implementing day-to-day project activities in their respective provinces. Each Provincial Team will be headed by an FPDA middle manager and staffed with two district extension staff. Provincial Teams will be under the direct supervision of the PMU Coordinator with regard to the implementation of project activities, and overall supervision of the FPDA General Manager. FPDA will open provincial offices in Simbu and Jiwaka to accommodate the Provincial Teams, for which MVF includes a small provision for setting up and refurbishment of office. Every team will have transport equipment (one 4-wheel drive car and one motorcycle per district officer), office equipment and an allocation to cover operational costs, including travel allowances. District officers will be selected based on a competitive process, which will be organised by FPDA with support from the PMU and in cooperation with provincial and relevant district[26] governments. The final selection of district officers will be gender-balanced. To expand district exposure to project activities and increase the number of district officers that could get hands-on experience, the team of seconded district officers will be renewed so that by the end of the project, all districts within a given target province will have had at least one district officer participating in the Provincial Team. In East New Britain, activities will be reduced and there will therefore be only one Galip Nut Manager, who will be placed under the direct authority of the PMU.

24. Provincial Teams will in particular be responsible for the following in their respective provinces:

- organise information campaigns, promote the calls for expression of interest and provide information on the project;
- facilitate the preparation of full partnership proposals, with support from a Business Development Service Provider (BDSP);

[26] Districts whose territories include production areas.

- make knowledge available to fresh produce players and partnerships, including with regard to market opportunities, access to inputs, access to financial services;
- facilitate the implementation of the family-based approach and the implementation of MVF GESI strategy, including by organising and monitoring activities to be implemented at community level by service providers, in collaboration with the GESI Officer;
- provide M&E training to Lead Partners and VEWs, facilitate Lead Partners' reporting and monitor partnership implementation, including that all the terms of the partnership agreement are being complied with;
- support the organisation of annual partnership reviews;
- prepare and facilitate the meetings of the district/provincial MSPs;
- liaise with provincial Divisions of Primary Industry (DPI) and with district governments and facilitate their participation and resource mobilisation;
- ensure the M&E of all project activities in the province, in collaboration with partnerships.

25. **Province and district governments** will co-finance project activities with resources from their regular budgets or PSIP/DSIP resources earmarked for economic activities (see Appendix 9), or by seconding district staff and paying for their salary. DPIs and district agriculture services will facilitate project implementation at provincial level and district level. Focal Points will be designated by every participating province/district.

Project Oversight and Advice

26. **Project Steering Committee.** A Project Steering Committee (PSC) will be set up at the national level to provide overall guidance and oversight, to ensure that MVF programming is aligned on national sector priorities, to offer a venue for sharing MVF good practices and for channelling policy issues to the appropriate policy making bodies. The PSC will also approve annual AWPBs and annual progress and financial reports. It will be chaired by DAL Secretary and will include representatives from (not exhaustive): the Department of National Planning and Monitoring, the Department of Finance, the Department of Treasury, the Department of Implementation and Rural Development, the SME Corporation, NARI, the Provincial Governments, the Central Bank, the Rural Industries Council, the PNG Fresh Produce Association, the PNG Galip Nut Association, the PNG Growers Association, representatives of co-financing development partners, PPAP, CEFI and ADB-financed Business Investment Facility. The PMU Liaison Officer based in DAL will provide the Secretariat to the PSC.

27. **Technical Appraisal Committee.** An independent Technical Appraisal Committee (TAC) will be set up to appraise partnership proposals, rank them and provide a recommendation for their financing, prior to their approval by FPDA Board. TAC composition for each round of calls for expression of interest will include four persons with competences in technical, economic, social and environment skills. All TAC members will be individuals with an established reputation for their knowledge of the sector and their integrity.

28. **Fresh Produce/Galip Nut Multi-Stakeholder Platforms**. Multi-Stakeholder Platforms (MSPs) will gather fresh produce/galip nut value chain stakeholders (representatives of producers, buyers, financial institutions, transport companies, agri-dealers, public and private service providers) at national, provincial and district level (see Component 3.1). They will provide a venue to develop dialogue and linkages within the value chain, discuss MVF achievements, and value chain challenges and bottlenecks, agree on measures required to lift them, identify policy gaps and provide guidance to Provincial Team/FPDA. Multi-stakeholders' platforms will also be involved in the preparation of Annual Work Plans and Budgets (AWPB), as well as in the identification of policy studies (Component 2).

Project Management Team

29. **Responsibilities.** The PMU will assist FPDA in carrying out MVF implementation responsibilities and will be fully accountable for the performance of project implementation and the use of funds. It will have the following responsibilities:

- *orientation for developing and implementing the project strategy* to ensure that all project implementation partners develop activities along a common, coherent approach in line with the Project Design Report;
- *financial and administrative management* of project resources in line with the Loan Agreement and IFAD rules. This will also include: (i) the management of project accounts and their timely replenishment; (ii) submission of required financial reports; and (iii) the organisation of annual and final independent audits of all project accounts as per IFAD Loan Agreement;
- *planning of project activities* and the preparation of consolidated AWPBs, building on a participatory process involving MSPs and the Provincial Teams;
- *contracting and procurement of project-related services and supplies* in accordance with IFAD Loan Agreement and IFAD rules. This will also include: (i) the preparation of annual procurement plans, and (ii) the monitoring of the implementation of service providers' contracts;
- *coordination of project activities with the various project partners;*
- *M&E and KM* in relation to all activities*;*
- *promotion of inclusive approaches* and mainstreaming of targeting and gender requirements in all of the project activities in accordance with the GESI Strategy and Implementation Plan.

30. **Composition.** The PMU will be based in Goroka at FPDA new premises, with the exception of the Liaison Officer, who will be based in Port Moresby, within DAL premises. The PMU will comprise the staff indicated in Table 2. Succinct job descriptions are included in Attachment 4.

Table 2 – PMU Staff

Goroka
1 PMU Coordinator 1 Production and Value Chain System Manager 1 Infrastructure Engineer 1 Policy Development Officer 1 Senior M&E/KM Officer 1 MIS Content Manager 1 GESI Officer 1 Financial and Administration Manager 1 Procurement Officer 1 Accountant 1 Office Assistant 2 Drivers
Port Moresby (based at DAL)
1 MVF Liaison Officer
1 IFAD Liaison Officer
Mount Hagen, Kurumul, Kundiawa, Goroka, Lae
1 Provincial Team Manager (paid by FPDA)
2 seconded District Agriculture Officers (paid by districts)
1 M&E Officer
Kokopo (based at FPDA)
1 Galip Nut Manager

31. **Project Expeditor.** A Project Expeditor will be fielded for 6 months at project onset to assist the PMU in setting up all of the administrative and financial management procedures, assist in the preparation of the first AWPB and Procurement Plan, expedite compliance to pre-conditions to the release of the first fund disbursements, assist in the preparation of the PIM and to provide capacity building to the PMU, with a view to support fast project start-up. Terms of reference are in Attachment 3.

Service Providers

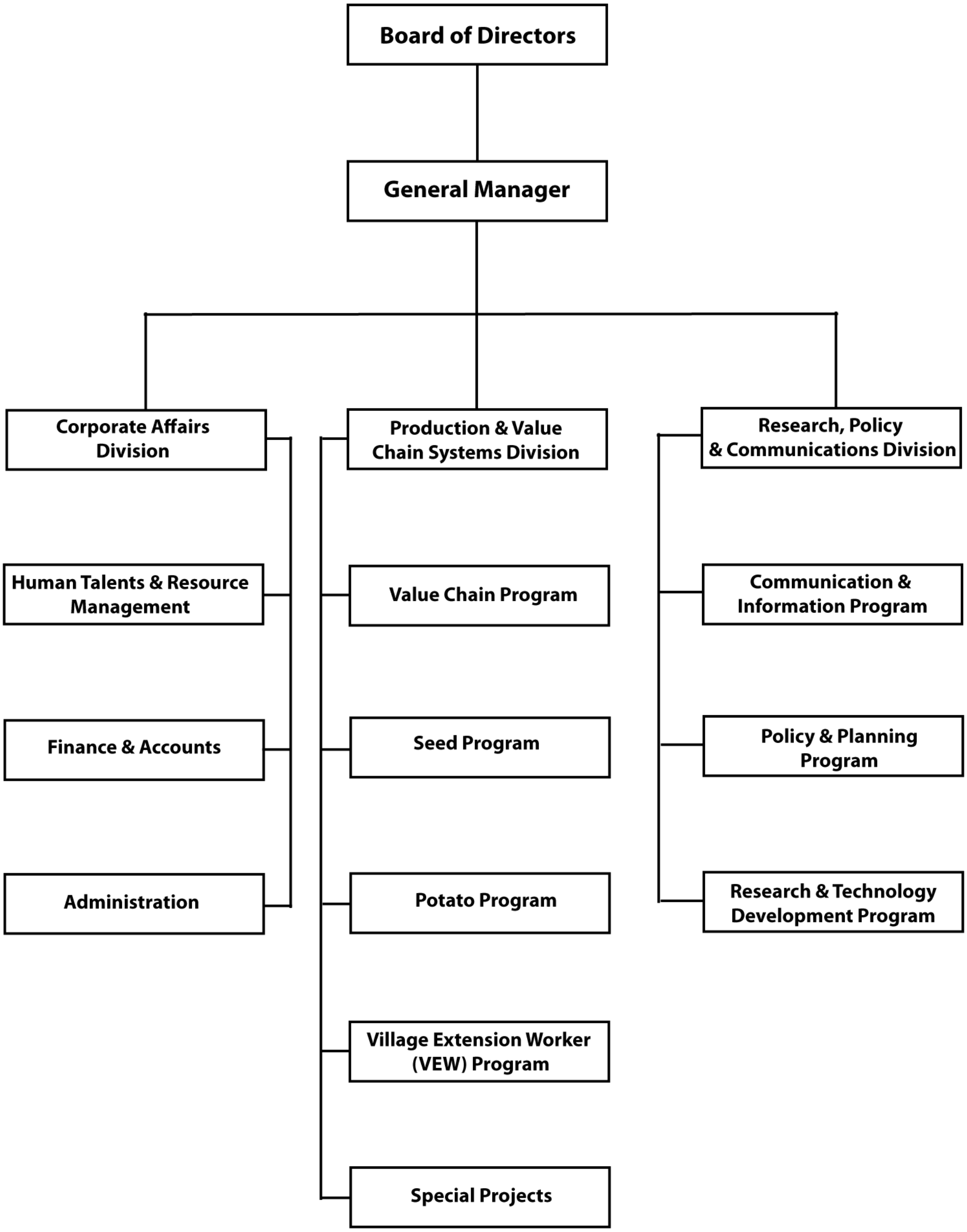
32. Service providers will be hired to implement specific packages of activities that go beyond FPDA competences or capacities. CEFI has already been pre-identified and will be responsible for implementing project activities related to Financial inclusion under Component 2. Implementation responsibilities will be detailed in an MoU, which will be signed between the PMU, CEFI and DAL. CEFI will also lead the consortium that will be responsible for implementing the family-based

approach and financial education, which it will form together with an international NGO with experience in household-based methodologies in the PNG context.

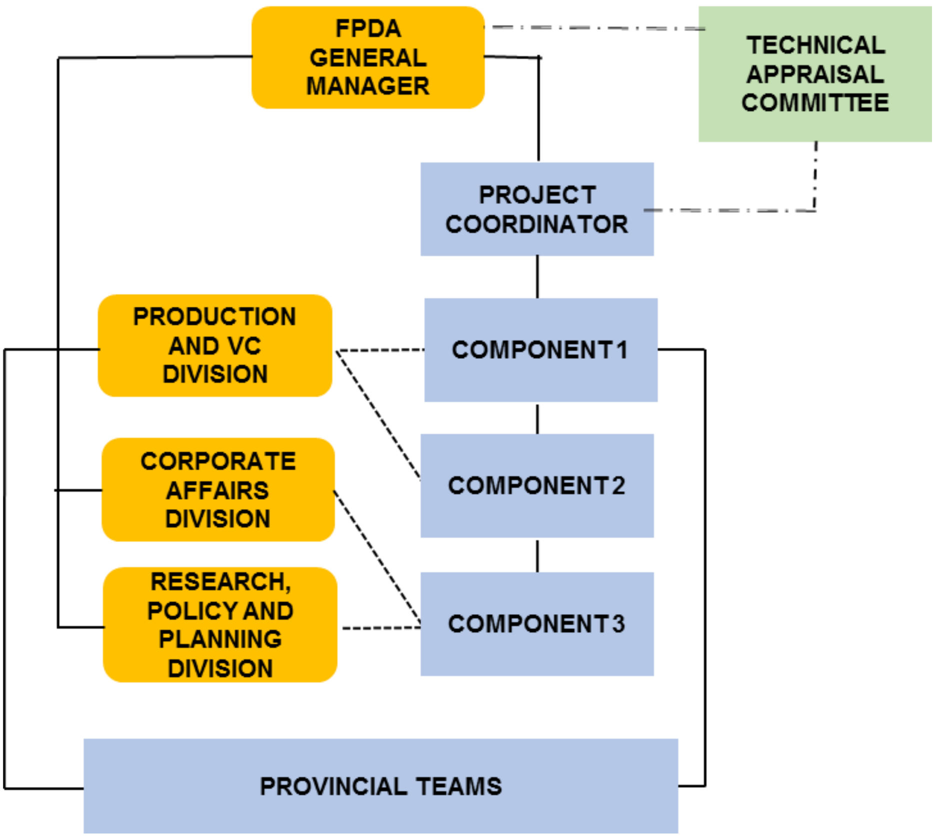
33. All other service providers will be hired based on competitive bidding processes.

34. All service providers' contracts will stipulate clear deliverables with a timeframe and quantified expected outputs/outcomes, and they will specify responsibilities with regard to monitoring and reporting, including the information of progress indicators as set forth in the contract. Terms of reference for service providers will require gender-balanced teams with prior experience of gender mainstreaming and social inclusion, and that contract deliverables reflect gender and inclusion target and indicators.

Attachment 1 – FPDA Organisational Chart



Attachment 2 – PMU embedded in FPDA



Attachment 3 - Project Expeditor Terms of Reference

Qualifications & Experience: Preferably a higher degree in economics, agricultural economics, management or business administration; practical experience of at least 10 years in project financial management, planning, accounting procedures, procurement and monitoring and evaluation procedures in internationally financed projects; a good knowledge of computer applications (especially of accounting software) in the above related matters. Excellent senses of relationship and negotiations skills. Fluent in English (reading, writing and speaking).

Special Qualifications: Knowledge of IFAD finances, procurement and accounting procedures. Knowledge of the PNG legislation with regard to donor-financed project financial management and procurement legislation would be an advantage.

Location: At MVF PMU in Goroka, with travels as required to Port Moresby and target provinces.

Duration: Assignment of up to a maximum of 6 months.

Reporting: To MVF Project Manager.

General Objective: To assist the PMU in securing an effective and smooth project start-up and in setting up all of the project management procedures and tools.

Detailed Tasks: The Project Expeditor will be responsible for undertaking the following tasks, in close cooperation with the Programme Management Team and FPDA:

- Prepare draft advertisements for the recruitment of PMU staff for review and approval by FPDA and IFAD; prepare interview guidelines to be used by the interview panel, including evaluation and selection criteria for each post, and propose the composition of the interview panel, for approval by FPDA and subsequent no objection by IFAD; and prepare PMU recruitment to be submitted to the GoPNG and IFAD no objection;
- Organise the selection process for district staff on the Provincial Teams; assist the PMU in setting up the Provincial Teams and in devising procedures for communication and supervision;
- In collaboration with relevant PMU staff, prepare all contracts and MoUs with main implementation project partners and service providers (including CEFI), establish PMU office and launch the procurement of office equipment and vehicles for the PMU and the Provincial Teams;
- Train the PMU staff and other interested FPDA staff dealing with contract management on: various methods of procurement and selection of service providers; technical and financial evaluation of bids; performance-based contract models to be used; and monitoring of contract execution;
- Assist the PMU in preparing the first AWPB and the revised procurement plan, and train relevant PMU staff in the preparation of these documents.
- Set up the account management and financial reporting system together with the Financial and Administrative Manager, using appropriate accounting software and in accordance with established international practices and IFAD and GoPNG requirements.
- Train PMU and Provincial Team staff in project accounting, disbursement, financial reporting and procurement;
- Assist the Financial and Administrative Manager in setting up project accounts and in preparing withdrawal applications and SOEs (Statements of Expenditures);
- Provide advice for the finalisation of the Project Implementation Manual and Finance and Administrative Manual;
- Assist the PMU in preparing and organising the project start-up workshop;
- Prepare the Framework for Good Governance, including an Internal Code of Conduct to be signed by all PMU staff, and a Code of Business Ethics to be signed by all partners and beneficiaries of MVF investments and activities.

Attachment 4: Terms of Reference for PMU staff

Project Coordinator (PC)

Duration of Assignment: Up to six years; following successful completion of a six-month probationary period, with renewable contracts from time to time if performance is satisfactory.

Duty Station: Based in FPDA Goroka, with regular visits to the project sites as required for monitoring, reporting and coordination.

Qualifications and Experience

A higher degree in agricultural economics, economics, business administration, forestry, agriculture, public administration or related discipline relevant to MVF with sound knowledge of contemporary issues in the rural economy of PNG and natural resource management. A minimum of five years at a senior level in a relevant public institution, the private sector or an international organization, with proven skills in the management and coordination of internationally financed development programmes.

The candidate would be expected to have a creative, energetic but pragmatic approach to problem solving and an appreciation of the respective roles of the public and private sectors in rural economic development and natural resource management. Computer literacy is requisite and good command of spoken and written English is essential.

Job Description The Project Coordinator will be responsible for coordinating and managing the project and for delivering project expected outcomes, under theoversight of the FPDA General Manager. The PC will lead the PMU and will ensure that it works in close collaboration and coordination with FPDA heads of departments and key technical and administrative staff. This will include the following specific duties:

- *Project development*:
  - providing orientations for the development of the project strategy and methodology, to ensure that all project implementation partners develop activities along a common, coherent approach in line with the Project Design Report;
  - guiding the development of the most appropriate implementation tools and management methods to ensure project performance, in accordance with national policies and with the financing agreement;
  - ensuring the promotion of inclusive approaches and mainstreaming of targeting and gender requirements in all of the project activities in accordance with the GESI Strategy and Implementation Plan.
  - assisting FPDA in building capacities for project implementation and coordination, monitoring value chain performance and business model development and communicating with value chain stakeholders;
  - ensuring that project activities are developed in coordination with Multi-stakeholder Platforms and ensure that key value chain stakeholders and government institutions fully participate in the process;
  - ensuring coordination and team working of the PMU staff, local actors and project partners;
  - securing synergies between project components to maximise their impact.

- *Project implementation*:
  - supervising the implementation of project activities in accordance with the financing agreement, the decisions of the Project Steering Committee and Technical Appraisal Committee and with the recommendations of supervision and review missions;
  - supervising the preparation, negotiation and oversight of memoranda of understanding, agreements and other contracts with project partners and services providers;
  - ensuring and overseeing the implementation of the GESI Strategy and Action Plan;
  - lead the planning of project activities and the preparation of consolidated AWPBs, building on a participatory process involving MSPs and the Provincial Teams;
  - preparing progress and thematic reports;

- identifying areas which require support from external consultants, and leading their recruitment
- guiding the efforts of consultants, experts and contractors towards the realisation of planned project outputs and evaluating their performance;
- leading the design and operationalisation of the Project Implementation Manual;
- liaising with IFAD on project implementation issues, and facilitate and participate in regular supervision of project activities.

- *Project M&E/KM*:

  - overseeing the setting up process and effective operation of the M&E/KM system;
  - ensuring the solid internal use of the M&E/KM system;
  - ensuring the timely preparation of progress and financial reports.

- *Project external relations*, including the coordination of activities with other projects pursuing similar objectives within PNG;

- *Project administrative management*:

  - reviewing and approving pre-selection of project partners, bidding documents, job descriptions and terms of reference for PMU staff and external services providers;
  - coordinating the contract administration of the service providers/specialists hired for implementation and assess their performance on a regular basis;
  - managing and motivating PMU staff;
  - maintaining internal transparency for the most important technical and project management decisions through regular meetings with PMU staff;
  - securing the submission of a detailed expenditure report on quarterly advance payments;
  - ensuring timely endorsement of Withdrawal Applications by DAL and submit them to Treasury and IFAD;
  - coordinating the preparation of Annual Procurement Plans, in coordination with the preparation of AWPBs;
  - executing the approved budgets, and ensuring payments;
  - ensuring the completion of the procurement process and full compliance with GoPNG procurement guidelines consistent with FPDA and IFAD procurement guidelines;
  - ensuring proper use and conservation of project assets, in line with the national legislation and financial agreements;
  - ensuring transparent and efficient financial management of project fund in compliance with the loan conditions and IFAD rules and procedures
  - conducting project completion and loan closing activities in compliance with the Loan conditions.

Finance and Administrative Manager (FAM)

Duration of assignment: Up to six years, following successful completion of a six-month probationary period, with renewable contracts from time to time if performance is satisfactory.

Duty station: Based in FPDA Goroka, with visits to project sites as required for monitoring, reporting and coordination.

Qualifications and experience

An acceptable accounting and finance qualification (BSc, Association of Chartered Certified Accountants or last stage of Association of Accounting Technicians), with at least five year experience at a senior level in a relevant public institution and/or the private sector, with proven skills in the financial management and procurement aspects of internationally-financed development programmes.

The candidate would be expected to have a thorough understanding of accounting practices, finance and investment. Familiarity and experience in use of accounting software would be required.

The candidate would be fully aware of and alert to the crosscutting issues of gender, youth, marginalised groups, discrimination and poverty targeting.

Job description

The FAM is responsible for the management of project accounts in line with GoV financial regulations and IFAD disbursement procedures and reporting. S/he would report directly to the PC.

With regards to Financial Management, operating within a computerized environment, the FAM would perform the following duties:

- ensure disbursement process and documentation in accordance with the PIM and Finance and Administration Manual, consistent with GoPNG financial regulations and IFAD disbursement handbook;
- manage the computerized accounting system and ensure daily backup;
- report on a monthly, quarterly and annual basis, identifying areas of divergence from projected cash flows;
- implement robust internal financial control systems and policies to minimize the risks of fraud or errors in the financial statements and any misuse of funds;
- ensure timely and accurate preparation of Statements of Expenditures;
- coordinate and assemble the budgetary information required for the preparation of Annual Work Plans & Budgets;
- ensure timely preparation of financial reports including comparison of actual expenditure against AWPB by components and by categories;
- prepare accounts for external auditors and follow up on any audit queries/management letters;
- ensure compliance with operating procedures as defined in the project documents, including IFAD guidelines;
- keep accurate and up-to-date records and documents in respect of all resources received by the project and any expenditure incurred with the funds made available;
- ensure that all expenditures are in conformity with provisions of the project AWPBs.

With regards to the administrative tasks and responsibilities, the FAM would perform the following:

- manage and handle staff matters including recruitment, selection, contracting and performance appraisal of staff;

- facilitate the mobilisation and orientation of any new project staff, either short or long-term;
- establish and assist an agreed staff back-up system for times of illness or absence from the office;
- develop and implement performance appraisal process and formats for the project staff;
- assist in the identification and contracting of external service providers;
- ensure that the contracts of all staff and service providers under the project are implemented properly in accordance with the terms provided therein;
- conduct annual review of the existing compensation and benefits package in order to attract, retain and develop qualified and experienced staff;
- maintain a record of project staff official movements;
- assist project staff with all travel arrangements;
- manage, organise and implement training for all project staff at the central level;
- contribute to the preparation and timely delivery of AWPBs and Annual Procurement Plans;
- establish a system that records systematically all training undertaken by the project. Maintain a library of all training materials prepared under the project, in collaboration with the M&E/KM Officer. Ensure the filing system is maintained and the protection and security of office files;
- be responsible for the upkeep of the premises and the availability of office supplies;
- work with an information technology company to ensure email and internet security protocols are established, and that all electronic data relating to project activities is securely managed under central control;
- keep a fixed asset register with an identification number affixed to each asset, description and location of asset and the responsible staff for the asset; and ensure that the receipt of each asset is acknowledged;
- assist in carrying out procurement functions for the project in line with current regulations, with implementing agencies providing necessary technical specifications, bills of quantities and terms of reference; and coordinate with the Procurement Officer for the delivery and receipt of fixed assets and supplies and certification of receipt by the Project Coordination and units concerned;
- assist the Project Coordinator in organizing a national multi-stakeholder workshop to launch the Project and other training activities in terms of organization, logistics and supplies;
- maintain vehicles, equipment and furniture and arrange for the insurance of fixed assets;
- establish and manage a register of incoming and outgoing correspondence for the project;
- work with the FPDA human resource department to establish/update personnel policies and regulations for the project.
- provide inputs in the preparation and updating of the PIM, Finance and Administrative Manual, reports and other documentation; and
- other tasks that maybe assigned by the Project Coordinator.

Production and Value Chain System Manager

Duration of Assignment: Up to six years, following successful completion of a six-month probationary period, with renewable contracts from time to time if performance is satisfactory.

Duty Station: Based in FPDA Goroka, with regular visits to the project sites as required for monitoring, reporting and coordination. This will include regular visits to end markets within the target provinces and greater PNG, as required.

Qualifications and Experience

A higher degree in agricultural economics, agricultural science, agribusiness, business administration, supply chain management or related discipline relevant to MVF with extensive knowledge of contemporary issues in production and value chain systems within the agricultural and food industry sectors, particularly in developing countries. A minimum of five years at a senior level in a relevant public institution, the private sector or an international organization, with proven skills in the management and coordination of value chain enhancement initiatives and programmes within the agricultural sector.

The candidate would be expected to have a creative, energetic but pragmatic approach to problem solving and an appreciation of the respective roles of the public and private sectors in rural economic development. Computer literacy is requisite and good command of spoken and written English is essential.

The candidate would be fully aware of and alert to the crosscutting issues of gender, youth, marginalised groups, discrimination and poverty targeting.

Job Description

The PVCM will report directly to the Project Coordinator and work collaboratively with FPDA and other PMU personnel. The PVCM will be responsible for overseeing the overall and day to day implementation of MVF sub-component 1.1. She/he will have the following main responsibilities, with support from the International Technical Assistance and in close collaboration with FPDA:

- Facilitate, oversee and guide the implementation of activities in Component 1, including the preparation of AWPBs and overall progress reports for Component 1;
- In collaboration with the Senior M&E and Knowledge Management Officer, develop the TOR for the Scoping Study and the Climate Risk Assessment and monitor implementation to ensure final quality;
- Ensure that the outcomes and recommendations of the Scoping Study and the Climate Risk Assessment are reflected in the subsequent MVF planning, pre-investment and implementation activities;
- Design a detailed methodology for the six steps of the partnership approach (step 5 in collaboration with the GESI Officer), including detailed modalities for service and investment delivery in the different types of partnerships;
- Design an approach to support the progressive development of farmer hubs and related farmers' organisation;
- Design a capacity building programme for PMU, FPDA, Provincial Team staff so that they can implement/oversee/monitor the partnership approach;
- Design capacity building programmes for non-financial service providers, building on the recommendations of the Scoping Study, and monitor their performance;
- Provide technical support and guidance/training to Provincial Teams; assist them in the preparation of partnership agreements and in overseeing partnership implementation; and oversee their activities and performance;
- Oversee the implementation of the partnership approach, identify bottlenecks and constraints and provide technical guidance and capacity building services to make corrections for improvement;
- Ensure regular update of value chain analysis and relevant data generated by the Scoping Study, and ensure that information is made available to partnerships and multi-stakeholder platforms along adapted modalities and formats;

- Maintain regular contacts with end buyers and monitor market development and opportunities;
- Liaise with CEFI to ensure smooth access to financial services to partners, in line with partnership business plans;
- Liaise with PPAP to ensure mutual exchange of knowledge and experience;
- Collaborate with the MIS Content Manager and the Senior M&E/KM Officer so that MIS responds to farmers/traders' priority information needs and incorporates good practices;
- Based on a participatory process involving multi-stakeholder platforms, identify annual MVF-supported research activities, develop MoU with NARI, monitor implementation and facilitate the use of research outcomes through support services and multi-stakeholder platforms.
- Provide technical support and guidance to the Galip Nut Manager;
- Other tasks that may be assigned by the Project Coordinator.

Infrastructure Engineer (IE)

Duration of Assignment: Up to four and a half years (56 months); following successful completion of a six-month probationary period, with renewable contracts thereafter if performance is satisfactory.

Duty Station: Based in FPDA Goroka, with regular visits to the project sites as required for consultations, liaison, scoping of works, construction supervision and contract monitoring etc.

Qualifications and Experience

A first degree in civil engineering with sound knowledge of project management and the planning, design, asset management and maintenance of low-volume rural road networks. A minimum of five years at a senior level in a relevant public institution, the private sector or an international organization, with proven skills in the implementation of internationally financed development programmes.

The candidate would be expected to have a creative, energetic but pragmatic approach to problem solving and an appreciation of the respective roles of the public and private sectors in rural economic development, specifically in the infrastructure sector. Computer literacy is requisite and good command of spoken and written English is essential.

Job Description

The IE will be fully responsible for all aspects of the development, day to day management and implementation of Sub-component 2.1 of the MVF Project (Spot Improvements of Feeder Roads) and will report to the PMU Project Manager. Detailed tasks and duties as follows:

Initial sub-component preparation

- Develop and finalize the document that will be circulated to partnerships inviting each partnership to submit proposals for project funding of infrastructure improvements in its geographic area of operation. The document will set out the framework of the sub-project, the detailed process of the selection, the eligibility criteria for candidate sub-projects, and will include the application form to be submitted by each partnership
- Develop TORs for consultants - specifically the Technical Support Engineer, Design / Supervision Consultants, and Maintenance Specialist – and provide technical assistance in the procurement of these consultants and administration of their contracts

- ***Three Call cycles – preparation process***

  - *Issue call for invitation:* visit each established partnership to present the sub-component and invite the partnership to consult widely before identifying and finalizing its priority roads or other infrastructure before formal submission of the application for funding
  - *Field screening and confirmation visits*: (with assistance from consultants as required) undertake field visits to each partnership to: consult with the stakeholders; confirm the identity, scope and cost; assess the likely benefits of each candidate sub-project; and screen the sub-projects to eliminate those that do not meet the project eligibility criteria.
  - *Ranking of priority sub-projects*: (with assistance from consultants as required) undertake a careful cost/benefit assessment of all confirmed eligible candidate sub-projects to establish a transparent ranking list of priority investments for that year's implementation program;
  - *Confirmation of DSIP funds:* seek formal written confirmation from the District Administrators in all districts of ranked priority projects, that District Services Improvement Programme (DSIP) funding to the value of at least 50% of the engineer's estimated cost of works is available and has been budgeted in the district budget;
  - *Sustainable maintenance assessment*: (with assistance from consultants as required) discuss the proposed future maintenance framework with the stakeholders of each ranked sub-project to assess and obtain the commitment of the public and private parties to undertake the necessary routine and periodic/emergency maintenance over the life of the asset;

- *Recommendation:* annually prepare and submit PMU recommendations to the Technical Appraisal Committee (TAC) for approval to implement the top-ranked sub-projects (subject to available project component funding);
- *Memorandum of Understanding (MoU)*: facilitate the negotiation process leading to signing an MoU by the parties covering the scope, financing, implementation and future maintenance arrangements of the asset. The MoU will set out the roles and responsibilities of the parties: partnership (represented by the Lead Partner), district/provincial administrations, communities, PMU.

Three Call cycles - implementation

35. Each implementation phase can be considered as three separate, repeated stages, all managed and monitored by the IE, with technical support as required from outside consulting firms:

- *Pre-construction stage:* site investigation leading to detailed design of rehabilitation works, preparation of tender invitation documents, bidding and evaluation process, and award of works contracts, bidding through public tender or shopping procedures under Provincial Tenders Boards, evaluation process, and award of works contracts;
- *Construction stage:* contract administration and construction supervision of the infrastructure works;
- *Operation and maintenance stage:* introduction of sustainable maintenance regime for completed sub-projects.

Management of consultants

The IE will be fully responsible for managing and monitoring the performance of all consultants, including the following actions:

- Ensuring that consultancy contracts are in place in time for required inputs
- Oversight of consultants’ inputs and outputs to ensure that expected standards of performance are being met at all times
- Carrying out formal review and comment on all reports, drawings, bid documents etc.
- Reviewing and certifying consultants’ and works contractors’ invoices
- Regular site visits to monitor quality of construction and supervision, maintenance training etc.

Liaison with District and Provincial Administrations

Financing of this sub-component will be largely achieved through securing annual contributions from DSIP and PSIP programs in the districts and provinces where project partnerships are established. This will require close liaison between the PMU and the respective district and provincial administrations. It is expected that the IE will lead this process and maintain close communication and cooperation with the administrations at all times.

Policy Development Officer

Duration of assignment: Up to six years or MVF duration, following successful completion of a six-month probationary period, with renewable contracts from time to time if performance is satisfactory.

Duty station: Based in FPDA Goroka, with visits to project sites and Port Moresby as required.

Qualifications and experience

Advanced degree in Economics, Agriculture Economics, Econometrics or equivalent work experience, and approximately ten years of experience in policy advocacy, policy analysis or public management in the agriculture/rural sector. Familiarity with the statistical surveys, gathering, processing, and analysis.

Good interpersonal and communication skills, computer literate, and able to work without supervision and as part of a team. Ability to lead and work in multi-disciplinary teams, including managing national and international consultants. Extensive knowledge of national politics and policy, including government development strategies. Experience in the implementation of public policies;

Ability to communicate and articulate effectively (in both writing and in speaking) the projects approach, objectives and successes.

The candidate would be fully aware of and alert to the crosscutting issues of gender, youth, marginalised groups, discrimination and poverty targeting.

Job Description

Operating in close collaboration with FPDA Research, Policy and Communication Division, the Policy Development Officer will bear overall responsibility for implementing Sub-component 3.1 – Collective Governance, which aims at promoting a favourable policy and institutional environment to support the development of inclusive fresh produce and galip nut value chains. Detailed tasks and duties as follows:

- *Facilitating the organisation of value chain governance:*
    - provide support to the Industry Working Group for Fresh Produce, so that it can develop its membership, expand its network at the local level and develop its capacities to represent member's interests;
    - provide support to the Galip Nut Industry Working Group for Fresh Produce, in particular for designing a long-term (10-15 years) roadmap for the development of the galip nut industry;
    - support the creation of multi-stakeholder platforms (MSPs) at the provincial level and in districts that have significant concentration of production areas;
    - in collaboration with the Production and Value Chain Systems Manager,
    - Help to build capacity at the national level and at intermediate levels (e.g. with multi-stakeholder platforms) to effectively participate in national policy process

- *Supporting policy development and policy dialogue:*
    - In collaboration with FPDA and DAL, and based on the indications of the Project Design Report, organise and implement a process for: the annual identification of priority project action related to policy and norms development; the participatory development of policy instruments meets the needs of producers and other value chain stakeholders; and, in collaboration with the Production and Value Chain System Manager, the dissemination of results, awareness raising and capacity building;
    - In collaboration with the Production and Value Chain System Manager, facilitate the organisation of multi-stakeholder platforms and the identification of policy issues and opportunities for project action;

- In collaboration with FPDA and DAL, facilitate the adoption of policy instruments developed with project support by the National Economic Council and other bodies as appropriate;
- Facilitate the understanding of public policies in the areas of the project at the provincial levels (in particular with Provincial Teams) and partnership level;
- Coordinate and manage consultants charged with undertaking policy formulation and policy related knowledge management.

Senior M&E and Knowledge Management Officer (SMEKMO)

Duration of Assignment: Up to six years; following successful completion of a six-month probationary period, with renewable contracts from time to time if performance is satisfactory.

Duty Station: Based in FPDA Goroka with regular visits to the project sites as required for monitoring, reporting and coordination.

Qualifications and Experience

Advanced degree in Project Management, Rural Development, Development or Agricultural Economics, or Business Administration. Proven knowledge and practical experience of at least 5 years in project M&E and KM. Computer literacy (Microsoft office and statistical software). Communication and result oriented management skills. Fluency in spoken and written English. Ability to guide and develop capacities of counterpart staff. Excellent drafting and communications skills.

The candidate is expected to have a thorough understanding of group dynamics within a rural setting, focusing on women and youth.

Job Description

The Senior M&E and Knowledge Management Officer (SMEKMO) will be responsible for the developing and managing the MVF M&E and KM System. S/he will report directly to the PC with regular collaboration with the Research Policy, Planning and Communication Division of FPDA. Specific tasks and duties include the following:

- Oversee the development of a strategy and plans to ensure systematic, continuous learning, improvement and knowledge sharing;
- With support from short-term technical assistance, establish an M&E/KM system taking into account FPDA and the GoPNG monitoring frameworks, MVF logical framework, IFAD RIMs and project objectives. This will include the preparation of the KM Framework and Implementation Plan;
- In collaboration with the MIS Content Manager, develop a Management Information System (MIS) for overall project monitoring and capturing of good practices;
- Revise and regularly update MVF logical framework. Define participatory methodologies and tools for assessing project performance and outcomes involving stakeholders.
- In collaboration with the Production and Value Chain System Manager guide scoping studies at project inception to ensure that they capture required baseline data;
- In collaboration with partnerships, Provincial Teams and Multi-Stakeholder Platforms, establish implementation targets, monitor implementation processes and performance, assess outputs and outcomes, and analyse successes and failures;
- Facilitate the preparation of annual work plans and budgets;
- Facilitate the programme's annual review workshops, impact assessment studies, Mid Term Review and completion review;
- Monitor financial and physical progress, lead the preparation of and finalise project progress reports and report back to stakeholders to create a better learning environment;
- Improve programme performance by providing relevant analytical information to the PMU on a timely basis;
- Develop and implement processes to ensure that lessons learned and good practice are captured systematically, shared under formats adapted to different target audiences, and used to improve programme implementation;
- Coordinate the development and implementation of capacity building, including coaching and mentoring, to build knowledge management, M&E, communication and other relevant skills and competencies of the PMU, FPDA, Provincial Teams, service providers and partnerships;

- Ensure that successful innovations, learning and good practices are captured, synthesized, documented and shared continuously within the PMU/FPDA and with in-country partners/service providers, multi-stakeholder platforms and partnerships;
- Commission short-term technical assistance and undertake any other duties that may be assigned to him/her by the Project Coordinator.

MIS Content Manager

Duration of Assignment: Up to six years, following successful completion of as six-month probationary period, with renewable contracts from time to time if performance is satisfactory

Duty Station: Based in FPDA Goroka, with regular visits to the project sites as required for sourcing of MIS material. This may require visits to end markets within the target provinces and greater PNG, as required.

Qualifications and Experience

A higher degree in agribusiness, communications or a related discipline relevant to MVF, with sound knowledge of contemporary issues in the agricultural and food industry sectors, particularly in developing countries. A minimum of five years at a senior level in a relevant public institution, the private sector or an international organization, with proven skills and experience in the coordination of content for inclusion in an ICT MIS with an agricultural/agrifood focus.

A high degree of computer literacy is requisite and an excellent command of spoken and written English is essential. Familiarity with MIS development and use within the agricultural sector, including initiatives such as the Agricultural Management Information System Standards.

The candidate would be expected to have a creative, energetic but pragmatic approach to communications development, strong problem solving ability and an appreciation of the respective roles of the public and private sectors in rural economic development. The candidate would be fully aware of and alert to the crosscutting issues of gender, youth, marginalised groups, discrimination and poverty targeting.

Job Description

Reporting directly to the Project Coordinator and working collaboratively with FPDA and PMU (especially Senior M&/KM Officer and Production and Value Chain Systems Manager) and relevant service providers, the MIS Content Manager will be responsible for the overall and day to day sourcing and placement of content on the MIS, including reviewing and editing of all material as appropriate to best meet end user needs. S/he will have the following main responsibilities:

- Based on a participatory identification of priority content required by farmers and other value chain stakeholders, prepare and implement strategy for developing content, monitor users' satisfaction, and regular update;
- Sourcing and managing content applicable to MVF on the MIS including:
    - Market information
    - Technical topics
    - Stakeholder information, including databases
    - Weather and climate information
    - Transport updates
    - MVF progress, lessons learnt, successful
- Establishing and maintaining a wide ranging and high calibre network of MIS information sources within both the private and public sectors.
- Developing content for inclusion in the MIS with consideration of education and literacy levels of end user groups. This will require extensive utilisation of graphic and audio content so as to maximise MIS accessibility.
- Ensuring all content is in accordance with FPDA and MVF policies and protocols and providing reports on same based on predetermined schedules determined by the PC.
- Collaborate to the ICT-studies on the modalities for developing value chain stakeholders' access to the MIS and reflect outcomes and FPDA/PMU decisions in MIS as appropriate;
- Training and guiding FPDA personnel on all aspects pertaining to the MIS Content Manager function so as to ensure sustainability of the MIS program beyond the life of MVF. This will extend to the creation and implementation within FPDA of best practice Operating and Procedure Manuals for MIS content development and management.

Gender and Social Inclusion (GESI) Officer

Duration of Assignment: Up to six years, following successful completion of as six-month probationary period, with renewable contracts from time to time if performance is satisfactory.

Duty Station: Based in FPDA Goroka, with regular visits to the project sites.

Qualifications and Experience

Higher degree in socio-economics, economics, social sciences or other relevant area. At least 5-year experience in implementing inclusive and gender balanced programmes. Demonstrated skills and track record in undertaking gender and poverty analysis and in designing and implementing GESI programmes. Good knowledge of the Highlands would be an asset. Excellent writing skills, strong networking and relationship building skills, excellent communication skills. Fluency in spoken and written English.

Under the direct supervision of the Project Coordinator, the GESI Officer will be responsible for the overall development, implementation and monitoring of MVF GESI Strategy and Action Plan. S/he will have the following main responsibilities:

- providing guidance to reflect inclusion and gender concerns in the Scoping Study and the Climate Change Assessment Study to be carried out at project inception;
- developing a GESI strategy and action plan, based on the specifications of the Project Design Report (PDR) as well as related practical guidelines and procedures for implementation;
- developing the family-based approach in partnership with the consortium as described in the PDR and ensure that service provision to the partnerships reflects and is harmonised with this approach;
- providing guidance to PMU staff and project implementers to ensure that project activities are inclusive and gender equitable;
- providing guidance so that all capacity building programmes for farming and other value chain stakeholders are inclusive and gender equitable and are aligned with the family-based approach. This includes the development of guidelines and toolkits as appropriate;
- working closely with the M&E/KM Officer to develop and implement the M&E/KM System, so that it allows the monitoring of inclusion and gender aspects;
- support the mainstreaming of gender and inclusion into FPDA's analytical and operational systems, including trainings and the development of guidelines and toolkits as appropriate;
- ensuring that all terms of reference for service providers include the requirement that the latter set up gender-balanced teams that have prior experience with gender mainstreaming, and that contract deliverables reflect gender and inclusion target and indicators;
- ensuring that implementing partners have relevant indicators and information relating to gender and targeting in their contracts/terms of reference/memoranda of understanding;
- contributing to the gender and targeting aspects of the Annual Work Plan and Budget and progress reporting preparation.

Galip Nut Manager

Duration of Assignment: Up to 30 months, following successful completion of a six-month probationary period, with renewable contracts if performance is satisfactory.

In case of a positive independent assessment at the end of the preparatory phase of Sub-component 1.2 – Galip Nut Supply Chain, the position may be extended until the end of the project. Terms of reference will be revised to reflect implementation modalities of the new phase.

Duty Station: Based in FPDA Kokopo, with regular visits to the project sites. This may include regular visits to end markets in Port Moresby and to FPDA Goroka for project coordination meetings.

Qualifications and Experience

A higher degree in agricultural economics, agricultural science, agribusiness, business administration, supply chain management or related discipline relevant to MVF, with extensive knowledge of contemporary issues in production and value chain systems within the agricultural and food industry sectors, particularly in developing countries. A minimum of five years at a senior level in a relevant public institution, the private sector or an international organization, with proven skills in the management and coordination of value chain enhancement initiatives and programmes within the agricultural sector.

The candidate would be expected to have a creative, energetic but pragmatic approach to problem solving and an appreciation of the respective roles of the public and private sectors in rural economic development. Computer literacy is requisite and good command of spoken and written English is essential.

The candidate would be fully aware of and alert to the crosscutting issues of gender, youth, marginalised groups, discrimination and poverty targeting.

Job Description

The Galip Nut Officer will report directly to the Project Coordinator and work collaboratively with FPDA and other PMU personnel. The Galip Nut Officer will be responsible for overseeing the overall and day to day implementation of MVF sub-component 1.2. She/he will have the following main responsibilities, with support from the International Technical Assistance and in close collaboration with FPDA, NARI and ACIAR:

- Facilitate, guide, monitor and report on the implementation of activities in Component 1.2, including the preparation of AWPBs and overall progress reports for Component 1.2;
- Draft a detailed action plan for Component 1.2 preparatory phase;
- In collaboration with NARI, prepare terms of reference for the resource assessment, facilitate and monitor implementation;
- Prepare terms of reference for the short-term technical assistance aiming at supporting the setting up of the plant management operating system and provide regular monitoring of implementation;
- Assist the plant manager, with support from the Production and Value Chain Systems Manager (see below), to organise the supply of galip nuts;
- In collaboration with ACIAR and MVF Policy Development Officer, provide support to the expansion of the Galip Nut Industry Working Group and to the development of an industry roadmap;
- Liaise with ACIAR and ensure coordination and harmonisation of activities between MVF and ACIAR project;
- Assist ACIAR in designing the second phase of its project to ensure coherence and coordination.
- Liaise with PPAP to ensure mutual exchange of knowledge and experience;
- Collaborate with the MIS Content Manager and the Senior M&E/KM Officer so that MIS responds to farmers/traders' priority information needs and incorporates good practices;
- Other tasks that may be assigned by the Project Coordinator.

Accountant

Duration of assignment: Up to six years, following successful completion of a six-month probationary period, with renewable contracts from time to time if performance is satisfactory.

Duty station: Based in FPDA Goroka, with visits to project sites as required for monitoring, reporting and coordination.

Qualifications and experience

An acceptable qualification (BSc or equivalent business college education), with at least three year experience in a public institution and/or the private sector, with proven skills in the procurement and administrative aspects of projects and programmes.

Good interpersonal and communication skills, computer literate, and able to work without supervision and as part of a team.

The candidate would be fully aware of and alert to the crosscutting issues of gender, youth, marginalised groups, discrimination and poverty targeting.

Job Description

Operating within a computerized environment, the accountant will perform the following duties:

- establish and manage a paper filing system of finance documents for the Project Office finance;
- establish and manage a petty cash system for the Project;
- advise Project staff on all travel arrangements, logistics and financial matters;
- work with the FAM to establish/update financial management procedures and systems for the Project;
- provide inputs in the preparation and updates of the PIM and Finance and Administrative Manual;
- assist in providing training to Project staff in the operation of finance procedures and systems;
- assist with the preparation and consolidation of Annual Work Plans and Budgets (AWPBs);
- prepare payment vouchers, withdrawal applications and SOEs for submission certification of the FAM and approval by PC; provide budget allocation and balance after payment in the voucher in accordance with the AWPB and financing agreement; and ensure that all supporting documents of the approved payment vouchers are stamped paid;
- routinely monitor the monthly receipts and payments statements of the Project, check whether expenditure is in-line with AWPB approvals and advise the FAM accordingly;
- assist in the maintenance of financial records and accounts, both paper and electronic;
- assist in the annual audit;
- assist in the preparation of financial progress reports according to the specified reporting schedule in the PIM;
- cooperate with and provide support to supervision, implementation support and evaluation missions as required; and
- any other tasks that may be required by the FAM and the PC.

Procurement Officer

Duration of assignment: Up to six years MVF duration following successful completion of a six-month probationary period, with renewable contracts from time to time if performance is satisfactory.

Duty station: Based in FPDA Goroka and from time to time travel to the field.

Qualifications and experience

An acceptable qualification (BSc or equivalent college education), with at least five years experience at a senior level in a relevant public institution and/or the private sector, with proven skills in the procurement aspects of internationally-financed development programmes.

Good interpersonal and communication skills, computer literate, and able to work without supervision and as part of a team.

The candidate would be fully aware of and alert to the crosscutting issues of gender, youth, marginalised groups, discrimination and poverty targeting.

Job description

The Procurement Officer (PO) is responsible for the management of project procurement in strict accordance with GoPNG regulations and IFAD disbursement procedures and reporting. S/he would report directly to the FAM.

Operating within a computerized environment, the PO would perform the following duties:

- establish and manage a paper filing system for the Project procurement files;
- work with the FO to establish/update procurement procedures and systems for the Project aligned to GoPNG procurement regulations and consistent with IFAD procurement guidelines;
- assist with the preparation and consolidation of the Project Annual Work Plans and Budgets (AWPBs), especially the Annual Procurement Plan (APP);
- compile procurement documents for submission to the Procurement Committee and/orTender Board;
- process the procurement of all goods and services for the Project (Request for Quotations/Proposals, advertisements, bidding documents, deliveries, meetings of Procurement Committee and Tender Board), in line with Project guidelines;
- ensure that the procurement contract register is updated monthly and submitted to IFAD sub—regional office monthly;
- cooperate with and provide support to supervision, implementation support and evaluation missions as required; and
- any other tasks that may be required by the PC.

MVF Liaison Officer (LO)

Duration of assignment: Up to six years, following successful completion of a six-month probationary period, with renewable contracts if performance is satisfactory.

Duty station: Based in DAL, Port Moresby with regular travels to Goroka and project sites as required.

Qualifications and experience

An acceptable qualification (BSc or equivalent college education), with at least five year experience at a senior level in a relevant public institution and/or the private sector, with proven skills in providing support in project coordination of internationally-financed development programmes.

Good interpersonal and communication skills, computer literate, and able to work without supervision and as part of a team.

The candidate would be fully aware of and alert to the crosscutting issues of gender, youth, marginalised groups, discrimination and poverty targeting.

Job description

The MVF Liaison Officer will report directly to the Project Coordinator and work collaboratively with FPDA and other PMU personnel. S/he will be responsible for liaising between the MVF PMU/the Galip Nut Manager in Kokopo on the one hand, and DAL and other stakeholders based in Port Moresby on the other hand. This will include but not be limited to the following tasks and duties:

- Disseminate important information to stakeholders, service providers and business partners in Port Moresby;
- Assist in organizing project activities and represent MVF in public functions to be determine by the Project Coordinator;
- Ensure that WAs and SOEs and other related financial and procurement documents are endorsed and signed in timely manner and submitted to IFAD accordingly;
- Act as secretariat to the Project Steering Committee;
- Other tasks that may be required by the Project Coordinator.

Office Assistant

Duration of assignment: Up to six years, following successful completion of a six-month probationary period, with renewable contracts from time to time if performance is satisfactory.

Duty station: Based in FPDA Goroka.

Qualifications and experience

An acceptable qualification (BSc or equivalent college education), with at least three years experience in a public institution and/or the private sector, with proven skills office filing and procedures and secretarial tasks. Some knowledge of procurement process particularly collection of quotations and inspection of delivery and maintenance of assets will be an asset.

Good interpersonal, and communication skills, computer literate, and able to work without supervision and as part of a team.

Responsibilities

Operating within a computerized environment, the Office Assistant will perform the following duties:

- maintain office files;
- assist Project staff with all travel arrangements;
- assist in organizing and implementing training;
- assist in the upkeep of premises and safe keep of office supplies;
- assist in maintenance of fixed assets and providing tags to each fixed assets;
- assist in maintenance of project vehicles and ensure that regular maintenance is carried;
- assist in providing fuel to the project vehicle;
- assist in the delivery and receipt of fixed assets and supplies and certification of receipt by the PC and units concerned;
- maintain register of incoming and outgoing correspondence for the Project.
- other tasks that maybe assigned by the FAM and PC.

Appendix 6: Planning, M&E and learning and knowledge management

1. **Objectives.** The integrated monitoring and evaluation (M&E) and knowledge management (KM) system will be developed with three main objectives:

- *steer project implementation:* it should provide project stakeholders with information and analysis required to: measure project outcomes; assess project effects on the livelihoods of target groups, and in particular women, poor households and youth; assess the relevance of the project strategy, methodologies and implementation processes; detect difficulties and successes; and support decision-making to improve project performance;
- *support economic decisions and policymaking:* it should provide project stakeholders, in particular farmers and agribusiness partners, service providers, FPDA and the PMU, with the information and analysis they need to assess the return brought by innovation, to develop profitable and sustainable activities and to adapt their strategies accordingly. It should also provide FPDA and DAL with the information needed to make policy decisions;
- *share knowledge and upscale good practices:* it should develop lessons learnt, capture good practices and successful innovation, and share knowledge, with a view to support project performance and policy dialogue.

2. **Strategic principles.** The M&E and KM system will be: (i) *open and easily accessible*, i.e. information and knowledge should be available to all stakeholders and not restricted to PMU or FPDA staff; (ii) *participatory*, i.e. associate project stakeholders in the definition of indicators, data collection, analysis and dissemination of results; (iii*) focused* on analysis, learning and sharing in support of decision-making and policy dialogue, and not merely on data production; (iv) *harmonised* with FPDA information system (see Component 3) and GoPNG relevant information systems; (v) *accountable*: not just upward (to IFAD, GoPNG, co-financiers) but also downward (to project stakeholders and target groups); (vii) *inclusive:* it should have an inclusive approach so that women, poor and marginalised groups participate in the system; and (viii) *phased*, thus small initially and develop progressively as needs and capacities develop.

M&E and KM System

3. **Framework and implementation plans.** The M&E system will be setup and managed by the PMU, in consultation with FPDA and other project stakeholders, including potential lead partners. The system will be harmonised with that of FPDA so that MVF-related data can be easily used by FPDA for its own use.

4. Short-term international technical assistance will be hired by the PMU to: (i) agree on a shared understanding of project objectives, approaches and planned activities; (ii) agree on a broad framework for M&E and KM and on priority actions to implement it; and (iii) identify quantitative and qualitative indicators on a participatory basis, building on the logical framework and on the set of IFAD's Results and Impact Management System (RIMS). The consultant will produce a detailed M&E/KM manual, together with an implementation plan, including capacity development arrangements. S/he will also provide orientations: (i) for the baseline survey, mid-term and completion surveys (see below), to be carried out by a specialised service provider; and (iii) for the mini-baseline surveys to be carried out for each partnership (see below). The PMU will update the implementation plan every year and will translate the manual into an easy-to-grasp version specifically targeting Lead Partners and VEWs. The main features of the M&E/KM system are developed below.

5. **Indicators.** Building on the attached logical framework, output and outcome indicators will be developed with MVF stakeholders. They will be SMART (specific, measurable, achievable, relevant, time-bound), easy to collect and disaggregated by categories of lead partners and target groups. They will include relevant RIMS indicators as well as COSOP indicators. They will cover both quantitative (production, margins, credit management…) and qualitative results (clients' satisfaction). The GESI Specialist will be consulted to ensure that the system adequately monitors inclusion, poverty and gender aspects.

6. PPAP PMUs will be consulted to build on their experience – reporting proved to be a cumbersome task for Lead partners (who will be collecting most of the implementation data) and one they were not used to carry out before entering PPAP-sponsored partnerships. Mitigation measures, to also be discussed with PPAP PMUs, will include: making the M&E system simple and concentrating on key indicators; develop the system progressively, starting with a number of core indicators and expand if needed once Lead Partners' capacities to manage the core system are in place; provide training to Lead partners and Village Extension Workers (VEWs); disseminate guidelines as per above.

7. **Baseline and completion survey**. The PMU will carry a baseline study measuring the status of main indicators at project onset, with assistance from an outsourced qualified consulting firm. The scope of the survey and implementation modalities will be defined by the PMU Senior M&E/KM Officer, and with the M&E/KM consultant hired at the beginning of the project. Target indicators in the attached logical framework will be reviewed based on actual baseline figures.

8. Additionally, mini-baseline surveys will be carried out by Lead partners as part of the partnership preparation process, along a simple e-format to be prepared at project inception by the M&E/KM Officer and the specialized consultant, in consultation with PMU and FPDA staff involved in the implementation of Components 1 and 2. Partnership reporting will also be based on an e-format prepared by the PMU (see below).

9. An impact assessment and outcome survey will be carried out at project mid-term and end, to compare the impact generated by project interventions with the baseline study. Based on these results, the PMU, in consultation with FPDA, will prepare a Project Completion Report to be submitted to IFAD and the GoPNG within three months of project completion.

10. **Planning**. The M&E/KM cycle will start with the preparation of the project Annual Work Plan and Budget (AWPB), which will cover detailed annual planning of activities and implementation responsibilities, physical results targeted, outputs expected, budget and procurement plan. AWPBS will build on:

- AWPBs prepared by Lead partners, in line with the partnership agreement and with support from the Provincial teams;
- AWPBs prepared by CEFI and other service providers;
- Orientations provided by provincial MSPs, in particular for the identification of policy studies.

11. The project AWPB will be collated by the Senior M&E/KM Officer and the Finance and Administration Manager (for budgeting), under the supervision of the Project Coordinator, and it will be submitted to the Project Steering Committee for final approval. All MVF stakeholders will have an active and important role in identifying and reporting data. Provincial teams will make sure that women are adequately represented in this process and that they are allowed to voice specific concerns.

12. **Data collection.** Data will be collected against both qualitative and quantitative indicators and disaggregated by gender, along forms to be proposed by the M&E/KM consultant and the following levels:

- ***partnership level***, where information will be gathered by Lead partners and Village Extension Workers, with support from the Provincial teams. Partnership agreements signed with the PMU will spell data collection (including for the mini-baseline survey) and reporting obligations. VEWs will receive a tablet to support M&E data collection Disbursements will only be approved by the PMU if reporting obligations are met. Indicators should measure two complementary dimensions:
    - *Outcome/output achievement*, i.e. the degree of attainment of MVF main expected outputs (such as numbers of farming households trained) and outcomes (such as increased yields or percentages of farmers applying improved techniques);
    - *Sustainability*, i.e. partnership effectiveness in building farmers' sustainable access to services and markets. A set of key indicators should be built for every type of service (mainly input delivery; technical advisory services; collection/aggregation; value adding/processing; financial services) and for market access. Indicators should also measure farmers' organisations' management and capacity to deliver services to members;

- ***provincial level*,** where partnership information will be consolidated, together with data on implementation of service providers' contracts (including financial institutions) in the province;
- ***PMU level,*** information will encompass overall project performance and will be the responsibility of the Senior M&E Officer.

13. **MIS**. MVF will develop a Management Information System (MIS) to support data management. The MIS will track and regularly update gender-disaggregated financial and technical data on project outputs and outcomes, lessons learnt, good practices, and other important sector information (see details in Appendix 4, Component 1).

14. **Analysis**. Data will be consolidated and analysed so as to provide information on the performance of the various components, detect problems, identify possible solutions and track good practices to share through the knowledge management system. A monthly dashboard will be issued by the PMU, which will be electronically distributed and will disclose project performance and achievements to project stakeholders.

15. The system will be modelled after the experience of IFAD-financed Coastal Community Development Project (CCDP) in Indonesia[27]. The project budget includes a study tour to Indonesia for the Project Coordinator, the M&E/KM Officer and one FPDA staff. The study tour would also aim at getting acquainted with other features of the CCDP M&E system that might be adapted in MVF such as community-based M&E and knowledge management throughout the project and different locations. The study tour will be prepared along the Learning Route methodology (see below), whereby visitors and CCDP would jointly identify trip objectives and ways to address them, and visitors would prepare a plan as to how they would envisage replication in MVF with CCDP support and prior to leaving Indonesia.

16. **Reporting**. The PMU will prepare semi-annual progress reports, which will record technical and financial achievements, and include an analysis as above. A drat structure of semi-annual reports is presented in Attachment 1. Progress reports will be channelled to the Project Steering Committee and to IFAD for discussion and review. Semi-annual progress reports will build on:

- *Partnership reports:* the Lead partner for each partnership project supported by MVF will be required to submit brief progress reports using a simple template to be provided by the PMU, and with support from the Provincial Team. These reports are to be submitted to support each request for disbursement of the next tranche of funding from the project, as described in the specific Partnership Agreement. The Production and Value Chain Systems Manager and the Senior M&E/KM Officer will propose a participatory approach (for example building on VEWs) to develop a report, and propose a simple format. Progress reports should be short, but include at least the following information: financial summary (using a short table), main activities against the partnership plan, number and description of beneficiaries. Partnership progress reports will be signed by the representatives of the partners (Lead Partner and others), submitted to the relevant Provincial Team, which will verify them, and will channel them to the PMU with their comments and recommendations. The Production and Value Chain Systems Manager and the Senior M&E/KM Officer will provide capacity building to the Provincial Team to assist partnerships in this process;
- *Provincial Team Reports:* Provincial Teams will prepare semi-annual progress reports, along a format that will be developed by the PMU and that will be similar to that of the project progress report.

17. **M&E capacity development**. MVF will provide capacity building trainings to PMU/Provincial Teams and relevant FPDA staff. The Senior M&E/KM Officer will design a capacity building plan, based on prior capacity assessment, to support the PMU/FPDA and the Provincial Teams on both concepts and practical skills to manage the M&E system, especially data collection, data analysis and reporting. Short-term technical assistance could be hired if needed.

[27] https://asia.ifad.org/web/ccdp/resources/-/resource_library/7805/newsletter.

Inception, Reviews and Surveys

18. **Inception.** An inception workshop will be organised with project stakeholders and implementing partners to: (i) ensure that all partners understand and agree on the scope and implementing modalities of the project; (ii) introduce key processes, tools, strategies for M&E and KM; and (iii) build relationships for future knowledge sharing.

19. **Implementation Support.** Annual Implementation Support Missions (ISMs) will be organised by IFAD jointly with GoPNG and participating donors, in close collaboration with FPDA, Provincial Teams and project stakeholders. ISMs will offer an opportunity to assess achievements and lessons jointly, to review innovations, and to reflect on improvement measures. Missions will therefore be an integral part of the KM cycle, with mission members playing a supportive and coaching role. To ensure continuity in the process, ISMs will be carried out by a core team of resource persons returning regularly, joined by specialists to address specific needs of a given year.

20. **Interim reviews.** Two interim reviews will be organised by IFAD, the GoPNG and participating donors, at the end of year three and in year five. The reviews will: (i) assess achievements and interim impact, the efficiency and effectiveness of MVF management, and the continued validity of MVF design; (ii) identify key lessons learnt and good practices; and (iii) provide recommendations for improved performance. Specific issues to be addressed include the following:

- Effectiveness and performance of partnerships in providing village farming households with continued access to services and to markets, including once the partnership is over (and plans in this respect);
- Performance of partners (farmers and agribusiness), in terms of productivity, quality, and profitability, with special attention to women and disadvantaged groups;
- Efficiency and effectiveness of the entire partnership project management process;
- Progress in gender equality and social inclusion, as per the GESI strategy, and effectiveness of targeting and of the family-based approach;
- Business linkages and identification of most performing business models and opportunities for scaling up;
- Performance of financial institutions in delivering project-supported financial instruments and in improving financial inclusion in the financial sector;
- Progress and effectiveness of value chain organisation and institution building;
- Role and impact of the multi-stakeholders' platforms;
- Performance of the PMU and of key implementation partners, in terms of required reporting, disbursement targets, implementation schedule and resolving implementation issues.

21. Both interim reviews will make recommendations with regard to key measures required to secure the sustainability of partnerships and of farmers' access to services and markets. Furthermore, the first interim review will build on the results of the independent assessment of the demonstration of a viable business model for the commercial processing of galip nuts to decide whether to go ahead with the financing of a commercial plant (also defining the modalities) or to reallocate resources.

22. **Impact assessment.** Impact surveys will be carried out in preparation to the second interim review (end of 2021) and again prior to project completion to measure changes at beneficiary level, compared to the baseline study. They will be undertaken by the PMU with the support of a service provider, in line with the IFAD's RIMS Impact Survey Guidelines. Tools such as case studies, the Most Significant Changes and photo stories will be used to collect qualitative information through a participatory approach. Survey data and analysis will be shared with the multi-stakeholders' platforms.

Knowledge Management

23. **Objective.** The objective of knowledge management is to ensure that knowledge generated within the project is systematically identified, analysed, documented and shared, and that it is used to: (i) improve project performance and delivery; (ii) allow flexibility to changing circumstances; (iii) document and share innovations, best practices and stories of successes and failures to improve project intervention;(iv) provide information to support decisions on up-scaling to be made at mid-term review (see above); (v) identify important issues to convey to policy makers.

24. **KM Framework and Implementation Plan.** In consultation with project stakeholders and in collaboration with the Senior M&E/KM Officer, the same consultant hired to design the M&E system will prepare a detailed KM framework (as part of the M&E/KM manual). The framework will include objectives, responsibilities and methodology, together with an implementation plan for the first year. It will also include a communication strategy, which will outline how knowledge will be disseminated and will identify most appropriate communication channels according to the target audience. The M&E/KM consultant will further provide technical guidance in implementing the system and further improving it based on experience, through annual or biannual follow-up missions. The plan will be updated every year.

25. Areas in which project stakeholders intend detecting good practice and developing exchange of knowledge will be identified on an annual basis through multi-stakeholders' platforms at provincial and national level and at the Project Steering Committee. Good practices will be traced by Provincial Teams, with support from the Senior M&E/KM Officer and along a participatory methodology to be described in the M&E/KM Manual. Knowledge will be disseminated to project stakeholders, so that they can strengthen their capacities and improve performance. Products will be adapted to different types of audiences, including illiterate ones (see details in Appendix 4, Component 3). Particular attention will be given to documenting innovative models for: (i) business models for ensuring farmers' access to services and markets, in the framework of MVF-supported partnerships; (ii) innovative models for accessing financial services; (iii) Family-based approach.

26. Information and knowledge will be shared at three levels:

- *provincial level:* provincial MSPs will provide a venue for discussing project achievements and innovations, identifying successes and problems as well as good practices, discussing possible solutions including non-project based solutions, and identify policy issues. MSPs meetings and facilitation will be provided by Provincial Teams, with support from the PMU;
- *PMU/FPDA level:* the KM Officer will be responsible for developing knowledge and communication products (see Appendix 4, Component 3) and an M&E/KM workshop will be organised on an annual basis with project stakeholders. Knowledge products will also be presented and discussed at the Project Steering Committee, where in particular policy issues will be highlighted;
- *inter-project:* knowledge will be shared with PPAP PCU and PMUs. A Community of Practice could be set up with MVF and PPAP M&E/KM officers to share knowledge.

Attachment 1

CONTENT OF SEMI-ANNUAL PROGRESS REPORTS[28]

I. Executive Summary

a. Overall progress with implementation and semester highlights
b. Key issues and actions taken
c. Key points on which Project Steering Committee and IFAD guidance is sought (as needed)

II. Progress with component implementation *[For each component, discuss progress with activities for the period against agreed program of activities and results framework, identify problems and possible solutions]*

a. Component 1 – Activity implemented and results against work plan
b. Component 2 – Activity implemented and results against work plan
c. Component 3 – Activity implemented and results against work plan

III. Progress in meeting legal covenants *[Report progress towards legal covenants in Financing Agreement]*

IV. Progress with Agreed Action Plan to [date]
[Discuss progress and include action plan in annex 1]

V. Financial Monitoring

a. Financial management status *[include new commitments disbursement data, audit status, etc., and refer to tables in annex 2]*
b. Procurement status *[Discuss procurement status and refer to table in annex 3]*

VI. Key Indicators *[Discuss general progress and refer to tables in annex 4]*

VII. Knowledge Management *[Present key KM activities, good practices and important lessons learnt]*

VIII. **Work Program for the next 6 months** *[Discuss key activities for the coming period and any adjustment to the Program of Activities; Annex revised MOPs when relevant for the semi-annual progress reports]*

IX. Annexes

Annex 1 – Status of Agreed Action Plan
Annex 2 – Financial Management Report
Annex 3 – Procurement Status Report
Annex 4 – Progress against results framework and key indicators
Annex 5 – Summary status of each partnership

[28] Adapted from PPAP Project Implementation Manual.

Appendix 7: Financial management and disbursement arrangements

Overall system

27. DAL will have overall accountability for the Project, including fiduciary aspects. The Project Steering Committee (PSC) will approve the project's annual work plans and budgets (AWPBs) and Procurement Plans, for IFAD´s no objection. A good governance and mutual accountability framework (IFAD and GoPNG) will be adopted to strengthen accountabilities and transparency, in line with international best practices.

28. The day to day implementation will be delegated by DAL to the PMU embedded within FPDA, which will be responsible for day to day financial management activities, including accounting, reporting and coordinating audit processes

29. DAL will request DOF to open two Trust Bank Accounts for FPDA/PMU to received funds from IFAD and from the government, beneficiaries and partners and one trust bank account for the FPDA Provincial Team to receive IFAD funds to cover operations costs.

30. MVF financial management will be governed by the Department of Finance (DoF) regulations and will be in line with IFAD Financial Guidelines and Disbursement Handbook, as well as FPDA financial policies and procedures. The financial management system will be under the overall responsibility of MVF PMU Project Coordinator and the Financial and Administrative Manager. Project financial management arrangements will ensure that: (i) funds are used only for the purpose intended under the Financing Agreement, in an efficient and economical way and in accordance with the activities described in the Project Design Report and in the Annual Work Plans and Budgets (AWPBs) and Procurement Plans ; (ii) the disbursement of project funds facilitates the timely implementation of activities; (iii) funds are properly managed, disbursed and documented and flow rapidly, smoothly, adequately, regularly and predictably; (iv) accurate financial reports are issued on a timely basis; (v) a robust flow of reliable information on project activities facilitates accountability, transparency and disclosure; and (vi) project resources and assets are safeguarded.

31. Main features of the financial management system will be as follows: (i) establishment of the PMU with delegated authority to plan, manage, disburse and control project resources (including counterpart financing); (ii) hiring of key financial management and administrative staff from the market with relevant experience and qualifications and establishing PMU office with enough office facilities and equipment; (iv) establishment of Provincial Team offices; (iii) preparation of AWPBs and 18-month Procurement plan, for review by DAL Finance Branch and approval by PSC and IFAD; (iv) procurement and installation of an accounting software, and associated staff capacity building; (v) preparation of a Financial Management Manual and consistent with FPDA financial policies and IFAD financial and disbursement guidelines; (vi) establishment of a control framework integrating periodic internal audits and annual external audits, and social safeguards to be adopted based on IFAD policies; (vii) adoption of a good governance and mutual (IFAD and GoPNG) accountability framework to strengthen accountability and transparency in line with international best practices.

32. The Executing Agency is the Department of Agriculture and Livestock (DAL) while the Implementing Agency is the Fresh Produce Development Agency (FPDA). A Project Management Unit (PMU) will be embedded in the organisational structure of FPDA and work hand in hand with FPDA divisions : the Corporate Affairs Division, the Policy, Planning and Communication Division and the Production and Value Chain System Division. A Project Coordination Unit will be established within DAL to ensure effective coordination and oversight.

Financial Management Risk Assessment

33. PFM **assessment.** Inherent risks at country level are rated as high. The latest review of Public Financial Management (PFM), which was conducted in 2015 by the International Monetary Fund (IMF) at the request of the GoPNG. The risk assessment was based on the PEFA framework and its seven pillars. PNG scores well on Pillar I - Credibility of fiscal strategy and budget. This score reflects the fact that the variance between the original budget and actual outturn at aggregate level was kept at a minimum, whereas the composition of expenditure by economic and administrative classification is

substantial. PNG's performance also scores well on Pillar IV – Policy based planning and budgeting – and Pillar II – Comprehensiveness and transparency, which suggests that the budget preparation process supports the use of the budget as a policy tool and that budget information is available. PNG's performance on other pillars, however, is weaker. There is considerable scope for improvement with regard to: accountability, one of the corner principles of good PFM (Pillars V and VII); the management of public assets, liabilities and associated fiscal risks (Pillar III); and the quality, availability, comprehensiveness and timeliness of fiscal accounts (Pillar VI). Detailed excerpts from the report are provided hereafter.

- *Credibility of fiscal strategy and budget.* The aggregate credibility of the budget appears satisfactory as overall deviations from the original budget estimates were relatively small, though expenditure composition shows a high level of variance. Spending on wages and salaries, goods and services and other items of recurrent expenditure tends to be higher than the approved budget, and spending on the development budget to be lower than the approved amounts. The under- spending in development expenditure was mainly due to capacity limitations, weak project implementation and possibly a lack of reporting on execution of donor-funded projects. Over-spending in the recurrent budget can be attributed to weaknesses in expenditure controls, including inadequate commitment controls;
- *Budget comprehensiveness and transparency.* The classification of the budget is reasonably robust, but two financial systems (Integrated Financial Management System - IFMS and Papua New Guinea Accounting System - PGAS) used by the departments adopt different classifications, which impacts negatively on the comprehensiveness and quality of data in the budget execution reports. The extent of unreported government operations appears to be large, but given the number of entities involved and weaknesses of reporting, it was difficult to quantify;
- *Asset and liability management.* This is deemed one of the weakest areas in PNG's PFM system. Many of the government entities are several years in arrears in submitting their annual financial statements, and many have received audit disclaimers or adverse opinions. Few departments undertake rigorous economic analysis of proposed public investment projects or provide systematic reports on the physical and financial progress of these projects. The legal basis for borrowing and the issuance of government guarantees is unclear, fragmented and to some degree contradictory. As a result there are gaps in the coverage of reports and some loans might not be reflected in the system. No register of the guarantees issued by the government has been set up. There are also no mechanisms for recording and monitoring payment arrears;
- *Policy-based planning and budgeting.* PNG's budget process is orderly and well understood, and some progress has been made in embedding the medium-term dimension into fiscal planning. The government prepares a broadly credible medium-term fiscal strategy (MTFS) comprising fiscal targets established in law. The MTFS is used to prepare an overall resource envelope for public expenditure and individual ceilings for spending agencies, but these ceilings are prepared for a single year only and do not cover half of the budget representing development/capital expenditure;
- *Predictability and control in budget execution.* The control of budget execution is weak. PNG's main revenue collecting agencies, the Internal Revenue Commission (IRC) and the Customs Service, collect about 96 percent of PNG's domestically generated revenues. Bank reconciliations are a major problem, with long backlogs for some accounts. A cash flow forecast is prepared for the fiscal year, and is updated weekly on the basis of actual inflows and outflows. Departments are advised one month in advance of their monthly warrant ceilings, but the information is not fully reliable. The current rules allow extensive administrative reallocation with Treasury approval and are not always respected. Payroll controls are weak, and are compromised by the decentralization of responsibility for controls and reconciliations to the spending departments and provinces. Non-compliance with internal control regulations, numerous reallocation decisions and delays in implementing the IFMS further impede the ability of the government to implement the budget as originally approved;
- *Accounting, recording and reporting;* There are concerns regarding the persistent lack of reliability of accounting records. Many bank reconciliations are not carried out in a timely manner, and backlogs arise in the clearance of suspense accounts and advances. Even if reconciliations are completed, there are many significant unresolved items. While the government prepares different types of in-year reports, the coverage and classification of data do not allow direct comparison to be made with the original approved budget and the information is not up-to-date. No recognized

accounting standards are used to prepare central government financial statements. The financial statements are only submitted for audit 15-16 months after the end of the year concerned, compared to the good practice standard of 3-6 months. The quality and timeliness of the annual financial statements have been criticized by the Auditor General.

- *External scrutiny and audit.* There is annual coverage of all government entities, using professional standards and highlighting material issues and systemic risks. The Office of the Auditor General (AGO) undertakes mainly financial and compliance audits, together with some performance audits. The audits follow a systems- and risk-based approach. The Public Accounts Committee (PAC) holds in depth hearings on the AGO's reports, and also makes recommendations, focusing on entities which have received adverse comments. There is little evidence, however, that the findings and recommendations of AGO or PAC reports are followed up systematically. This finding reflects the absence of effective accountability mechanisms in the Government, and the absence of legal recourse to impose penalties on non-complying officials for breaches of the law and financial misconduct.
- *PFM reform process.* A piecemeal approach is currently taken to the planning and management of PFM reforms. Recent efforts have been made to address some of the deficiencies of the current systems and processes, but the institutional arrangements for planning and managing the PFM reform process need to be strengthened. Nevertheless, the authorities are keenly aware of the need to address underlying PFM weaknesses at a pace allowed by the political and economic conditions in PNG. The significant deficiencies of the existing PFM systems require a strategic approach to developing and implementing a reform agenda. The assessment identifies a broad range of issues that need to be addressed, some urgently, some over the medium-term. Many of these reforms are substantial and technically and politically challenging and call for considerable dedication and commitment not only from the staff in the Departments of Finance and Treasury, but also at the political level and other departments of government. The authorities should prepare an action plan that identifies the priority areas and appropriate sequencing of PFM reforms, together with measures to address the accountability gap in PNG. The process of implementing and internalising PFM reform initiatives is constrained by limitations of capacity at all levels in the DoF and in the line departments, as well as by weak institutions and poor financial integrity. Reform measures will need to be carefully prioritized and sequenced so as not to overload the limited capacity. The first priority should be placed on strengthening core functions of PFM systems which will provide the platform for more advanced reforms. Advanced reforms will generally not produce any significant results before core functions of the PFM system are in place. For instance, performance budgets will not serve any meaningful purpose in the absence of timely and reliable budget reports. Issues related to the enforcement of financial regulations also need to be addressed.

34. Mission assessment. A financial management (FM) risk assessment has been completed in accordance with IFAD Financial Services Division (CFS) guidelines, in order to ensure that adequate FM arrangements are in place, that project funds will be used for the purposes intended, with due consideration to efficiency and economy, that project financial reports will be prepared in an accurate, reliable and timely manner, and project assets will be safeguarded. The FM assessment is based on discussions with officers and staff of DAL, FPDA (headquarters in Goroka, and provincial offices in Morobe and Rabaul), DoF, DoT, Bank of Papua New Guinea and PPAP Coordination and Management Units.

35. Financial management risk as assessed at the time of design was rated High.

36. DAL is currently implementing PPAP, a World Bank (WB) project co-financed by IFAD and EU. The project applies the WB procedures. FPDA has experience only in implementing a research project funded by ACIAR. Neither DAL or FPDA have experience in the direct implementation of an IFAD-funded project. Potential issues include:

- Coordination between DAL and FPDA/MVF in terms of staff, procedures and systems: Since DAL will review the submission of WA and SOEs, it is important that FPDA/MVF will provide the supporting documentation that adheres to the GoPNG financial and procurement regulations. The PMU will be set up to support the FPDA in the financial management of the Project.
- Coordination between DAL and the FPDA/MVF responsible for administering the Bank Accounts, the authorization and submission Withdrawal Applications and reporting. There could be

bottlenecks or delays in the submission with DAL reviewing the documents. However, the PIM will provide the detail procedure and timeliness of the process.

- Strict adherence to the provisions as provided in the GoPNG Public Finance Management Act of 1995 as amended in 2015, as well as the financial policies and procedures of FPDA and IFAD financial and disbursement guidelines. The PIM will cover provisions to align GoPNG financial regulations with IFAD disbursements and reporting requirements. Trainings of PMU and FPDA staff will be provided at the start up and will be a continuing process on capacity building.
- The Imprest Fund arrangement for the disbursements of loan is a new concept for the DAL/FPDA. Procedure, documentation and thresholds will be provided in the Letter to the Borrower as well as the PIM.

37. To mitigate the risks linked to the PFM assessment and the design mission own assessment, the mission advised DAL and FPDA to adopt the following measures for the implementation of MVF:

- *PCU:* a Project Coordination Unit will be established within DAL to ensure that the MVF received strengthened support and oversight from DAL.
- *PMU:* creation of a PMU which will include a Project Coordinator, a Finance and Administrative Manager, a Procurement Officer, a Contract Management Officer and an Accountant. The PMU and FPDA Finance Unit staff will be provided with adequate training by DAL, FPDA and IFAD. In case of unforeseen absence, termination or resignation of staff, the FPDA staff could take on the work of the PMU staff until a replacement staff has been in place.
- *Accounting software:* procurement of an accounting software such as MYOB (similar to what FPDA uses currently) for maintaining project accounts and generating the required financial reports for timely submission to IFAD;
- *Bank accounts:* in line with IFAD disbursement procedures and GoPNG financial policies, three bank accounts in local currency will be opened by DoF upon request from DAL/FPDA; (i) one for the IFAD loan (the Designated Account – DA); (ii) one for the government contribution (the Project Bank Account - PBA). FPDA, as recipient of the loan proceeds and government contributions, will have to open two Designated Accounts (DA) in a commercial bank acceptable to IFAD to receive IFAD funds and government contributions in local currency. Payments for project expenditures will be made by checks processed by the implementing agency. The opening and maintenance of separate accounts is imperative as it will facilitate the identification, segregation and reporting of project financial transactions and reconciliation of project funds as evidenced by bank statements;
- *Internal auditors:* appointment of an Internal Auditors (from DoF) for periodic compliance audit and review of internal control process of the project.
- *External audit:* The project will be audited by the Office of the Auditor General (AGO) or by a private firm outsourced by AGO, in line with current practice for the IFAD co-financed project administered by the World Bank (PPAP). The audit will carried out on a yearly basis and in compliance with International Standards on Auditing and the IFAD Guidelines on Project Audits.
- *Manuals:* adoption of a Project Implementation Manual (PIM) and a Finance and Administrative Manual (providing detailed procedures on financial management and procurement) in line with GoPNG financial regulations, Public Management Act, FPDA financial policies and consistent with IFAD financial guidelines and disbursement handbook.

Implementation Arrangements

38. The Executing Agency (EA) is the Department of Agriculture and Livestock (DAL) while the Implementing Agency (IA) is FPDA. The IA is responsible for implementing the Project. The Secretary of DAL will chair the Project Steering Committee (PSC), which will approve project AWPBs and Procurement Plans and submit them to IFAD for no- objection through a PCU.

39. DAL will ensure that project activities are in accordance with the approved AWPB, Statements of Expenditure (SOEs), Financial Report for Sources and Uses of Funds and that actual expenditure are in line with the budget. DAL will also endorse Withdrawal Applications prepared by FPDA/PMU together with SOEs, and submit them to the Department of Treasury (DoT) for signature and further transmission to IFAD for funds release. Together with FPDA/PMU, DAL will ensure that the

disbursement of funds is in accordance with the GoPNG financial and procurement regulations, the Financing Agreement, the Letter to the Borrower and IFAD Loan Disbursement Handbook. FPDA/PMU will submit the required financial and progress reports through DAL to IFAD in a timely manner. An internal auditor from the Department of Finance (DoF) will conduct periodic compliance audit of the Project. The project will be audited by the Office of the Auditor General (AGO) or by a private firm outsourced by AGO...

40. Accounting systems, policies, procedures and reporting. The PMU will be accountable to DAL and the PSC, and will maintain a full set of accounts in accordance with the international public sector accounting standards (IPSAS) and IFAD requirements on modified cash basis (with advances recognised and acquitted in time with adequate documentation). The project will be required to maintain a full set of accounts in accordance with the International Public Sector Accounting Standards (IPSAS).

41. The PMU will procure an accounting software through a service provider that will be tasked with installing and operationalising it. The accounting software and chart of accounts will be set up to ensure separate project accounts to monitor implementation progress, identify works, goods and services, and disclose their use in the project. The PMU Financial and Administration Manager, Accountant and Procurement Officer will be trained in using the accounting software by the service provider, which will also commit to providing periodic off-site and on-site support as well as training at least for the first two year.

42. Budgeting. The PMU will be responsible for preparation of the budget as part of the AWPB exercise. Annual budgets will be supported by a narrative of proposed activities aligned with the logical framework indicators. The project will be required to prepare its AWPB as part of the start-up activities, including the initial 18- month procurement plan in line with the project design and budget, and in consultation with the stakeholders. The AWPB will be subject to the approval of the PSC through DAL and submitted to IFAD for no-objection. Subsequent AWPBs and Annual Procurement Plans will be prepared in consultation with stakeholders, implementing partners and service providers for approval by the PSC through DAL and will be submitted to IFAD for no-objection at least two months before the start of the fiscal year.

43. Flow of funds and disbursements. In line with the GoPNG and IFAD disbursements procedures, funds will be transferred by IFAD to the MVF Designated Account (DA) in local currency, which will be maintained in a commercial bank acceptable to IFAD as authorized by DoF (the bank will automatically convert the foreign exchange remittance of IFAD into the local currency). The DA will be used to cover project expenditure. Payments against the DA will be by cheque signed by the PMU Project Coordinator (PC) and countersigned by FPDA General Manager (GM) or the FPDA Corporate Affairs Division Manager (CADM). In case of long absence of the PC, both GM and the CADM could sign the check. Another Project Bank Account, as authorised by DoF, will be opened by FPDA/PMU to receive GoPNG contributions (including the provincial and district contributions), partners and beneficiaries. Acquittal will be quarterly or once 70 percent of the funds have been spent whichever comes earlier, with appropriate supporting documents and SOEs.

44. An Authorized Allocation equivalent to a maximum of USD1.8 million to cover at least six months of eligible expenditure during implementation will be transferred to the DA once the conditions for the initial disbursement spelled out in the Financing Agreement are met. The initial deposits of up to USD1.8 million will be considered as the Imprest Fund Level and could be replenished by way of submission of WA and SoE every time that at least 50% of the Imprest Fund has been spent or 90 days have elapsed on the date of the fund transferred from the previous WA advance, whichever comes first. IFAD will open Loan Accounts in its books upon entry into force of the Financing Agreement. Withdrawals from the Loan Account will be made on the basis of Withdrawal Applications (WAs) with appropriate supporting documentation (such as SOEs, Reconciliation of DA, bank statements) prepared by the PMU (signed by the PMU PC and FAM). The WAs (with initials of PC, FAM, FPDA GM) with supporting SOEs and financial documents will be submitted with a cover letter signed by the FPDA GM to DAL for review and DoT for approval, and onward submission to IFAD for fund release.

45. Funds equivalent to USD700,000 will be released to the DA upon entry in force of the Financing Agreement and contingent on: opening of the DA; appointment of the PMU PC; receipt of certification from the DAL/FPDA signatories of DoT on the WA and bank accounts. The funds that will be released for the start-up costs will form part of the IFAD initial disbursements of up to USD1.8 million to the DA

bank account of FPDA/PMU, to cover an average 6-month budget of the Project and will constitute the level of imprest account.

46. Once MVF Financing Agreement is effective, the PMU will immediately apply to PNG tax authorities to register as an exempt entity, thereby enabling the project to seek refund of the Goods and services Tax (GST).

47. Disbursement procedures and documentation supporting the WAs. Replenishments of the DA will be effected through the submission of WAs and supporting documentation and/or Statements of Expenditure (SoE). SoE threshold is set up to USD 50,000 maximum single disbursement for all expenditure. Any expenditure of more than USD 50,000 will be fully documented upon submission and as attachment to the WA. All WAs will be in line with projected expenditure as detailed in the approved AWPBs. The PMU will be responsible for the preparation and consolidation of SOEs from the financial data outputs of the accounting software, the reconciliation of the DA and PBA against bank statements, and completion of appropriate documentation and the WAs, which will be approved and signed by respective signatories of PMU (PC and FAM) and DoT for the WA, prior to being submitted to IFAD for fund transfer. The IFAD Disbursement Handbook provide the details of disbursement procedures and documentation. Further, a Letter to the Borrower (LTB) detailing disbursement procedure, documentation, procurement and audit will be issued by IFAD immediately upon execution of the FA.

48. Disbursement schedule. The proceeds from the IFAD Loan will be disbursed over six years with an indicative completion date of 31 December 2023 and closing date of 30 June 2024.

49. Internal Control System - Approvals, acquittals and authorisations. The FPDA PMU will be responsible for completing the documentation for payments. All transfers from IFAD to the DA must be in line with the current AWPB and will be subject to satisfactory submission of SOEs (except the initial disbursements deposits to the DA/PA will not be supported with SoE). Each AWPB must be formally approved by the PSC as endorsed by DAL and submitted to IFAD for no-objection prior to any expenditure being incurred against these plans and budgets; and all WAs (and accompanying SOEs signed by FAM and PC) must be submitted by a cover letter of FPDA GM to DAL for review and endorsement to DoT for signature, and then submission to IFAD for fund release.

50. The FAM will certify while the PC will approve all Requests for Payment (RFP) for issuance of cheque payments against the DA. The RFP with all the appropriate documentation (including certification of delivery and inspection reports for procurement and certification of submission of report, in case of consultancy and service providers contract) will be submitted to the PMU Accountant for clearance of budget and funds availability and processing of payment. The PMU FAM is the certifying officer while the PC is the approving officer. An alternate certifying officer and approving officer will be appointed by FPDA. All payments against PA will be processed subject to completion of a RFP which will provide the details of the payments with reference to the budget category and component code, budget availability in the AWPB and properly supported with appropriate procurement documents, invoices, delivery receipts, certification of delivery and inspection or certification of acceptable report submission and other relevant financial documentation. Cheques will be signed by the PC and countersigned by the FPDA GM or CADM. The disbursements and approval process will be detailed in the PIM.

51. Contracts with service providers. A contract will be established with each service provider, which should include: declaration by the service provider to commit to the objectives of MVF and undertake to carry out the project activities in accordance with the Financing Agreement between GoPNG and IFAD; process for annual planning and fund flow arrangements; physical and financial reporting requirements; auditing and submission of Financial Statements to FPDA/PMU; adherence to IFAD and GoPNG Financial and Procurement Guidelines and approved Procurement Plan; and applicability of IFAD/GoPNG Policy on Fraud and Anti-corruption. Furthermore, all service providers' contracts will stipulate clear deliverables with a timeframe and quantified expected outputs/outcomes, and they will specify responsibilities with regard to monitoring and reporting, including the information of progress indicators as set forth in the contract. One-year contracts will be renewed based on satisfactory performance. Payments will be made on certification of the FPDA/PMU of satisfactory performance of the service provider and implementing partners in accordance with Work Plan and Budget and deliverables and acceptance of required reports by the PMU.

52. Financial accounting and reporting. Financial statements will be prepared in line with International Public Sector Accounting Standards (IPSAS) for every fiscal year. The PMU will generate quarterly financial reports to be submitted to DAL, DoF and IFAD. Consolidated financial reports for each source of financing will include: (i) statement of sources and uses of funds by category and component with information on resources received, cash forecasted, and analysis of actual vs. budgeted expenditures; (ii) vendor reports on contracts, disbursements and progress against milestones; (iii) outstanding advances and unpaid commitments.

53. The Auditor General Office (AGO) of PNG will be the auditor to MVF, unless AGO outsources an external auditor on behalf of the project. The External Auditor will be contracted to undertake an annual audit of the MVF accounts in line with the Audit terms of reference to be provided in the PIM on the basis of financial statements prepared at the latest two months after the end of the fiscal year, and with the No-objection of IFAD. The audit will: review transactions in the DA and PA on the basis of SoEs and related documentation; examine the application of USD exchange rates against PGK so as to be consistent with IFAD policy regarding the conversion of foreign currency to local currency; review the procurement processes; analyse internal controls; and provide an opinion on whether expenditure fully comply with eligible expenditure for IFAD disbursements in line with IFAD's Projects Audit Guidelines. The report will include an opinion on the financial statements, as well as an opinion on the use of the DA and PA and on the documentation kept by the PMU and FPDA provincial offices to support the SOEs. The external auditor will submit audited financial statements along with the related opinions and management letter no later than six months after the end of each fiscal year. The management letter will include audit observations with opinion on internal control systems and recommendations for improvement. IFAD will provide its feedback on the quality of the audit report and will ensure follow up on audit observations through supervision missions.

54. The GoPNG DoF Internal Audit Office will undertake periodic compliance audit of the Project on internal control, disbursement and procurement processes and documentation of the project and provide audit reports to the PSC.

55. The Project FAM will manage the overall accounting system and will be responsible for ensuring that the PMU staff maintain records and adequate documentation of all Project expenditure.

56. Government contribution. Government will ensure that counterpart funds are budgeted in relevant national annual budgets, including province and district budgets (PSIP and DSIP, or own resources), and that these resources are released to the project account on a timely basis. GoPNG will contribute to the project in the form of waived taxes, salaries of staff and contributions from the provinces and districts. The proceeds of the IFAD financing may not be used to pay taxes. The GoPNG contribution will be reflected in the terms of the Financing Agreement to be established between IFAD and GoPNG. The GoPNG will provide the project with official tax-exempt status. The GoPNG contributions will be accounted by the PMU every six months and included in the Financial Report.

57. Conditions for disbursement (initial disbursements) from the Loan Account. An initial Authorized Allocation equivalent to an average of six-months of eligible expenditure during Project implementation (initial disbursement of up to USD1.8 million) is foreseen, as the Imprest Account authorized allocation (and may be adjusted to the appropriate level based on the AWPB total amount and as authorized by IFAD), once the following conditions for disbursement are met:

- PMU established and the Project Coordinator, Finance and Administration Manager, Procurement Officer and Contract Management Officer have been recruited;
- DA and PA trust bank accounts have been opened in PMU and FPDA five Province Offices;
- PMU has prepared the first AWPB and related 18-month Procurement Plan, approved by PSC and submitted to IFAD for "no objection";
- PMU has presented a tax exemption and the Tax Department has provided the project with official tax-exempt status;
- Submission of draft PIM to IFAD for no-objection;
- No disbursement or fund transfer will be made to Simbu and Jiwaka Provinces until the said provincial offices with assigned FPDA Field Manager, Administrative Assistant and two district officers have been seconded by the PNG Provincial Government.

58. The only exception to the pre-conditions on the authorised allocation (initial disbursement) will be for project start-up expenditure of up to USD700,000 (this amount will form part of the 1.8 million authorised allocation) to cover the procurement of vehicles, equipment, office repairs and refurbishment, baseline survey, staff training and project launching. This exception will be indicated in the Financing Agreement.

Supervision and Implementation Missions

59. Supervision and implementation missions will be organised by IFAD twice a year. The first Implementation Support Mission will take place on the 1st month after the signing of the Financing Agreement to facilitate the following:

- finalisation of the first AWPB and 18-month Procurement Plan;
- finalisation of the Project Implementation Manual; and
- training of FPDA staff on IFAD disbursement processes and documentation, financial management and financial reporting including the preparation of WA and SoE and procurement process and documentation.

Implementation Readiness

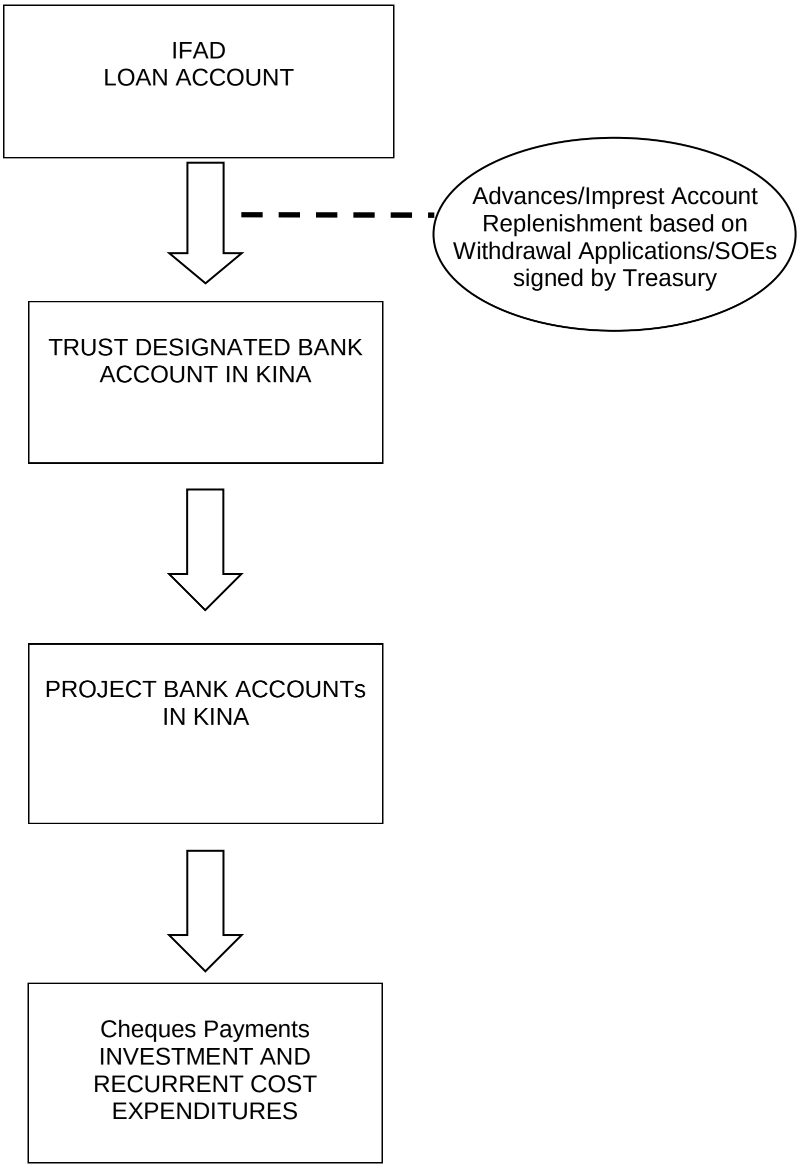
60. Table 1 shows start-up activities with regard to financial management.

Table 1: Financial Management Start-Up Activities

Action	Responsible parties	Target date/Covenant
Opening of two DA/PA accounts in local currency in a commercial bank acceptable to IFAD	FPDA/DAL/DoF	Within one month after the date of entry into force of the Financing Agreement; Certification of Opening of DA/ PA and authorized signatories, required for the release of funds for start-up costs
Complete staffing of PMU	FPDA/PMU	Upon entry into force of the Financing Agreement Recruitment of PC, FAM, PO and Accountant is a condition precedent of the 1st fund disbursement (except for funds to cover start-up costs).
Submission of WA for the fund release to cover start-up costs	FPDA/PMU/DAL/ DoT	Within one month from the date of entry into force of the FA
Preparation, finalization of Draft PIM and submission to IFAD for no-objection	FPDA/PMU	Within three months after date of entry into force as a condition for the first fund release (except for funds to cover start-up costs)
Submission of 1st AWPB and 18-month Procurement Plan	FPDA/PMU/DAL/ PSC	Within three months after date entry into force as a condition precedent to the initial fund release (except for funds to cover start-up costs)

61. An International Expeditor (with TOR in attachment 4) will be recruited by the PMU and cleared by IFAD to fast track project implementation.

Annex 1: Flow of funds chart



Annex 2: Financial management risks and mitigating actions

Risk category	Initial risk rating	Risk mitigation measures	Residual risk rating
Inherent risks			
1. Country level	**H**	Refer to paragraphs 5 and 20 above.	**H**
2. Entity level Limited experience in implementing externally funded projects. No experience with IFAD.	**H**	Clear roles and responsibilities to be included in the project framework and policy, oversight and implementation responsibilities to be spelt out. Accounting Software with customisation of reporting would be installed.	**H**
3. Project level Implementation support structure still to be set up.	**H**	Skilled staff shall be recruited; financial management and procurement procedures would be incorporated into the Project Implementation Manual (PIM), approved by IFAD.	**H**
Control risks			
4. Staffing	**M**	Availability of skilled workforce at country level and at DAL and FPDA. FPDA/PMU would recruit qualified finance staff with clear ToRs from open market or GoPNG staff on deputation. The tenure of any government staff should be for at least a two-year period. Draft ToRs are provided in MVF Final project design mission. The engaged staff would be exposed to best practices and the procedures of externally-aided projects through orientation by ICO and trainings to be conducted by IFAD.	**L**
5. Budgeting Preparation of the MVF budget by FPDA/PMU budget for submission to DAL and PSC for approval and endorsement to IFAD for No Objection.	**M**	An Annual Work Plan and Budget would be prepared by FPDA/PMU staff and approved by the Project Steering Committee (PSC). The approved AWPB would be used as a management tool to identify any bottlenecks in implementation.	**M**
6. Flow of funds and disbursement arrangements Limited experience in managing donor funds or understanding of imprest account arrangements.	**H**	Flow of funds arrangements are included in the Final Design Report. FPDA/PMU staff will be provided with adequate training by DAL/FPDA/IFAD at the start up and continuing capacity building during project implementation	**M**
7. Internal controls	**M**	Internal control function and processes at FPDA is well established and in effective. The PIM with the Finance and Administrative manual will include these processes and documentation that will be reference guide for the discharge of finance and administrative functions.	**M**
8. Accounting FPDA has existing MYOB accounting system	**M**	The accounting function is well established at FPDA level. Modified cash basis accounting is used. This would be replicated at project level and PMU will procure an accounting software preferably MYOB. Training would be required to ensure compliance with IFAD minimum standards. Relevant provision would be embedded in the PIM and Finance and Administrative manual.	**L**

Risk category	Initial risk rating	Risk mitigation measures	Residual risk rating
9. Financial reporting and monitoring	**M**	The project would use a standalone accounting software which would need some customization to ensure the correct recording and reporting of expenditures by category and by component.	**M**
10. Internal Audit No internal audit function is established at FPDA	**M**	Internal audit activities for MVF are to performed by internal auditor appointed by DoF	**L**
11. Audit The Auditor General Office (AGO) or a contracted private external auditor will conduct yearly audit of the Project	**M**	The auditor of AGO or a contracted private external auditor will carry out the annual audit of the Project in accordance with INTOSAI standards and IFAD audit guidelines with specific Audit TOR. In addition to the audit opinion, a management Letter with audit observations will be included in the audit report. The mission review of the audit report for FPDA by a private external auditor showed unqualified opinion. There were delays noted in the submission of audit report.	**M**
Overall project fiduciary risk	**M**		**M**
H = High, **M** = Medium, **L** = Low.			

Appendix 8: Procurement

Review of IFAD and GoPNG Procurement Regulations

1. IFAD's revised "Project Procurement Guidelines" approved in September 2010 emphasize the possibility of using the borrower/recipient's procurement regulations, to the extent that such regulations are consistent with IFAD's Guidelines. The revised IFAD Project Procurement Guidelines focus less on the details of procurement methods and more on the general principles, standards and policies that borrowers/recipients must adhere to when implementing IFAD-financed projects.

2. The GoPNG procurement policies and procedures generally conform to the IFAD procurement principles. The national procedures can be used on IFAD projects, without risk, provided the procurement team is well trained and qualified. However, IFAD's procedures shall supersede the Borrower's procedures where there are inconsistencies between the two procedures.

General principles

3. There are five key principles that are fundamental in GoPNG tendering and contracting:

- "Value for Money"
- Transparency
- Effective competition, and
- Fair and ethical dealing.

4. Procurement should consider:

- The need for economy and efficiency in the implementation of the project, including the procurement of the goods and works involved;
- Giving all eligible bidders equal opportunity to compete;
- The development of domestic contracting and manufacturing industries in PNG;
- The importance of transparency in the procurement process.

5. Open competition is the basis for efficient public procurement. Procurement should be performed in a manner to ensure all procured items:

- Are of satisfactory quality and are compatible with the requirements of the project;
- Will be delivered or completed in timely fashion;
- Are priced so as not to affect adversely the economic and financial viability of the project.

6. There are rigid procurement procedures and policies in place in GoPNG that are documented in the following documents: (i) Public Finance and Economic Management Act 1995, Part V, as amended in 2015; (ii) Operations Manual version 5, year 2006, issued by the GoPNG DoF Central Supply and Tenders Board (CSTB); and (iii) Procurement of Goods and Services (2005) issued by CSTB. These GoPNG procurement procedures and policies will be adopted for the procurement activities of the project. However, IFAD's procurement procedures shall supersede the Borrower's procedures where there are inconsistencies between the two procedures.

7. GoPNG regulations are intended to uphold the principles of open and fair competition, integrity, fairness, accountability and transparency. These precepts match the expectations of an appropriate procurement atmosphere as envisaged by the IFAD *Procurement Guidelines* and so are acceptable if adopted by projects.

8. Pertinent provisions on procurement in the PFM 1995 as amended in 2016, particularly with regards to thresholds, include the following:

- The Central Supply and Tenders Board may invite tender of any amount and enter into a procurement contract with a value of up to PGK10 million (USD 3.0 million);
- The Provincial Supply and Tenders Board may purchase and invite tender up to PGK 5 million (USD1.5 million);
- Procurement shall be by public tender for procurement of more than PGK 500,000 (USD150,000).

9. The procurement of goods, works and services financed from resources provided or administered by IFAD will be undertaken in accordance with the GoPNG regulations and consistent with the provisions of IFAD's Procurement Guidelines and Handbook (dated September 2010). Goods and services (non-consulting) procured using International or National Competitive Bidding, National Shopping (NS) and Direct Contracting (DC) will follow the procedures and processes defined in the Project Implementation Manual (PIM) approved by the Project Steering Committee and IFAD. The selection of individual consultants and individual service providers will also be defined in the PIM, which shall include details of the selection method to be applied in case of consultancies services such as Quality and Cost Based Selection, Fixed Budget Selection, Least Cost Selection, Consultants Qualification Selection and Single Source Selection.

10. The PMU will submit an 18-month Procurement Plan immediately after the Financing Agreement enters into force, with support from the Project Expeditor, and it will be updated annually or as required to reflect actual implementation needs.

Procurement Procedures

11. Procurement under the project is to be carried out in accordance with the Financing Agreement and any duly agreed amendments thereto. An Annual Procurement Plan will be prepared by FPDA in consultation with other project stakeholders and submitted for approval to the PSC and to IFAD for no-objection. Before commencing implementation, the project will provide, together with the initial AWPB, an 18-month Procurement Plan to IFAD for approval as stipulated in IFAD's Procurement Guidelines. To the extent possible, the procurement contracts shall be bulked into sizeable bid packages in such a manner as to permit the optimal use of competitive bidding.

12. The budget of the project by category of expenditure will be provided in the Financing Agreement. Before agreeing to any material modification or waiver of the terms and conditions of any contract granting an extension of the stipulated time for performance of such a contract or issuing any change order, (except in cases of extreme urgency), which increase the costs in a category of expenditure by more than 10% of the original budget, FPDA/PMU will seek IFAD's approval of the proposed modification and reallocation of budget. The PIM will include detailed provisions on procurement procedures and documentation.

13. FPDA/PMU will be responsible for procurement involving staff recruitment, contracts for services and staff training activities. FPDA will undertake recruitment of the PMU PC and FAM, and thereafter the PMU will be responsible for recruitment of other PMU staff and the Provincial Project staff in collaboration with FPDA human resource unit. Procurement of goods and services will be carried out by the PMU Procurement Officer in consultation with the FPDA Procurement Officer and supervised by the FAM. All procurements with a value of USD1,000 to USD500,000 will be through local shopping request for quotations. Procurements above USD500,000 will be through public tender. These procurement limitations are in line with GoPNG procurement regulations.

14. All bidding documents and contracts for the procurement of goods and consulting services will include a provision requiring bidders, suppliers, contractors, subcontractors and consultants to permit IFAD to inspect their accounts, records and other documents relating to the bid submission and contract performance, and to have them audited by Fund-appointed auditors and investigators. This provision will require bidders, suppliers, contractors, subcontractors and consultants to: (i) maintain all documents and records related to activities performed for three years after completion of the contract; and (ii) require the delivery of any document necessary for the investigation of allegations of fraud or corruption (and the availability of employees or agents of the bidders, suppliers, contractors, subcontractors or consultants with knowledge of the activities financed by IFAD) to respond to questions from IFAD's personnel or any properly designated Auditor, investigator, agent or consultant relating to review or audit of the document. If the bidder, supplier, contractor, subcontractor or consultant fails to comply with IFAD's request, or otherwise obstructs IFAD's review of the matter. IFAD, at its sole discretion, may take appropriate action against the bidder, supplier, subcontractor or

consultant, including the imposition of sanctions in accordance with the administrative procedures of the Fund.

15. All service providers' contracts will stipulate clear deliverables and will specify responsibilities with regard to monitoring and reporting. Terms of reference for service providers will require gender-balanced teams, and that contract deliverables reflect gender and inclusion target and indicators.

Annual procurement plan

16. The procurement regulations require the preparation of an Annual Procurement Plan by each GoPNG ministry or department. This matches the procurement requirement of IFAD. An Annual Procurement Plan will be prepared by the project in consultation with other project stakeholders and submitted for approval to the PSC and to IFAD for no-objection.

17. Before commencing implementation, the project will provide, together with the initial AWPB, an 18-month Procurement Plan to IFAD for approval as stipulated in IFAD's Procurement Guidelines. The project will thereafter prepare and send to IFAD the PSC-approved Procurement Plan as reviewed and endorsed by DAL on an annual basis. The procurement plan prepared by the PMU will have the following minimum requirements:

- a brief description of the procurement;
- estimated cost;
- procurement method that will be used;
- pre- or post-qualification requirements;
- IFAD prior review requirements;
- the time frame for procurement.

18. The Procurement Plan will be prepared for goods, works and consultancy services separately. It will specify the method of procurement for each contract to be financed, including thresholds, ceilings and preferences. During the programme year, the project may modify the Procurement Plan as per the need and all modifications to the Procurement Plan should be approved by IFAD.

19. IFAD will provide a template for a Procurement Plan. The Procurement Plan will also specify any additional requirements as set out in IFAD's Procurement Guidelines with respect to certain methods of procurement. The Procurement Plan will be revised and further detailed at the start of the project and submitted to IFAD for a no objection.

20. Procurement will be undertaken exclusively during the project implementation period. No procurement will be undertaken if it entails a payment to persons or entities or an import of goods prohibited by a decision of the UN Security Council taken under Chapter VII of the Charter of the United Nations.

IFAD prior review thresholds

21. The award of any contract for goods and services for goods costing over USD150,000 per contract will be subject to prior review by IFAD. All related procurement documents will be submitted to IFAD for prior review and no-objection. For goods, this will include: the tender, bidding documents, evaluation of the Project Procurement Committee or Tender Board and draft contract. For services, it will include terms of reference, process of selection, evaluation by the Project Procurement Committee or Tender Board.

22. All direct contracts for goods and civil works and single source selection for service providers above the prescribed procurement and selection method thresholds shall be undertaken in line with the provisions of IFAD Procurement Guidelines for direct contracting and single source selection and subject to IFAD prior review.

23. **Responsibilities of contractors and suppliers.** Major service providers will be required to maintain all documents and records related to activities performed for three years after completion of the contract. They will also be required to deliver any document necessary for the investigation of allegations of fraud or corruption, (and the availability of employees or agents of the bidders, suppliers, contractors, subcontractors or consultants with knowledge of the activities financed by IFAD), to

respond to questions from IFAD's personnel or any properly designated Auditor, investigator, agent or consultant relating to a review or audit of the document.

24. If the bidder, supplier, contractor, subcontractor or consultant fails to comply or otherwise obstructs the review process, IFAD may at its sole discretion take appropriate action against the bidder, supplier, subcontractor or consultant, including the imposition of sanctions in accordance with the administrative procedures of the Fund.

25. The procurement-awarded services for auditing of the project shall be done at least twice during the project implementation period. In the event that the project accounts are audited by private audit firms, these will be selected through the quality- and cost-based selection process, with a ratio of 70% quality and 30% cost.

26. **Procurement documentation.** Supporting documents, including suppliers' invoices, evidence of payment, analysis of bids, contracts, payment vouchers and receipts, certification of delivery and inspection report for goods and materials and certification of submission of report acceptable to FPDA/PMU will be retained in an organised manner by the project for inspection during Supervision and Implementation Support Missions and examination by auditors.

Good Governance Framework

27. Fraud and corruption can undermine the effectiveness of the IFAD's operations in different ways. IFAD shall apply a zero-tolerance policy where it has determined, through an investigation performed by IFAD, the borrower or another competent entity, that fraudulent, corrupt, collusive or coercive actions have occurred in projects financed through its loans and grants, and it shall enforce a range of sanctions in accordance with the provisions of applicable IFAD rules and regulations and legal instruments. 'Zero tolerance' means that IFAD will pursue all allegations falling under the scope of this policy and that appropriate sanctions will be applied where the allegations are substantiated. This policy applies to IFAD-funded activities. IFAD ensures that it is effective in preventing, detecting and investigating fraudulent, corrupt, collusive and coercive practices. The Fund shall take all possible actions to protect from reprisals individuals who help reveal corrupt practices in its project or grant activities and individuals or entities subject to unfair or malicious allegations. This policy is in line with the policies adopted by the other international financial institutions.

28. Many transactions in the Project will be vulnerable to corruption. Apart from the corruption from procurement, including overcharges for honorariums and costs, the Project will also be vulnerable to corruption from government employees who expect "thanksgiving money" (bribes) from beneficiaries, suppliers, and contractors.

29. **Integrated Framework for Good Governance.** In order to address the risks and concerns on corruption, the PMU will adopt an Integrated Framework for Good Governance. The framework as outlined below will include provisions to ensure that procurement and the selection of enterprises that will enter into business partnerships and benefit from MVF support, are carried out in accordance with GovPNG and IFAD rules (including IFAD's Policy on Preventing Fraud and Corruption in Its Activities and Operations); and with project design specifications. The framework will be included in the PIM and published on MVF website and will be revisited by the PMU annually in order to improve as necessary. Main provisions will be as follows:

- *Transparency on information:* this will include: (i) the publication/posting of all procurement, calls for proposals, contract awarding and business partnership details on local newspapers, at district and provincial offices and on MVF website, including assessment criteria and weighing; (ii) the participation of representatives of end-users in bid assessments; (iii) the prompt communication to bidders of bid evaluation outcomes; (iv) standardization of certain communication items/materials e.g. (a) use of standard wording in advertisements; (b) agreement on the list of newspapers of nation-wide circulation in which specific advertisements will be placed; (c) use of standard bidding and contract documents and request for proposals (for consultancy service), with no further changes to be made without IFAD's prior approval; and (d) publication of prices paid for items in different locations;
- *Participation and consultation:* this will cover the following: (i) annual planning and preparation of the project budget will be participatory whereby the community members, groups and business partners will be consulted by the project; (ii) the PMU will establish a complaint handling

mechanism (and the use of sanctions), whereby community members and the general public can channel complaints or inquiries e.g. through the use of mobile phone text messaging. Complaints and inquiries will be systematically recorded and answered and posted on Project's website so that case processing will be more transparent. Designated staff at the PMU and FPDA Provincial Offices will handle complaints and respond in a timely manner; (iii) Annual assessments of service providers and business partners will be undertaken by the PMU and FPDA in consultation with the local communities with the results contributing to improvement of performance of the service providers, business partners and annual project planning process.

- *Monitoring and oversight:* this will include the following: (i) IFAD will conduct one full supervision mission annually, with the participation of relevant project partners and at least one follow up and implementation support mission; (ii) the Project will establish an operational M&E system from the district, province to the national level to proactively monitor and report on project activities and performance across the results chain (including financial and physical progress); (iii) review of financial management and procurement will be integrated in IFAD annual supervision mission and follow up mission, complemented by yearly desk-based review of Interim Financial Report (IFRs) and audit reports; (iv) the project will prepare interim financial reports every three months and annual financial reports and submit to IFAD within 45 days after end of the year; (v) the financial reports will be audited and audit report with audit observations and management responses will be submitted to IFAD within six months every after end of the year; (v) procurement: the project will be subject to a higher level and expanded scope of ex-post reviews by IFAD to include checks for indicators of collusion, end-use deliveries, and procedural compliance, among other measures; (vi) annual meetings will be held to review the Project performance as well as the country programme to share lessons learned and best practices among project staff and government counterpart agencies and the co-financiers; (vii) annual assessments of service providers by local communities to feed into the annual project planning process; (viii) Multi-Stakeholders Platforms (MSPs) will be established to provide a forum for raising issues affecting value chain development, The MSPs will assist the smallholders and their organizations to attain a better access to technical and financial services, to develop supportive business environment, and to gain larger share of the end market price through vertical and horizontal linkages along the value chains. The forums should involve representatives of smallholders, private sector players, and relevant governments.

- *Capacity building and training:* (i) the project has an explicit responsibility on strengthening the capacity of the staff, service providers and business partners to improve the weak implementation capacity and accountability; (ii) the project also provides on the job training on financial management and procurement as part of start up process to enhance capacities in all critical fiduciary areas

- *Code of Conduct:* (i) the Project will provide internal conducts and code of business ethics and copies of relevant law and articles on Code of Conducts for civil servant to all Project staff, including contracted staff, business partners and service providers and will be integrated to the contracts with staff, service providers and business partners; (ii) the Project will identify and apply sanctions available under the current law and regulations of GoPNG. Sanctions for individuals may include transfer of duties, retailing, suspension, dismissal, regrading, prosecution under the GoPNG law. Sanctions for firms may include: termanation of contract, debarment, blacklisting and prosecution under the GoPNG law; (iii) Performance review of staff will be undertaken annually.

Attachment 1: Eighteen-month procurement plan

		Total USD'000					
	Unit	PY1	PY2	Total	Fin. Rule	Proc. Acct.	Proc. Method
A. Inclusive business partnerships							
1. Fresh produce partnerships							
Scoping study international service provider	consultancy	60		60	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Climate change baseline study	study	61		61	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Information campaign/calls for expression of interest	campaign	26	27	52	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Business Development Service providers for preparation of partnership propo	lumpsum	-	53	53	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Appraisal committee	per year	-	11	11	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Financial education (CEFI modules 1 and 2)	person	-	134	134	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
Household training	HH	-	107	107	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
Training of partners	training	-	64	64	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
International technical assistance	person/month	181	123	305	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Micro partnerships							
Capacity building	lumpsum		12	12	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
Investment - grant incentive	lumpsum		4	4	IFAD LOAN (100%)	GRANT_PA	OTHER_PM (100%)
Small partnerships							
Capacity building for leaders	lumpsum		38	38	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
Investment for leaders grant incentives	lumpsum		20	20	IFAD LOAN (100%)	GRANT_PA	OTHER_PM (100%)
Capacity building for growers	lumpsum		30	30	IFAD LOAN (100%)	GRANT_PA	OTHER_PM (100%)
Investment - grant incentive for growers	lumpsum		19	19	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
Medium partnerships				-			
Capacity building for leaders	lumpsum		28	28	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
Investment for leaders grant incentives	lumpsum		100	100	IFAD LOAN (100%)	GRANT_PA	OTHER_PM (100%)
Working capital for leaders	lumpsum		124	124	IFAD LOAN (100%)	GRANT_PA	OTHER_PM (100%)
Capacity building for growers	lumpsum		19	19	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
Investment - grant incentive for growers	lumpsum		100	100	IFAD LOAN (100%)	GRANT_PA	OTHER_PM (100%)
Large partnerships				-			
Working capital for leaders	lumpsum		16	16	IFAD LOAN (100%)	GRANT_PA	OTHER_PM (100%)
Capacity building for growers	lumpsum		9	9	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
Investment for growers - grant incentive	lumpsum		50	50	IFAD LOAN (100%)	GRANT_PA	OTHER_PM (100%)
Equipment for provincial teams				-			
Cars 4x4 /a	car	229		229	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
Computer + Docking Station + Tablet	set	21		21	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
Photocopier/Printer/Scanner	set	4		4	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
GPS, cameras, projectors	set	10		10	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
Motorbicycles	motorbicycle	12		12	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
Refurbishment offices	office	41		41	IFAD LOAN (100%)	E&M_PA	NBF_PM (100%)
Recurrent costs -Provincial Teams_Highlands and Morobe				-			
M&E Officer	person/month	114		114	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
Operating costs	office	50		50	IFAD LOAN (100%)	OC_PA	NBF_PM (100%)
FPDA provincial field managers allowances	per year	6	3	9	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
FPDA district officers allowances	per year	7	4	11	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
2. Galip nut development				-			
Galip nut resource assessment	assessment	46	-	46	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Financial, operational and legal studies and assistance to PMU	lumpsum	40	21	61	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
NARI's plant Lease fees	per year	38	25	63	IFAD LOAN (100%)	G&S_PA	LCB_PM (100%)
Working capital for purchase of nuts	lumpsum	42	44	86	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
Working capital for other operating costs	lumpsum	62	27	89	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
Organization of supply chain's partnerships	lumpsum	14	25	39	IFAD LOAN (100%)	G&S_PA	LCB_PM (100%)
Management fees - NARI plant management team	lumpsum	37	11	48	IFAD LOAN (100%)	G&S_PA	LCB_PM (100%)
International market development study	lumpsum	50	-	50	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Study tour to the Philippines	lumpsum	-	16	16	IFAD LOAN (100%)	G&S_PA	LCB_PM (100%)
Galip nut manager	person/month	32	22	55	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Galip Nut Manager Operating Costs	lumpsum	20	10	31	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
Car 4x4	car	46	-	46	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
GPS, Cameras, Projectors	set	2	-	2	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
B. Supportive Value Chain Investments							
1. Spots improvements of field roads							
Tehcnical engineer support	per year		26	26	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
2. Financial inclusion							
Exercise	per district	102	-	102	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Support to networks	lumpsum	50	75	125	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Support to digital money	lumpsum	250	125	375	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Technical Assistance - increasing outreach	lumpsum	51	53	105	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Technical Assistance - new products and services	lumpsum	51	13	64	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Risk sharing arrangements	lumpsum	100	75	175	IFAD LOAN (100%)	CREDIT_PA	FB_PM (100%)
Support to CEFI							
Operating costs	lumpsum	122	63	184	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
Vehicle	vehicle	38	-	38	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
Management overhead	lumpsum	24	13	37	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Exposure visits	lumpsum	15	-	15	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
Trainings	lumpsum	25	-	25	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
C. Collective Governance and Project Management							
1. Collective Governance							
ITA for Industry Structuring Strategy	lumpsum	-	23	23	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
PNG Fresh Produce Association	lumpsum	-	10	10	IFAD LOAN (100%)	G&S_PA	LCB_PM (100%)
Capacity Building	lumpsum	-	13	13	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Fresh Produce Multi-Stakeholder Platforms	lumpsum	-	13	13	IFAD LOAN (100%)	G&S_PA	LCB_PM (100%)
FPDA Capacity Assessment	assessment	31	-	31	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
FPDA Capacity Building	lumpsum	-	27	27	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Policy Studies Fresh produce/Galip Nut	study	-	52	52	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Policy Workshops	workshop	-	11	11	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
ITA for KM and Communication Strategy	consultancy	30	15	46	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
MIS Development and Capacity Buildin	lumpsum	51	13	64	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
TA for ICT-Based Applications	lumpsum	-	43	43	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Website Development	consultancy	15	-	15	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Website Maintenance	lumpsum	-	5	5	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Communication Campaigns	campaign	-	8	8	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Publications and Manuals	lumpsum	20	10	31	IFAD LOAN (100%)	G&S_PA	LCB_PM (100%)
2. Project Management							
Project expeditor (international technical assistance)	person/month	182	-	182	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
TA for GESI strategy and follow-up	lumpsum	30	-	30	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
International consultant to set-up M&E system	person/month	60	-	60	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
Capacity building activities	lumpsum	8	8	16	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
Car 4x4	car	90	-	90	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
Sedan	sedan	41	-	41	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
Computer + Docking Station + Tablet	set	17	-	17	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
Photocopier/Printer/Scanner	set	1	-	1	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
GPS, Cameras, Projectors	set	2	-	2	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
National Launch Workshop	workshop	20	-	20	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
Provincial Launch Workshops	workshop	18	-	18	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
Other Meetings and workshops	workshop	-	11	11	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
Financial Management Trainings	training	3	3	5	IFAD LOAN (100%)	W&T_PA	QCBS_PM (100%)
Accounting Software-Multi User	software	5	-	5	IFAD LOAN (100%)	E&M_PA	NCB_PM (100%)
Baseline Survey	survey	51		51	IFAD LOAN (100%)	CONSULTANCIES_PA	CON_SRVCS_PM (100%)
PMU Recurrent costs							
Project Coordinator	person/month	41	28	69	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
Office Assistant	person/month	9	6	15	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
Production and Value Chain System Manager	person/month	31	21	52	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
Infrastructure Engineer	person/month	-	28	28	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
Policy Development Officer	person/month	-	21	21	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
MIS Development & Content Manager - IFAD financed	person/month	31	21	52	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
Senior KM/M&E Officer	person/month	30	20	50	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
GESI Officer	person/month	31	21	52	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
Financial and Administrative Officer	person/month	38	26	64	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
Procurement Officer	person/month	31	21	52	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
Accountant	person/month	23	15	38	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
Drivers	person/month	13	9	21	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
IFAD Liaison Officer - based in POM	person/month	48	25	73	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
FPDA staff allowances	per year	15	8	23	IFAD LOAN (100%)	S&A_PA	CQ_PM (100%)
Travel Allowances	lumpsum	25	26	51	IFAD LOAN (100%)	OC_PA	LCB_PM (100%)
Vehicles operating costs	per year	70	70	140	IFAD LOAN (100%)	OC_PA	LCB_PM (100%)
Office costs	per year	15	16	31	IFAD LOAN (100%)	OC_PA	LCB_PM (100%)
Office extension repairs and refurbishment	lumpsum	35	-	35	IFAD LOAN (100%)	OC_PA	LCB_PM (100%)
Total		3,243	2,384	5,627			

Attachment 2: Summary of Appropriate Procurement Methods

I. Procurement of goods and works

Method	Description	Applicability/Characteristics	Advertising	Remarks
International Competitive Bidding (ICB)	Procedure for procurement of goods and works on the international market with open competition	▪ High value procurement ▪ Interest for international business community ▪ Equal opportunity to bid	General Procurement Notices (GPN) Open ITB or invitation to pre-qualify UNDB/dgMarket International press	- Margin of preference for domestic goods and works may be applied
Limited International Bidding (LIB)	ICB by direct invitation (no open advertisement)	▪ Smaller value ▪ Limited number of suppliers	Restricted ITB	- Domestic preference not applicable
National Competitive Bidding (NCB)	Procedure for public procurement in Borrower Country	▪ Small value contracts ▪ Geographically scattered, labour-intensive or time-spread works ▪ Local prices below international market ▪ No or limited interest from international business community ▪ ICB advan ▪ tages outweighed by financial and administrative costs	Local press Internet Open ITB	- IFAD to establish acceptability of national procedures - Foreign suppliers allowed to bid
International Shopping	Comparison of price quotations from at least 3 suppliers in 2 different countries	▪ Small value procurement ▪ Off-the-shelf goods, standard specification commodities, simple civil works	Request for quotation (restricted)	- Purchase order or brief contract
National Shopping	Comparison of price quotations from at least 3 suppliers	▪ Same as International Shopping ▪ Goods available locally from several sources at competitive prices	Request for quotation (restricted)	- Purchase order or brief contract
Direct Contracting	Single or sole-source selection	▪ Extension of existing contract ▪ Standardization for vehicles, equipment ▪ Proprietary equipment obtainable from one source only ▪ Condition of performance guarantee ▪ Emergency procurement	No advertising No competition	
Procurement from Commodity Markets	Procurement of goods from commodity markets	▪ Grains, animal feed, cooking oil, fuel, fertilizers, pesticides, metals ▪ Multiple award for partial quantities to secure supply and prices	Pre-qualified bidders Issuance of periodic invitations	Short bid validity Single (market) currency for bid and payment
Work by Force Account	Use of the Borrower's own personnel and equipment to perform	▪ Difficulty in defining work quantities ▪ Small, scattered works in	No advertising No competition	IFAD ensure that - force account units are properly

	construction work	remote locations ▪ Risk of unavoidable work interruptions ▪ No disruption of on-going operations ▪ Emergency situations		staffed, equipped and organized - costs are reasonable
Procurement from UN Agencies	Procurement of specific goods from specialized UN agencies	Small quantities of off-the-shelf products	No advertising No competition	- Use of UN agency rules and procedures - Indication in loan agreement

II. Procurement of Consulting Services

Method	Description	Applicability/characteristics	Advertising	Remarks
Quality and Cost Based Selection	Competitive selection from short-listed firms based on quality and cost of proposal	Two-step evaluation: quality (technical proposal) and cost (financial proposal)	GPN (large contracts) Request for Proposal (RFP)	Preferred selection method for most consulting services
Selection Under a Fixed Budget	Competitive selection from short-listed firms based on best technical proposal within budget	▪ Simple and precisely defined assignment ▪ Consulting firms requested to bid within a fixed budget	Request for proposal	Rejection of proposals above fixed budget
Quality Based Selection	Competitive selection from short-listed firms based on quality only	▪ Complex/highly specialized assignments ▪ High downstream impact ▪ No comparability of proposals	GPN (large contracts) Request for Proposal	Only technical proposals may be invited
Selection Based on Consultants' Qualifications	Selection from short-listed firms based on consultant's experience and competence	▪ Very small assignments ▪ Cost of RFP preparation and evaluation not justified	Request for expression of interest	Submission of combined technical-financial proposals
Single Source Selection	Selection of a firm without any competition	Must be exceptional: ▪ Continuation of previous work ▪ Emergency situation ▪ Very small assignments ▪ Only one firm is qualified/experienced	No competition	Clear advantage over competition or impossibility to compete must be demonstrated
Selection of Individual Consultants	Individuals selected based on qualifications, references and other relevant criteria, with limited or no competition	▪ Teams of personnel not required ▪ No additional professional support required ▪ Main requirement is experience and qualification of individual consultant	Request for expression of interest or Direct contact	Individuals may be selected on a single source basis

Refer to the IFAD Procurement Guidelines for the following procurement methods:

- agents and inspection agents
- Procurement with community participation
- Procurement for UN agencies, Civil Society Organizations, Auditors and Service

Appendix 9: Project cost and financing

Main assumptions

1. The programme is financed over a six-year period. Costs have been estimated on the basis of prices prevailing at design completion in January 2017.

2. **Price contingencies.** Price contingencies aim to cover expected price increase between project preparation and project start-up, as well as throughout the project implementation period. For the purpose of this analysis, annual local inflation rates have been set on an average of 5% from 2017 to 2022. For foreign inflation, an average inflation of 1.8% has been retained.

3. **Exchange rate.** The exchange rate used in this analysis has been set at PGK 3.1 /USD, which is the average exchange rate that prevailed between the months of January 2016 and January 2017.

4. **Tax and duties.** Part of the Government co-financing of the programme will be in the form of waiving of all taxes and duties on goods and services procured under the programme. The rates and amounts of taxes and duties in project costs presented below are defined only to determine the GoPNG contribution and to value the total programme cost.

5. Imported items attract import and excise duties of varying proportions, and a value-added tax (VAT) of 10% is levied on all imported goods. Currently, the VAT rate in the country is 10% and applies to all goods and services used for the project (including contractual services, training and studies). The GoPNG will finance the cost of all taxes on goods procured under the project, or will waive tax and duties.

Project costs

6. The total project costs including physical and price contingencies are estimated at USD 50.26 million over the six-year implementation period. Project costs by components are summarised in Table 1, while a complete set of project summary tables and detailed costs tables are presented in Annexes 1 and 2 to this appendix.

7. **Project costs by components.** Project investments are organised into three major components: (i) Inclusive business partnerships (44.8% of total costs); (ii) Supportive Value Chain Investments (39.6% of costs); (iii) Collective governance and programme management (15.6% of costs). A summary breakdown of project costs by components is shown in Table 1.

Table 1. Project costs by component

Papua New Guinea
Market for Village Farmers
Project Components by Year -- Totals Including Contingencies
(US$ '000)

	Totals Including Contingencies						
	PY1	**PY2**	**PY3**	**PY4**	**PY5**	**PY6**	**Total**
A. Inclusive business partnerships							
1. Fresh produce partnerships	870	3,464	5,613	7,681	2,102	748	20,479
2. Galip nut development	430	296	881	428	7	-	2,042
Subtotal	1,301	3,760	6,494	8,109	2,109	748	22,521
B. Supportive Value Chain Investments							
1. Spots improvements of field roads	-	52	3,731	4,757	5,082	3,369	16,990
2. Financial inclusion	829	834	798	357	81	-	2,899
Subtotal	829	886	4,529	5,114	5,163	3,369	19,889
C. Collective Governance and Project Management							
1. Collective Governance	147	464	546	396	170	161	1,883
2. Project Management	1,064	852	1,033	971	1,065	982	5,966
Subtotal	1,211	1,315	1,579	1,367	1,234	1,143	7,849
Total PROJECT COSTS	3,340	5,962	12,602	14,590	8,506	5,260	50,260

8. **Project financing.** An IFAD loan will cover USD 25.5 million, or 50.7% of the total project cost. The GoPNG will contribute USD 2.85 million (5.7%); beneficiaries will contribute USD 1.21 million

(2.4%); financial institutions will finance USD 4.22 million (8.4%) in the form of credits to beneficiaries; and provinces and districts will contribute with USD 13 million (25.9%) to spot improvements of access roads. More precisely, it is expected that five provinces will contribute with approximately USD 5 million in three years and 20 districts will contribute with USD 8 million in the same period of time. A yet unidentified financier is expected to contribute USD 3.4 million – 6.9 per cent of the programme cost. The proposed financing plan is summarised in Table 2.

Table 2. Programme financing

Papua New Guinea
Market for Village Farmers
Components by Financiers
(US$ '000)

	The Government		IFAD Loan		Provinces & districts		Unidentified financier		Beneficiaries		Financial Institutions		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Inclusive business partnerships														
1. Fresh produce partnerships	1,188	5.8	11,534	56.3	-	-	2,320	11.3	1,214	5.9	4,223	20.6	20,479	40.7
2. Galip nut development	117	5.7	773	37.9	-	-	1,152	56.4	-	-	-	-	2,042	4.1
Subtotal	1,305	5.8	12,307	54.6	-	-	3,472	15.4	1,214	5.4	4,223	18.8	22,521	44.8
B. Supportive Value Chain Investments														
1. Spots improvements of field roads	378	2.2	3,613	21.3	13,000	76.5	-	-	-	-	-	-	16,990	33.8
2. Financial inclusion	245	8.4	2,654	91.6	-	-	-	-	-	-	-	-	2,899	5.8
Subtotal	622	3.1	6,267	31.5	13,000	65.4	-	-	-	-	-	-	19,889	39.6
C. Collective Governance and Project Managem														
1. Collective Governance	294	15.6	1,589	84.4	-	-	-	-	-	-	-	-	1,883	3.7
2. Project Management	629	10.5	5,337	89.5	-	-	-	-	-	-	-	-	5,966	11.9
Subtotal	923	11.8	6,926	88.2	-	-	-	-	-	-	-	-	7,849	15.6
Total PROJECT COSTS	2,851	5.7	25,500	50.7	13,000	25.9	3,472	6.9	1,214	2.4	4,223	8.4	50,260	100.0

9. The IFAD loan will finance: (i) Component 1 "Inclusive business partnerships" (USD 12.3 million), (ii) Component 2 "Supportive value chain investments" (USD 6.26 million), (iii) Component 3 "Collective governance and project management" (USD 6.9 million).

10. Financial institutions and beneficiaries' contributions are allocated in Component 1. More specifically, micro, small, medium and large partnerships will be established under sub-component 1.1 "Fresh produce partnerships". Financial institutions will support the project by providing credit to project's beneficiaries, mainly within the partnerships in sub-component 1.1.

11. The Government contribution will mainly consist in exemptions from tax and duties on all project inputs that involve funding from the IFAD loan. The estimate of tax and duties was based on the rates in effect at the time of the design completion.

12. **Expenditure and disbursement accounts.** The project will be rolled out through the national PMU within FPDA, which will manage and coordinate the flow of funds and the expenditure incurred on account of the project activities. A summary of the total costs by expenditure accounts per year is shown in table 3 and a summary of the total costs by disbursement accounts and financier is presented in table 4.

Table 3. Disbursement accounts by financier ©

Papua New Guinea
Market for Village Farmers
Disbursement Accounts by Financiers
(US$ '000)

	The Government		IFAD Loan		Provinces & districts		Unidentified financier		Beneficiaries		Financial Institutions		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1. Consultancies_DA	759	11.3	5,872	87.1	-	-	110	1.6	-	-	-	-	6,741	13.4
2. Equipment and Material_DA	183	10.0	1,643	90.0	-	-	-	-	-	-	-	-	1,826	3.6
3. Goods and Services_DA	52	9.6	424	77.7	-	-	69	12.7	-	-	-	-	546	1.1
4. GRANT_DA	-	-	3,002	43.8	-	-	3,170	46.3	682	10.0	-	-	6,854	13.6
5. Workshops_DA	689	10.0	6,014	87.3	-	-	122	1.8	63	0.9	-	-	6,888	13.7
6. Works_DA	286	1.8	2,574	16.2	13,000	82.0	-	-	-	-	-	-	15,860	31.6
7. Salaries and Allowances_DA	723	15.0	4,085	85.0	-	-	-	-	-	-	-	-	4,808	9.6
8. Operating Costs_DA	159	10.0	1,435	90.0	-	-	-	-	-	-	-	-	1,595	3.2
9. Credit, Guarantee Funds_DA	-	-	450	8.8	-	-	-	-	469	9.1	4,223	82.1	5,142	10.2
Total PROJECT COSTS	2,851	5.7	25,500	50.7	13,000	25.9	3,472	6.9	1,214	2.4	4,223	8.4	50,260	100.0

Table 4. Expenditure accounts by financier

Papua New Guinea
Market for Village Farmers
Expenditure Accounts by Financiers
(US$ '000)

	The Government		IFAD Loan		Provinces & districts		Unidentified financier		Beneficiaries		Financial Institutions		Total		For.
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Exch.
I. Investment Costs															
A. Consultancies /a	759	11.3	5,872	87.1	-	-	110	1.6	-	-	-	-	6,741	13.4	1,892
B. Equipment and Material	183	10.0	1,643	90.0	-	-	-	-	-	-	-	-	1,826	3.6	798
C. Goods and Services	52	9.6	424	77.7	-	-	69	12.7	-	-	-	-	546	1.1	266
D. Grant & Subsidies	-	-	3,002	43.8	-	-	3,170	46.3	682	10.0	-	-	6,854	13.6	-
E. Trainings and workshop	689	10.0	6,014	87.3	-	-	122	1.8	63	0.9	-	-	6,888	13.7	25
F. Works	286	1.8	2,574	16.2	13,000	82.0	-	-	-	-	-	-	15,860	31.6	6,344
G. Credit, guarantee fund /b	-	-	450	8.8	-	-	-	-	469	9.1	4,223	82.1	5,142	10.2	-
Total Investment Costs	1,968	4.5	19,980	45.6	13,000	29.6	3,472	7.9	1,214	2.8	4,223	9.6	43,857	87.3	9,326
II. Recurrent Costs															
A. Salaries & Allowances	723	15.0	4,085	85.0	-	-	-	-	-	-	-	-	4,808	9.6	-
B. Operating Costs	159	10.0	1,435	90.0	-	-	-	-	-	-	-	-	1,595	3.2	788
Total Recurrent Costs	882	13.8	5,520	86.2	-	-	-	-	-	-	-	-	6,402	12.7	788
Total PROJECT COSTS	2,851	5.7	25,500	50.7	13,000	25.9	3,472	6.9	1,214	2.4	4,223	8.4	50,260	100.0	10,114

\a Including studies and technical assistance
\b Financial instruments

Attachment 1: Summary cost and financing tables (USD)

Table	Description
1	Components by Financier
2	Expenditure Accounts by Financier
3	Expenditure Accounts by Components - Base Costs
4	Expenditure Accounts by Components - Totals Including Contingencies
5	Components Project Cost Summary
6	Expenditure Accounts Project Cost Summary
7	Project Components by Year -- Base Costs
8	Project Components by Year -- Totals Including Contingencies
9	Expenditure Accounts by Years -- Base Costs
10	Expenditure Accounts by Years -- Totals Including Contingencies
11	Disbursement Accounts by Financiers
12	Disbursements by Semesters and Government Cash Flow

Papua New Guinea
Market for Village Farmers
Components by Financiers
(US$ '000)

	The Government		IFAD Loan		Provinces & districts		Unidentified financier		Beneficiaries		Financial Institutions		Total		For.	Local (Excl.	Duties &
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Exch.	Taxes)	Taxes
A. Inclusive business partnerships																	
1. Fresh produce partnerships	1.188	5,8	11.534	56,3	-	-	2.320	11,3	1.214	5,9	4.223	20,6	20.479	40,7	1.070	18.567	842
2. Galip nut development	117	5,7	773	37,9	-	-	1.152	56,4	-	-	-	-	2.042	4,1	475	1.450	117
Subtotal	1.305	5,8	12.307	54,6	-	-	3.472	15,4	1.214	5,4	4.223	18,8	22.521	44,8	1.545	20.017	959
B. Supportive Value Chain Investments																	
1. Spots improvements of field roads	378	2,2	3.613	21,3	13.000	76,5	-	-	-	-	-	-	16.990	33,8	6.770	9.843	378
2. Financial inclusion	245	8,4	2.654	91,6	-	-	-	-	-	-	-	-	2.899	5,8	278	2.376	245
Subtotal	622	3,1	6.267	31,5	13.000	65,4	-	-	-	-	-	-	19.889	39,6	7.048	12.219	622
C. Collective Governance and Project Managem																	
1. Collective Governance	294	15,6	1.589	84,4	-	-	-	-	-	-	-	-	1.883	3,7	486	1.209	188
2. Project Management	629	10,5	5.337	89,5	-	-	-	-	-	-	-	-	5.966	11,9	1.113	4.601	252
Subtotal	923	11,8	6.926	88,2	-	-	-	-	-	-	-	-	7.849	15,6	1.600	5.810	440
Total PROJECT COSTS	2.851	5,7	25.500	50,7	13.000	25,9	3.472	6,9	1.214	2,4	4.223	8,4	50.260	100,0	10.193	38.045	2.022

Papua New Guinea
Market for Village Farmers
Expenditure Accounts by Financiers
(US$ '000)

	The Government		IFAD Loan		Provinces & districts		Unidentified financier		Beneficiaries		Financial Institutions		Total		For.
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Exch.
I. Investment Costs															
A. Consultancies /a	759	11.3	5,872	87.1	-	-	110	1.6	-	-	-	-	6,741	13.4	1,892
B. Equipment and Material	183	10.0	1,643	90.0	-	-	-	-	-	-	-	-	1,826	3.6	798
C. Goods and Services	52	9.6	424	77.7	-	-	69	12.7	-	-	-	-	546	1.1	266
D. Grant & Subsidies	-	-	3,002	43.8	-	-	3,170	46.3	682	10.0	-	-	6,854	13.6	-
E. Trainings and workshop	689	10.0	6,014	87.3	-	-	122	1.8	63	0.9	-	-	6,888	13.7	25
F. Works	286	1.8	2,574	16.2	13,000	82.0	-	-	-	-	-	-	15,860	31.6	6,344
G. Credit, guarantee fund /b	-	-	450	8.8	-	-	-	-	469	9.1	4,223	82.1	5,142	10.2	-
Total Investment Costs	1,968	4.5	19,980	45.6	13,000	29.6	3,472	7.9	1,214	2.8	4,223	9.6	43,857	87.3	9,326
II. Recurrent Costs															
A. Salaries & Allowances	723	15.0	4,085	85.0	-	-	-	-	-	-	-	-	4,808	9.6	-
B. Operating Costs	159	10.0	1,435	90.0	-	-	-	-	-	-	-	-	1,595	3.2	788
Total Recurrent Costs	882	13.8	5,520	86.2	-	-	-	-	-	-	-	-	6,402	12.7	788
Total PROJECT COSTS	2,851	5.7	25,500	50.7	13,000	25.9	3,472	6.9	1,214	2.4	4,223	8.4	50,260	100.0	10,114

\a Including studies and technical assistance
\b Financial instruments

Papua New Guinea
Market for Village Farmers
Expenditure Accounts by Components - Base Costs
(US$ '000)

	Inclusive business partnerships		Supportive Value Chain Investments		Collective Governance and Project Management		
	Fresh produce partnerships	Galip nut development	Spots improvements of field roads	Financial inclusion	Collective Governance	Project Management	Total
I. Investment Costs							
A. Consultancies /a	1,065	440	1,020	1,834	1,220	720	6,299
B. Equipment and Material	807	303	-	457	-	155	1,723
C. Goods and Services	-	265	-	-	246	-	511
D. Grant & Subsidies	6,004	850	-	-	-	-	6,854
E. Trainings and w orkshop	5,795	117	-	80	230	248	6,470
F. Works	-	-	15,860	-	-	-	15,860
G. Credit, guarantee fund /b	4,692	-	-	450	-	-	5,142
Total Investment Costs	18,363	1,975	16,880	2,821	1,696	1,123	42,859
II. Recurrent Costs							
A. Salaries & Allow ances	1,261	-	-	-	-	3,200	4,462
B. Operating Costs	300	-	-	-	-	1,245	1,545
Total Recurrent Costs	1,561	-	-	-	-	4,445	6,007
Total BASELINE COSTS	19,924	1,975	16,880	2,821	1,696	5,569	48,866
Physical Contingencies	-	-	-	-	-	-	-
Price Contingencies							
Inflation							
Local	515	57	83	70	164	368	1,256
Foreign	40	10	27	8	24	29	138
Subtotal Inflation	554	67	110	78	187	397	1,394
Devaluation	-	-	-	-	-	-	-
Subtotal Price Contingencies	554	67	110	78	187	397	1,394
Total PROJECT COSTS	20,479	2,042	16,990	2,899	1,883	5,966	50,260
Taxes	842	117	378	245	188	252	2,022
Foreign Exchange	1,070	475	6,691	278	486	1,113	10,114

\a Including studies and technical assistance
\b Financial instruments

Papua New Guinea
Market for Village Farmers
Expenditure Accounts by Components - Totals Including Contingencies
(US$ '000)

	Inclusive business partnerships		Supportive Value Chain Investments		Collective Governance and Project Management		
	Fresh produce partnerships	Galip nut development	Spots improvements of field roads	Financial inclusion	Collective Governance	Project Management	Total
I. Investment Costs							
A. Consultancies /a	1,133	468	1,130	1,885	1,344	781	6,741
B. Equipment and Material	876	312	-	482	-	156	1,826
C. Goods and Services	-	277	-	-	269	-	546
D. Grant & Subsidies	6,004	850	-	-	-	-	6,854
E. Trainings and workshop	6,113	136	-	82	270	287	6,888
F. Works	-	-	15,860	-	-	-	15,860
G. Credit, guarantee fund /b	4,692	-	-	450	-	-	5,142
Total Investment Costs	18,818	2,042	16,990	2,899	1,883	1,224	43,857
II. Recurrent Costs							
A. Salaries & Allowances	1,361	-	-	-	-	3,447	4,808
B. Operating Costs	300	-	-	-	-	1,295	1,595
Total Recurrent Costs	1,661	-	-	-	-	4,742	6,402
Total PROJECT COSTS	20,479	2,042	16,990	2,899	1,883	5,966	50,260
Taxes	842	117	378	245	188	252	2,022
Foreign Exchange	1,070	475	6,691	278	486	1,113	10,114

\a Including studies and technical assistance
\b Financial instruments

Papua New Guinea
Market for Village Farmers
Components Project Cost Summary

	(Local '000)			(US$ '000)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
A. Inclusive business partnerships								
1. Fresh produce partnerships	58.572	3.194	61.766	18.894	1.030	19.924	5	41
2. Galip nut development	4.684	1.440	6.123	1.511	464	1.975	24	4
Subtotal	63.256	4.633	67.889	20.405	1.495	21.900	7	45
B. Supportive Value Chain Investments								
1. Spots improvements of field roads	31.434	20.894	52.328	10.140	6.740	16.880	40	35
2. Financial inclusion	7.907	838	8.745	2.551	270	2.821	10	6
Subtotal	39.341	21.732	61.073	12.691	7.010	19.701	36	40
C. Collective Governance and Project Managem								
1. Collective Governance	3.824	1.434	5.258	1.234	463	1.696	27	3
2. Project Management	13.902	3.361	17.263	4.485	1.084	5.569	19	11
Subtotal	17.726	4.795	22.521	5.718	1.547	7.265	21	15
Total BASELINE COSTS	120.323	31.160	151.483	38.814	10.052	48.866	21	100
Physical Contingencies	-	-	-	-	-	-	-	-
Price Contingencies	3.885	437	4.322	1.253	141	1.394	10	3
Total PROJECT COSTS	124.208	31.597	155.805	40.067	10.193	50.260	20	103

Papua New Guinea
Market for Village Farmers
Expenditure Accounts Project Cost Summary

	(Local '000)			(US$ '000)			% Foreign	% Total Base
	Local	Foreign	Total	Local	Foreign	Total	Exchange	Costs
I. Investment Costs								
A. Consultancies /a	13,913	5,613	19,527	4,488	1,811	6,299	29	13
B. Equipment and Material	2,960	2,381	5,340	955	768	1,723	45	4
C. Goods and Services	792	792	1,584	255	255	511	50	1
D. Grant & Subsidies	21,247	-	21,247	6,854	-	6,854	-	14
E. Trainings and w orkshop	19,979	78	20,057	6,445	25	6,470	-	13
F. Works	29,500	19,666	49,166	9,516	6,344	15,860	40	32
G. Credit, guarantee fund /b	15,941	-	15,941	5,142	-	5,142	-	11
Total Investment Costs	104,332	28,530	132,862	33,656	9,203	42,859	21	88
II. Recurrent Costs								
A. Salaries & Allow ances	13,832	-	13,832	4,462	-	4,462	-	9
B. Operating Costs	2,395	2,395	4,790	773	773	1,545	50	3
Total Recurrent Costs	16,226	2,395	18,621	5,234	773	6,007	13	12
Total BASELINE COSTS	120,559	30,924	151,483	38,890	9,976	48,866	20	100
Physical Contingencies	-	-	-	-	-	-	-	-
Price Contingencies	3,893	428	4,322	1,256	138	1,394	10	3
Total PROJECT COSTS	124,452	31,353	155,805	40,146	10,114	50,260	20	103

\a Including studies and technical assistance
\b Financial instruments

Papua New Guinea
Market for Village Farmers
Project Components by Year -- Base Costs
(US$ '000)

	Base Cost						
	PY1	PY2	PY3	PY4	PY5	PY6	Total
A. Inclusive business partnerships							
1. Fresh produce partnerships	860	3,410	5,483	7,437	2,020	715	19,924
2. Galip nut development	425	283	850	412	6	-	1,975
Subtotal	1,284	3,693	6,333	7,849	2,026	715	21,900
B. Supportive Value Chain Investments							
1. Spots improvements of field roads	-	50	3,716	4,728	5,045	3,342	16,880
2. Financial inclusion	821	819	784	322	75	-	2,821
Subtotal	821	869	4,500	5,050	5,120	3,342	19,701
C. Collective Governance and Project Management							
1. Collective Governance	145	440	495	343	143	130	1,696
2. Project Management	1,053	829	979	896	956	855	5,569
Subtotal	1,198	1,269	1,474	1,239	1,099	985	7,265
Total BASELINE COSTS	3,304	5,831	12,306	14,138	8,245	5,042	48,866
Physical Contingencies	-	-	-	-	-	-	-
Price Contingencies							
Inflation							
Local	29	118	264	422	222	202	1,256
Foreign	7	13	32	30	40	16	138
Subtotal Inflation	36	131	296	452	261	218	1,394
Devaluation	-	-	-	-	-	-	-
Subtotal Price Contingencies	36	131	296	452	261	218	1,394
Total PROJECT COSTS	3,340	5,962	12,602	14,590	8,506	5,260	50,260
Taxes	268	282	464	512	317	180	2,022
Foreign Exchange	1,111	592	2,165	2,300	2,435	1,511	10,114

Papua New Guinea
Market for Village Farmers
Project Components by Year -- Totals Including Contingencies
(US$ '000)

	Totals Including Contingencies						
	PY1	PY2	PY3	PY4	PY5	PY6	Total
A. Inclusive business partnerships							
1. Fresh produce partnerships	870	3,464	5,613	7,681	2,102	748	20,479
2. Galip nut development	430	296	881	428	7	-	2,042
Subtotal	1,301	3,760	6,494	8,109	2,109	748	22,521
B. Supportive Value Chain Investments							
1. Spots improvements of field roads	-	52	3,731	4,757	5,082	3,369	16,990
2. Financial inclusion	829	834	798	357	81	-	2,899
Subtotal	829	886	4,529	5,114	5,163	3,369	19,889
C. Collective Governance and Project Management							
1. Collective Governance	147	464	546	396	170	161	1,883
2. Project Management	1,064	852	1,033	971	1,065	982	5,966
Subtotal	1,211	1,315	1,579	1,367	1,234	1,143	7,849
Total PROJECT COSTS	3,340	5,962	12,602	14,590	8,506	5,260	50,260

Papua New Guinea
Market for Village Farmers
Expenditure Accounts by Years -- Base Costs
(US$ '000)

	Base Cost							Foreign Exchange	
	PY1	PY2	PY3	PY4	PY5	PY6	Total	%	Amount
I. Investment Costs									
A. Consultancies /a	1,461	1,281	1,592	1,034	632	300	6,299	28.7	1,811
B. Equipment and Material	793	234	252	252	192	-	1,723	44.6	768
C. Goods and Services	109	172	134	43	33	20	511	50.0	255
D. Grant & Subsidies	-	1,027	2,336	2,991	500	-	6,854	-	-
E. Trainings and w orkshop	88	806	1,586	2,387	1,071	532	6,470	0.4	25
F. Works	-	-	3,489	4,441	4,758	3,172	15,860	40.0	6,344
G. Credit, guarantee fund /b	100	1,252	1,859	1,932	-	-	5,142	-	-
Total Investment Costs	2,550	4,772	11,247	13,080	7,186	4,024	42,859	21.5	9,203
II. Recurrent Costs									
A. Salaries & Allow ances	558	789	789	789	789	748	4,462	-	-
B. Operating Costs	195	270	270	270	270	270	1,545	50.0	773
Total Recurrent Costs	753	1,059	1,059	1,059	1,059	1,018	6,007	12.9	773
Total BASELINE COSTS	3,304	5,831	12,306	14,138	8,245	5,042	48,866	20.4	9,976
Physical Contingencies	-	-	-	-	-	-	-	-	-
Price Contingencies									
Inflation									
Local	29	118	264	422	222	202	1,256	-	-
Foreign	7	13	32	30	40	16	138	100.0	138
Subtotal Inflation	36	131	296	452	261	218	1,394	9.9	138
Devaluation	-	-	-	-	-	-	-	-	-
Subtotal Price Contingencies	36	131	296	452	261	218	1,394	9.9	138
Total PROJECT COSTS	3,340	5,962	12,602	14,590	8,506	5,260	50,260	20.1	10,114
Taxes	268	282	464	512	317	180	2,022	-	-
Foreign Exchange	1,111	592	2,165	2,300	2,435	1,511	10,114	-	-

\a Including studies and technical assistance
\b Financial instruments

Papua New Guinea
Market for Village Farmers
Expenditure Accounts by Years -- Totals Including Contingencies
(US$ '000)

	Totals Including Contingencies						
	PY1	**PY2**	**PY3**	**PY4**	**PY5**	**PY6**	**Total**
I. Investment Costs							
A. Consultancies /a	1,476	1,328	1,698	1,163	716	359	6,741
B. Equipment and Material	805	244	272	282	223	-	1,826
C. Goods and Services	110	180	145	48	38	24	546
D. Grant & Subsidies	-	1,027	2,336	2,991	500	-	6,854
E. Trainings and w orkshop	89	844	1,694	2,597	1,106	557	6,888
F. Works	-	-	3,489	4,441	4,758	3,172	15,860
G. Credit, guarantee fund /b	100	1,252	1,859	1,932	-	-	5,142
Total Investment Costs	2,580	4,876	11,493	13,454	7,341	4,113	43,857
II. Recurrent Costs							
A. Salaries & Allow ances	564	812	832	857	882	861	4,808
B. Operating Costs	196	274	277	280	283	286	1,595
Total Recurrent Costs	760	1,086	1,109	1,136	1,165	1,147	6,402
Total PROJECT COSTS	3,340	5,962	12,602	14,590	8,506	5,260	50,260

\a Including studies and technical assistance
\b Financial instruments

Papua New Guinea
Market for Village Farmers
Disbursement Accounts by Financiers
(US$ '000)

	The Government		IFAD Loan		Provinces & districts		Unidentified financier		Beneficiaries		Financial Institutions		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1. Consultancies_DA	759	11.3	5,872	87.1	-	-	110	1.6	-	-	-	-	6,741	13.4
2. Equipment and Material_DA	183	10.0	1,643	90.0	-	-	-	-	-	-	-	-	1,826	3.6
3. Goods and Services_DA	52	9.6	424	77.7	-	-	69	12.7	-	-	-	-	546	1.1
4. GRANT_DA	-	-	3,002	43.8	-	-	3,170	46.3	682	10.0	-	-	6,854	13.6
5. Workshops_DA	689	10.0	6,014	87.3	-	-	122	1.8	63	0.9	-	-	6,888	13.7
6. Works_DA	286	1.8	2,574	16.2	13,000	82.0	-	-	-	-	-	-	15,860	31.6
7. Salaries and Allowances_DA	723	15.0	4,085	85.0	-	-	-	-	-	-	-	-	4,808	9.6
8. Operating Costs_DA	159	10.0	1,435	90.0	-	-	-	-	-	-	-	-	1,595	3.2
9. Credit, Guarantee Funds_DA	-	-	450	8.8	-	-	-	-	469	9.1	4,223	82.1	5,142	10.2
Total PROJECT COSTS	2,851	5.7	25,500	50.7	13,000	25.9	3,472	6.9	1,214	2.4	4,223	8.4	50,260	100.0

Papua New Guinea
Market for Village Farmers
Disbursements by Semesters and Government Cash Flow
(US$ '000)

	Financing Available						Costs to be Financed	The Government	
	IFAD Loan	Provinces & districts	Unidentified financier	Beneficiaries	Financial Institutions		Project		Cumulative
	Amount	Amount	Amount	Amount	Amount	Total	Costs	Cash Flow	Cash Flow
1	1,488	-	-	-	-	1,488	1,670	-182	-182
2	1,488	-	-	-	-	1,488	1,670	-182	-364
3	1,960	-	187	127	496	2,770	2,981	-211	-575
4	1,960	-	187	127	496	2,770	2,981	-211	-786
5	2,911	1,430	707	197	746	5,992	6,301	-309	-1,095
6	2,911	1,430	707	197	746	5,992	6,301	-309	-1,404
7	3,281	1,820	714	270	869	6,954	7,295	-341	-1,745
8	3,281	1,820	714	270	869	6,954	7,295	-341	-2,086
9	1,934	1,950	128	8	-	4,020	4,253	-233	-2,319
10	1,934	1,950	128	8	-	4,020	4,253	-233	-2,552
11	1,176	1,300	-	5	-	2,481	2,630	-149	-2,702
12	1,176	1,300	-	5	-	2,481	2,630	-149	-2,851
Total	25,500	13,000	3,472	1,214	4,223	47,409	50,260	-2,851	-2,851

Attachment 9.2: Detailed Project costs

Table	Description
1	1.1 Fresh produce partnerships investment
2	1.2 Galip nut development
3	2.1 Spot improvements of field roads
4	2.2 Financial inclusion
5	3.1 Collective governance
6	3.2 Project management

Papua New Guinea
Market for Village Farmers
Table 1.1. Fresh produce partnerships
Detailed Costs

	Unit Cost	Base Cost (US$ '000)							Totals Including Contingencies (US$ '000)							Summary Divisions Expenditure		Other A
	(US$)	PY1	PY2	PY3	PY4	PY5	PY6	Total	PY1	PY2	PY3	PY4	PY5	PY6	Total	Account	Disb. Acct.	Fin. Rule
I. Investment Costs																		
A. Scoping study																		
International service provider	60,000	60	-	-	-	-	-	60	60	-	-	-	-	-	60	CONSULTANCIES	CONSULTANCIES_DA	LOAN (100%)
B. Climate change baseline study																		
1. Climate change baseline study	60,000	60	-	-	-	-	-	60	61	-	-	-	-	-	61	CONSULTANCIES	CONSULTANCIES_DA	LOAN (100%)
C. Pre-investment activities																		
Information campaign/calls for expression of interest	25,000	25	25	25	-	-	-	75	26	27	28	-	-	-	80	CONSULTANCIES	CONSULTANCIES_DA	LOAN (100%)
Business Development Service providers for preparation of partnership proposals	100,000	-	100	100	100	-	-	300	-	107	112	118	-	-	336	CONSULTANCIES	CONSULTANCIES_DA	LOAN (100%)
Appraisal committee	10,000	-	10	10	10	-	-	30	-	11	11	12	-	-	34	CONSULTANCIES	CONSULTANCIES_DA	LOAN (100%)
Resource centres/farmer hubs	6,200	-	-	112	192	192	-	496	-	-	121	215	223	-	559	E&M	E&M_DA	LOAN (100%)
Subtotal		25	135	247	302	192	-	901	26	144	272	345	223	-	1,009			
D. Consortium for training to households																		
Financial education (CEFI modules 1 and 2)	25	-	250	350	500	-	-	1,100	-	267	392	588	-	-	1,247	TRAININGS	W&T_DA	LOAN (100%)
Financial education (CEFI modules 3)	12	-	-	40	55	80	-	175	-	-	44	65	99	-	208	TRAININGS	W&T_DA	LOAN (100%)
Household training	40	-	200	280	400	-	-	880	-	214	313	470	-	-	997	TRAININGS	W&T_DA	LOAN (100%)
Subtotal		-	450	670	955	80	-	2,155	-	481	750	1,123	99	-	2,452			
E. Training of partners																		
Training of partners	60,000	-	60	60	60	-	-	180	-	64	67	71	-	-	202	TRAININGS	W&T_DA	LOAN (100%)
F. Technical assistance																		
International technical assistance	20,000	180	120	120	60	60	-	540	181	123	126	65	66	-	561	CONSULTANCIES	CONSULTANCIES_DA	LOAN (100%)
G. Partnerships implementation																		
1. Micro partnerships																		
Capacity building		-	23	58	117	93	58	350	-	23	58	117	93	58	350	TRAININGS	W&T_DA	LOAN (100%)
Investment - grant incentive		-	8	12	20	-	-	40	-	8	12	20	-	-	40	GRANT	GRANT_DA	LOAN (50%), UNIDENTIFIED (50%)
Investment - other financing		-	12	12	15	-	-	39	-	12	12	15	-	-	39	CREDIT	CG	BENEFICIARIES (10%), FI (90%)
Subtotal		-	43	82	152	93	58	429	-	43	82	152	93	58	429			
2. Small partnerships																		
Capacity building for leaders		-	76	191	382	306	191	1,147	-	76	191	382	306	191	1,147	TRAININGS	W&T_DA	LOAN (100%)
Investment for leaders - grant incentive		-	40	60	100	-	-	200	-	40	60	100	-	-	200	GRANT	GRANT_DA	LOAN (50%), UNIDENTIFIED (50%)
Investment for leaders - other financing		-	60	70	100	-	-	230	-	60	70	100	-	-	230	CREDIT	CG	BENEFICIARIES (10%), FI (90%)
Capacity building for growers		-	37	93	149	93	-	372	-	37	93	149	93	-	372	TRAININGS	W&T_DA	LOAN (100%)
Investment for growers - grant incentive		-	200	300	500	-	-	1,000	-	200	300	500	-	-	1,000	GRANT	GRANT_DA	LOAN (50%), UNIDENTIFIED (50%)
Investment for growers - other financing		-	300	350	500	-	-	1,150	-	300	350	500	-	-	1,150	CREDIT	CG	BENEFICIARIES (10%), FI (90%)
Subtotal		-	714	1,064	1,731	399	191	4,099	-	714	1,064	1,731	399	191	4,099			
3. Medium partnerships																		
Capacity building for leaders		-	56	126	244	167	105	698	-	56	126	244	167	105	698	TRAININGS	W&T_DA	LOAN (90%), BENEFICIARIES (10%)
Investment for leaders - grant incentive		-	200	300	500	-	-	1,000	-	200	300	500	-	-	1,000	GRANT	GRANT_DA	LOAN (50%), UNIDENTIFIED (50%)
Investment for leaders - other financing		-	280	327	467	-	-	1,073	-	280	327	467	-	-	1,073	CREDIT	CG	BENEFICIARIES (10%), FI (90%)
Working capital for leaders		-	248	372	620	-	-	1,240	-	248	372	620	-	-	1,240	GRANT	GRANT_DA	LOAN (50%), BENEFICIARIES (50%)
Capacity building for growers		-	37	130	242	242	93	744	-	37	130	242	242	93	744	TRAININGS	W&T_DA	LOAN (100%)
Investment for growers - grant incentive		-	200	500	800	500	-	2,000	-	200	500	800	500	-	2,000	GRANT	GRANT_DA	LOAN (50%), UNIDENTIFIED (50%)
Investment for growers - other financing		-	300	650	850	-	-	1,800	-	300	650	850	-	-	1,800	CREDIT	CG	BENEFICIARIES (10%), FI (90%)
Subtotal		-	1,321	2,404	3,723	909	198	8,555	-	1,321	2,404	3,723	909	198	8,555			
4. Large partnerships																		
Working capital for leaders		-	31	62	31	-	-	124	-	31	62	31	-	-	124	GRANT	GRANT_DA	LOAN (50%), BENEFICIARIES (50%)
Capacity building for growers		-	19	56	56	19	-	149	-	19	56	56	19	-	149	TRAININGS	W&T_DA	LOAN (100%)
Investment for growers - grant incentive		-	100	200	100	-	-	400	-	100	200	100	-	-	400	GRANT	GRANT_DA	LOAN (50%), UNIDENTIFIED (50%)
Investment for growers - other financing		-	150	250	-	-	-	400	-	150	250	-	-	-	400	CREDIT	CG	BENEFICIARIES (10%), FI (90%)
Subtotal		-	300	568	187	19	-	1,073	-	300	568	187	19	-	1,073			
Subtotal		-	2,378	4,119	5,792	1,420	447	14,156	-	2,378	4,119	5,792	1,420	447	14,156			
H. Equipment for provincial teams																		
Cars 4x4 /a	45,000	225	-	-	-	-	-	225	229	-	-	-	-	-	229	E&M	E&M_DA	LOAN (100%)
Computer + Docking Station + Tablet /b	1,300	21	-	-	-	-	-	21	21	-	-	-	-	-	21	E&M	E&M_DA	LOAN (100%)
Photocopier/Printer/Scanner /c	700	4	-	-	-	-	-	4	4	-	-	-	-	-	4	E&M	E&M_DA	LOAN (100%)
GPS, cameras, projectors /d	2,000	10	-	-	-	-	-	10	10	-	-	-	-	-	10	E&M	E&M_DA	LOAN (100%)
Motorbicycles /e	1,200	12	-	-	-	-	-	12	12	-	-	-	-	-	12	E&M	E&M_DA	LOAN (100%)
Refurbishment offices /f	20,000	40	-	-	-	-	-	40	41	-	-	-	-	-	41	E&M	E&M_DA	LOAN (100%)
Subtotal		311	-	-	-	-	-	311	317	-	-	-	-	-	317			
Total Investment Costs		636	3,143	5,215	7,170	1,753	447	18,363	645	3,190	5,333	7,394	1,808	447	18,818			

Papua New Guinea
Market for Village Farmers
Table 1.1. Fresh produce partnerships
Detailed Costs

	Unit Cost	Base Cost (US$ '000)							Totals Including Contingencies (US$ '000)							Summary Divisions: Expenditure	Other A	
	(US$)	PY1	PY2	PY3	PY4	PY5	PY6	Total	PY1	PY2	PY3	PY4	PY5	PY6	Total	Account	Disb. Acct.	Fin. Rule
II. Recurrent Costs																		
A. Provincial Teams_Highlands and Morobe																		
Provincial Managers	450	27	27	27	27	27	27	162	27	28	29	29	30	31	174	S&A	S&A_DA	GOVT
District Staff (Districts)	230	21	28	28	28	28	28	159	21	28	29	30	31	32	171	S&A	S&A_DA	GOVT
M&E Officer /g	2,500	113	150	150	150	150	150	863	114	155	158	163	168	173	931	S&A	S&A_DA	LOAN (100%)
Operating costs	10,000	50	50	50	50	50	50	300	50	50	50	50	50	50	300	OC	OC_DA	LOAN (100%)
Subtotal		210	255	255	255	255	255	1,483	212	261	266	273	279	286	1,576			
B. FPDA allowances /h																		
Provincial field managers /i	6,120	6	6	6	6	6	6	37	6	6	6	7	7	7	40	S&A	S&A_DA	LOAN (100%)
District officers /j	6,900	7	7	7	7	7	7	41	7	7	7	8	8	8	45	S&A	S&A_DA	LOAN (100%)
Subtotal		13	13	13	13	13	13	78	13	13	14	14	15	15	84			
Total Recurrent Costs		223	268	268	268	268	268	1,561	225	274	280	287	294	301	1,661			
Total		860	3,410	5,483	7,437	2,020	715	19,924	870	3,464	5,613	7,681	2,102	748	20,479			

\a One for each provincial team
\b One set for each provincial team member
\c One set for each provincial team
\d One set for each provincial team
\e One for each district officer
\f Refurbishment costs for 2 provinces only Simbu and Jiwaka
\g One for each provincial team
\h Based on 15% increase of salary
\i One manager per province (5 provinces in total)
\j Two district officers every province (total 10 officers)

Papua New Guinea
Market for Village Farmers
Table 1.2. Galip nut development
Detailed Costs

	Unit Cost	Base Cost (US$ '000)							Totals Including Contingencies (US$ '000)							Summary Divisions Expenditure		Other A
	(US$)	PY1	PY2	PY3	PY4	PY5	PY6	Total	PY1	PY2	PY3	PY4	PY5	PY6	Total	Account	Disb. Acct.	Fin. Rule
I. Investment Costs																		
A. Preparatory phase																		
1. Galip nut resource assessment																		
Galip nut resource assessment	45,000	45	-	-	-	-	-	45	46	-	-	-	-	-	46	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
2. Financial, operational and legal studies and assistance to																		
Financial, operational and legal studies and assistance to PMU /		40	20	-	-	-	-	60	40	21	-	-	-	-	61	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
3. NARI's plant management operations																		
Lease fees /b		38	48	-	-	-	-	86	38	50	-	-	-	-	88	G&S	G&S_DA	LOAN (100%)
Working capital for purchase of nuts /c		42	42	-	-	-	-	84	42	44	-	-	-	-	86	E&M	E&M_DA	LOAN (100%)
Working capital for other operating costs /d		61	52	-	-	-	-	112	62	54	-	-	-	-	116	E&M	E&M_DA	LOAN (100%)
Organization of supply chain's partnerships /e		14	24	-	-	-	-	38	14	25	-	-	-	-	39	G&S	G&S_DA	LOAN (100%)
Subtotal		154	165	-	-	-	-	320	157	173	-	-	-	-	329			
4. NARI's plant management team contract																		
Management fees /f		37	20	-	-	-	-	57	37	21	-	-	-	-	59	G&S	G&S_DA	LOAN (100%)
5. International Market Development Study																		
Study /g		50	-	-	-	-	-	50	50	-	-	-	-	-	50	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
Study tour /h		-	15	-	-	-	-	15	-	16	-	-	-	-	16	G&S	G&S_DA	LOAN (100%)
Subtotal		50	15	-	-	-	-	65	50	16	-	-	-	-	66			
Subtotal		326	221	-	-	-	-	547	330	230	-	-	-	-	561			
B. Independent Assessment																		
Independent assessment		-	-	70	-	-	-	70	-	-	76	-	-	-	76	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
C. Investment phase																		
1. Feasibility study	40,000	-	-	40	-	-	-	40	-	-	43	-	-	-	43	CONSULTANCIES	ONSULTANCIES_D	UNIDENTIFIED (100%)
2. Due diligence exercise on potential investors		-	-	20	-	-	-	20	-	-	22	-	-	-	22	CONSULTANCIES	ONSULTANCIES_D	UNIDENTIFIED (100%)
3. Support to investment																		
NARI's plant lease (3rd production year only) /i	48,924	-	-	49	-	-	-	49	-	-	53	-	-	-	53	G&S	G&S_DA	UNIDENTIFIED (100%)
Supply chain's partnerships /j		-	-	20	-	-	-	20	-	-	22	-	-	-	22	G&S	G&S_DA	UNIDENTIFIED (100%)
Contribution to investment in plant and supply chain		-	-	530	320	-	-	850	-	-	530	320	-	-	850	GRANT	GRANT_DA	UNIDENTIFIED (100%)
Subtotal		-	-	599	320	-	-	919	-	-	605	320	-	-	925			
4. Consortium for training to households																		
Financial education (CEFI modules 1 and 2)	25	-	-	25	35	-	-	60	-	-	28	41	-	-	69	TRAININGS	W&T_DA	UNIDENTIFIED (100%)
Financial education (CEFI modules 3)	12	-	-	-	4	6	-	9	-	-	-	5	7	-	11	TRAININGS	W&T_DA	UNIDENTIFIED (100%)
Household training	40	-	-	20	28	-	-	48	-	-	22	33	-	-	55	TRAININGS	W&T_DA	UNIDENTIFIED (100%)
Subtotal		-	-	45	67	6	-	117	-	-	50	79	7	-	136			
5. Technical assistance	25,000	-	-	25	25	-	-	50	-	-	28	29	-	-	57	CONSULTANCIES	ONSULTANCIES_D	UNIDENTIFIED (100%)
Subtotal		-	-	729	412	6	-	1,146	-	-	748	428	7	-	1,183			
D. Office set up_East New Britain																		
1. Galip Nut Manager	3,500	32	42	32	-	-	-	105	32	45	35	-	-	-	112	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
2. Equipment																		
Galip Nut Manager Operating Costs	20,000	20	20	20	-	-	-	60	20	21	22	-	-	-	63	E&M	E&M_DA	LOAN (100%)
Car 4x4	45,000	45	-	-	-	-	-	45	46	-	-	-	-	-	46	E&M	E&M_DA	LOAN (100%)
GPS, Cameras, Projectors	2,000	2	-	-	-	-	-	2	2	-	-	-	-	-	2	E&M	E&M_DA	LOAN (100%)
Subtotal		67	20	20	-	-	-	107	68	21	22	-	-	-	110			
Subtotal		99	62	52	-	-	-	212	100	66	57	-	-	-	223			
Total		425	283	850	412	6	-	1,975	430	296	881	428	7	-	2,042			

\a International expert inclusing travel expenses
\b Calculated on 10% of current investment realized the NARI's plant and 20%, 15% and 10% of projected net profit before mgmt fees during years 2, 3, and 4 of operations (year 1 being 2017)
\c 100% of nuts supplied during Y1. In Y2,MVF will finance 50% of nuts required (the plant's revenues will finance the remaining 50%). In Y3, plant 's revenues finance 100%.
\d 80% of costs for Y1 (20% financed by plant's revenues).IN Y2,40% of the total operating costs financed by MVF,60% self-financed from plant's revenues.In Y3, the cashflow of the plant will cover the OC.
\e Salaries, operating costs and equipment of supply chain coordinator (1 per partnership and 4 partnerships planned). Equipment $2,000 and operating costs $5,000 per year/per coordinator
\f Based on 10% of turnover and 50% of profit in Y1. In Y2, based on 5% of turnover and 20% of profit of which 50% will be financed by the project and 50% by the company
\g Inclusive of trial shipments and travel costs to Australia and New Zealand
\h To the Philippines.
\i Calculated on 10% of current investment realized by the NARI's plant and 20%, 15% and 10% of projected net profit before mgmt fees during years 2,3, and 4 of operations (Y1 being 2017)
\j Salaries, operating costs and equipment of supply chain coordinator (1 per partnership and 4 partnerships planned). Equipment $2,000 and operating costs $5,000 per year/per coordinator

Papua New Guinea
Market for Village Farmers
Table 2.1. Spot improvements of fields roads
Detailed Costs

	Base Cost (US$ '000)							Totals Including Contingencies (US$ '000)							Summary Divisions		Other A
	PY1	PY2	PY3	PY4	PY5	PY6	Total	PY1	PY2	PY3	PY4	PY5	PY6	Total	Expenditure Account	Disb. Acct.	Fin. Rule
I. Investment Costs																	
A. Roads spot improvement																	
Design and supervision	-	-	154	192	192	102	640	-	-	165	212	218	119	714	CONSULTANCIES	CONSULTANCIES_DA	LOAN (100%)
Civil w orks_IFAD financed	-	-	629	801	858	572	2,860	-	-	629	801	858	572	2,860	WORKS	WORKS_DA	LOAN (100%)
Civil w orks_Provinces & Districts financed /a	-	-	2,860	3,640	3,900	2,600	13,000	-	-	2,860	3,640	3,900	2,600	13,000	WORKS	WORKS_DA	P&D (100%)
National Road Maintenance specialist	-	-	23	45	45	68	180	-	-	24	49	50	78	201	CONSULTANCIES	CONSULTANCIES_DA	LOAN (100%)
Tehcnical engineer support	-	50	50	50	50	-	200	-	52	53	54	56	-	215	CONSULTANCIES	CONSULTANCIES_DA	LOAN (100%)
Total	-	50	3,716	4,728	5,045	3,342	16,880	-	52	3,731	4,757	5,082	3,369	16,990			

\a Districts' contribution: 20 NOx3 yearsxK0.4/year. Provinces' contribution 5 Nox3 yearsxK1.0/year

Papua New Guinea
Market for Village Farmers
Table 2.2. Financial inclusion
Detailed Costs

	Unit Cost	Base Cost (US$ '000)							Totals Including Contingencies (US$ '000)							Summary Divisions Expenditure		Other A
	(US$)	PY1	PY2	PY3	PY4	PY5	PY6	Total	PY1	PY2	PY3	PY4	PY5	PY6	Total	Account	Disb. Acct.	Fin. Rule
I. Investment Costs																		
A. Due Diligence																		
Exercise	10,000	100	-	-	50	-	-	150	102	-	-	59	-	-	161	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
B. Increasing outreach																		
1. Support to networks		50	150	150	100	50	-	500	50	150	150	100	50	-	500	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
2. Support to digital money		250	250	250	-	-	-	750	250	250	250	-	-	-	750	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
3. Technical Assistance		50	100	-	50	-	-	200	51	107	-	59	-	-	217	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
Subtotal		350	500	400	150	50	-	1,450	351	507	400	159	50	-	1,467			
C. New products and services																		
Technical Assistance		50	25	-	50	25	-	150	51	27	-	59	31	-	167	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
Risk sharing arrangements		100	150	200	-	-	-	450	100	150	200	-	-	-	450	CREDIT	CG	LOAN (100%)
Subtotal		150	175	200	50	25	-	600	151	177	200	59	31	-	617			
D. Support to CEFI																		
Operating costs		120	120	120	60	-	-	420	122	125	130	67	-	-	444	E&M	E&M_DA	LOAN (100%)
Vehicle		37	-	-	-	-	-	37	38	-	-	-	-	-	38	E&M	E&M_DA	LOAN (100%)
Management overhead		24	24	24	12	-	-	84	24	25	26	14	-	-	90	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
Exposure visits		15	-	15	-	-	-	30	15	-	17	-	-	-	32	TRAININGS	W&T_DA	LOAN (100%)
Trainings		25	-	25	-	-	-	50	25	-	25	-	-	-	50	TRAININGS	W&T_DA	LOAN (100%)
Subtotal		221	144	184	72	-	-	621	224	151	198	81	-	-	654			
Total		821	819	784	322	75	-	2,821	829	834	798	357	81	-	2,899			

Papua New Guinea
Market for Village Farmers
Table 3.1. Collective Governance
Detailed Costs

	Unit Cost	Base Cost (US$ '000)							Totals Including Contingencies (US$ '000)							Summary Divisions Expenditure		Other A
	(US$)	PY1	PY2	PY3	PY4	PY5	PY6	Total	PY1	PY2	PY3	PY4	PY5	PY6	Total	Account	Disb. Acct.	Fin. Rule
I. Investment Costs																		
A. Value Chain Organisation and Institution Building																		
1. ITA for Industry Structuring Strategy	45,000	-	45	-	-	-	-	45	-	46	-	-	-	-	46	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
2. PNG Fresh Produce Association		-	20	20	10	5	-	55	-	21	22	11	6	-	60	G&S	G&S_DA	LOAN (100%)
3. Capacity Building	25,000	-	25	25	25	-	-	75	-	27	28	29	-	-	84	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
4. Fresh Produce Multi-Stakeholder Platforms		-	25	25	13	8	-	71	-	26	27	15	9	-	77	G&S	G&S_DA	LOAN (100%)
5. FPDA Capacity Assessment	30,000	30	-	-	-	-	-	30	31	-	-	-	-	-	31	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
6. FPDA Capacity Building	50,000	-	50	50	50	-	-	150	-	53	56	59	-	-	168	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
7. PNG Galip Nut Association		-	-	10	10	5	5	30	-	-	11	12	6	6	36	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
8. TA for Roadmap for Galip Nut Industry		-	-	30	-	-	-	30	-	-	34	-	-	-	34	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
Subtotal		30	165	160	108	18	5	486	31	173	177	126	21	6	535			
B. Policy Development																		
1. Policy Studies Fresh produce/Galip Nut	50,000	-	50	50	50	50	50	250	-	52	54	56	58	60	280	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
2. Policy Workshops	5,000	-	10	10	10	10	10	50	-	11	11	12	12	13	59	TRAININGS	W&T_DA	LOAN (100%)
3. Exposure visits	50,000	-	-	50	50	-	-	100	-	-	56	59	-	-	115	TRAININGS	W&T_DA	LOAN (100%)
Subtotal		-	60	110	110	60	60	400	-	63	121	127	70	73	454			
C. Knowledge Management and Communication																		
1. ITA for KM and Communication Strategy	30,000	30	30	-	-	-	-	60	30	31	-	-	-	-	61	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
2. MIS Development and Capacity Building /a		50	25	25	25	-	-	125	51	26	27	28	-	-	132	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
3. TA for ICT-Based Applications		-	80	50	-	-	-	130	-	85	56	-	-	-	141	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
4. Website Development	15,000	15	-	-	-	-	-	15	15	-	-	-	-	-	15	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
5. Website Maintenance	10,000	-	10	10	10	10	10	50	-	10	11	11	12	12	56	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
6. Communication Campaigns	15,000	-	15	15	15	15	15	75	-	16	17	18	19	19	88	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
7. Publications and Manuals	20,000	20	20	20	20	20	20	120	20	21	22	22	23	24	132	G&S	G&S_DA	LOAN (100%)
8. Methodology for Study Tours/Learning Routes	50,000	-	-	50	-	-	-	50	-	-	54	-	-	-	54	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
9. Learning Route/Study Tours	20,000	-	-	20	20	20	20	80	-	-	22	24	25	26	96	TRAININGS	W&T_DA	LOAN (100%)
Subtotal		115	180	190	90	65	65	705	116	190	209	103	78	81	777			
D. Research																		
1. Research	35,000	-	35	35	35	-	-	105	-	37	39	41	-	-	118	CONSULTANCIES	ONSULTANCIES_D	GOVT
Total		145	440	495	343	143	130	1,696	147	464	546	396	170	161	1,883			

Papua New Guinea
Market for Village Farmers
Table 3.2. Project Management
Detailed Costs

	Unit Cost	Base Cost (US$ '000)							Totals Including Contingencies (US$ '000)							Summary Divisions Expenditure		Other A
	(US$)	PY1	PY2	PY3	PY4	PY5	PY6	Total	PY1	PY2	PY3	PY4	PY5	PY6	Total	Account	Disb. Acct.	Fin. Rule
I. Investment Costs																		
A. TA and Capacity Building for PMU, Provincial Teams, Liaison Office																		
1. Technical Assistance																		
Project expeditor (international) /a	30,000	180	-	-	-	-	-	180	182	-	-	-	-	-	182	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
TA for GESI strategy and follow-up		30	-	20	20	-	-	70	30	-	21	22	-	-	73	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
International consultant to set-up M&E system	30,000	60	-	-	-	-	-	60	60	-	-	-	-	-	60	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
Subtotal		270	-	20	20	-	-	310	272	-	21	22	-	-	315			
2. Capacity building																		
Capacity building activities	15,000	8	15	15	15	15	15	83	8	16	17	18	19	19	96	TRAININGS	W&T_DA	LOAN (100%)
Subtotal		278	15	35	35	15	15	393	280	16	38	39	19	19	411			
B. Equipment for PMU and Liaison Office																		
Car 4x4 /b	45,000	90	-	-	-	-	-	90	90	-	-	-	-	-	90	E&M	E&M_DA	LOAN (100%)
Sedan /c	20,000	40	-	-	-	-	-	40	41	-	-	-	-	-	41	E&M	E&M_DA	LOAN (100%)
Computer + Docking Station + Tablet /d	1,300	17	-	-	-	-	-	17	17	-	-	-	-	-	17	E&M	E&M_DA	LOAN (100%)
Photocopier/Printer/Scanner /e	700	1	-	-	-	-	-	1	1	-	-	-	-	-	1	E&M	E&M_DA	LOAN (100%)
GPS, Cameras, Projectors /f	2,000	2	-	-	-	-	-	2	2	-	-	-	-	-	2	E&M	E&M_DA	LOAN (100%)
Subtotal		150	-	-	-	-	-	150	151	-	-	-	-	-	151			
C. Project Planning and Oversight																		
1. National Launch Workshop	20,000	20	-	-	-	-	-	20	20	-	-	-	-	-	20	TRAININGS	W&T_DA	LOAN (100%)
2. Provincial Launch Workshops	3,000	18	-	-	-	-	-	18	18	-	-	-	-	-	18	TRAININGS	W&T_DA	LOAN (100%)
3. Final National Workshop	20,000	-	-	-	-	-	20	20	-	-	-	-	-	26	26	TRAININGS	W&T_DA	LOAN (100%)
4. Other Meetings and workshops	20,000	-	20	20	20	20	20	100	-	21	22	24	25	26	118	TRAININGS	W&T_DA	LOAN (100%)
Subtotal		38	20	20	20	20	40	158	39	21	22	24	25	52	183			
D. Financial Management																		
1. Financial Management Trainings	2,500	3	3	3	-	-	-	8	3	3	3	-	-	-	8	TRAININGS	W&T_DA	LOAN (100%)
2. Accounting Software-Multi User /g	5,000	5	-	-	-	-	-	5	5	-	-	-	-	-	5	E&M	E&M_DA	LOAN (100%)
Subtotal		8	3	3	-	-	-	13	8	3	3	-	-	-	13			
E. Studies and Surveys																		
1. Baseline Survey	50,000	50	-	-	-	-	-	50	51	-	-	-	-	-	51	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
2. Impact Assessment and Outcome Survey	50,000	-	-	-	50	-	-	50	-	-	-	59	-	-	59	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
3. Final Impact Assessment and Outcome Survey	50,000	-	-	-	-	-	50	50	-	-	-	-	-	65	65	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
4. Interim Reviews	130,000	-	-	130	-	130	-	260	-	-	141	-	151	-	291	CONSULTANCIES	ONSULTANCIES_D	LOAN (100%)
Subtotal		50	-	130	50	130	50	410	51	-	141	59	151	65	466			
Total Investment Costs		523	38	188	105	165	105	1,123	529	40	204	122	194	136	1,224			

Papua New Guinea
Market for Village Farmers
Table 3.2. Project Management
Detailed Costs

	Unit Cost	Base Cost (US$ '000)							Totals Including Contingencies (US$ '000)							Summary Divisions		Other A
	(US$)	PY1	PY2	PY3	PY4	PY5	PY6	Total	PY1	PY2	PY3	PY4	PY5	PY6	Total	Expenditure Account	Disb. Acct.	Fin. Rule
II. Recurrent Costs																		
A. Staff Salaries																		
1. PMU																		
Project Coordinator	4,500	41	54	54	54	54	54	311	41	56	57	59	60	62	335	S&A	S&A_DA	LOAN (100%)
Office Assistant	950	9	11	11	11	11	11	66	9	12	12	12	13	13	71	S&A	S&A_DA	LOAN (100%)
Production and Value Chain System Manager	3,400	31	41	41	41	41	41	235	31	42	43	44	46	47	253	S&A	S&A_DA	LOAN (100%)
Infrastructure Engineer	4,500	-	54	54	54	54	54	270	-	56	57	59	60	62	294	S&A	S&A_DA	LOAN (100%)
Policy Development Officer	3,400	-	41	41	41	41	41	204	-	42	43	44	46	47	222	S&A	S&A_DA	LOAN (100%)
MIS Development & Content Manager - IFAD financed /h	3,400	31	41	31	20	10	-	133	31	42	32	22	11	-	139	S&A	S&A_DA	LOAN (100%)
MIS Development & Content Manager - GoPNG financed /i	3,400	-	-	10	20	31	-	61	-	-	11	22	34	-	67	S&A	S&A_DA	GOVT
Senior KM/M&E Officer	3,300	30	40	40	40	40	40	228	30	41	42	43	44	46	246	S&A	S&A_DA	LOAN (100%)
GESI Officer	3,400	31	41	41	41	41	41	235	31	42	43	44	46	47	253	S&A	S&A_DA	LOAN (100%)
Financial and Administrative Officer	4,200	38	50	50	50	50	50	290	38	52	53	55	56	58	313	S&A	S&A_DA	LOAN (100%)
Procurement Officer	3,400	31	41	41	41	41	41	235	31	42	43	44	46	47	253	S&A	S&A_DA	LOAN (100%)
Accountant	2,500	23	30	30	30	30	30	173	23	31	32	33	34	35	186	S&A	S&A_DA	LOAN (100%)
Drivers	700	13	17	17	17	17	17	97	13	17	18	18	19	19	104	S&A	S&A_DA	LOAN (100%)
Subtotal		274	460	460	460	460	419	2,534	277	474	486	501	516	484	2,737			
2. Liaison Office																		
MVF Liaison Officer - based in DAL	4,000	48	48	48	48	48	48	288	48	49	51	52	54	55	310	S&A	S&A_DA	GOVT
IFAD Liaison Officer - based in POM	4,000	48	48	48	48	48	48	288	48	49	51	52	54	55	310	S&A	S&A_DA	LOAN (100%)
Subtotal		96	96	96	96	96	96	576	97	99	101	104	108	111	620			
3. FPDA																		
FPDA staff allowances /j	15,036	15	15	15	15	15	15	90	15	15	15	15	15	15	90	S&A	S&A_DA	LOAN (100%)
Subtotal		385	571	571	571	571	530	3,200	389	588	602	620	638	610	3,447			
B. Office Operating Costs																		
Travel Allowances	50,000	25	50	50	50	50	50	275	25	52	54	56	58	60	306	OC	OC_DA	LOAN (100%)
Vehicles operating costs	140,000	70	140	140	140	140	140	770	70	140	140	140	140	140	770	OC	OC_DA	LOAN (100%)
Office costs	30,000	15	30	30	30	30	30	165	15	31	32	34	35	36	183	OC	OC_DA	LOAN (100%)
Office extension repairs and refurbishment	35,000	35	-	-	-	-	-	35	35	-	-	-	-	-	35	OC	OC_DA	LOAN (100%)
Subtotal		145	220	220	220	220	220	1,245	146	224	227	230	233	236	1,295			
Total Recurrent Costs		530	791	791	791	791	750	4,445	535	812	829	850	871	846	4,742			
Total		1,053	829	979	896	956	855	5,569	1,064	852	1,033	971	1,065	982	5,966			

\a Consultant to be hired at project inception to assist in setting up management procedures and in building related capacities in the PMU.
\b Two cars for PMU
\c One for PMU and one for liaison unit in Port Moresby.
\d One set for each PMU member
\e One set for PMU and one for Liaison Unit in Port Moresby.
\f One set for PMU
\g Customization, training and support services
\h This position is financed by IFAD as follows: year 1 and 2 = 100%, year 3= 75%, year 4= 50%, year 5= 25%
\i This budget line complement the line above and is financed by the GoPNG as follows: year 3= 25%, year 4= 50%, year 5= 75%
\j Allowances for: Value Chain Business Development Manager, Bulb Onion Development Manager, Technical Programme Manager, Senior Extension Advisor

Appendix 10: Economic and Financial Analysis

1. A financial and economic analysis was undertaken to assess the financial and economic impacts of the Markets for Village Farmers (MVF) project on smallholder farmers, and on the society as a whole. The programme objective is to achieve sustainable increased returns to small farmers from increased fresh vegetables production and quality improved market linkages, efficient farmers' organisation, reduced post-harvest management and higher farmers' share over the final added. Benefits will derive from: (i) improving small farmers' access to markets, technologies and services in the target value chains; (ii) developing different types of business partnerships involving small farmers and agribusiness; (iii) improving value chain environment to facilitate smallholder farmers' inclusion; and (iv) supporting policies and institutional capacities required to ensure sustainability. In order to represent the programme financial benefits, six crop models, two farm models, and three consolidators models have been developed. The models have also been used as building blocks for the economic analysis.

2. The programme will be implemented in six target provinces, of which five - Morobe, Eastern Highlands, Simbu, Jiwaka and Western Highlands - have been targeted for supporting fresh vegetables value chain partnerships and activities and one - East New Britain - is the target province for the development of a commercial galip nut industry.

3. **Number of beneficiaries.** As summarised in the table below, the project is expected to benefit about 23,200[29] households. This would represent 46,400 primary beneficiaries in application of the household approach, where two members of the same family (generally husband and wife) will receive project support (see Component 1). Women will constitute 50% of beneficiaries. Around 116,000 people would directly benefit from project activities based on a household of five members. Moreover, based on FPDA's experience whereby, for every trained farmer, four people indirectly benefit (by spontaneously adopting improved practices introduced by training beneficiaries), the total number of indirect beneficiaries expected is 185,600 individuals.

Table 1 - Crop models summary

MVF beneficiaries						
	No. of partnerships	**No. of HH per partnership**	**Total HH**	**Total farmers directly accessing project services***	**Total direct beneficiaries ****	**Total indirect beneficiaries*****
Highlands						
Large partnerships	2	1,000	2,000	4,000	10,000	16,000
Medium partnerships	50	200	10,000	20,000	50,000	80,000
Small partnerships	100	50	5,000	10,000	25,000	40,000
Micro partnerships	100	50	5,000	10,000	25,000	40,000
East New Britain						
Galip nut farmers			1,200	2,400	6,000	9,600
Total	**252**		**23,200**	**46,400**	**116,000**	**185,600**

*based on the household approach w here tw o members of the same family receive trainings

** Based on 5 members per HH

***Based on FPDA's experience, from every farmer trained 4 farmers w ill also benefits from the same training

[29] Indicative figure based on the number of estimated number of farmer groups supported by each partnership and the number of farmers per group. Actual numbers will depend on the number and content of actual partnerships.

Financial Analysis

4. The primary objective of the financial analysis is to determine the financial viability and incentives of the target group for engaging in the project activities, by examining the impact of project interventions on family labour, cash flow and net incomes. Based on field research and target value chain studies, a number of economic models were identified during project design. Eleven financial models were prepared to demonstrate the financial viability of project investments. Five crop models[30], representing both perishable and hardy crops having a comparative advantage to grow in the selected provinces[31], were prepared to be used as bases for the farm models. These include: (i) broccoli crop model, (ii) sweet potato crop model, (iii) cabbage crop model, (iv) bulb onion crop model, (v) potato crop model. Two indicative farm models, based on the possible combinations of the selected crops per farm, were developed on 0.5 ha: (i) farm 1 – where 0.2 ha is cropped with sweet potato, 0.1 ha with broccoli, 0.1 ha with cabbage and 0.1 ha with bulb onion, (ii) farm 2 - where 0.2 ha is cropped with sweet potato, 0.1 ha with broccoli, 0.1 ha with bulb onion and 0.1 ha with potato. A galip nut intercropped with cocoa model was also developed in order to show the additional income that a smallholder cocoa producer can earn by harvesting nuts from galip trees, where they are used as shade trees for cocoa trees. Finally, three models representing the micro, small and medium[32] consolidators have been developed to also show the benefits accruing to other value chain's actors. The farm models, the galip nut intercropped with cocoa model, and the consolidator's models form the building blocks for the economic analysis. Finally, a cash-flow analysis was carried out to present the "with" and "without" project analysis.

5. **Key assumptions**. The following information gathered during the design process has been used to develop the analysis: mission estimates, documents and surveys from: (i) the Fresh Produce Development Agency, which will be MVF' implementing agency; ii) IFAD PPAP on-going project; (iii) Australian Centre for International Agricultural Research (ACIAR); and (iv) PNG National Agriculture Research Institute (NARI). In particular, information on labour and input requirements for various operations, capital costs, prevailing wages, yields, farm gate and market prices of commodities, and transport costs were collected. Conservative assumptions were made both for inputs and outputs in order to take account of possible risks. Key assumptions are as follows:

- **Exchange rate**. The exchange rate used in the analysis is fixed at USD 1 = PGK 3.1 and is an average of the exchange rate prevailing between January 2016 and January 2017;

- **Prices**. The financial prices for project inputs and products were collected in the field by the design team and FPDA. Prices used represent estimates of the average seasonal prices and the analysis is carried out using constant prices;

- **Labour**. Family labour has been valued both in the financial and economic analysis. Family labour and hired unskilled labour are priced at PGK 30 per day, which is the prevailing market rate;

- **Opportunity cost of capital**. A discount rate of 10% has been used in this analysis to assess the viability and robustness of the proposed investments. The selected value is calculated by taking into account actual market interest rates on loans[33].

6. **Vegetable crop models.** The five vegetable crop models have been developed on 1 ha of land to be used as bases for the two farm models described in the next paragraphs[34]. The crop models represent hardy and perishable crops that are cultivated in the target provinces and that, according to the value chain analysis, have growing market potential. Each crop model presents a situation with project (WP) and a situation without project intervention (WOP). For all models, one of the main differences between the with and without project scenarios is the investment in inputs, which is very minimal or inexistent in the WOP while is included on a regular yearly basis in the WP. Moreover, the models show that with project interventions – e.g. feeder roads improvements, or technical assistance

[30] Crop models are developed on 1 ha of plot size
[31] Value chain analysis
[32] These categories are based on the partnerships developed in component 1.
[33] Economist Intelligence Unit, Papua New Guinea Country Report, 2016.
[34] The credit analysis is carried out in the farm models, as the crop models are only used to show the profitability of each crop in the project area.

on how to package and transport the different types of fresh produce, the reduction in post-harvest losses is expected to decrease from an average of 15-20% to 5-7%[35].

7. As summarized in the table below, where all profitability indicators are positive, the crop models show that with improved access to specific inputs, together with trainings on how to use them, technical assistance and infrastructure improvement, production and farmers' income can increase significantly.

Table 2. Crop models summary

Activity Models - 1 ha	Increases (units)				Income (after labour costs) PGK		Incremental Income (%)	IRR (%)	NPV @ 10% (PGK)
	Unit	WOP	WP (5th year)	Incremental yields %	WOP	WP			
Broccoli	kg	23,000	30,000	30%	11,777	16,950	44%	66%	21,991
Sweet potato	Kg	8,000	12,000	50%	1,912	3,478	82%	45%	4,280
Cabbage	kg	23,000	30,000	30%	9,017	13,875	54%	77%	22,393
Bulb onion	kg	12,000	16,000	33%	10,069	16,070	60%	85%	19,190
Potato	kg	22,000	28,000	27%	10,036	14,693	46%	41%	11,674

8. **Farm models**. Based on the crop models, two farm models have been developed on 0.5 ha. The farms' crop combinations will mainly be determined by market demand, however, the assumptions on the possible crop combinations of this analysis are based on consultations with FPDA's technical experts and on the information collected during the focus groups with farmers and consolidators.

9. Both models compare a situation with project and a situation without project. In the without project scenarios, the smallholders' capacity to become commercial farmers is constrained by a low access to the market and to inputs, lack of support services and low outreach of financial institutions in the rural areas, combined with a lack of financial education. Market access is further affected by the lack of collaboration between smallholders, inadequate post-harvest management, and long travel distances to urban markets through deteriorated or inexistent infrastructure systems. Sweet potato is generally cultivated as a staple crop and mainly used for self-consumption and animal feed. A small portion of cropped land – 0.1 ha - is cultivated with vegetables, which are generally used for self-consumption or sold on the local market whenever the farmer is in need of liquidity.

10. In the with project situation, small farmers will be supported to increase the vegetables production so to be able to gain a sustainable income. This will happen mainly through the establishment of partnerships between smallholder farmers and traders for the production, collection, transport, processing and marketing of fresh produce, improved access to financial institutions and enhanced financial education. As already shown in the crop models, thanks to the partnerships, farmers will sustainably increase access to inputs and support services. Farms 1 and 2 assume that, with project support, farmers will become commercially oriented and therefore will reduce the land plot for sweet potatoes – from 0.4 ha to 0.2 ha – and will increase the vegetable production from 0.1 ha to 0.3 ha on average.

11. As summarised in the table below, both farm models show to be profitable and to contribute to a significant increase in the smallholder farmer's net income. Moreover, in both models the family rate of return is between PGK 110 and PGK 115 per day. The cost of seasonal labour in PNG is 30 PGK/day, which is significantly lower than the return to family labour shown in the farm models.

12. At the end of each farm model, a credit analysis is also performed in order to show the financial services that farmers will receive through the project. In fact, in order to buy inputs and have still enough cash to invest in farming activities, farmers will be able to access a total financing of PGK 1,600, of which 40% will be a grant and 60% will be a credit, which the farmer will obtain with the support of the project (see detailed description of components 1 and 2)[36].

[35] Post-harvest losses are lower for hardy crops and higher for perishable crops.
[36] Loan interest rate is 20% and repayment period is 2 years.

Table 3. Farm models summary

Activity Models	Income after labour costs PGK		IRR (%)	NPV @ 10% (PGK)	Return to family labour per day (PGK)
	WOP	WP			
FARM 1	1,855	5,327	-	16,649	114
FARM 2	1,855	5,543	-	17,844	120

13. **Consolidator business models.** Three models have been developed to represent the benefits that will accrue to the activities run by micro, small and medium traders[37], also called lead partners. Traders usually sell all kinds of vegetables and fruits. Therefore, the models use average quantities and prices of all kinds of products purchased and sold during the year. Quantities and prices used are averages collected directly from traders.

14. The main common constraints for micro, small and medium lead partners in the WOP are: (i) limited access to market, (ii) limited access to timely and good quality fresh produce, (iii) post-harvest losses[38], and (iv) lack of access to financial services. With project support and the development of partnerships with growers, lead partners' access to the market will improve, and they will be able to increase the volume of fresh produce supplied on a regular basis. In fact, as shown in the farm models, farmers are expected to increase the quantity of vegetable production sold to lead partners. The project will also support lead partners to access financial services in order to obtain credits to further invest in their businesses. Furthermore, traders will benefit from improved market access infrastructure, such as feeder roads, that at the moment represent a key constraint to the post-harvest losses reduction. In fact, the models assume that with improved feeder roads and improved post-harvest management practices, post-harvest losses, from depot to the markets, will decrease from an average of 15% to 7% for medium partners and from 20% to 10% for small partners.

15. The type of investment included in each model is indicative. Lead partners will be able to specifically decide what kind of investment best suits their needs. Small partners will be able to access a capped amount of about PGK 15,000[39], to invest in post-harvest equipment or nursery, in the form of 40% grant and 60% loan. Similarly, medium partners will access a capped amount of PGK 150,000, which in the model is indicatively used to finance a truck, and micro partners will access a capped amount of about PGK 3,000, which in the model is indicatively used to purchase business management tools and handling/storage equipment.

16. At the end of each business model, a credit analysis is presented in order to show access to financial services for each category by the project. As summarised in the table below, the three business models show positive profitability indicators and the cash flows after financing become positive from the first year.

Table 4. Consolidators business models summary

Business Models	Income after labour costs PGK		B/C ratio	NPV @ 10% (PGK)
	WOP	WP		
Micro	68,440	89,780	1.20	86,553
Small	93,310	215,984	1.39	540,420
Medium	216,200	479,500	1.11	653,562

[37] There is no model representing a large consolidator for two main reasons: (i) only two large companies are envisaged to be involved in project activities; (ii) there are no grant incentives budgeted for equipment for large companies, but only for micro, small and medium companies. This is mainly because large companies are able to finance their own equipment. They will only access project support to deliver advisory services and technical assistance to their farmers/suppliers.
[38] Only for small and medium partners, as micro partners by directly at the market and
[39] Interest rate is 20%. Repayment period is 3 years,

17. **Galip nut intercropped with cocoa model.** In cooperation with ACIAR and NARI, the PPAP project has invested in galip trees, to be used as shade trees for cocoa trees. Since 2009, PPAP beneficiaries have started to plant galip nut trees; however, because they do not have access to a galip nut processing facility, farmers have not seen any benefits in harvesting the nuts, of which only a negligible portion is sold on local wet markets. This model aims to show that, with a galip nut processing facility in place, farmers are encouraged to harvest the galip nuts, which may represent an additional source of income. In fact, an additional income, of about PGK 500 per year[40], may be significant for farmers in order to mitigate the impact of the cocoa price fluctuations and improve their livelihoods**.**

18. The model assumes that galip nut trees are planted in both the with and without project scenarios[41]; the main difference is that, in the without project, galip nuts are not harvested and therefore do not represent an additional source of income. In the with project situation, galip nuts generate an additional income for farmers, with minimal additional costs. Additional income from galip nuts is calculated conservatively, considering tree mortality rate of 40% per household[42] and yield of up to 8,650 kg per year. The project will mainly deal with farmers who already own galip trees from 2-4 years; therefore, the model shows yields from project year 1 (40% of full production in year 1, 60% in year 2, 70% in year 3 and 80% in year 4). Considering that not all galip trees planted have the same age and productive characteristics, the model assumes that, from year 5 on, the yield is 90% of full production. The cocoa production remains the same in both scenarios, mainly because MVF will not have any impact on cocoa[43].

19. Overall, the financial analysis of all proposed models shows profitable results. This would ensure target beneficiaries that the risk of engaging in new activities is worthwhile.

Economic Analysis

20. The objectives of the economic analysis are: i) to examine the overall project viability; (ii) to assess project impact and overall economic rate of return; and (iii) to perform sensitivity analyses to assess the benefits from a broad welfare perspective.

21. **Key assumptions**. The physical inputs and productions established in the financial analysis provided the basis to determine the viability of the project investment in terms of opportunity costs and quantifiable benefits to the economy as a whole. The estimate of the likely economic returns from project interventions are based on the following assumptions:

- Project life has been assumed at 20 years;
- Project inputs and outputs traded are valued at their respective economic prices, and goods are expected to move freely within the project area in response to market demand;
- The average between the deposit interest rate in Papua New Guinea[44] (0.5%), the market interest rate (10%) and the Wall Street Journal interest rate (3.5%) is 5%. However, in order to conservatively calculate the economic benefits generated by the project, the social discount rate adopted for this analysis will be 7%.

22. **Project economic costs and benefits**. The economic analysis includes the investment and incremental recurrent costs of the project components. The project financial costs have been converted to economic values by removal of price contingencies, tax and duties. In order to avoid double counting, the final aggregation considered only those costs that were not included in the financial models.

23. **Benefits Estimation**. The incremental benefits stream comprises the economic net values of all farm models, the galip nut crop model and business models developed in the financial analysis. These benefits are then aggregated by the number of households and consolidators that are estimated to uptake each activity. The analysis conservatively considers a benefit rate of 70% for the farm models and an adoption rate of 90% for the consolidators' business models, in order to take into

40 Income before family labour. Income after family labour is PGK 165.
41 .
42 On 0.5 ha of land, 20 trees per farmers have been distributed. However, the mortality rate to be considered is of 40%.
43 Data on cocoa have been taken from the PPAP project.
44 Average deposit rate, between 2011 and 2015, is 0.5%. Source: WBI - Deposit interest rate (%) http://data.worldbank.org/indicator/FR.INR.DPST

account that: (i) farmers' project uptake may be lower than expected; and (ii) farmers supplying micro partners will not receive any input packages.

Table 4. Estimated households' phasing in by activity (used in the final economic aggregation)

Households' phasing in by activity							
	PY1	PY2	PY3	PY4	PY5	PY6	Total HHs
Phasing in %	0%	20%	30%	50%	0%	0%	100%
*Full benefits rate 70%	0%	14%	21%	35%	0%	0%	70%
Farm 1	0	1,540	2,310	3,850	0	0	7,700
Farm 2	0	1,540	2,310	3,850	0	0	7,700
Gulip Nut	0	500	700	0	0	0	1,200
Total	0	3,580	5,320	7,700	0	0	16,600
Partnerships consolidators' phasing in							
	PY1	PY2	PY3	PY4	PY5	PY6	Total HHs
Phasing in %	0%	20%	30%	50%	0%	0%	100%
Adoption rate 90%	0%	18%	27%	45%	0%	0%	90%
Micro	0	18	27	45	0	0	90
Small	0	18	27	45	0	0	90
Medium	0	9	14	23	0	0	45
Total	0	45	68	113	0	0	225

*This rate takes into consideration that growers of micro partnerships will not receive a inputs package from the project and therefore their benefits may be lower compared to Farmers that decide not to take up the investment are also included in this rate.

24. **Economic Pricing**. Economic pricing has been based on the following assumptions:

- The opportunity cost of labour is set at PGK 29/day, or 97.5% of financial cost of labour, which is justified given rural unemployment rate at 2.5%[45];
- The shadow exchange rate (SER) has been calculated at 1 USD = 3.2 PGK;
- The Shadow Exchange Ratio Factor (SERF), used to obtain economic costs, has been calculated at 1.02.

25. **Economic Rate of Return**. The overall economic internal rate of return (EIRR) of the project is estimated at 39% for the base case. The net present value (NPV) of the net benefit stream, discounted at 7%, is USD 140.4 million.

26. **Sensitivity Analysis**. In order to test the robustness of the above results, a sensitivity analysis has been carried out. Outcomes of which are presented in table 5. The sensitivity analysis investigates the effect of fluctuations in project costs, project benefits, and delays in implementation on the NPV and ERR. It shows the economic impacts that a decrease in project benefits – up to -50% – will have on the project viability. Similarly, it shows how the economic viability of the project will be affected by an increase of up to 50% in project costs; and by a one to three-year delay in project implementation. The analysis confirms that the economic viability of the project remains attractive as a positive NPV and ERR above 7% are preserved in each case analysed.

[45] Source: http://www.theglobaleconomy.com/Papua-New-Guinea/Unemployment_rate/

Appendix 11: Draft Project Implementation Manual

Table of contents

Abbreviations & acronyms

I. Introduction
1. Presentation of the project
2. Objectives of the project
3. Description of the project components
4. Cost and financing
5. Organization and management
6. Institutional and implementation arrangements
7. Organizational chart

II. Administrative procedures
1. Human resources management
    1.1. Job descriptions
    1.2. Recruitment procedures
    1.3. Contract management
    1.4. Internal rules for personnel
2. Correspondance organisation
3. Communication organisation
4. Logistics
5. Asset management
6. Stock management

III. Financial and disbursements procedures
1. Financial arrangements and flow of funds
2. IFAD disbursement procedures
3. MVF disbursement procedures
4. Accounting systems and procedures
5. Planning and budgeting

IV. Procurement procedures
1. IFAD basic procurement principles
2. National rules and regulations
3. Main methods of procurement for goods and works
4. Main methods of selection of consultants and services providers
5. Specific procurement arrangements
    1.1. Declaration of bid security
    1.2. Bonds for insurances companies

V. Monitoring & evaluation and knowledge management
1. Planning of M&E
2. AWPB preparation, including annual targets
3. Follow-up of outputs
4. Evaluation of results
5. Evaluation of impact
6. Elaboration of progress reports

VI. Governance and Anti-Corruption Framework

Appendix 12: Compliance with IFAD policies

The PNG Country Strategy Note details IFAD's three strategic objectives (SO) in PNG:

SO-1: Sustainable and Resilient Farmer Enterprises

SO-2: Business Alliances for Farmers' Access to Markets and Services

SO-3: Women and Youth Access to Income and Employment

MVF directly addresses the first two strategic objectives and is thus consistent with IFAD's country strategy for PNG. It is furthermore consistent with the relevant IFAD policies, strategies and guidelines, notably:

- IFAD Strategic Framework 2016-2025;
- Targeting Policy: Reaching the rural poor;
- Gender Equality and Women's Empowerment Policy;
- Policy on Engagement with Indigenous Peoples;
- Private-Sector Development and Partnership Strategy;
- Rural Finance Policy;
- Policy on Preventing Fraud and Corruption;
- Policy on Supervision and Implementation Support;
- Loan and Grant Administration Operational Manual;
- Guidelines for Project Design.

Appendix 13: Contents of the Project Life File

1) PPAP Design Document
2) PPAP Supervision Reports
3) PPAP MTR
4) MVF Concept Note
5) MVF Detailed Design
6) MVF QE docs
7) MVF QA docs